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39 Years

Greystone Village – Phase 3
375 Deschâtelets Avenue, Ottawa
Transportation Impact Assessment

375 Deschâtelets Avenue
Greystone Village – Phase 3

Transportation Impact Assessment

Prepared By:

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

Dated: July 2021

Novatech File: 114025
Ref: R-2021-063

NOVATECH
Engineers, Planners & Landscape Architects

July 22, 2021

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

Attention: **Mr. Wally Dubyk**
Project Manager, Infrastructure Approvals

Dear Mr. Dubyk:

Reference: **375 Deschâtelets Avenue**
Transportation Impact Assessment
Novatech File No. 114025

We are pleased to submit the following Transportation Impact Assessment (TIA) in support of a Site Plan Control application for the property located at 375 Deschâtelets Avenue. The structure and format of this report is in accordance with the City of Ottawa Transportation Impact Assessment Guidelines (June 2017).

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

Yours truly,

NOVATECH

B. Byvelds

Brad Byvelds, P. Eng.
Project Coordinator | Transportation/Traffic

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TIA Plan Reports

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

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

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

CERTIFICATION

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

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

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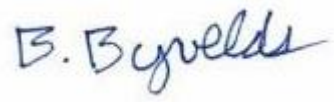
Dated at ____Ottawa____ this __22nd__ day of _____July_____, 2021.
(City)

Name: _____Brad Byvelds, P.Eng._____
(Please Print)

Professional Title: _____Project Coordinator, Transportation/Traffic_____



_____ _____
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) has been prepared in support of a Site Plan Control application for the property located at 375 Deschâtelets Avenue. The subject site forms part of the Greystone Village subdivision, and surrounded by the following.

- Existing retirement home to the north;
- Scholastic Drive, followed by parkland and Rideau River to the east;
- Deschâtelets Avenue, followed by residences to the south;
- The Forecourt parkland and Deschâtelets building (elementary school) to the west.

The Greystone Village subdivision area is approximately 10.3 hectares in area, east of Main Street, south of Springhurst Avenue, and north of Clegg Street. The original Community Transportation Study (CTS), prepared by Novatech in January 2015, reviewed an overall development of approximately 40 single-detached dwellings, 779 condominium/townhouse dwellings, 150 retirement home dwellings, and 36,539 ft^2 of retail space. An addendum dated May 2017 reviewed the changes to Phase 3 of the subdivision which resulted in 110 additional condominium/townhouse dwellings and 10 fewer retirement dwellings. With the current application, the total number of units within the Greystone Village subdivision will equal 51 single-detached homes, 906 townhomes, condominiums, or apartments, 146 retirement dwellings, and approximately 20,000 ft^2 of retail space. All units within the Greystone Village subdivision are accounted for in this TIA.

The subject site is currently zoned General Mixed-Use (GM [2310] S420), which permits the proposed development. The proposed development consists of two residential buildings with a total of 260 units. This represents an increase of approximately 115 units compared to the assumed development in the May 2017 Addendum to the Greystone Village CTS. One new two-way access is proposed along Scholastic Drive. A new lay-by is proposed on Scholastic Drive and Deschâtelets Avenue.

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

Development Design and Parking

- The proposed development will provide pedestrian facilities between the main building entrances and the sidewalks along the adjacent roadways. A new east-west public pathway will be provided between the two buildings, connecting the Forecourt public space to Scholastic Drive and the north-south multi-use pathway travelling along the Rideau River.

- Two new short-term parking lay-bys are proposed along Scholastic Drive and Deschâtelets Avenue. The parking lay-bys will function as short-term parallel parking to facilitate deliveries and pick-up/drop-off trips for the development.

- The proposed lay-bys allow the buildings to be located close to the street and maintains direct pedestrian access from the sidewalk to the site. The design of the lay-bys are consistent with the approved lay-bys along Oblats Avenue and will provide additional space for vehicles to stop along the roadways surrounding the site to perform pick-up/drop-off or delivery activities without blocking the adjacent travel lanes.

- Bollards spaced at 4m intervals will be provided between the sidewalk and the lay-by to delineate the pedestrian facility from the parking area. Additional bollards will be provided at the sidewalk deflection to assist visually impaired pedestrians with navigating the realigned sidewalk.

- Based on the approved plans, the previously proposed No-Stopping sign (Rb-55R) on the west side of Scholastic Drive south of the pedestrian crossover requires relocation to the back of sidewalk at the northern terminus of the lay-by. The previously proposed Pedestrian Crossing Ahead sign (Wc-27R) on the north side of Deschâtelets Avenue will also require relocation to the eastern terminus of the lay-by. No other pavement marking or signage alterations are anticipated to be required as a result of the proposed lay-bys.

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

- The proposed 266 vehicle parking spaces meet the minimum requirements of the City's Zoning By-law. Bicycle parking will be provided within the underground parking garage at a ratio of one space per unit (260 spaces total). This is double the minimum requirements outlined in the City's Zoning By-law.

Boundary Streets

- Deschâtelets Avenue and Scholastic Drive meet the target pedestrian level of service (PLOS) A and bicycle level of service (BLOS) D.

- The proposed lay-bys along Scholastic Drive and Deschâtelets Avenue are not anticipated to impact the PLOS along these roadways as the sidewalk will be realigned to the back of the lay-by.

- As mixed-traffic lanes will be provided along Deschâtelets Avenue and a separated multi-use pathway will be provided on the east side of Scholastic Drive, the proposed lay-bys are not anticipated to impact the BLOS along these roadways.

Access Design

- One new all movement access is proposed along Scholastic Drive. The proposed access will have a width of 6.7m and will be located approximately 6m from the northern property line. A grade of 6% will be provided for a distance of 6m within the property line.

- The location and width of the proposed access conforms to the requirements of the City's Private Approach By-law and Zoning By-law.

- The proposed access is located at the lowest portion of the subject site to minimize grades leading to the underground parking ramp. However, a grade of 2% for the first 9m within the site is still not achievable to accommodate the desired finish floor grade for the proposed buildings.

- The proposed 6% ramp grade for a distance of 6m within the property meets TAC recommendations and will allow one vehicle to stop on the ramp with adequate sight lines along Scholastic Drive. The proposed underground parking ramp grades are not anticipated to result in drainage concerns along Scholastic Drive. A waiver to Section 25 (u) of the Private Approach By-law is requested.

- The required Stopping Sight Distance and Intersection Sight Distance at the proposed access will be met.

Transportation Demand Management

- The proposed development will contain 260 residential units, consisting of 35 studio units, 106 one-bedroom units, and 119 two-bedroom units.

- The modal shares for the Ottawa Inner Area have been modified to decrease the transit modal share by increasing the auto driver modal share for the development. As the auto modal share assumed for the development represents an increase from the existing modal share in the Ottawa Inner Area, the traffic projections presented in this report are anticipated to be conservative.

- Should the developments auto modal share increase from 35% to 45%, an additional 10 vehicle trips (two-way) are anticipated during the AM and PM peak hours. This equates to one vehicle every six minutes during peak hours and is not anticipated to have a significant impact on the area intersection operations.

- The proposed development conforms to the City's TDM initiatives by providing easy access to local pedestrian, bicycle, and transit systems.

- The following measures will be implemented within the proposed development:
    - Unbundle parking from purchase price, and
    - Provide multimodal travel option information package to new residents.

1.0 SCREENING

1.1 Introduction

This Transportation Impact Assessment (TIA) has been prepared in support of a Site Plan Control application for the property located at 375 Deschâtelets Avenue. The subject site forms part of the Greystone Village subdivision, and surrounded by the following.

- Existing retirement home to the north;
- Scholastic Drive, followed by parkland and Rideau River to the east;
- Deschâtelets Avenue, followed by residences to the south;
- The Forecourt parkland and Deschâtelets building (elementary school) to the west.

The most recent aerial view of the subject site is provided in **Figure 1**.

Figure 1: View of the Subject Site

The Greystone Village subdivision area is approximately 10.3 hectares in area, east of Main Street, south of Springhurst Avenue, and north of Clegg Street. The original Community Transportation Study (CTS), prepared by Novatech in January 2015, reviewed an overall development of approximately 40 single-detached dwellings, 779 condominium/townhouse dwellings, 150 retirement home dwellings, and 36,539 ft^2 of retail space. An addendum dated May 2017 reviewed the changes to Phase 3 of the subdivision which resulted in 110 additional condominium/townhouse dwellings and 10 fewer retirement dwellings. With the current application, the total number of units within the Greystone Village subdivision will equal 51 single-detached homes, 906 townhomes, condominiums, or apartments, 146 retirement dwellings, and approximately 20,000 ft^2 of retail space. All units within the Greystone Village subdivision are accounted for in this TIA.

1.2 Proposed Development

The subject site is currently zoned General Mixed-Use (GM [2310] S420), which permits the proposed development. The proposed development consists of two residential buildings with a total of 260 units. This represents an increase of approximately 115 units compared to the assumed development in the May 2017 Addendum to the Greystone Village CTS. One new two-way access is proposed along Scholastic Drive. A new lay-by is proposed on Scholastic Drive and Deschâtelets Avenue.

The development will be constructed in two phases, with a full build-out in 2028. A copy of the proposed Site Plan is included in **Appendix A**.

1.3 Screening Form

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

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

- Location Triggers – The development is not located within a Design Priority Area or Transit-Oriented Development zone, and does not propose a new driveway to a boundary street designated as part of the City's Rapid Transit, Transit Priority, or Spine Cycling networks; further assessment is not required based on this trigger.

- Safety Triggers – No safety triggers outlined in the TIA Screening Form are met; further assessment is not required based on this trigger.

2.0 SCOPING

2.1 Existing Conditions

2.1.1 Roadways

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

Main Street is an arterial roadway that generally runs on a north-south alignment within the study area, running between Colonel By Drive and Rideau River Drive. South of Rideau River Drive, the roadway continues as Smyth Road. Within the study area, Main Street has a two-lane undivided urban cross-section, a posted speed limit of 50 km/h, and sidewalks and cycle tracks on both sides of the roadway. Main Street is classified as a truck route, allowing full loads. On-street parking is permitted in select lay-by areas.

The following roadways are all located within the Greystone Village subdivision. At the time of writing, the base course for these roadways have been constructed. Descriptions of the roadways below discuss the ultimate design, including sidewalk locations and posted speed limits.

Oblats Avenue is a local roadway that generally runs on an east-west alignment, running between Main Street and Scholastic Drive. Within the study area, Oblats Avenue has a two-lane undivided urban cross-section, a posted speed limit of 30 km/h, and sidewalks on both sides of the roadway. Oblats Avenue is not classified as a truck route. On-street parking is permitted in select lay-by areas.

Hazel Street is a local roadway that generally runs on an east-west alignment, running between Echo Drive and Deschâtelets Avenue. Within the study area, Hazel Street has a two-lane undivided urban cross-section, a posted speed limit of 30 km/h, and sidewalks on both sides of the roadway. Hazel Street is not classified as a truck route. On-street parking is not permitted.

Deschâtelets Avenue is a local roadway that generally runs on a north-south alignment between Oblats Avenue and Hazel Street, transitioning to an east-west alignment between Hazel Street and Scholastic Drive. Within the study area, Deschâtelets Avenue has a two-lane undivided urban cross-section, a posted speed limit of 30 km/h, and sidewalks on both sides of the roadway. Deschâtelets Avenue is not classified as a truck route. On-street parking is permitted in select lay-by areas.

Scholastic Drive is a local roadway that generally runs on a north-south alignment between Oblats Avenue and Telmon Street. North of Oblats Avenue, the roadway continues as Sanctuary Private. North of Deschâtelets Avenue, Scholastic Drive has a two-lane undivided urban cross-section, a posted speed limit of 30 km/h, a sidewalk on the western side of the roadway between Deschâtelets Avenue and Oblats Avenue, and a multi-use pathway on the eastern side of the roadway. South of Deschâtelets Avenue, Scholastic Drive has a single-lane urban cross-section for northbound traffic only. Scholastic Drive is not classified as a truck route. On-street parking is not permitted.

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

Figure 2: Roadway Network

2.1.2 Pedestrian and Cycling Facilities

Concrete sidewalks are provided on both sides of Main Street, Oblats Avenue, Hazel Street, Deschâtelets Avenue, and the west side of Scholastic Drive. Midblock pedestrian crossovers are provided along Hazel Street between Main Street and Deschâtelets Avenue, Scholastic Drive between Oblats Avenue and Deschâtelets Avenue, Oblats Avenue between Deschâtelets Avenue and Scholastic Drive, Deschâtelets Avenue between Oblats Avenue and Hazel Street, as well as

between Hazel Street and Scholastic Drive (opposite De Mazenod Avenue). These pedestrian crossovers provide connectivity from the area pedestrian network to the Forecourt and Grand Allée.

Cycle tracks are provided in both directions on Main Street, and an asphalt multi-use pathway is provided on the east side of Scholastic Drive. Bike boxes are provided behind the crosswalks on Oblats Avenue and Hazel Street at the Main Street signalized intersections.

In the City of Ottawa's primary cycling network, Main Street is classified as a Spine Route, and the multi-use pathway east of Scholastic Drive is classified as a Major Pathway. Oblats Avenue, Hazel Street, Deschâtelets Avenue, and Scholastic Drive have no cycling route classification.

The pedestrian and cycling network of the greater area surrounding the subject site is illustrated in **Figure 3**.

2.1.3 Intersections

Main Street/Oblats Avenue

- Signalized four-legged intersection
- North/South Approaches (Main Street):
  one left turn lane and one shared through/right turn lane
- East Approach (Oblats Avenue):
  One left turn lane and one shared through/right turn lane
- West Approach (Immaculata High School):
  one shared left turn/through/right turn lane

Main Street/Hazel Street

- Signalized four-legged intersection
- North/South Approaches (Main Street):
  one left turn lane and one shared through/right turn lane
- East Approach (Hazel Street):
  One shared left turn/through lane and one right turn lane
- West Approach (Hazel Street):
  one shared left turn/through/right turn lane

Figure 3: Pedestrian and Cycling Network

Note: Ultimate design of the Greystone Village subdivision roadways are not yet shown.

2.1.4 Driveways

The City of Ottawa's 2017 TIA Guidelines requires a review of driveways on the boundary streets within 200m of any proposed access, which can be described as follows.

Oblats Avenue, North Side:
- One driveway to residences at 141 Main Street
- Off-street parking serving the residences at 15 Oblats Avenue

Scholastic Drive, West Side
- One driveway to retirement home at 225 Scholastic Drive

Deschâtelets Avenue, South Side:
- One driveway to residences at 370-384 Deschâtelets Avenue, 537-555 De Mazenod Avenue, and 201-217 Jeremiah Kealey Street
- One driveway to residences at 117-119 Scholastic Drive, 390 Deschâtelets Avenue, and 223 Jeremiah Kealey Street

2.1.5 Area Traffic Management

There are no Area Traffic Management (ATM) studies within the study area that have been completed, or are currently in progress. The Main Street Renewal was completed in 2017, which included road narrowings, curb extensions and bulb-outs, off-road cycling facilities, and improved pedestrians facilities. The posted speed limit of Main Street remains at 50 km/h, however some features such as bulb-outs serve as traffic management measures on Main Street. All roadways within the Greystone Village subdivision have been designed to include narrow lane widths ranging between 3.0m-3.5m, with curb extensions and bulb-outs at select intersections. All roadways within this subdivision will have a posted speed limit of 30 km/h.

2.1.6 Transit

The nearest bus stops to the subject site are as follows:

<u>Main/Oblats</u>
- Stop #6809 – for routes 5, 16, and 55
  (located at the northwest corner)
- Stop #7636 – for routes 5 and 55
  (located at the southeast corner)
- Stop #5824 – for routes 16 and 56
  (located at the northeast corner)

<u>Main/Hazel</u>
- Stop #7639 – for routes 5 and 55
  (located at the southwest corner)

<u>Main/Herridge</u>
- Stop #7638 – for routes 5 and 55
  (located on the east side of Main Street, approximately 30m north of Herridge Street)

<u>Hazel/Deschâtelets</u>
- Stop #5825 – for routes 16 and 56
  (located adjacent to the southwest corner of Hazel Street/Deschâtelets Avenue)

OC Transpo Route 5 is a local route which travels between Billings Bridge and Waller/Laurier. The route generally operates on 30-minute headways, seven days a week.

OC Transpo Route 16 is a local route which travels between St. Paul University and Tunney's Pasture Station or Westboro Station. Within the study area, the route generally operates on 30-minute headways, seven days a week.

OC Transpo Route 55 is a local route which travels between Elmvale Acres Shopping Centre and the Ottawa Hospital General Campus or Bayshore Station. Within the study area, the route operates on 15 to 30-minute headways on weekdays and 30-minute headways on Saturdays. The route does not serve the study area on Sundays.

OC Transpo Route 56 is a local route which travels between Tunney's Pasture Station and King Edward/Union. Within the study area, the route is scheduled to arrive at St. Paul University at 11:35am and 1:35pm on weekdays. Outside of these times, this route does not serve the study area.

Locations of the bus stops described above are shown in **Figure 4**. OC Transpo maps for the routes outlined above and a copy of the OC Transpo System Map is included in **Appendix C**.

Figure 4: OC Transpo Bus Stop Locations

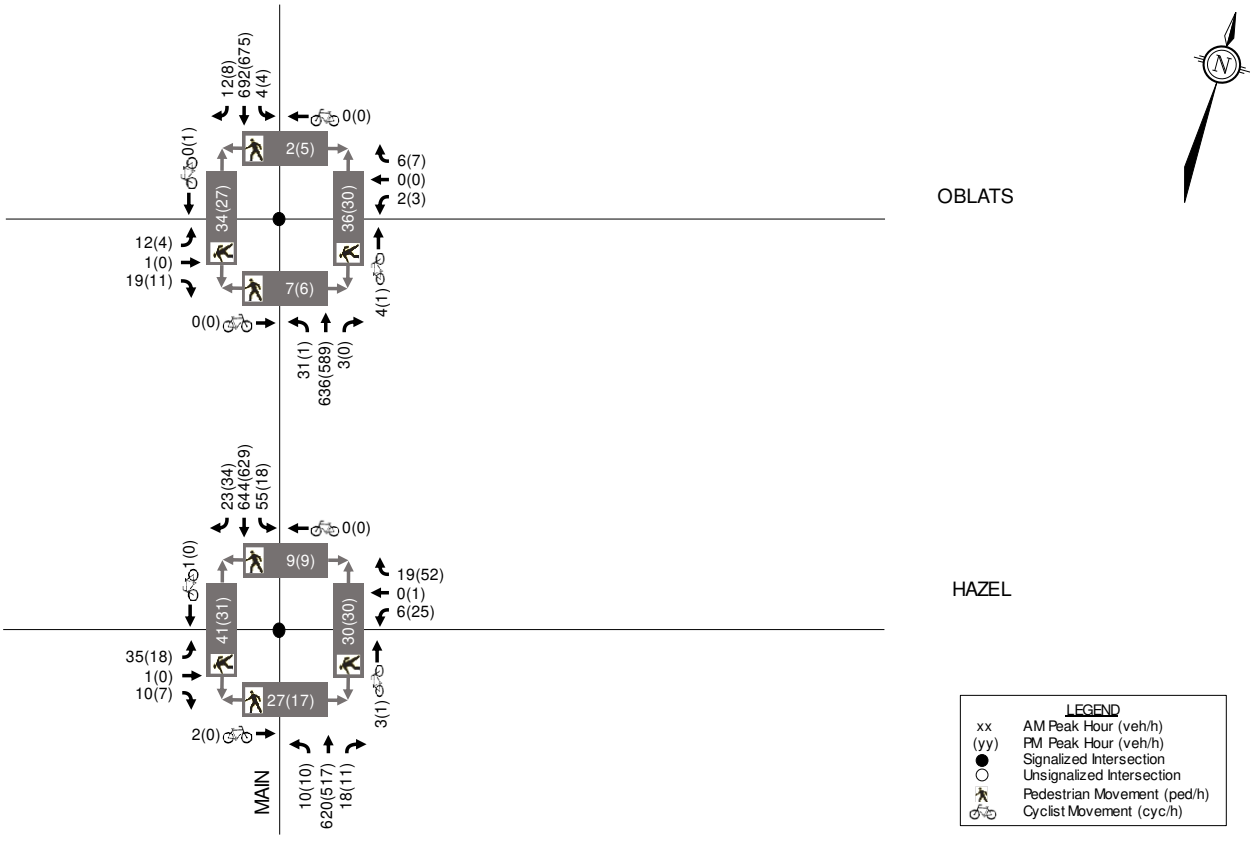
2.1.7 Existing Traffic Volumes

Weekday traffic counts completed by the City of Ottawa have been used to determine the existing pedestrian, cyclist, and vehicular traffic volumes at the study area intersections. The most recent traffic counts at Main Street/Oblats Avenue and Main Street/Hazel Street were both conducted March 7, 2017. Traffic counts at Main Street/Lees Avenue/Graham Avenue (dated July 2017) and Main Street/Hawthorne Avenue (dated March 2020) were used to compare the north-south volumes on Main Street between the two intersections, which was then used to calibrate the north-south volumes within the study area. This approach can be justified given the short distance between the two intersections, as they are approximately 70m apart, measuring centre to centre. Further, the 2020 count at Main Street/Hawthorne Avenue was considered to account for the reopening of the eastbound Highway 417 on-ramp at Lees Avenue, which opened in October 2019.

Comparing the two-way volumes on Main Street at Lees Avenue/Graham Avenue and Hawthorne Avenue during the AM and PM peak hours indicate that volumes are approximately 10% higher during the AM peak hour and approximately 5% lower during the PM peak hour. To maintain a conservative analysis, all AM peak hour volumes within the study area have been increased by 10% and all PM peak hour volumes have not been adjusted. This approach is consistent with the methodology used in the TIA dated July 2020 prepared in support of the elementary school located at 205 Scholastic Drive (Deschâtelets building).

Traffic, pedestrian, and cyclist volumes within the study area are shown in **Figure 5**. Traffic count data is included in **Appendix D**.

Figure 5: Existing Network Traffic Volumes



2.1.8 Collision Records

Historical collision data from the last five years was obtained from the City's Public Works and Service Department at the study area intersection. Copies of the collision summary reports are included in **Appendix E**.

The collision data has been evaluated to determine if there are any identifiable collision patterns, defined in the 2017 TIA Guidelines as 'more than six collisions in five years' for any one movement. The number of collisions at each intersection from January 1, 2015 to December 31, 2019 is summarized in **Table 1**.

Table 1: Reported Collisions

Intersection	Angle	Rear End	Sideswipe	Single/ Other	Turning	Total
Main Street/Oblats Avenue	2	3	1	0	0	**6**
Main Street/Hazel Street	2	7	0	2	2	**13**

Main Street/Oblats Avenue
A total of six collisions were reported at this intersection over the last five years, of which there was two angle impact, three rear-end impacts, and one sideswipe impacts. One of the collisions caused injuries, but none caused fatalities. Two of the six collisions occurred in poor driving conditions. None of the collisions involved pedestrians or cyclists.

Main Street/Hazel Street
A total of 13 collisions were reported at this intersection over the last five years, of which there were two angle impacts, seven rear-end impacts, two single vehicle/other impacts, and two turning movement impact. Five of the collisions caused injuries, but none caused fatalities. Seven of the 13 collisions occurred in poor driving conditions. Two of the collisions involved pedestrians, and two involved cyclists.

Of the seven rear-end impacts, three involved northbound vehicles, two involved southbound vehicles, and two involved eastbound vehicles. Four of the rear-end impacts occurred under poor driving conditions.

2.2 Planned Conditions

The City of Ottawa's 2013 Transportation Master Plan (TMP) does not identify any projects within the study area in its Rapid Transit and Transit Priority (RTTP) or Affordable Road Networks.

The City's 2013 Cycling Plan and 2013 Pedestrian Plan do not identify any upcoming cycling or pedestrian infrastructure projects within the study area.

A review of the City's Development Application search tool identifies that, outside of the Greystone Village subdivision, there is one nearby development that is being constructed and is significant enough to warrant consideration in the traffic analysis. In addition, relevant traffic studies related to the Greystone Village subdivision are also considered. A description of the relevant other area developments are included below.

141 Main Street (Corners on Main)
Construction of this development has been completed; however some spaces are not yet leased. At full occupancy, the development will include 144 condominium dwellings and 13,283 ft^2 of ground floor commercial space.

172 Main Street
A mixed-use building containing four apartment units and approximately 1,300ft^2 of ground floor commercial space is proposed at 172 Main Street.

Greystone Village Community Transportation Study (CTS)
The Greystone Village subdivision area is approximately 10.3 hectares in area, east of Main Street, south of Springhurst Avenue, and north of Clegg Street. The original CTS, prepared by Novatech in January 2015, includes approximately 40 single-detached dwellings, 779 condominium/townhouse dwellings, 150 retirement home dwellings, and 36,539 ft^2 of retail space. An addendum dated May 2017 included 110 additional condominium/townhouse dwellings and 10 fewer retirement dwellings.

Since the Greystone Village subdivision was approved, alterations to the internal road network have occurred through the detailed design process. Scholastic Drive has been converted to a two-way roadway between Oblats Avenue and Deschâtelets Avenue to provide improved access to the Phase 3 lands. The traffic calming bulb-out at the De Mazenod Avenue/Jeremiah Kealey Street intersection has been removed as a result of City concerns and replaced with signage. The replacement signage will still prohibit no through traffic on De Mazenod Avenue toward Clegg Street. The curb line on the south side of Oblats Avenue has been revised to accommodate on-street lay-bys for the 175 Main Street site. The aforementioned modifications are not anticipated to have a significant impact on the adjacent roadway network beyond projected in the CTS and Addendum.

The developments listed below form parts of the Greystone Village subdivision, and were supported by site-specific traffic studies, which further adjusted the number of dwellings and commercial floor area.

360 Deschâtelets Avenue (The Spencer)
A residential development containing 85 units is proposed at 360 Deschâtelets Avenue.

530 de Mazenod Avenue (River Terraces I & II)
The development is currently under construction. At full buildout, the development will include two nine-storey condominium buildings, containing a total of 200 condominium dwellings.

175 Main Street (Milieu) & 10 Oblats Avenue (Ballantyne)
The development is approved. At full buildout, the development will include a six-storey mixed-use building and an eight-storey mixed-use building, containing a total of 235 apartment dwellings and 20,000 ft^2 of ground floor commercial space.

225 Scholastic Drive (Retirement Residence)
Construction of this development has been completed. At full occupancy, the development will include an eight-storey retirement home, containing 146 dwellings.

205 Scholastic Drive (Deschâtelets Building)
The existing Deschâtelets building is currently being renovated to provide an elementary school with an approximate enrollment of 350 students and daycare for 45 students/staff.

2.3 Study Area and Time Periods

The study area for this report includes the roadways Main Street, Oblats Avenue, and Hazel Street, and the signalized intersections at Main Street/Oblats Avenue and Main Street/Hazel Street.

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.

2.4 Exemptions Review

This module reviews possible exemptions from the final Transportation Impact Assessment, as outlined in the TIA guidelines. The applicable exemptions for this site are shown in **Table 2**.

Table 2: TIA Exemptions

Module	Element	Exemption Criteria	Exemption Status
Design Review Component			
4.1 Development Design	*4.1.2* Circulation and Access	• Only required for site plans	Not Exempt
	4.1.3 New Street Networks	• Only required for plans of subdivision	Exempt
4.2 Parking	*4.2.1* Parking Supply	• Only required for site plans	Not Exempt
	4.2.2 Spillover Parking	• Only required for site plans where parking supply is 15% below unconstrained demand	Exempt
Network Impact Component			
4.5 Transportation Demand Management	*All elements*	• Not required for non-residential site plans expected to have fewer than 60 employees and/or students on location at any given time	Not Exempt
4.6 Neighbourhood Traffic Management	*4.6.1* Adjacent Neighbourhoods	• Only required when the development relies on local or collector streets for access and total volumes exceed ATM capacity thresholds	Not Exempt
4.8 Network Concept	*All elements*	• Only required when proposed development generates more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by the established zoning	Exempt

As the proposed parking is anticipated to meet the Zoning By-law requirements, Module 4.2.2 – Spillover Parking is exempt from the analysis.

A review of traffic generated by the subject site will be conducted in Section 3 – Forecasting. Based on the City's TRANS trip generation rates, assuming an auto modal share of 26% during the AM peak hour and 25% in the PM peak hour (consistent with the 2020 TRANS report for high-rise residential developments in the Ottawa Inner Area), the development is anticipated to generate 26

vehicle trips during the AM and PM peak hours. This equates to one vehicle every 2-2.5 minutes (two-way) during the peak hours.

Based on discussions with City staff, the TIA be limited to the Design Review component of the TIA Guidelines as well as Module 4.5 – Transportation Demand Management, based on the following rationale:

- Peak hour vehicle traffic generated by the development is anticipated to be minimal and was captured in the Greystone Village CTS dated January 2015;
- Main Street is constructed as a complete street, accommodating all modes of transportation;
- Transportation reports have been prepared in support of four other blocks within the subdivision.

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 4.4: Access Design
- Module 4.5: Transportation Demand Management

3.0 FORECASTING

3.1 Development-Generated Traffic

3.1.1 Trip Generation

Trips generated by the proposed development during the weekday AM and PM peak period have been estimated based on relevant rates presented in the City's 2020 TRANS Trip Generation Manual Summary Report. Peak period person trips, based on the Multi-Unit (High-Rise – 3+ Storey) rates in Table 3 of the TRANS report, are summarized in the following table.

Table 3: Peak Period Person Trip Generation

Land Use	TRANS Rate	Units	AM Peak Period (ppp[1])			PM Peak Period (ppp)		
			IN	OUT	TOT	IN	OUT	TOT
High-Rise Multifamily Housing	AM: 0.80 PM: 0.90	260 units	64	144	208	136	98	234

1. ppp: Person Trips per Peak Period

Table 8 of the TRANS report includes data to estimate the mode shares for the AM and PM peak periods based on district. Based on the TRANS report, the mode shares for high-rise (3+ storey) multi-family housing in the Ottawa Inner Area are summarized as follows:

- Auto Driver: 26% AM, 25% PM
- Auto Passenger: 6% AM, 8% PM
- Transit: 28% AM, 21% PM
- Cyclist: 5% AM, 6% PM
- Pedestrian: 34% AM, 39% PM

As transit service within the Greystone Village subdivision currently consists of Routes 5, 15, 55, and 56 which all only operate on 30-minute headways, the transit modal share in the Ottawa Inner Area has been decreased by increasing the auto driver share. A breakdown of the peak period person trips by modal share is shown in **Table 5**.

Table 4: Peak Period Person Trips by Modal Share

Travel Mode	Mode Share	AM Peak Period			PM Peak Period		
		IN	OUT	TOT	IN	OUT	TOT
Peak Period Person Trips		**65**	**143**	**208**	**135**	**99**	**234**
Auto Driver	35%	23	49	72	47	35	82
Auto Passenger	5%	3	8	11	7	5	12
Transit	20%	14	28	42	27	20	47
Cyclist	5%	3	8	11	7	5	12
Pedestrian	35%	22	50	72	47	34	81

Table 4 of the TRANS report 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 6**.

Table 5: Peak Hour Person Trips by Mode Share

Travel Mode	Adj. Factor		AM Peak Hour			PM Peak Hour		
	AM	PM	IN	OUT	TOT	IN	OUT	TOT
Auto Driver	0.48	0.44	11	23	34	21	15	36
Auto Passenger	0.48	0.44	2	4	6	3	2	5
Transit	0.55	0.47	7	16	23	13	9	22
Cyclist	0.58	0.48	2	4	6	3	3	6
Pedestrian	0.58	0.52	13	29	42	24	18	42
Peak Hour Person Trips			**35**	**76**	**111**	**64**	**47**	**111**

From the previous table, the proposed development is estimated to generate 111 person trips (including 34 vehicle trips) during the AM peak hour and 111 person trips (including 36 vehicle trips) during the PM peak hour.

3.1.2 Trip Distribution

The distribution of traffic generated by the proposed development has been estimated based on area traffic patterns, the principles of logical trip routing, and the Greystone Village CTS. The distribution of traffic to the area road network is summarized as follows:

- 50% to/from the north via Main Street
- 50% to/from the south via Main Street

3.2 Background Traffic

3.2.1 General Background Growth Rate

In the original Greystone Village CTS, it was noted that the now-completed Main Street Renewal was anticipated to significantly affect traffic volumes on Main Street. Therefore, historic traffic counts were not considered to estimate a growth rate for traffic within the area.

The Greystone Village CTS established a growth rate of -2% per annum based on AM peak hour volume snapshots from the City's Strategic Long-Range Model for the 2011 and 2031 years, and applied it to all through movements on Main Streets for the buildout year 2021 and horizon year 2026. The traffic counts conducted on March 7, 2017 at the study area intersections indicate that through volumes on Main Street are significantly lower than the volumes projected in the CTS for 2021 or 2026. For the purposes of this TIA and to maintain a conservative analysis, rather than continue the assumption of a negative growth rate, no background growth rate has been applied to the 2017 traffic counts. This is consistent with the TIA dated July 2020, in support of the elementary school development at 205 Scholastic Drive.

3.2.2 Other Area Developments

A review of other area developments in proximity to the site was conducted in Section 2.2. The following developments have been considered, and relevant excerpts of their respective studies are included in **Appendix F**.

141 Main Street (Corners on Main)
A Transportation Brief and addendum were prepared by Delcan/Parsons in November 2013 and June 2014, respectively. The development includes 144 condominium dwellings and 13,283 ft^2 of ground floor commercial space. Traffic generated by this development has been added to the 2028 and 2033 background traffic volumes.

Greystone Village Community Transportation Study (CTS)
The Greystone Village subdivision area is approximately 10.3 hectares in area, east of Main Street, south of Springhurst Avenue, and north of Clegg Street. The original CTS, prepared by Novatech in January 2015, includes approximately 40 single-detached dwellings, 779 condominium/townhouse dwellings, 150 retirement home dwellings, and 36,539 ft^2 of retail space. Traffic generated by this subdivision has been added to the 2028 and 2033 background traffic volumes.

An Addendum dated May 2017 was prepared in support of revisions to Phase 3 of the subdivision, which includes the subject site, the retirement home at 225 Scholastic Drive, and the Deschâtelets building (assumed as residential). As traffic generated by the Deschâtelets building will be accounted for based on the TIA dated July 2020 in support of the elementary school (described below), and the subject site comprises the remainder of the Phase 3 residential development, traffic generated by the residential units presented in the Addendum have been deducted from the area intersections. Traffic generated by the retirement home at 225 Scholastic Drive has been accounted for based on the traffic projections in the Addendum.

530 de Mazenod Avenue (River Terraces I & II)
A Transportation Overview, dated August 2015, and Addendum, dated March 2017, were prepared by Novatech for this development, which includes two nine-storey condominium buildings containing a total of 200 dwellings. Compared to the Greystone Village CTS, this equates to six additional dwellings. Traffic generated by the additional dwellings has been added to the 2028 and 2033 background traffic volumes.

175 Main Street (Milieu) & 10 Oblats Avenue (Ballantyne)
A TIA was prepared by Novatech in March 2018 and revised in December 2018 for this development, which will include a six-storey mixed-use building and an eight-storey mixed-use building, containing a total of 235 apartment dwellings and 20,000 ft^2 of ground floor commercial space. Compared to the Greystone Village CTS, this equates to 20 additional dwellings and a reduction of 17,000 ft^2 of

commercial space. Additional traffic generated by this development has been added to the 2028 and 2033 background traffic volumes.

225 Scholastic Drive (Retirement Residence)
A Transportation Overview was prepared by Novatech in October 2017 for this development, which will include an eight-storey retirement home containing 146 dwellings. Compared to the Greystone Village CTS/Addendum, this equates to an additional six units. Traffic generated by this development has already been accounted for in the Addendum to the Greystone Village CTS.

205 Scholastic Drive (Deschâtelets Building)
A TIA was prepared by Novatech in July 2020 for this development, which will include an elementary school and daycare. The school will have a capacity of approximately 350 students, and daycare will accommodate 45 children/staff. Traffic generated by this development has been added to the 2028 and 2033 background traffic volumes.

Trips generated by the proposed development are shown in **Figure 6** and trips generated by other area developments are shown in **Figure 7**. Background and total traffic volumes in 2028/2033 are shown in **Figure 8** and **Figure 9**, respectively.

Figure 6: Proposed Site-Generated Volumes

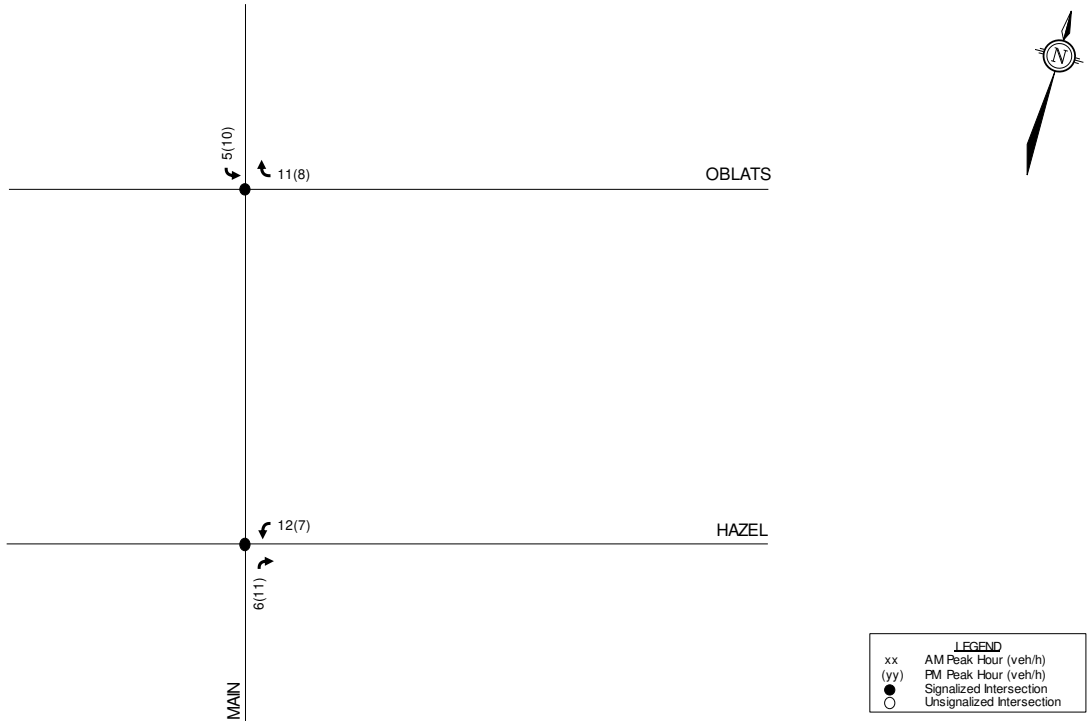


Figure 7: Other Area Development-Generated Volumes

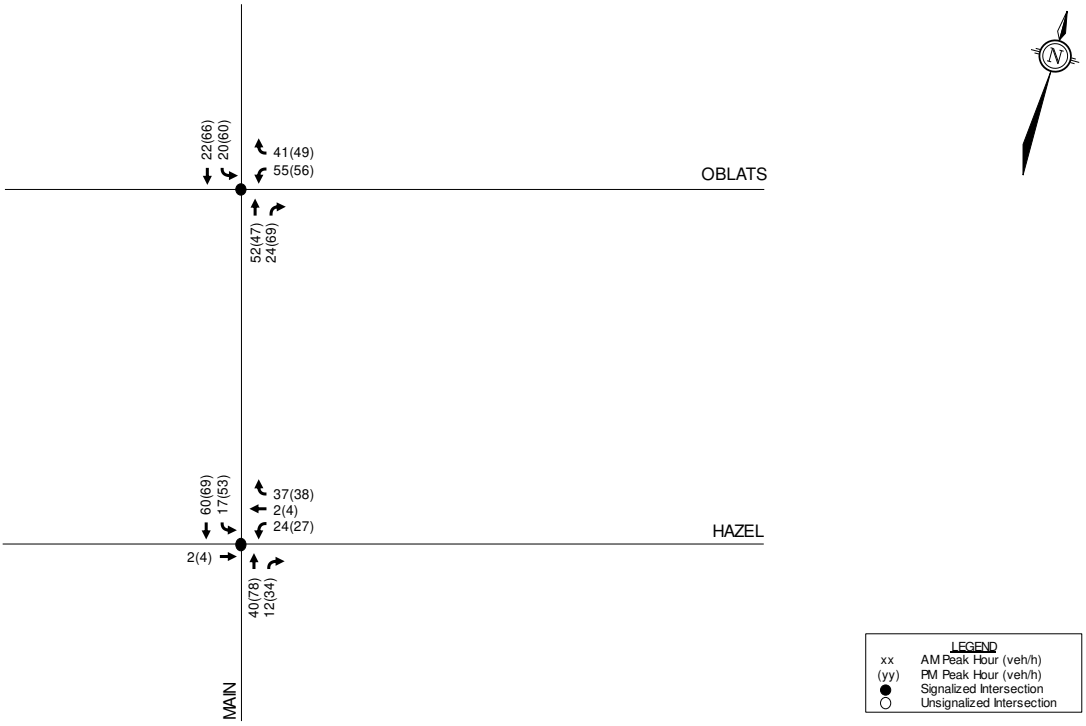


Figure 8: 2028/2033 Background Traffic Volumes

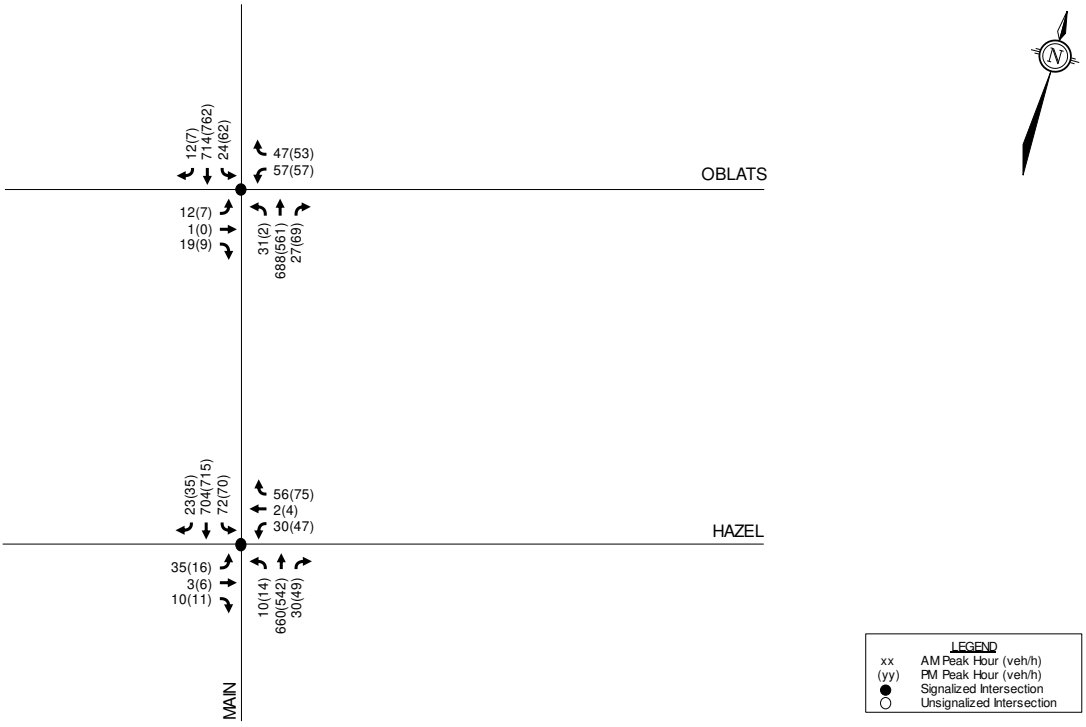
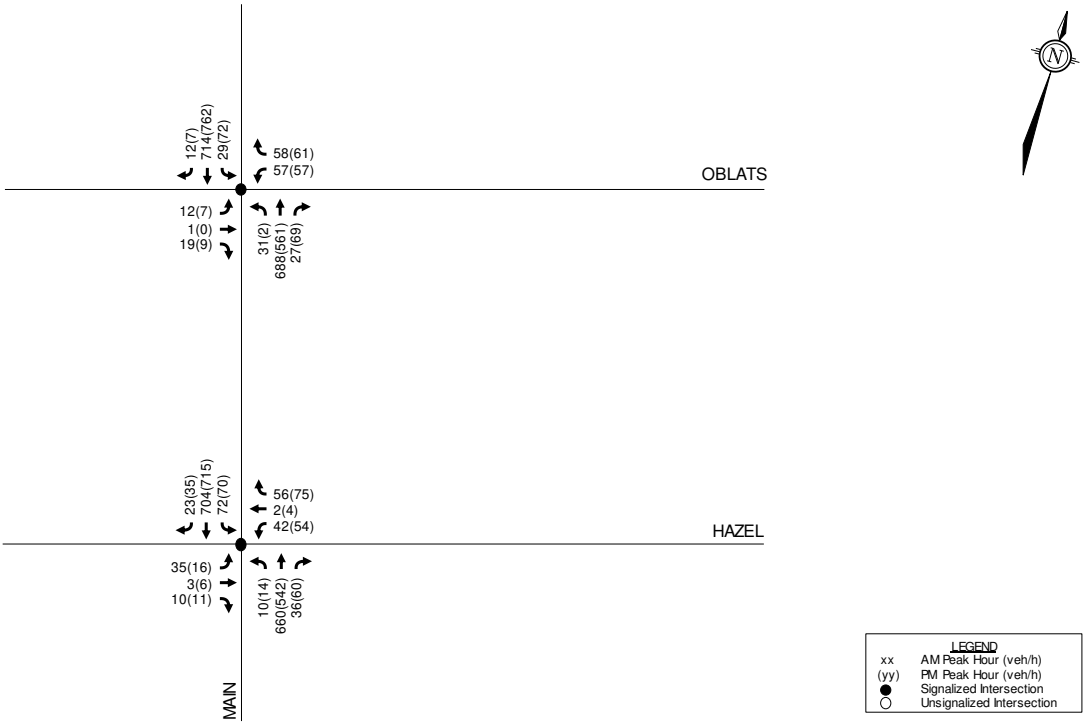


Figure 9: 2028/2033 Total Traffic Volumes



3.3 Demand Rationalization

As discussed in Section 2.4, the TIA will be limited to Modules 4.1 to 4.5. As Module 4.9 – Intersection Design will not be completed as part of the final TIA. As such, a review of background intersection operations has not been completed.

4.0 ANALYSIS

4.1 Development Design

4.1.1 Design for Sustainable Modes

Pedestrian facilities in the form of sidewalks or pathways are provided along both sides of all study area roadways within the Greystone Village subdivision. In addition, the Grande Alleé has been dedicated as City parkland, and repurposed to become a broad pedestrian promenade with restricted vehicular access. The semi-circular Forecourt immediately west of the development will be similarly repurposed as a public space.

The proposed development will provide pedestrian facilities between the main building entrances and the sidewalks along the adjacent roadways. A new east-west public pathway will be provided between the two buildings, connecting the Forecourt public space to Scholastic Drive and the north-south multi-use pathway travelling along the Rideau River.

The bus stops nearest to the subject site are reviewed in Section 4.1.6 and shown in **Figure 4**. Bus stops #6809, #5824, #7636, #7639, #7638, and #5825 are located within a 400m walking distance of the site and serve routes 5, 16, 55, and 56.

Within the subdivision, cyclists will be accommodated on the internal roadways or the multi-use pathway between Scholastic Drive and the Rideau River. All internal roadways have a posted speed limit of 30 km/h. As shown in Section 6.3, the low posted speed adequately accommodates cyclists without providing dedicated cycling facilities. Bicycle parking will be provided within the underground parking garage, in accordance with the requirements of the City's Zoning By-law.

An on-site lay-by to facilitate short-term deliveries and pick-up/drop-off trips is anticipated to require a significant portion of property along either the Scholastic Drive or Deschâtelets Avenue frontage, would result in an increased building setback from the roadway, and a reduced landscaped courtyard at the rear of the development. An on-site lay-by would go against established principles of good urban design and item 1.1.1 on the City's Transportation Demand Management – Development Design and Infrastructure Checklist which suggest that buildings should be pedestrian-oriented, located close to the street and that parking areas should not be provided between the street and building entrances.

Based on the foregoing, two new short-term parking lay-bys are proposed along Scholastic Drive and Deschâtelets Avenue. The parking lay-bys will function as short-term parallel parking to facilitate deliveries and pick-up/drop-off trips for the development. Traffic utilizing the proposed lay-bys is captured in the site generated traffic presented in Section 3.1. The proposed lay-bys allow the buildings to be located close to the street and maintains direct pedestrian access from the sidewalk to the site. The proposed lay-bys are not uncharacteristic within the Greystone Village subdivision, as two lay-bys are approved along Oblats Avenue adjacent to 175 Main Street. The design and function of the proposed lay-bys are consistent with the approved lay-bys along Oblats Avenue.

Scholastic Drive adjacent to the site consists of two 3.0m travel lanes and a 3.0m multi-use pathway separated by a 1.0m concrete strip. Deschâtelets Avenue adjacent to the site consists of two 3.0m travel lanes and a 2.5m parking lane on the south side of the road. The proposed short-term parking lay-bys will provide additional space for vehicles to stop along the roadways surrounding the site to perform pick-up/drop-off or delivery activities without blocking the adjacent travel lanes.

The lay-by along Scholastic Drive will be approximately 28m in length, where the parallel length commences approximately 15m south of the pedestrian crossover. The lay-by along Deschâtelets Avenue will be approximately 16m in length, where the parallel length commences approximately 15m west of Scholastic Drive. The sidewalks along Scholastic Drive and Deschâtelets Avenue is proposed to wrap around the back of the proposed lay-bys, where a portion of the sidewalk will be located on private property. Bollards spaced at 4m intervals will be provided between the sidewalk and the lay-by to delineate the pedestrian facility from the parking area. Additional bollards will be provided at the sidewalk deflection to assist visually impaired pedestrians with navigating the realigned sidewalk. A maintenance and liability agreement is required for the portion of the sidewalks on private property. The design of the lay-bys will be coordinated through the subdivision detailed design process.

A copy of the approved pavement marking and signage plans for Scholastic Drive and Deschâtelets Avenue are provided in **Appendix G**. Based on the approved plans, the previously proposed No-Stopping sign (Rb-55R) on the west side of Scholastic Drive south of the pedestrian crossover requires relocation to the back of sidewalk at the northern terminus of the lay-by. The previously proposed Pedestrian Crossing Ahead sign (Wc-27R) on the north side of Deschâtelets Avenue will also require relocation to the eastern terminus of the lay-by. No other pavement marking or signage

alterations are anticipated to be required as a result of the proposed lay-bys. As identified previously, the design of the lay-bys will be coordinated through the subdivision detailed design process.

A review of the Transportation Demand Management (TDM) – *Development Design and Infrastructure Checklist* has been conducted, and is included in **Appendix H**. All required TDM-supportive design and infrastructure measures in the TDM checklist are met. In addition to the required measures, the proposed development also meets the following 'basic' or 'better' measures as defined in the TDM-supported design and infrastructure measures checklist:

- Locate building close to the street, and do not locate parking areas between the street and building entrances;
- Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations;
- Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort;
- Provide safe, direct and attractive walking routes from building entrances to nearby transit stops;
- Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible;
- Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails.

4.1.2 Circulation and Access

A loading area will be provided adjacent to the main access along Scholastic Drive. The turning movements of a Medium Single Unit (MSU) reversing into and driving out of the loading area are shown in **Figure 10**.

4.2 Parking

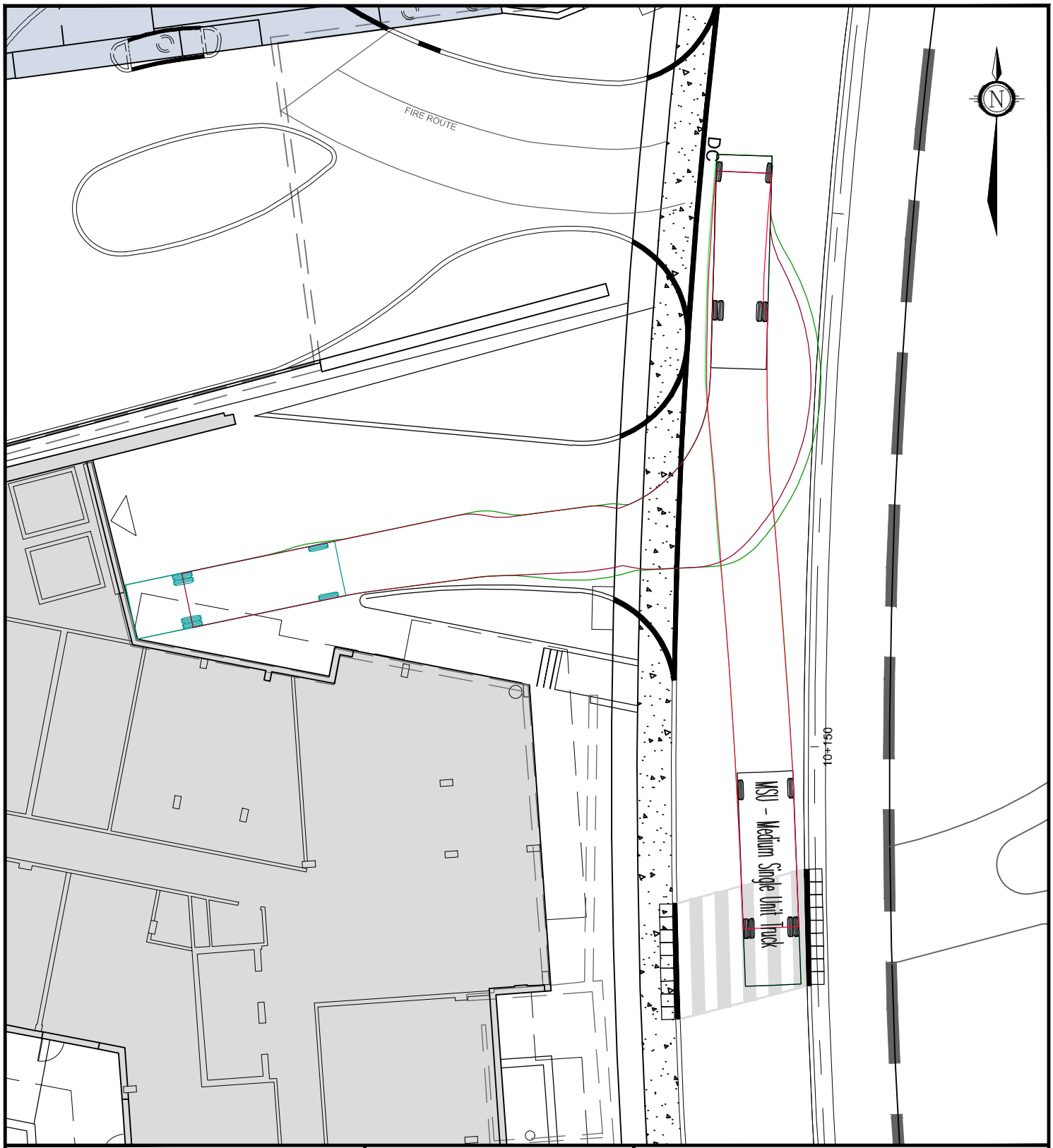
The subject site is located in Area B on Schedule 1 and Area X on Schedule 1A of the City's Zoning By-law. Minimum vehicular and bicycle parking rates for the existing and proposed uses are identified in the Zoning By-law and are summarized in **Table 6**.

Table 6: Parking Requirements Per Zoning By-Law

Land Use	Rate	Units	Required	Proposed
Vehicle Parking				
Apartment	0.5 per unit in excess of 12 units (Resident)[1]	260 units	112	266
	0.1 pr unit in excess of 12 units (Visitor)		25	
		Total	**137**	**266**
Bicycle Parking				
Apartment	0.5 per unit	260 units	130	260
		Total	**130**	**260**

1. Section 101(6)(c) of the Zoning By-law – If parking is provided below grade, parking can be reduced by 10%

The proposed 266 vehicle parking spaces and 260 bicycle parking spaces meet the minimum requirements of the City's Zoning By-law. A ratio of one bicycle parking space per unit is being proposed, which is double the minimum requirement.



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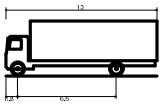

MSU - Medium Single Unit Truck	
Overall Length	10.000m
Overall Width	2.600m
Overall Body Height	3.650m
Min Body Ground Clearance	0.445m
Track Width	2.600m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	11.100m

375 DESCHATELETS AVENUE

LOADING TURNING MOVEMENTS

SCALE 1 : 250 (0 2 4 6 8 10)

DATE JULY 2021 | JOB 114025 | FIGURE FIGURE 10

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4.3 Boundary Streets

This section provides a review of the boundary streets Deschâtelets Avenue and Scholastic Drive using complete streets principles. The *Multi-Modal Level of Service (MMLOS) Guidelines* produced by IBI Group in October 2015 were used to evaluate the levels of service for the boundary roadways for pedestrians and cyclists. As none of the boundary streets are designated as Transit Priority Corridors or Truck Routes, the levels of service for transit and trucks have not been evaluated. Evaluation of the boundary streets for MMLOS is based on the approved cross-sections of the Greystone Village subdivision, as construction of the subdivision is not complete at the time of writing. The cross-sections for Deschâtelets Avenue and Scholastic Drive are shown in **Figures 11** and **12**.

Figure 11: Deschâtelets Avenue Cross Section

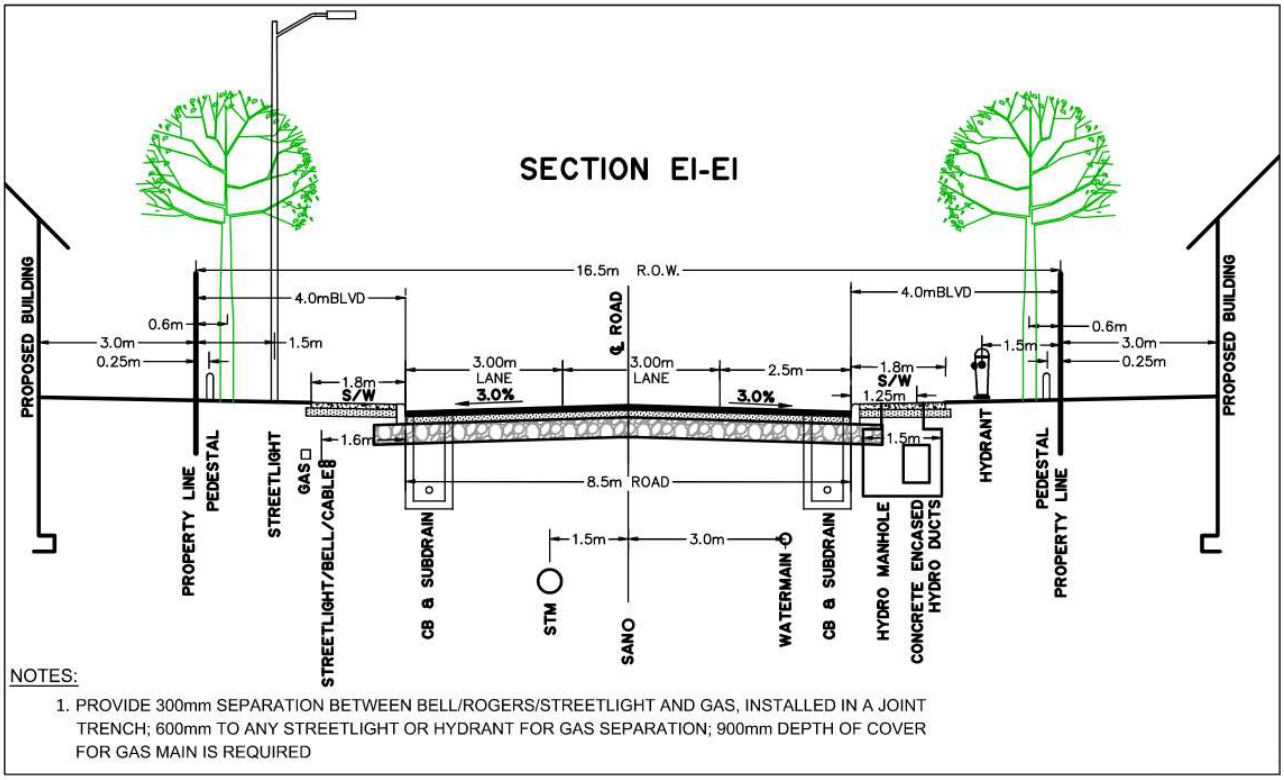

Figure 12: Scholastic Drive Cross Section

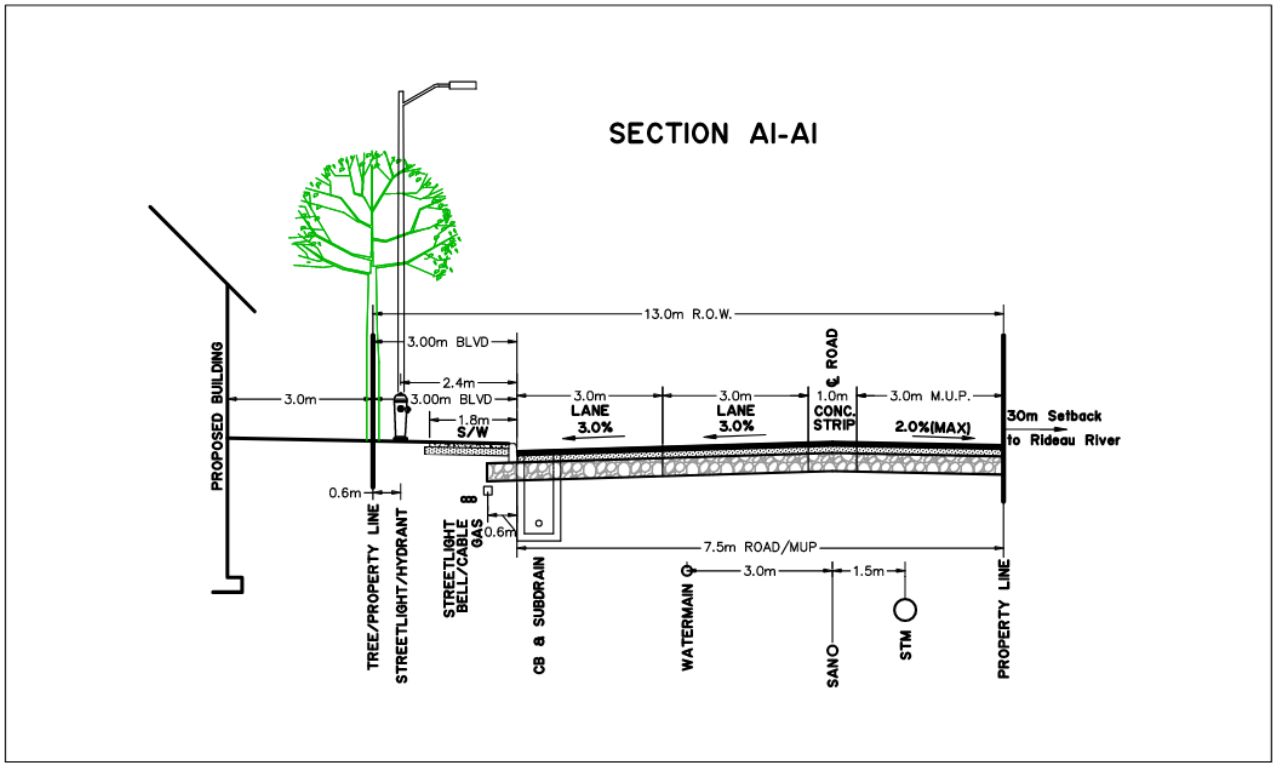

Exhibit 4 of the MMLOS guidelines has been used to evaluate the existing segment PLOS of the boundary streets. Exhibit 22 of the MMLOS guidelines suggests a target PLOS A for all roadways within 300m of a school (Oblats Avenue, Deschâtelets Avenue, Scholastic Drive). The results of the segment PLOS analysis are summarized in **Table 7**.

Table 7: PLOS Segment Analysis

Sidewalk Width	Boulevard Width	Avg. Daily Curb Lane Traffic Volume	Presence of On-Street Parking	Operating Speed	PLOS
Deschâtelets Avenue (north/east side)					
1.8m	0m	≤ 3,000 vpd	No	30 km/h	A
Deschâtelets Avenue (south/west side)					
1.8m	0m	≤ 3,000 vpd	Yes	30 km/h	A
Scholastic Drive (east side)					
≥ 2.0m	0.5 to 2.0m	≤ 3,000 vpd	No	30 km/h	A
Scholastic Drive (west side)					
1.8m	0m	≤ 3,000 vpd	No	30 km/h	A

Exhibit 12 of the MMLOS guidelines has been used to evaluate the existing segment BLOS of the boundary streets. Exhibit 22 of the MMLOS guidelines suggests a target BLOS D for roadways with no cycling designations within 300m of a school (Oblats Avenue, Deschâtelets Avenue, Scholastic Drive). The results of the segment BLOS analysis are summarized in **Table 8**.

Table 8: BLOS Segment Analysis

Road Class	Bike Route	Type of Bikeway	Travel Lanes	Operating Speed	BLOS
Deschâtelets Avenue (Oblats Avenue to Scholastic Drive)					
Local	No Class	Mixed Traffic	2	30 km/h	A
Scholastic Drive (Oblats Avenue to Deschâtelets Avenue)					
Local	No Class	Separated	2	30 km/h	A

From the previous tables, Deschâtelets Avenue and Scholastic Drive meet the target PLOS A and BLOS D.

The proposed lay-bys along Scholastic Drive and Deschâtelets Avenue are not anticipated to impact the PLOS along these roadways as the sidewalk will be realigned to the back of the lay-by. As mixed-traffic lanes will be provided along Deschâtelets Avenue and a separated multi-use pathway will be provided on the east side of Scholastic Drive, the proposed lay-bys are not anticipated to impact the BLOS along these roadways.

4.4 Access Design

One new all movement access is proposed along Scholastic Drive. The proposed access will have a width of 6.7m and will be located approximately 6m from the northern property line. A grade of 6% will be provided for a distance of 6m within the property line.

Section 25(d) of the City's Private Approach By-law identifies a maximum width of 9m for a two-way private approach. Section 107 of the City's Zoning By-law identifies a minimum width of 6.0m and maximum width of 6.7m for a driveway leading to a parking garage. The proposed driveway width conforms to the requirements of the City's Private Approach By-law and Zoning By-law.

Section 25(o) of the City's Private Approach By-law identifies a minimum distance of 6m between the nearest limits of the private approach and the intersecting street line. Section 25(p) identifies a minimum distance of 3m between the nearest limits of the private approach and the property line. The proposed driveway location conforms to the requirements of the City's Private Approach By-law.

For parking lots containing 50 or more parking spaces, Section 25 (u) of the Private Approach By-law identifies a maximum grade of 2% for a distance of 9m within the property. However, Section 24 (3) of the Private Approach By-law identifies that the General Manager may alter the direction of the grade and horizontal distances on which the direction of the grade applies, provided such alterations do not create any drainage issues or hazardous conditions. The proposed access is located at the lowest portion of the subject site to minimize grades leading to the underground parking ramp. However, a grade of 2% for the first 9m within the site is still not achievable to accommodate the desired finish floor grade for the proposed buildings.

Transportation Association of Canada (TAC) Geometric Design Guidelines Section 8.9.11 identifies a maximum recommended downgrade of 7% for low volume driveways on local roadways. The proposed 6% ramp grade for a distance of 6m within the property meets TAC recommendations and will allow one vehicle to stop on the ramp with adequate sight lines along Scholastic Drive. The proposed underground parking ramp grades are not anticipated to result in drainage concerns along Scholastic Drive. Based on the foregoing, a waiver to Section 25 (u) of the Private Approach By-law is requested.

Based on a design speed of 30km/hr, TAC Geometric Design Guidelines identify a Stopping Sight Distance (SSD) requirement of 35m, Intersection Sight Distance (ISD) requirement of 65m to turn left, and 55m to turn right. Scholastic Drive has a slight horizontal curvature, with clear sight lines on either side of the proposed access. The required SSD and ISD at the proposed access will be met.

4.5 Transportation Demand Management

4.5.1 Context for TDM

The proposed development will contain 260 residential units, consisting of 35 studio units, 106 one-bedroom units, and 119 two-bedroom units.

4.5.2 Need and Opportunity

The modal shares for the Ottawa Inner Area have been modified to decrease the transit modal share by increasing the auto driver modal share for the development. As the auto modal share assumed for the development represents an increase from the existing modal share in the Ottawa Inner Area, the traffic projections presented in Section 3.1 are anticipated to be conservative. However, if the proposed auto driver modal share is not achieved, a greater impact to the auto level of service at the study area intersections is anticipated.

Should the developments auto modal share increase from 35% to 45%, an additional 10 vehicle trips (two-way) are anticipated during the AM and PM peak hours. This equates to one vehicle every six minutes during peak hours and is not anticipated to have a significant impact on the area intersection operations.

4.5.3 TDM Program

The proposed development conforms to the City's TDM initiatives by providing easy access to local pedestrian, bicycle, and transit systems as outlined in **Section 4.1**. A review of the TDM – Measures Checklist has been conducted and is included in **Appendix H**. The following measures will be implemented within the proposed development:

- Unbundle parking from purchase price, and
- Provide multimodal travel option information package to new residents.

5.0 CONCLUSIONS AND RECOMMENDATIONS

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

Development Design and Parking

- The proposed development will provide pedestrian facilities between the main building entrances and the sidewalks along the adjacent roadways. A new east-west public pathway will be provided between the two buildings, connecting the Forecourt public space to Scholastic Drive and the north-south multi-use pathway travelling along the Rideau River.

- Two new short-term parking lay-bys are proposed along Scholastic Drive and Deschâtelets Avenue. The parking lay-bys will function as short-term parallel parking to facilitate deliveries and pick-up/drop-off trips for the development.

- The proposed lay-bys allow the buildings to be located close to the street and maintains direct pedestrian access from the sidewalk to the site. The design of the lay-bys are consistent with the approved lay-bys along Oblats Avenue and will provide additional space for vehicles to stop along the roadways surrounding the site to perform pick-up/drop-off or delivery activities without blocking the adjacent travel lanes.

- Bollards spaced at 4m intervals will be provided between the sidewalk and the lay-by to delineate the pedestrian facility from the parking area. Additional bollards will be provided at the sidewalk deflection to assist visually impaired pedestrians with navigating the realigned sidewalk.

- Based on the approved plans, the previously proposed No-Stopping sign (Rb-55R) on the west side of Scholastic Drive south of the pedestrian crossover requires relocation to the back of sidewalk at the northern terminus of the lay-by. The previously proposed Pedestrian Crossing Ahead sign (Wc-27R) on the north side of Deschâtelets Avenue will also require relocation to the eastern terminus of the lay-by. No other pavement marking or signage alterations are anticipated to be required as a result of the proposed lay-bys.

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

- The proposed 266 vehicle parking spaces meet the minimum requirements of the City's Zoning By-law. Bicycle parking will be provided within the underground parking garage at a ratio of one space per unit (260 spaces total). This is double the minimum requirements outlined in the City's Zoning By-law.

Boundary Streets

- Deschâtelets Avenue and Scholastic Drive meet the target pedestrian level of service (PLOS) A and bicycle level of service (BLOS) D.

- The proposed lay-bys along Scholastic Drive and Deschâtelets Avenue are not anticipated to impact the PLOS along these roadways as the sidewalk will be realigned to the back of the lay-by.

- As mixed-traffic lanes will be provided along Deschâtelets Avenue and a separated multi-use pathway will be provided on the east side of Scholastic Drive, the proposed lay-bys are not anticipated to impact the BLOS along these roadways.

Access Design

- One new all movement access is proposed along Scholastic Drive. The proposed access will have a width of 6.7m and will be located approximately 6m from the northern property line. A grade of 6% will be provided for a distance of 6m within the property line.

- The location and width of the proposed access conforms to the requirements of the City's Private Approach By-law and Zoning By-law.

- The proposed access is located at the lowest portion of the subject site to minimize grades leading to the underground parking ramp. However, a grade of 2% for the first 9m within the site is still not achievable to accommodate the desired finish floor grade for the proposed buildings.

- The proposed 6% ramp grade for a distance of 6m within the property meets TAC recommendations and will allow one vehicle to stop on the ramp with adequate sight lines along Scholastic Drive. The proposed underground parking ramp grades are not anticipated to result in drainage concerns along Scholastic Drive. A waiver to Section 25 (u) of the Private Approach By-law is requested.

- The required Stopping Sight Distance and Intersection Sight Distance at the proposed access will be met.

Transportation Demand Management

- The proposed development will contain 260 residential units, consisting of 35 studio units, 106 one-bedroom units, and 119 two-bedroom units.

- The modal shares for the Ottawa Inner Area have been modified to decrease the transit modal share by increasing the auto driver modal share for the development. As the auto modal share assumed for the development represents an increase from the existing modal share in the Ottawa Inner Area, the traffic projections presented in this report are anticipated to be conservative.

- Should the developments auto modal share increase from 35% to 45%, an additional 10 vehicle trips (two-way) are anticipated during the AM and PM peak hours. This equates to one vehicle every six minutes during peak hours and is not anticipated to have a significant impact on the area intersection operations.

- The proposed development conforms to the City's TDM initiatives by providing easy access to local pedestrian, bicycle, and transit systems.

- The following measures will be implemented within the proposed development:
    - Unbundle parking from purchase price, and
    - Provide multimodal travel option information package to new residents.

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

NOVATECH

Prepared by:

Brad Byvelds, P. Eng.
Project Coordinator | Transportation/Traffic

APPENDIX A

Proposed Site Plan

GROUND FLOOR SITE

1 : 250

2 / A.200

GREYSTONE VILLAGE PHASE 3, OTTAWA											
PROJECT STATISTICS											
PROJECT INFORMATION		**PROJECT STATISTICS**		**BUILDING STATISTICS**		**UNIT STATISTICS**		**PARKING**		**AMENITY**	
				GROSS FLOOR AREA (CITY OF OTTAWA DEFINITION)							
ZONING	GM[2310] S420	**NORTH BUILDING**		**NORTH BUILDING**		**NORTH BUILDING**		**CAR PARKING**		**REQUIRED**	
		BUILDING HEIGHT	24.7m								
		FRONT YARD SETBACK (SCHOLASTIC DRIVE)	3.0m	GROUND FLOOR	647 m2	STUDIO	17	**REQUIRED**		TOTAL AMENITY: 260 UNITS x 6m2	1560m2
		CORNER SIDE YARD SETBACK (DESCHATELETS AVE)	1.8m	LEVEL 2	1307 m2	1 BED	43			MIN. 50% COMMUNAL AREA	780m2
SITE AREA	7494m2	REAR YARD SETBACK	VARIES	LEVEL 3	1578 m2	1 BED + DEN	14	RESIDENCE *(0.5 PER UNIT AFTER 12 UNITS)*	124		
BUILDING HEIGHT (GM[2310] S420)	MAX 83.7m	MINIMUM WIDTH OF LANDSCAPE BUFFER	1.3m	LEVEL 4	1578 m2	2 BED	28	*-10% (Section 101(6)(c) of the Zoning By-law)*	(-12)	**PROVIDED**	
				LEVEL 5	1578 m2	2 BED + DEN	33	VISITOR *(0.1 SPACES/DWELLING UNIT)*	25		
FLOOR SPACE INDEX	1.97 (All Phases)	**SOUTH BUILDING**		LEVEL 6	1578 m2			*TO A MAXIMUM OF 30 SPACES*		PRIVATE TERRACE/BALCONIES TOTAL	4600m2
		BUILDING HEIGHT	24.7m	LEVEL 7	1244 m2			BARRIER FREE *(4 TYPE A / 4 TYPE B)*	8		
SETBACKS GM[2310] S420	Schedule 420	FRONT YARD SETBACK	1.8m				TOTAL 135	-Section 3.1.2, Table 3 Ottawa ADS		**TOTAL COMBINED INTERIOR**	
		SIDE YARD SETBACK	0.0m						TOTAL 157	NORTH BUILDING	523m2
SETBACKS GM[2310] S420		SIDE YARD SETBACK	0.0m		TOTAL 9510 m2	**SOUTH BUILDING**		**TOTAL PARKING SPACES PROVIDED**	266	SOUTH BUILDING	538m2
FRONT	1.8m	REAR YARD SETBACK	VARIES								
REAR	1.3m			**SOUTH BUILDING**		STUDIO	18			TOTAL COMMUNAL SPACE PROVIDED	1061m2
INTERIOR YARD	0.0m					1 BED	34				
INTERIOR YARD	0.0m	**LANDSCAPE OPEN SPACE**		GROUND FLOOR	642 m2	1 BED + DEN	15	**BICYCLE PARKING REQUIRED**		**TOTAL AMENITY PROVIDED**	5661m2
		DRIVING SURFACE	402m2 (6%)	LEVEL 2	1174 m2	2 BED	29				
		BUILDING FOOTPRINT	3440m2 (50%)	LEVEL 3	1470 m2	2 BED + DEN	29	RESIDENCE *(0.5 SPACES/DWELLING UNIT)*	130		
		LANDSCAPE OPEN SPACE	2947m2 (44%)	LEVEL 4	1470 m2						
		TOTAL	6789m2 (100%)	LEVEL 5	1470 m2	TOTAL	125	TOTAL	130		
				LEVEL 6	1443 m2						
				LEVEL 7	1156 m2	**PROJECT TOTAL**	**260**	**TOTAL BICYCLE PARKING SPACES PROVIDED**	260		
					TOTAL 8,825 m2				*(INC. 10 EXTERIOR SPACES)*		
				PROJECT TOTAL	**18,335** m2						

PARKING TABLE - TOTAL

NAME	SIZE	QTY
COMPACT		21
STANDARD		129
P2 - PARKING: 150		
ACCESSIBLE TYPE A	3200mm x 5200mm	4
ACCESSIBLE TYPE B		4
COMPACT		13
STANDARD		95
P1 - PARKING: 116		
TOTAL: 266		

LOCKERS TABLE - TOTAL

LEVEL	NAME	QTY
P2 - PARKING	STORAGE LOCKER	70
P1 - PARKING	STORAGE LOCKER	45
01- GROUND FLOOR	STORAGE LOCKER	151
TOTAL: 266		

RESIDENTIAL SUITE COUNT

LEVEL	SUITE TYPE 1 BR	1 BR+	2 BR	2 BR+	STUDIO	TOTAL
01- GROUND FLOOR	8	1	8	1	3	21
02 - SECOND FLOOR	10	5	10	5	8	38
03 - THIRD FLOOR	13	5	9	11	6	44
04 - FOURTH FLOOR	13	5	9	11	6	44
05 - FIFTH FLOOR	13	5	9	11	6	44
06 - SIXTH FLOOR	13	7	7	11	6	44
07 - SEVENTH FLOOR	2	6	5	12	0	25
GRAND TOTAL	72	34	57	62	35	260

BICYCLE PARKING TABLE - TOTAL

LEVEL	NAME	QTY
P2 - PARKING	BICYCLE PARK	154
P1 - PARKING	BICYCLE PARK	106
TOTAL: 260		

NOTES GÉNÉRALES General Notes

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REGIONAL

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SCEAU / Seal

NEUF ARCHITECT(E)S

NEUF ARCHITECTES SENCRL

CLIENT Client

OUVRAGE Project

GREYSTONE VILLAGE PHASE 3

EMPLACEMENT Location: OTTAWA

NO PROJET No.: 12272

NO	RÉVISION	DATE (aa-mm-jj)

Préliminaire NE PAS UTILISER POUR CONSTRUCTION

DESSINÉ PAR Drawn by: Auteur

VÉRIFIÉ PAR Checked: Vérificateur

DATE (aa.mm.jj): 09/24/20

ÉCHELLE Scale: 1 : 250

TITRE DU DESSIN Drawing Title

GROUND FLOOR SITEPLAN

RÉVISION Revision

NO. DESSIN Dwg Number: A.200

C:\Fichiers Revit Locaux\GV-PH3_ 12272_ARC_ R20_ clg.rvt

APPENDIX B

TIA Screening Form

City of Ottawa 2017 TIA Guidelines Screening Form

1. Description of Proposed Development

Municipal Address	**Greystone Village – Phase 3**
Description of Location	**Northwest corner of Deschâtelets Avenue/Scholastic Drive**
Land Use Classification	**Residential**
Development Size (units)	**260 units**
Development Size (m^2)	
Number of Accesses and Locations	**One all movement access on Scholastic Drive**
Phase of Development	**Two**
Buildout Year	**2028**

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

2. Trip Generation Trigger

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

Land Use Type	Minimum Development Size
Single-family homes	40 units
Townhomes or apartments	90 units
Office	3,500 m^2
Industrial	5,000 m^2
Fast-food restaurant or coffee shop	100 m^2
Destination retail	1,000 m^2
Gas station or convenience market	75 m^2

** If the development has a land use type other than what is presented in the table above, estimates of person-trip generation may be made based on average trip generation characteristics represented in the current edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.*

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

3. Location Triggers

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

**DPA and TOD are identified in the City of Ottawa Official Plan (DPA in Section 2.5.1 and Schedules A and B; TOD in Annex 6). See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA).*

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

4. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 km/hr or greater?		✘
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 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?		✘
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.

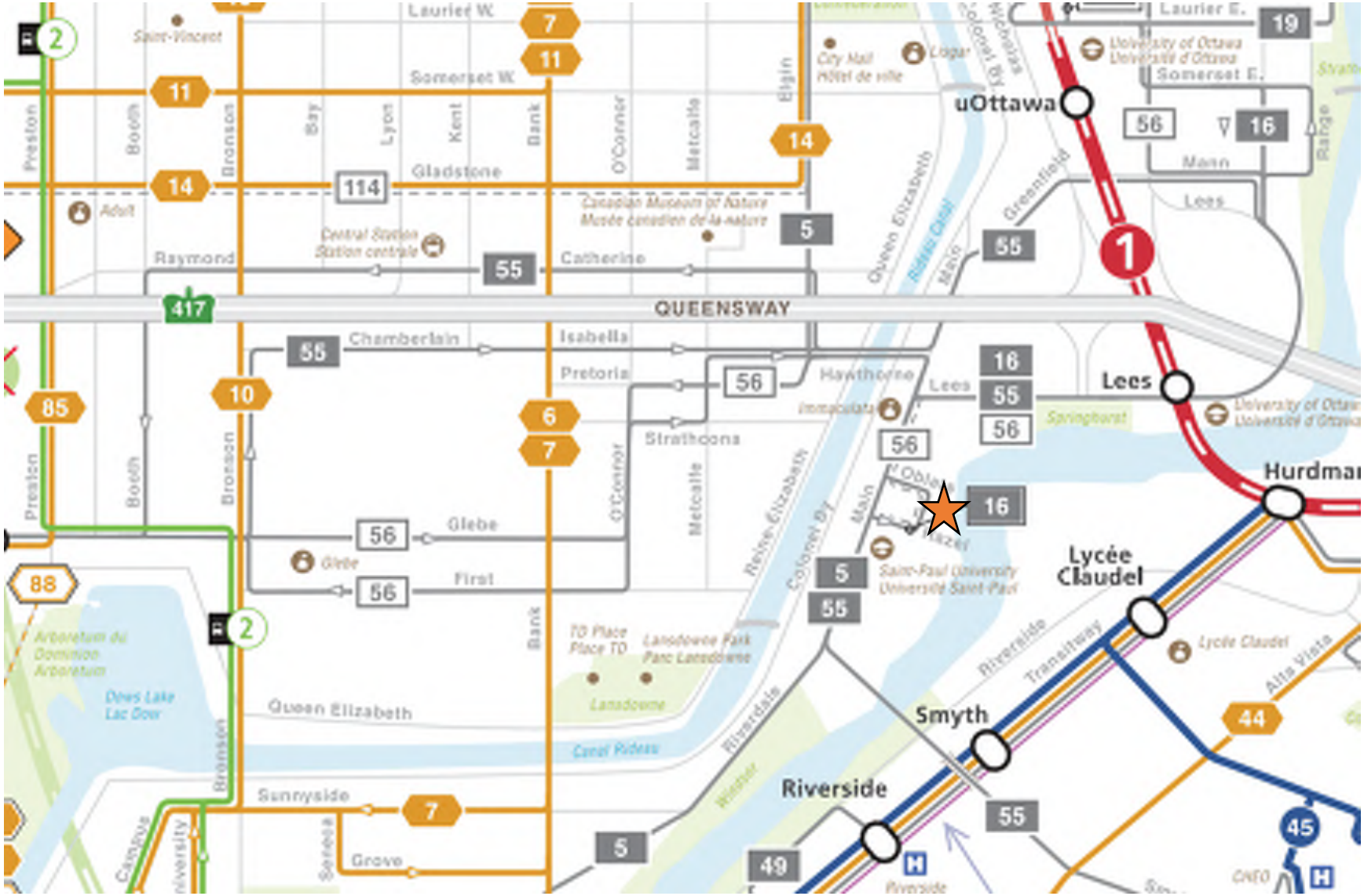
5. Summary

	Yes	No
Does the development satisfy the Trip Generation Trigger?	✓	
Does the development satisfy the Location Trigger?		✘
Does the development satisfy the Safety Trigger?		✘

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

APPENDIX C

OC Transpo Route Maps

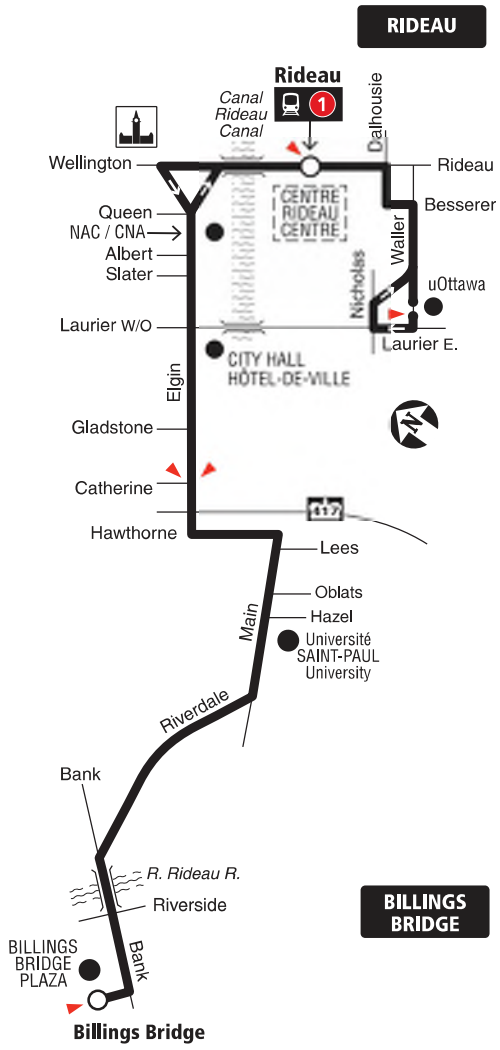


SUBJECT SITE

5 BILLINGS BRIDGE / RIDEAU

Local

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



○ Station

▲ Timepoint / Heures de passage

2020.08

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

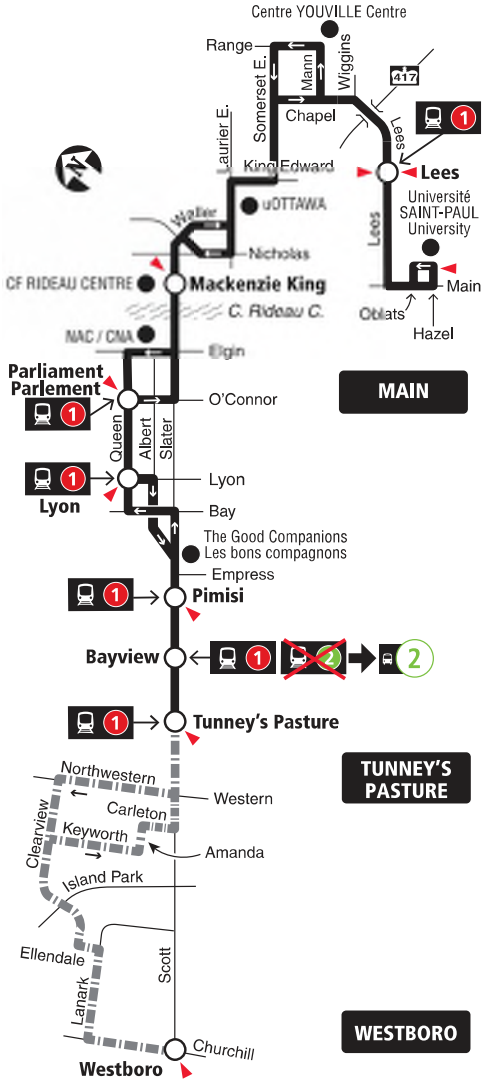
Customer Service
Service à la clientèle **613-741-4390**
Lost and Found / Objets perdus..... **613-563-4011**
Security / Sécurité..... **613-741-2478**

Effective April 26, 2020
En vigueur 26 avril 2020

OC Transpo **INFO 613-741-4390**
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

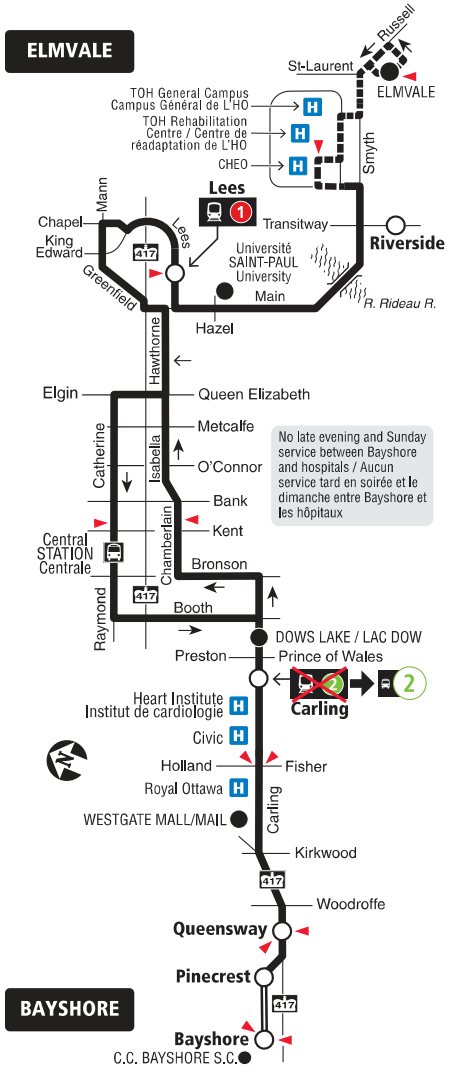
OC Transpo
INFO 613-741-4390
octranspo.com

55 ELMVALE / BAYSHORE

Local

7 days a week / 7 jours par semaine

On Sundays and evenings, service only between Elmvale and General campus of the Ottawa Hospital /
Service le dimanche et en soirée seulement entre Elmvale et le campus Général de l'Hôpital d'Ottawa



Transitway & Station

Late evenings and Sundays: service only between Elmvale and the Ottawa Hospital, General Campus

Service tard en soirée et le dimanche: seulement entre Elmvale et le campus Général de l'Hôpital d'Ottawa

Timepoint / Heures de passage

2020.06

Schedule / Horaire.....613-560-1000
Text / Texto 560560

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

Customer Service
Service à la clientèle 613-741-4390

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

Security / Sécurité 613-741-2478

Effective June 29, 2020
En vigueur 29 juin 2020

OC Transpo

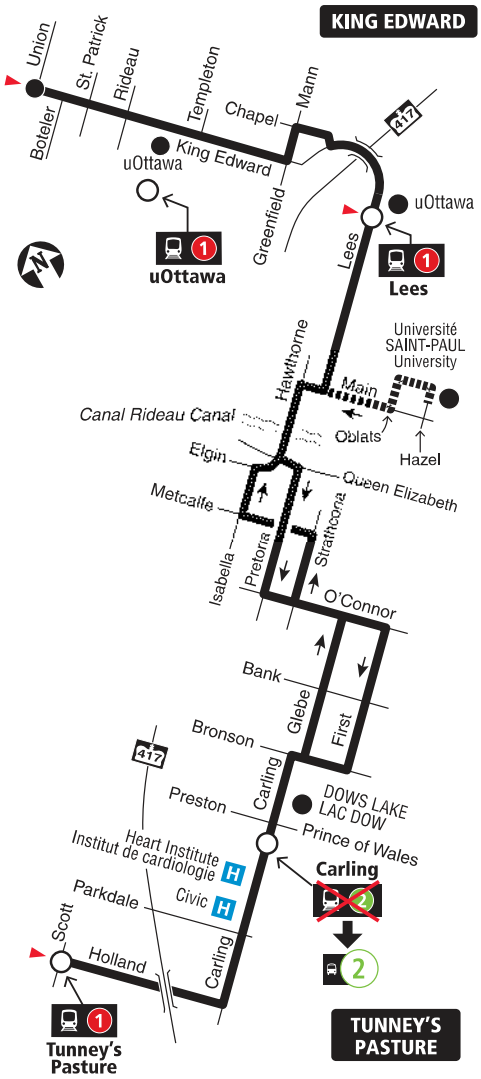
INFO 613-741-4390
octranspo.com

56 KING EDWARD / TUNNEY'S PASTURE

Local

Monday to Friday / Lundi au vendredi

Peak periods only
Périodes de pointe seulement



Station
Some trips / Certains trajets
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

APPENDIX D

Traffic Count Data

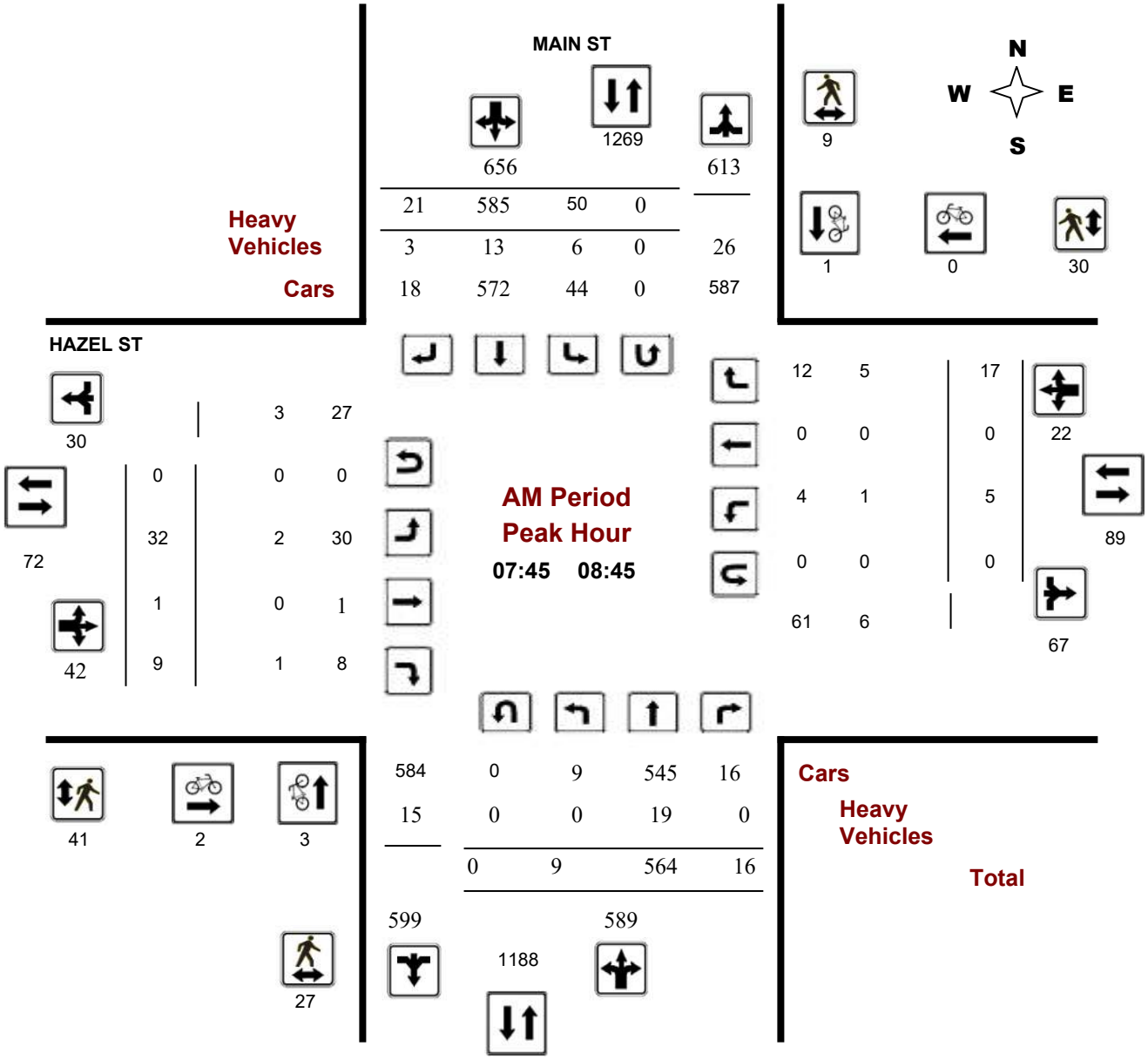
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HAZEL ST @ MAIN ST

Survey Date: Tuesday, March 07, 2017
Start Time: 07:00

WO No: 36733
Device: Miovision



Comments

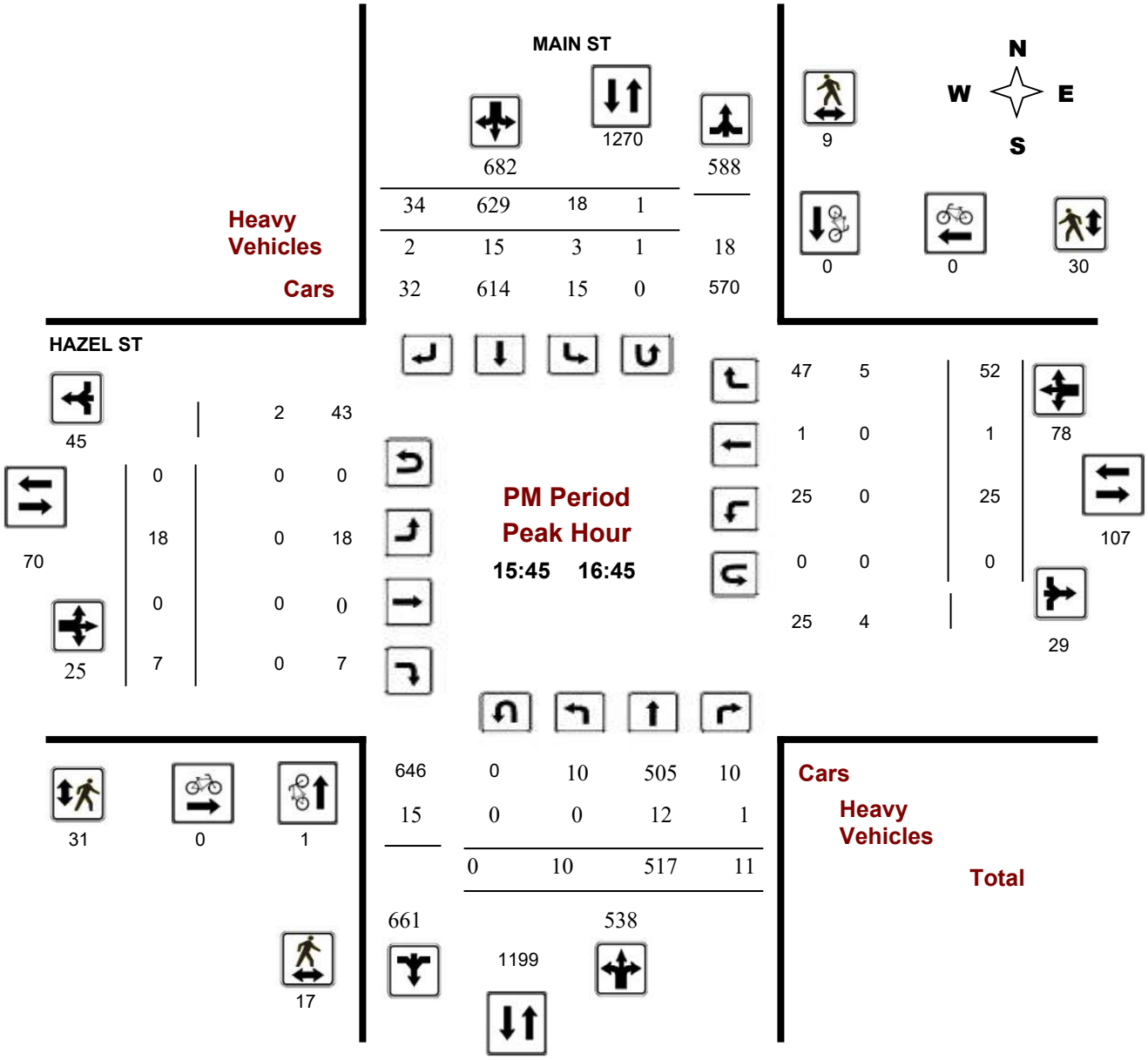
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HAZEL ST @ MAIN ST

Survey Date: Tuesday, March 07, 2017
Start Time: 07:00

WO No: 36733
Device: Miovision



Comments

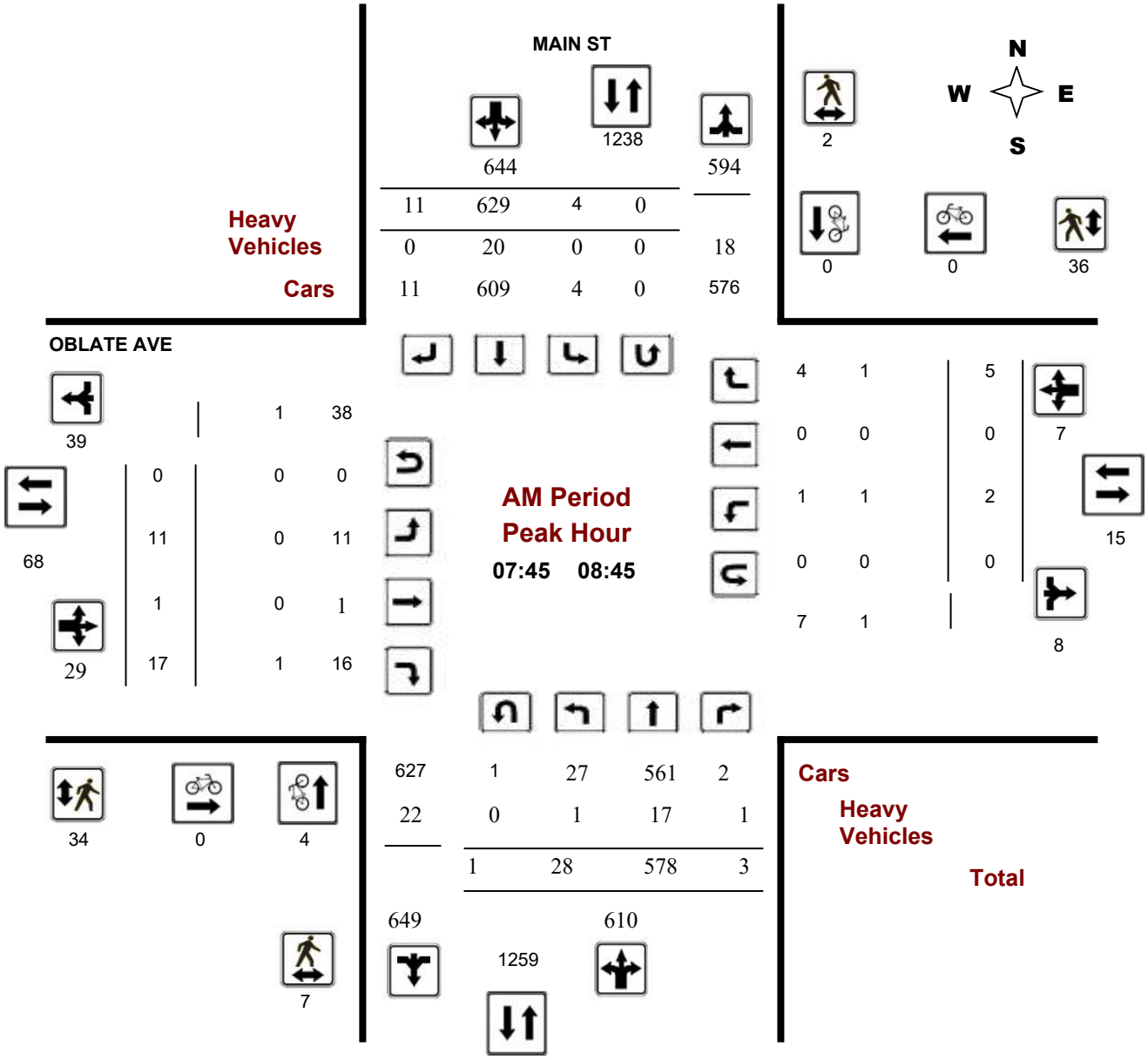
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

MAIN ST @ OBLATE AVE

Survey Date: Tuesday, March 07, 2017 **WO No:** 36739

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



Comments

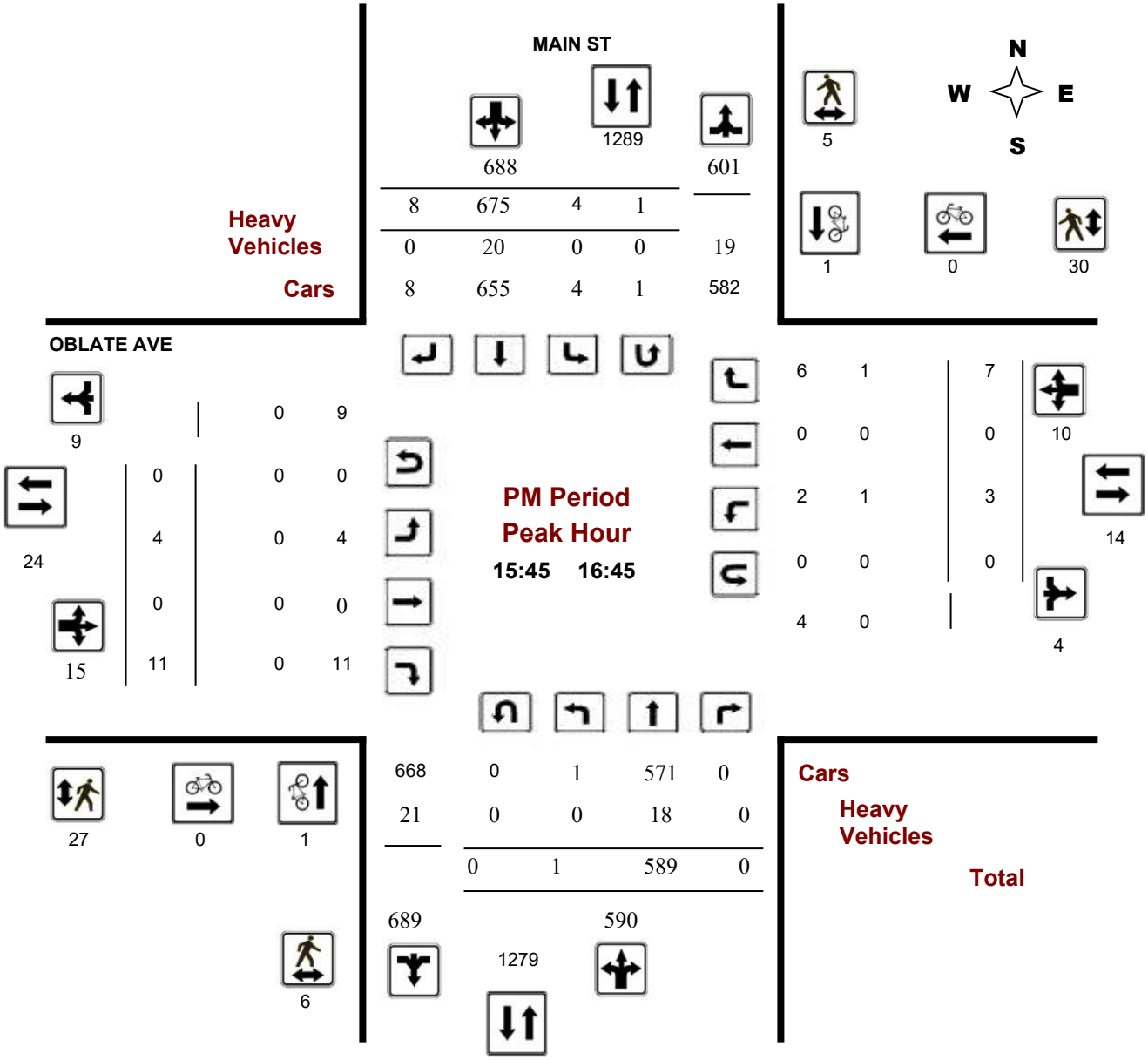
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

MAIN ST @ OBLATE AVE

Survey Date: Tuesday, March 07, 2017 **WO No:** 36739

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



Comments

APPENDIX E

Collision Records

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: HAZEL ST @ MAIN ST

Traffic Control: Traffic signal

Total Collisions: 13

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Apr-15, Wed,19:55	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					East	Slowing or stopping	Pick-up truck	Other motor vehicle	
2016-Mar-31, Thu,13:59	Rain	Angle	P.D. only	Wet	South	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Oct-25, Wed,15:20	Clear	Angle	Non-fatal injury	Dry	South	Going ahead	Bicycle	Other motor vehicle	0
					East	Stopped	Municipal transit bus	Cyclist	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: HAZEL ST @ MAIN ST

Traffic Control: Traffic signal **Total Collisions:** 13

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Dec-23, Sat,16:51	Clear	Rear end	P.D. only	Loose snow	North	Unknown	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Pick-up truck	Other motor vehicle	
					North	Slowing or stopping	Pick-up truck	Other motor vehicle	
2018-Feb-09, Fri,12:20	Clear	SMV other	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Pedestrian	1
2018-Feb-13, Tue,15:52	Clear	Rear end	P.D. only	Wet	North	Turning right	Truck - dump	Other motor vehicle	0
					North	Stopped	Passenger van	Other motor vehicle	
2018-Oct-05, Fri,12:02	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Cyclist	0
					North	Going ahead	Bicycle	Other motor vehicle	
2018-Nov-09, Fri,14:25	Snow	SMV other	Non-fatal injury	Wet	West	Turning left	Automobile, station wagon	Pedestrian	1
2019-Mar-13, Wed,18:15	Snow	Rear end	Non-fatal injury	Loose snow	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Unknown	Other motor vehicle	
2019-Mar-16, Sat,12:49	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Passenger van	Other motor vehicle	
2019-Oct-23, Wed,18:00	Clear	Rear end	P.D. only	Dry	North	Unknown	Unknown	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Nov-08, Fri,17:40	Clear	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Nov-28, Thu,18:13	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	

Location: MAIN ST @ OBLATE AVE

Traffic Control: Traffic signal **Total Collisions:** 6

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, 2015 **To:** December 31, 2019

Location: MAIN ST @ OBLATE AVE

Traffic Control: Traffic signal **Total Collisions:** 6

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-13, Tue,18:02	Snow	Sideswipe	P.D. only	Ice	South	Changing lanes	Unknown	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-May-09, Sat,18:44	Clear	Rear end	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Dec-16, Fri,13:09	Clear	Rear end	Non-fatal injury	Loose snow	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Dec-04, Tue,11:00	Clear	Angle	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Pick-up truck	Other motor vehicle	
2019-Feb-02, Sat,10:01	Snow	Angle	P.D. only	Loose snow	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Jun-11, Tue,13:55	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	

APPENDIX F

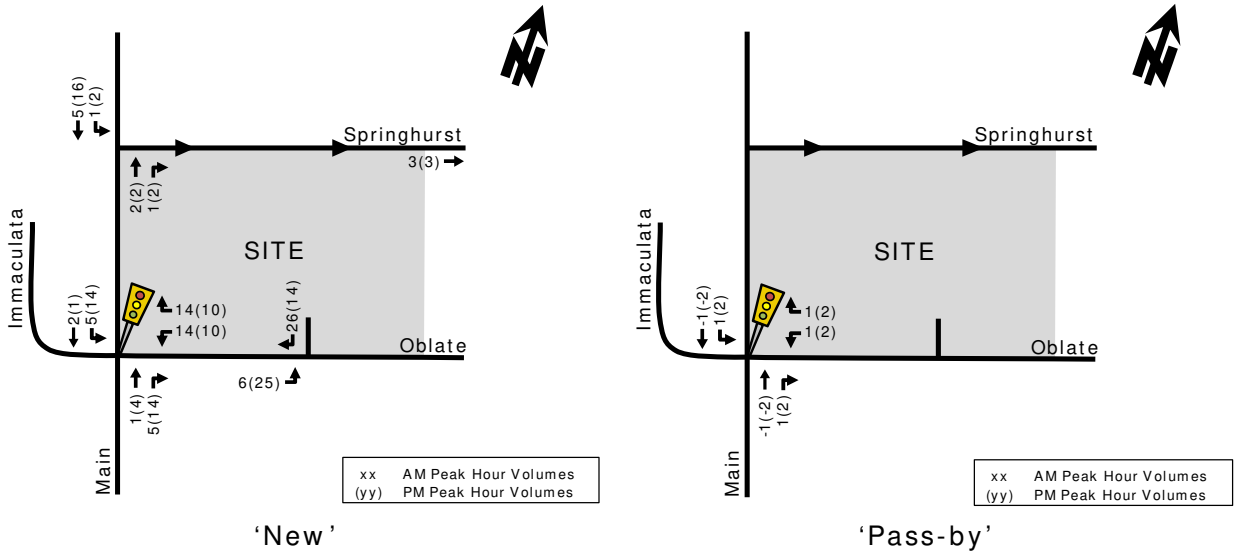
Relevant Excerpts from
Other Area Developments

OTHER AREA DEVELOPMENTS

141 Main Street
Transportation Brief

Based on the foregoing assumptions, 'New' and 'Pass-by' site-generated trips are illustrated as Figure 5.

Figure 5: Site-Generated Traffic Volumes

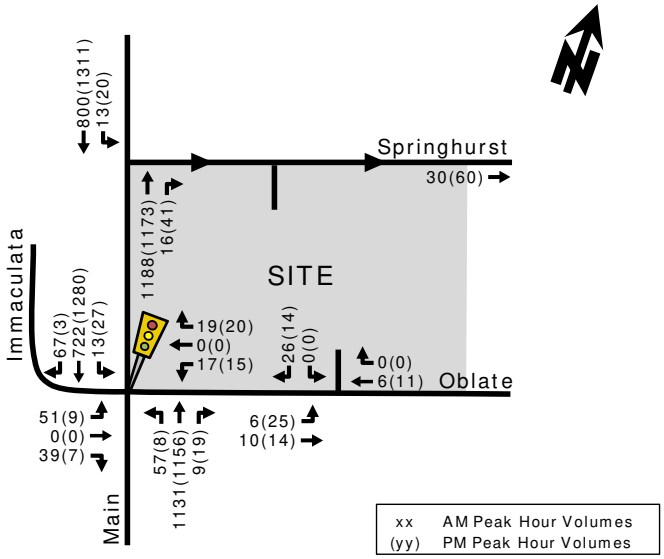


It should be noted that the imbalances in site-generated traffic depicted in Figure 5 are attributed to the use of on-street parking by site patrons.

4. Future Traffic Operations

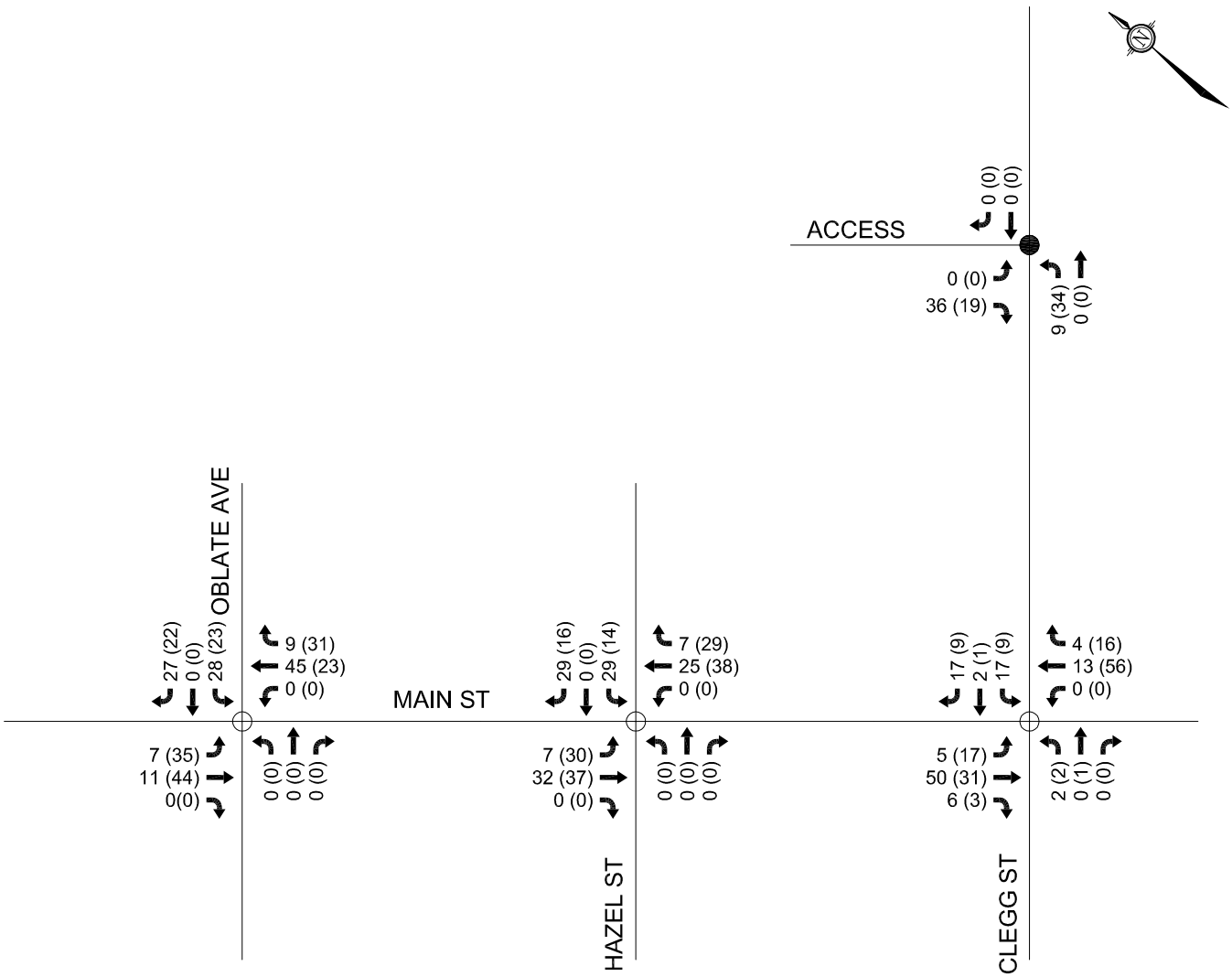
For the purpose of this study, total projected traffic volumes were derived by superimposing 'new' and 'pass-by' site-generated traffic (Figure 5) onto existing volumes (Figure 3). The resulting total projected traffic volumes used in the subsequent analysis are illustrated as Figure 6.

Figure 6: Projected Traffic Volumes



OTHER AREA DEVELOPMENTS

Greystone Village Subdivision
Community Transportation Study



LEGEND

- Unsignalized Intersection
- Signalized Intersection
- xx VPH AM Peak Hour
- (xx) VPH PM Peak Hour

NOVATECH
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CITY OF OTTAWA
GREYSTONE VILLAGE
(175 MAIN STREET)

SITE GENERATED TRAFFIC VOLUMES

JAN 2015 114025 FIGURE 6

This addendum has been prepared in support of Phase 2 and 3 registration. It will provide an update of the estimated Phase 3 site traffic and review the proposed widening of Scholastic Drive between Oblates Avenue and Deschâtelets Avenue.

1.0 REVISED DEVELOPMENT

The revised Phase 3 development now includes three five-storey condo buildings and a retirement home along Scholastic Drive, in addition to the previously proposed Deschâtelets Building expansion and two four-storey apartment buildings.

Access to the Deschâtelets Building was previously proposed on Scholastic Drive. Access to the four-storey apartment buildings and town house blocks was previously proposed on Oblates Avenue and Deschâtelets Avenue. A shared underground parking garage is now proposed for the three condo buildings and the southerly apartment building, with an access to Scholastic Drive. Limited surface parking and a shared underground parking garage is proposed for the northerly apartment building and the Deschâtelets Building, with an access to Oblates Avenue. The retirement building will have an at-grade visitor pick-up/drop-off area and an underground parking garage, with an access to Scholastic Drive.

The proposed right-of-way (ROW) width of Scholastic Drive between Oblates Avenue and Deschâtelets Avenue has been widened from 10.5m to 13m, with a road width of 6m to accommodate two-way traffic versus the previous proposal of 4m for one-way traffic. The ROW has been widened to the west, away from the 3m multi-use pathway and the Rideau River. The revised cross section is shown in the Phase 2 and 3 Concept Plan included in **Appendix A**.

The revised Phase 3 concept consists of approximately 230 condo/apartment units and 140 retirement units, which represents an increase of 100 units from the previous proposal. On-site parking will be accommodated in accordance with the requirements of the Zoning By-Law. The proposed on-site parking will be reviewed in detail as part of future site plan applications for each block.

2.0 TRIP GENERATION

Trips generated by the revised Phase 3 development have been estimated using the methodology presented in the original CTS.

Weekday peak hour trip generation for the previous concept and the revised concept is outlined in the following table.

Table 1: ITE Trip Generation

Land Use	ITE Code	GFA / Units	AM Peak (vph)			PM Peak (vph)		
			In	Out	Total	In	Out	Total
Previous Phase 3 Concept								
Condominium/Townhouse	230	120	10	50	60	47	23	70

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Land Use	ITE Code	GFA / Units	AM Peak (vph)			PM Peak (vph)		
			In	Out	Total	In	Out	Total
Congregate Care Facility[1]	253	150	5	4	9	14	12	26
Previous Total			15	54	69	61	35	96
Revised Phase 3 Concept								
Condominium/Townhouse	230	230	17	84	101	80	39	119
Congregate Care Facility[1]	253	140	5	3	8	13	11	24
Revised Total			22	87	109	93	50	143
Net Difference			**+7**	**+33**	**+40**	**+32**	**+15**	**+47**

1. Independent living developments that provide centralized amenities such as dining, housekeeping, transportation and organized social/recreational activities

An overall vehicle trip to person trip adjustment factor of approximately 1.42 was applied to the vehicle trips projected using the ITE rates. The projected person trips were then categorized by modal share using observed percentages from the 2011 TRANS O-D Survey Report for the Ottawa Inner Area. A breakdown of the projected person trips by modal share is shown in the following table.

Table 2: Phase 3 Person Trips by Modal Share

Travel Mode	Modal Share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Previous Person Trips		*21*	*77*	*98*	*87*	*49*	*136*
Auto Driver	**40%**	**9**	**31**	**40**	**34**	**20**	**54**
Auto Passenger	10%	2	8	10	9	5	14
Transit	25%	5	19	24	22	12	34
Non-Motorized	25%	5	19	24	22	12	34
Revised Person Trips		*31*	*124*	*155*	*132*	*71*	*203*
Auto Driver	**40%**	**12**	**50**	**62**	**53**	**28**	**81**
Auto Passenger	10%	3	12	15	13	7	20
Transit	25%	8	31	39	33	18	51
Non-Motorized	25%	8	31	39	33	18	51

The revised Phase 3 development is anticipated to generate approximately 60 vehicle trips during the weekday AM peak hour and approximately 80 vehicle trips during the weekday PM peak hour. This is an increase of 20 to 30 trips during the weekday peak hours compared to the previous Phase 3 concept.

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OTHER AREA DEVELOPMENTS

530 de Mazenod Avenue (formerly 175 Main Street)
Transportation Overview

NOVATECH
Engineers, Planners & Landscape Architects

March 23rd, 2017

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

Attention: **Mr. Wally Dubyk**
Project Manager, Infrastructure Approvals

Dear Sir:

Reference: **175 Main Street – Greystone Village Condo Development**
Transportation Overview – Addendum
Our File No.: 114025

A Transportation Overview was submitted to the City of Ottawa in August 2015, in support of a Site Plan Control application for the development of two nine-storey condominium buildings within the Greystone Village subdivision. Following the submission, the site plan has been revised, increasing the number of dwelling units and altering the layout of the underground parking garage and access locations.

The following addendum will assess the impact of the revised development on the area road network.

1.0 REVISED DEVELOPMENT

Since the original Site Plan Control application, the layout of the underground parking garage has been revisited. The underground parking garages for both phase one and phase two will now be accessed through a shared driveway on De Mazenod Avenue, across from Jeremiah Kealey Street.

The previously proposed access on Telmon Street will remain, and will be used for surface visitor parking and delivery/moving activities for the proposed development as well as the single detached dwellings to the south. The previously proposed access on Deschâtelets Avenue will now primarily serve the future building to the north/west of the subject site. This future driveway will straddle the northern property line, and the adjacent sidewalk will provide pedestrian connectivity to the northern pedestrian entrance of the proposed development. The driveway connecting to the future building will be constructed as part of a future Site Plan Control application, while the adjacent sidewalk will be constructed as part of this development to provide pedestrian connectivity during the interim.

The revised development consists of a total of 212 dwelling units (106 dwelling units per phase), which is an increase of 18 units from the previous proposal. The revised underground parking garage will contain a total of 205 parking spaces (113 spaces for Phase One and 92 spaces for Phase 2). A total of 152 bicycle parking spaces (76 spaces per phase) will be provided for the proposed development.

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A revised site plan is shown in **Figure 1**. A Greystone Village subdivision plan is provided in **Appendix A**.

2.0 TRIP GENERATION AND DISTRIBUTION

Trips generated by the revised development have been estimated using the methodology presented in the original Transportation Overview. Based on the foregoing, the revised development is anticipated to generate a total of 53 vehicle trips during the weekday AM peak hour and 63 vehicle trips during the weekday PM peak hour. This is an increase of two trips during the AM peak hour and five trips during the PM peak hour compared to the previous development proposal.

As the revised site access will maintain all movements in/out, the new access location is not anticipated to alter the distribution of traffic generated by the revised development. Consistent with the previous development proposal, the revised development is not anticipated to impact the surrounding roadway network further to the results identified in the approved Greystone Village Community Transportation Study (dated January 2015).

3.0 ON-SITE DESIGN

3.1 Proposed Access

3.1.1 De Mazenod Access

The proposed shared parking garage access will contain an ingress and egress separated by a 9m wide landscaped island and a curb extension to restrict southbound through movements along De Mazenod Avenue. The northern driveway will function as the ingress and the southern driveway will function as the egress, permitting all movements in/out of the subject site.

The proposed access on De Mazenod Avenue will function as a shared space for all modes of transportation (pedestrian, cyclist, vehicle). The proposed ingress and egress will consist of a 4.5m wide asphalt vehicular driveway, and an adjacent 2.2m unit paver sidewalk at grade with the asphalt driveway. The overall 6.7m width will be depressed along the roadway edge and serve as the proposed fire route between the curbline and the ROW limit. Within the subject site, the proposed driveway width will permit vehicles to stop for drop-off/pick-up activity. Signage is recommended to indicate the one-way circulation pattern and prohibit parking within the fire route.

3.1.2 Telmon Street Access

The proposed access on Telmon Street will be 6m in width and located 3.8m from the southern property line. This access will serve six parking spaces for visitors to the proposed condominium building and the single detached dwellings to the south. This access and parking lot will also serve as a fire route for the single detached dwellings to the south. The location and width of the proposed access conforms to the minimum requirements of the City's *Private Approach By-law*.

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OTHER AREA DEVELOPMENTS

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175 Main Street (formerly 10 Oblats Avenue)
Transportation Impact Assessment

and Module 4.9 (Network Intersections) are omitted from the required analysis. As the projected traffic volumes along des Oblats Avenue will not exceed the assumed roadway capacity of 400vphpl for a local roadway (consistent with the strategic long range planning model), Module 4.6 (Neighbourhood Traffic Management) is exempt from the required analysis. As the proposed development is not anticipated to generate 200 person trips in excess of the equivalent volumes permitted by the established zoning for this site, Module 4.8 (Network Concept) is exempt from the required analysis. The following modules are included in the TIA report:

- Module 4.1 – Development Design
- Module 4.2 – Parking
- Module 4.3 – Boundary Streets
- Module 4.4 – Access Intersections
- Module 4.5 – Transportation Demand Management

4.0 FORECASTING

The Greystone Village CTS assumed a development of 215 condominium units and approximately 37,000ft^2 GFA of specialty retail for the subject site. The site plan has now been revised to include 244 rental apartment units and approximately 20,000ft^2 GFA of specialty retail. This equates to an increase of approximately 30 residential units and a decrease of approximately 17,000ft^2 GFA of commercial retail, compared to the assumed development in the Greystone Village CTS.

The person trips generated by the proposed development during peak periods is based on the number of apartment units and the retail GFA. As some residents may own a vehicle for off-peak use and choose different modes of transportation for peak hour trips, the proposed parking does not correspond to the overall peak hour vehicular travel demand by the site. The person trips generated by the proposed development, compared to the assumed trip generation for the subject site in the CTS is summarized below.

Table 1: Person Trip Generation

Land Use	ITE Code	Units/ GFA	AM Peak (PPH[1])			PM Peak (PPH)		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Greystone Village CTS								
Condo	230	215	23	112	135	107	54	161
Specialty Retail	826	37,000 ft^2	16	20	36	62	79	141
		Total	**39**	**132**	**171**	**169**	**133**	**302**
Proposed Development								
Apartment	220	244	34	141	175	139	77	216
Specialty Retail	826	20,000 ft^2	9	11	20	34	43	77
		Total	**43**	**152**	**195**	**173**	**120**	**293**
		Difference	**4**	**20**	**24**	**4**	**-13**	**-9**

1) PPH = Persons Per Hour – calculated using an ITE Trip to Person Trip factor of 1.42, consistent with the Greystone Village CTS

Based on the foregoing, the proposed development is anticipated to generate an additional 24 person trips during the AM peak hour and a reduction of 9 person trips during the PM peak hour compared to the assumed development in the Greystone Village CTS.

The modal shares for the proposed development are anticipated to be consistent with the modal shares proposed in the Greystone Village CTS. The projected person trips by modal share, compared to the assumed trip generation for the subject site in the CTS is summarized below.

Table 2: Person Trips by Modal Share

Travel Mode	Modal Share	AM Peak			PM Peak		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Greystone Village CTS							
Condo Person Trips		23	112	135	107	54	161
Auto Driver	40%	9	45	54	43	22	65
Auto Passenger	10%	2	11	13	11	5	16
Transit	25%	6	28	34	27	13	40
Non-Auto	25%	6	28	34	26	14	40
Retail Person Trips		16	20	36	62	79	141
Auto Driver	20%	4	4	8	12	16	28
Auto Passenger	10%	2	2	4	6	8	14
Transit	10%	1	2	3	6	8	14
Non-Auto	60%	9	12	21	38	47	85
Auto Driver (Total)		**13**	**49**	**62**	**55**	**38**	**93**
Auto Passenger (Total)		**4**	**13**	**17**	**17**	**13**	**30**
Transit (Total)		**7**	**30**	**37**	**33**	**21**	**54**
Non-Auto (Total)		**15**	**40**	**55**	**64**	**61**	**125**
Proposed Development							
Apartment Person Trips		34	141	175	139	77	216
Auto Driver	40%	13	57	70	55	31	86
Auto Passenger	10%	3	14	17	14	8	22
Transit	25%	9	35	44	35	19	54
Non-Auto	25%	9	35	44	35	19	54
Retail Person Trips		9	11	20	34	43	77
Auto Driver	20%	2	2	4	7	8	15
Auto Passenger	10%	1	1	2	4	4	8
Transit	10%	1	1	2	3	5	8
Non-Auto	60%	5	7	12	20	26	46
Auto Driver (Total)		**15**	**59**	**74**	**62**	**39**	**101**
Auto Passenger (Total)		**4**	**15**	**19**	**18**	**12**	**30**
Transit (Total)		**10**	**36**	**46**	**38**	**24**	**62**
Non-Auto (Total)		**14**	**42**	**56**	**55**	**45**	**100**
Auto Driver (Difference)		2	10	12	7	1	8
Auto Pass. (Difference)		0	2	2	1	-1	0
Transit (Difference)		3	6	9	5	3	8
Non-Auto (Difference)		-1	2	1	-9	-16	-25

Based on the foregoing, the proposed development is anticipated to generate an additional 12 vehicle trips during the AM peak hour and 8 vehicle trips during the PM peak hour. In general, background traffic and the assignment of the additional vehicle trips generated by the proposed development will be consistent with the Greystone Village CTS. The revised 2026 total traffic

the three Ottawa Hospitals, as well as Greenfield Avenue, Mann Avenue, Lees Transit Station, Lees Avenue, and Main Street/Smyth Road to Elmvale Aces.
- Route 5 will not change.
- The Main Street section of Route 16 will not change.

Bike surface parking will be provided near the main entrance at the northwest corner of Building 2A, as shown on the site plan attached in **Appendix B**. Underground bicycle parking is described further in Section 5.2.

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

On-street lay-bys are proposed along des Oblats Avenue adjacent to the subject site, and will require RMA approval. The proposed lay-bys along Deschâtelets Avenue were previously approved as part of the Greystone Village CTS.

The majority of deliveries will be performed by medium single-unit trucks (MSU) and will occur on-site in the surface parking lot. Deliveries by any larger vehicles such as heavy single-unit (HSU) trucks will be performed in the on-street lay-bys.

5.2 Parking

The subject site is located in Area B of Schedule 1 and Area Y of Schedule 1A to the City of Ottawa's *Zoning By-law* (ZBL). Minimum vehicular and bicycle parking rates for the proposed development are identified in the ZBL, and are summarized in the following table. As the commercial component of the ground floor is split between eight units, where only one exceeds 500 m^2, the vehicular parking rates only apply to the larger unit.

Table 3: Parking Requirement

Land Use	Rate	Units/GFA		Requirement	
		Building 2A	Building 2B	Building 2A	Building 2B
Vehicle Parking					
Apartment	0.5 spaces per unit in excess of 12 (Resident)	125	119	57	54
	0.1 spaces per unit in excess of 12 (Visitor)			11	11
Commercial	1.25 spaces per 100m^2 of GFA	790 m^2	-	10	-
			Total	**78**	**65**
			Provided	**167**	**129**
Bicycle Parking					
Apartment	0.5 spaces per unit	125	119	63	60
Commercial	1 spaces per 250m^2 of GFA	1,680m^2	-	7	-
			Total	**70**	**60**
			Provided	**70**	**60**

OTHER AREA DEVELOPMENTS

225 Scholastic Drive (Retirement Residence)
Transportation Overview

3.0 TRANSPORTATION NETWORK

The subject site is bounded by the following:

- Oblats Avenue and future residential development to the north;
- Scholastic Drive and the Rideau River to the east;
- Future residential development to the south and west.

The roadway platform for Oblats Avenue and Scholastic Drive have recently been constructed, with pedestrian facilities to be constructed in spring 2018.

Oblats Avenue is planned to be a local roadway with two-lane undivided urban cross section with sidewalks on both sides. On-street parking will be provided in parking bays on both sides of Oblats Avenue.

Scholastic Drive is planned to be a local roadway that travels on a north-south alignment adjacent to the Rideau River. It will have a two-lane two-way undivided urban cross section with a sidewalk on the west side between Oblats Avenue and Deschâtelets Avenue. It will be a one-way northbound roadway south of Deschatelets Avenue. A multi-use pathway will be provided between the roadway and the Rideau River on the east side of Scholastic Drive. This multi-use pathway forms part of the Rideau River Western Pathway which travels between Belmont Avenue and the University of Ottawa.

4.0 TRIP GENERATION

Trips generated by the proposed development have been estimated using the congregate care land use code (LU 253) identified in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 9th Edition*. The estimated peak hour vehicle trips by the proposed development are outlined in the following table.

Table 1: Trip Generation

Land Use	ITE Code	Units	AM Peak			PM Peak		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Congregate Care Facility	253	146	5	4	9	14	11	25

An overall vehicle trip to person trip adjustment factor of approximately 1.42 was applied to the vehicle trips projected in the ITE rates. The projected person trips were then categorized by modal share using observed percentages from the 2011 TRANS O-D Survey Report for the Ottawa Inner Area. A breakdown of the projected person trips by modal share is shown in the following table.

Table 2: Site-Generated Person Trips by Modal Share

Travel Mode	Modal Share	AM Peak			PM Peak		
		IN	OUT	TOTAL	IN	OUT	TOTAL
TOTAL PERSON TRIPS		*7*	*6*	*13*	*20*	*16*	*36*
Auto Driver	**40%**	**3**	**2**	**5**	**8**	**6**	**14**
Auto Passenger	10%	1	0	1	2	2	4
Transit	25%	2	2	4	5	4	9
Non-Motorized	25%	1	2	3	5	4	9

Based on the foregoing, the proposed development is anticipated to generate five vehicle trips during the weekday AM peak hour and 14 vehicle trips during the weekday PM peak hour.

The addendum to the Greystone Village CTS included trip generation for the subject site, and estimated a development of 140 units for the subject site. The additional six units proposed will have no significant impact on the operating conditions identified in the Greystone Village subdivision CTS/addendum.

5.0 PROVISIONS FOR NON-AUTO MODES

Sidewalks are provided on both sides of Oblats Avenue and the west side of Scholastic Drive. Pedestrian facilities will be provided adjacent to the south side of the building, connecting building entrances to the sidewalk on the west side of Scholastic Drive.

The proposed number of bicycle parking spaces and minimum requirements identified in the City of Ottawa's *Zoning By-law* (ZBL) are outlined in Section 6.0 below.

OC Transpo bus stops #6809 and #7636 are located in the northwest and southeast corners of the Oblats Avenue/Main Street intersection, at a walking distance of approximately 450m from the main building entrance. These bus stops serve OC Transpo Route 5 and Route 16. OC Transpo Route 5 is a local route that travels between the Rideau Centre and the Billings Bridge transit station. OC Transpo Route 16 is a local route that travels between St. Pauls University and Britannia Park. Both OC Transpo Route 5 and Route 16 provide all day service, seven days a week.

It is noteworthy that as development progresses within the Greystone Village subdivision, OC Transpo Route 16 will travel east on Hazel Street, north on on Deschatelets Avenue, and west on Oblats Avenue. This will reduce the walking distance for residents to OC Transpo Route 16 to 250m.

6.0 ON-SITE DESIGN

6.1 Proposed Access

Access to the proposed development will be provided on Scholastic Drive. The proposed access will serve an underground parking garage as well as an on-site lay-by near the main building entrance.

OTHER AREA DEVELOPMENTS

205 Scholastic Drive (Deschâtelets Building – Elementary School)
Transportation Impact Assessment

Figure 6: Proposed Site-Generated Volumes

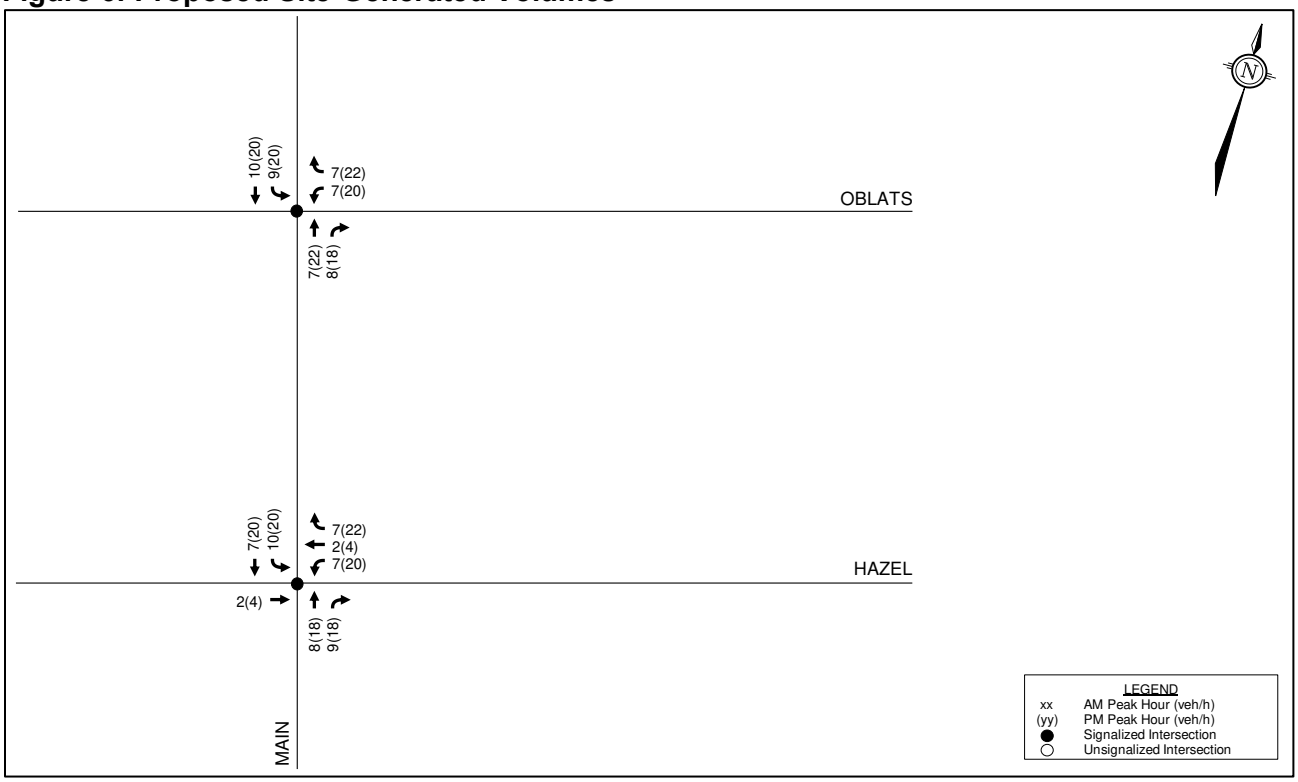
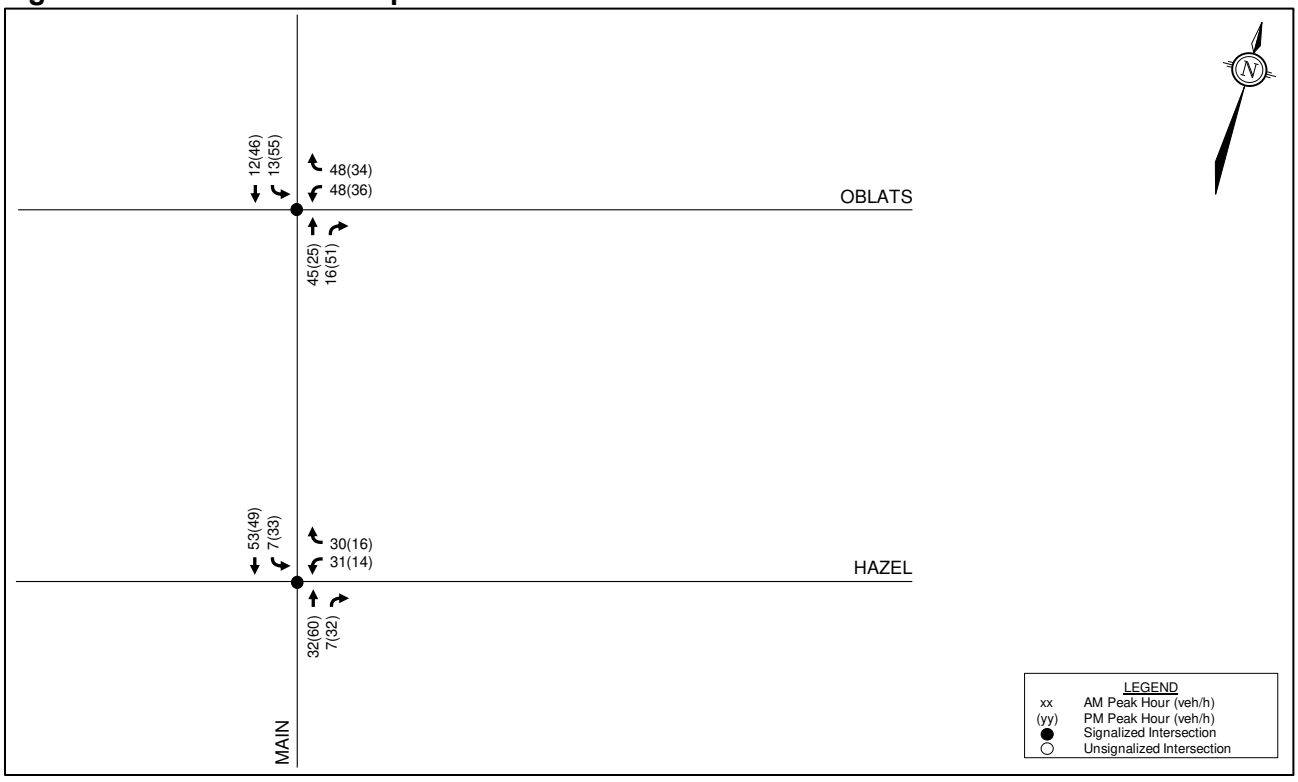


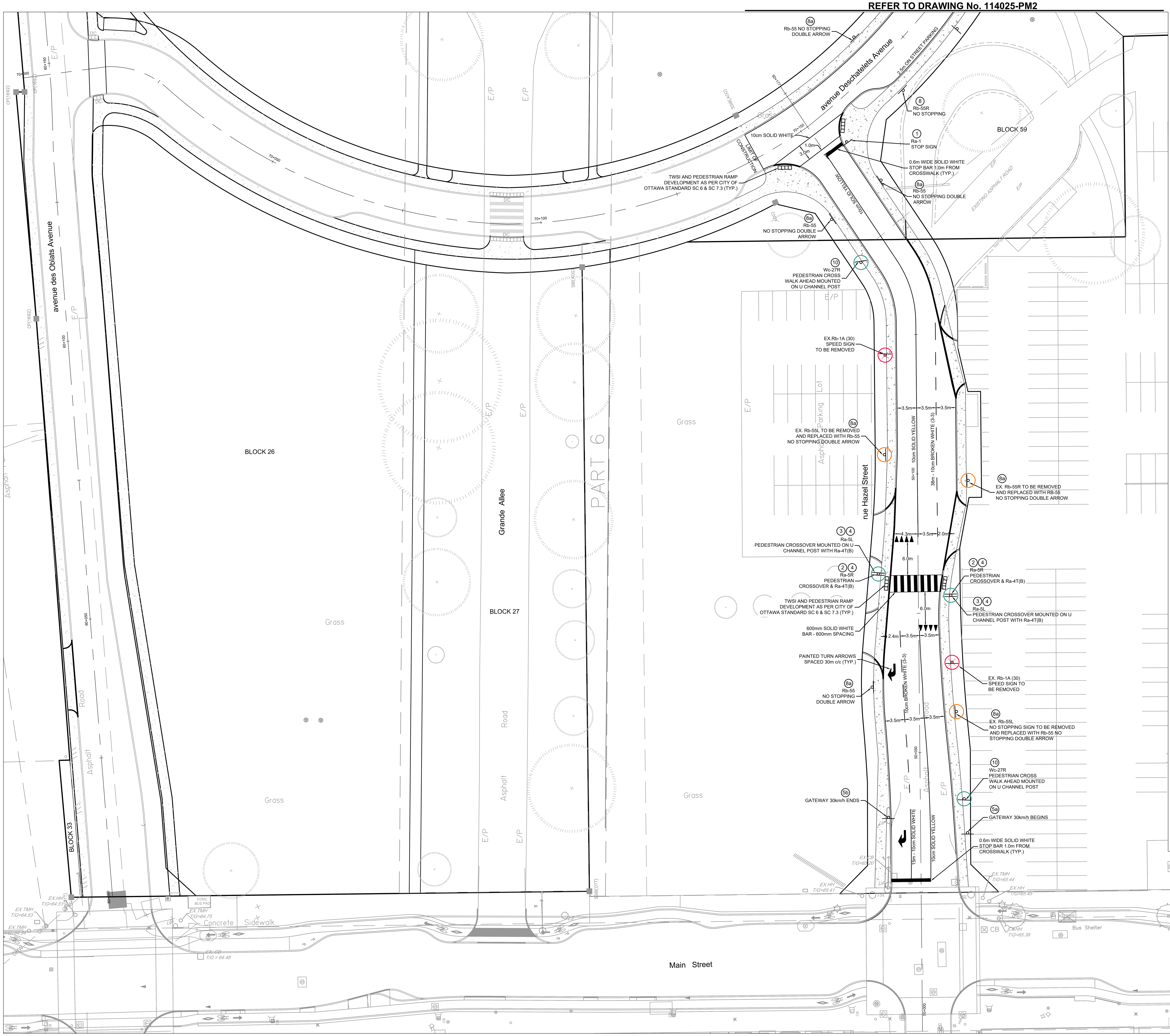
Figure 7: Other Area Development-Generated Volumes

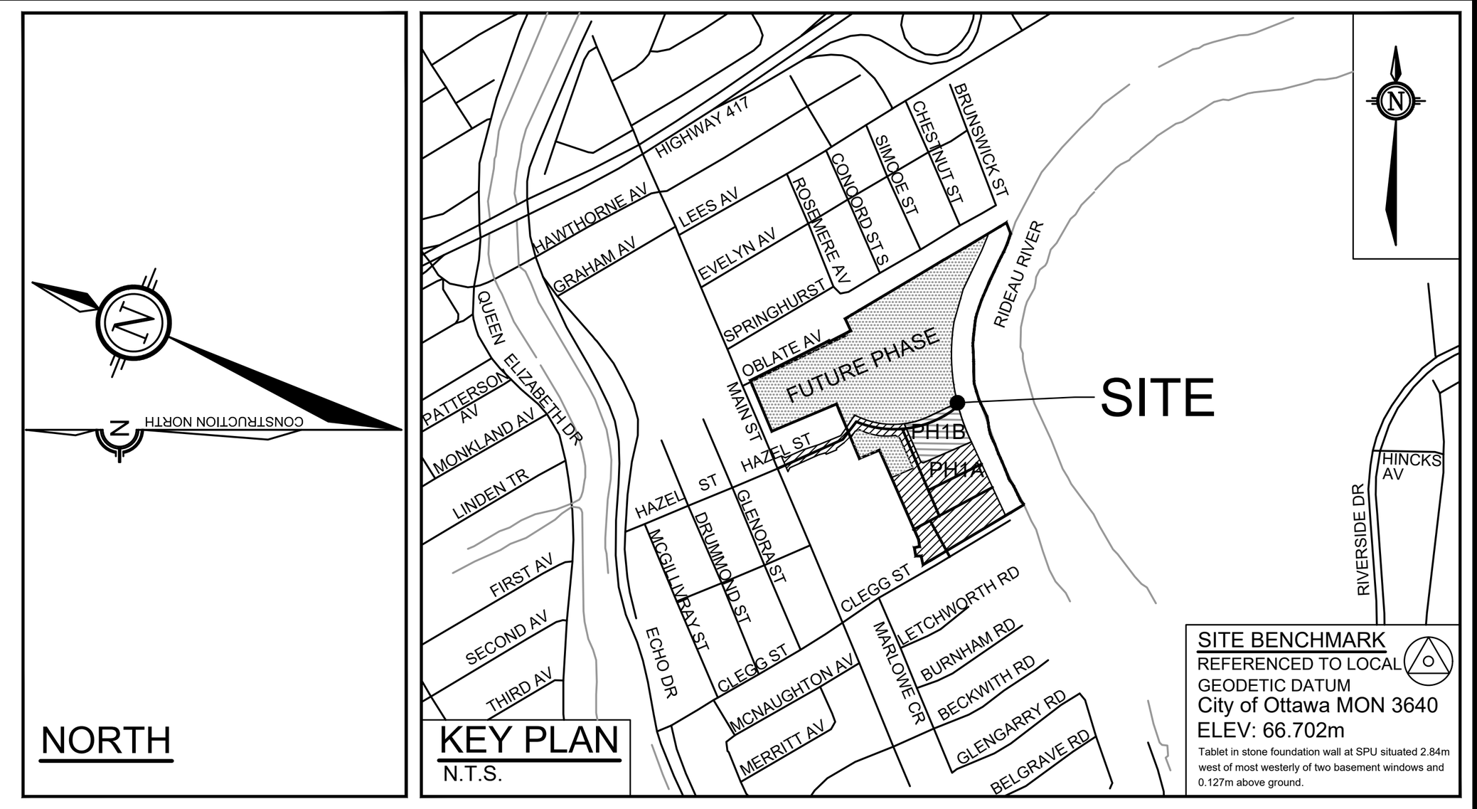


APPENDIX G

Subdivision Pavement Marking and Signage Drawings

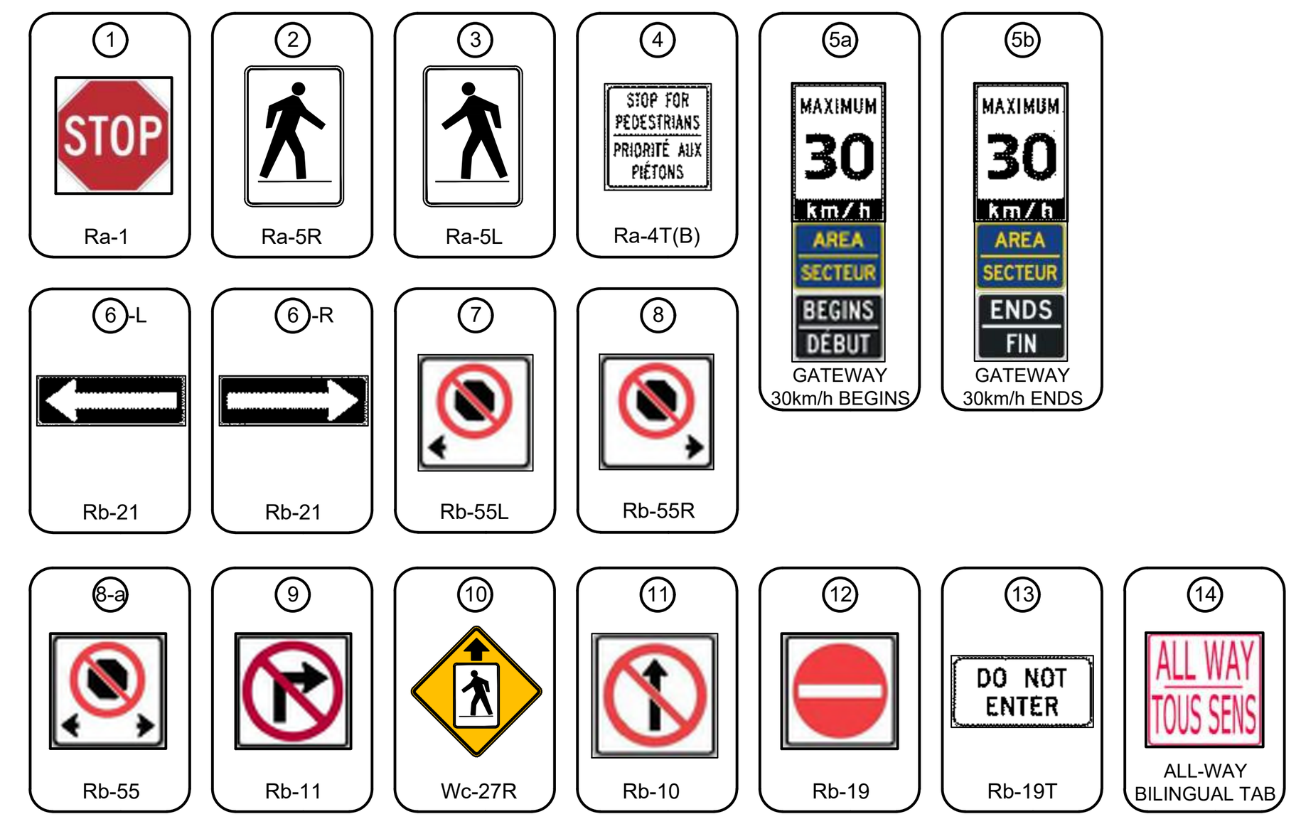
REFER TO DRAWING No. 114025-PM2

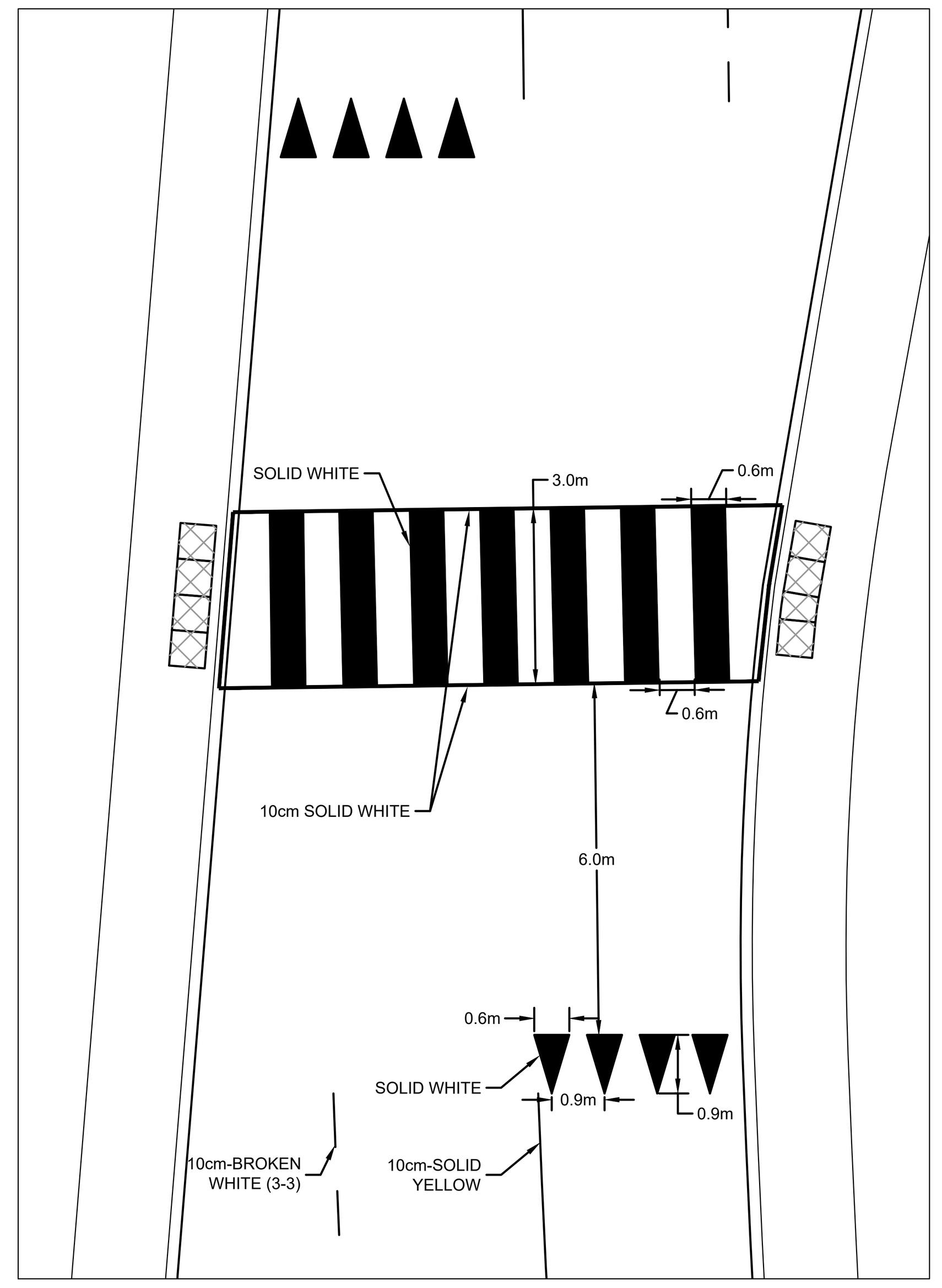




LEGEND

- SITE BOUNDARY
- PROPOSED STREET SIGN LOCATON & DESIGNATION
- EXISTING STREET SIGN LOCATON
- EXISTING STREET SIGN TO BE REMOVED
- EXISTING STREET SIGN TO BE REMOVED & REPLACED





ROADWAY 'SHARKS TEETH' MARKINGS

1:100

D07-16-15-0001 PHASE 2 AND 3

Reviewed By Development Review Branch

Signed:

Date: , 2017

Plan Number:

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

No.	REVISION	DATE	BY
6.	REVISED AS PER CITY COMMENTS	FEB 18/21	JAG
5.	REVISED AS PER CITY COMMENTS	JAN 29/21	JAG
4.	REVISED AS PER CITY COMMENTS	DEC 2/20	JAG
3.	REVISED AS PER CITY COMMENTS	NOV 1/17	JAG
2.	REVISED AS PER CITY COMMENTS	APR 19/17	JAG
1.	ISSUED FOR CITY REVIEW	SEPT 28/16	JAG

SCALE 1:300

DESIGN JAG
CHECKED MSP
DRAWN MTM
CHECKED JAG
APPROVED JGR

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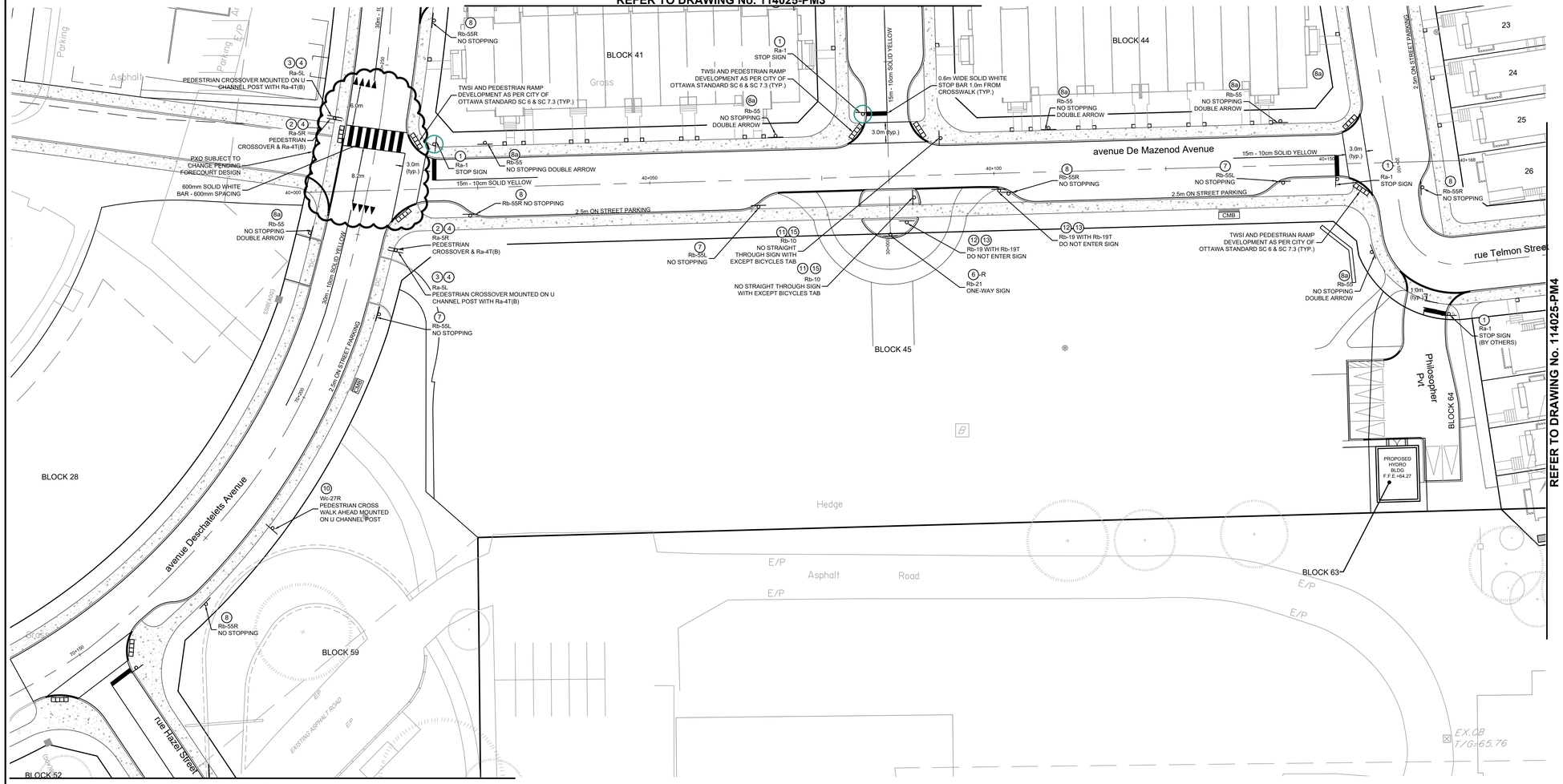
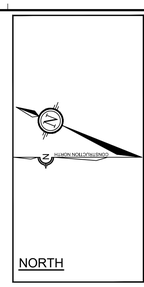
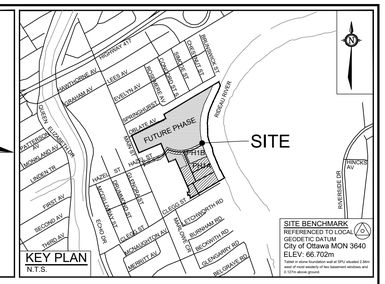
CITY OF OTTAWA
GREYSTONE VILLAGE
175 MAIN STREET

DRAWING NAME
PAVEMENT MARKINGS AND SIGNAGE
PHASE 1A AND 1B

PROJECT No. 114025-00
REV # 6
DRAWING No. 114025-PM1







REFER TO DRAWING No. 114025-PM3

REFER TO DRAWING No. 114025-PM1

REFER TO DRAWING No. 114025-PM4

NORTH

KEY PLAN
N.T.S.

SITE BENCHMARK
REFERENCED TO LOCAL GEODETIC DATUM
City of Ottawa MON 3640
ELEV: 66.702m
Tablet in stone foundation wall at SPU situated 2.84m west of most westerly of two basement windows and 0.127m above ground.

LEGEND

▬	SITE BOUNDARY
①	PROPOSED STREET SIGN LOCATON & DESIGNATION
○	EXISTING STREET SIGN LOCATON
⊗	EXISTING STREET SIGN TO BE REMOVED
○	EXISTING STREET SIGN TO BE REMOVED & REPLACED

ROADWAY 'SHARKS TEETH' MARKINGS
1:100

D07-16-15-0001 PHASE 2 AND 3

Reviewed By Development Review Branch

Signed: ____________________

Date: ____________________, 2017

Plan Number: ____________________

NOTE:
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No.	REVISION	DATE	BY
8.	REVISED AS PER CITY COMMENTS	MAY 20/21	TJM
7.	REVISED AS PER CITY COMMENTS	MAY 17/21	TJM
6.	REVISED DE MAZENOD CURB ALIGNMENT	MAY 12/21	JAG
5.	REVISED AS PER CITY COMMENTS	FEB 18/21	JAG
4.	REVISED AS PER CITY COMMENTS	JAN 29/21	JAG
3.	REVISED AS PER CITY COMMENTS	DEC 2/20	JAG
2.	REVISED AS PER CITY COMMENTS	NOV 1/17	JAG
1.	ISSUED FOR CITY REVIEW	JUL 20/17	JAG

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CHECKED	JAG
APPROVED	JGR

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CITY OF OTTAWA
GREYSTONE VILLAGE
175 MAIN STREET

DRAWING NAME
PAVEMENT MARKINGS AND SIGNAGE
PHASE 1A AND 1B

PROJECT No. 114025-00
REV: REV # 8
DRAWING No. 114025-PM2

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D07-16-15-0001 PHASE 2 AND 3

Reviewed By Development Review Branch

Signed: ____________

Date: ____________, 2017

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2.	REVISED AS PER CITY COMMENTS	NOV 1/17	JAG
1.	ISSUED FOR CITY REVIEW	JUL 20/17	JAG

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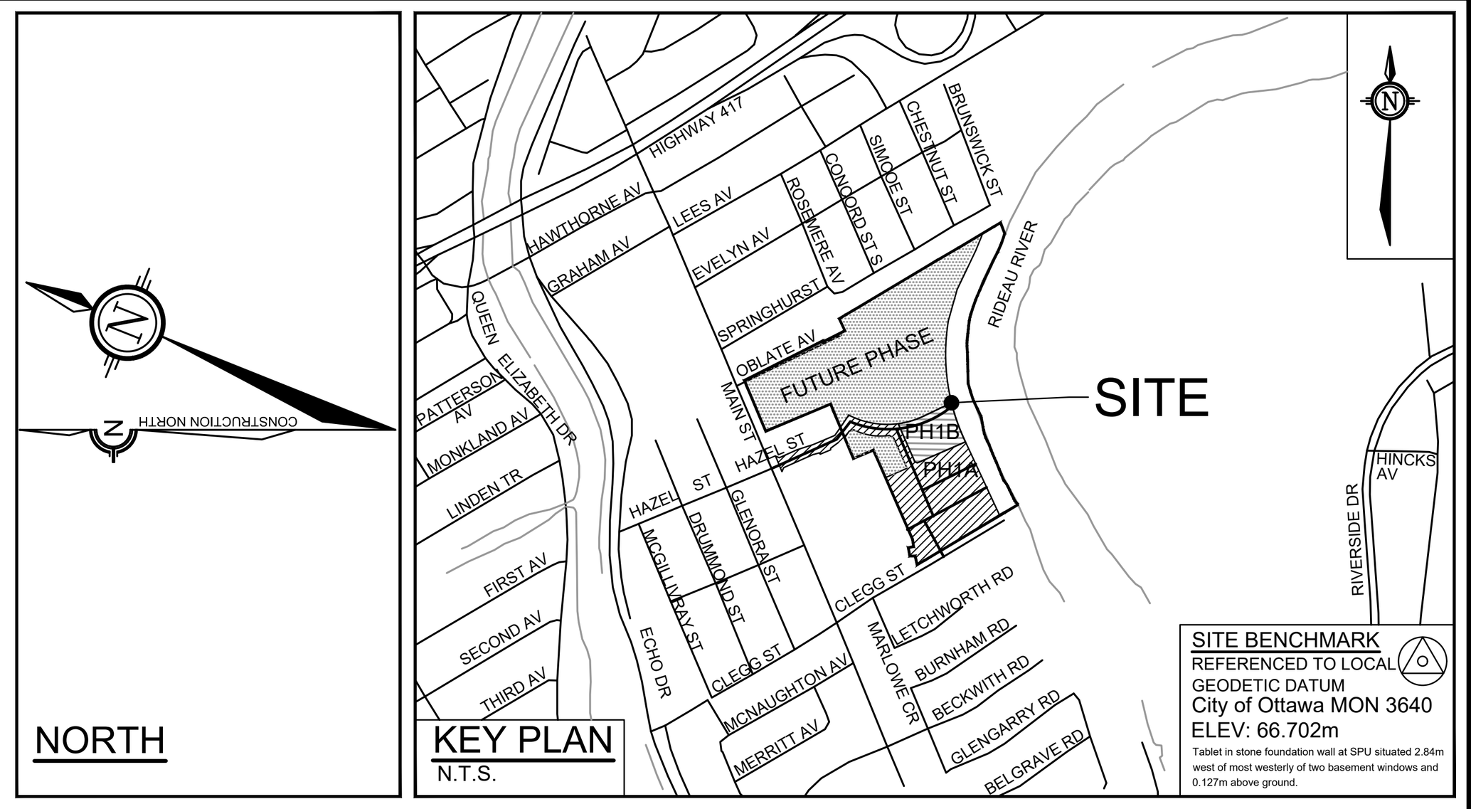
CITY OF OTTAWA
GREYSTONE VILLAGE
175 MAIN STREET

DRAWING NAME
PAVEMENT MARKINGS AND SIGNAGE - HAZEL STREET PHASE 1A AND 1B

PROJECT No. 114025-00
REV: REV # 8
DRAWING No. 114025-PM3



LEGEND

- SITE BOUNDARY
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- EXISTING STREET SIGN LOCATON
- EXISTING STREET SIGN TO BE REMOVED
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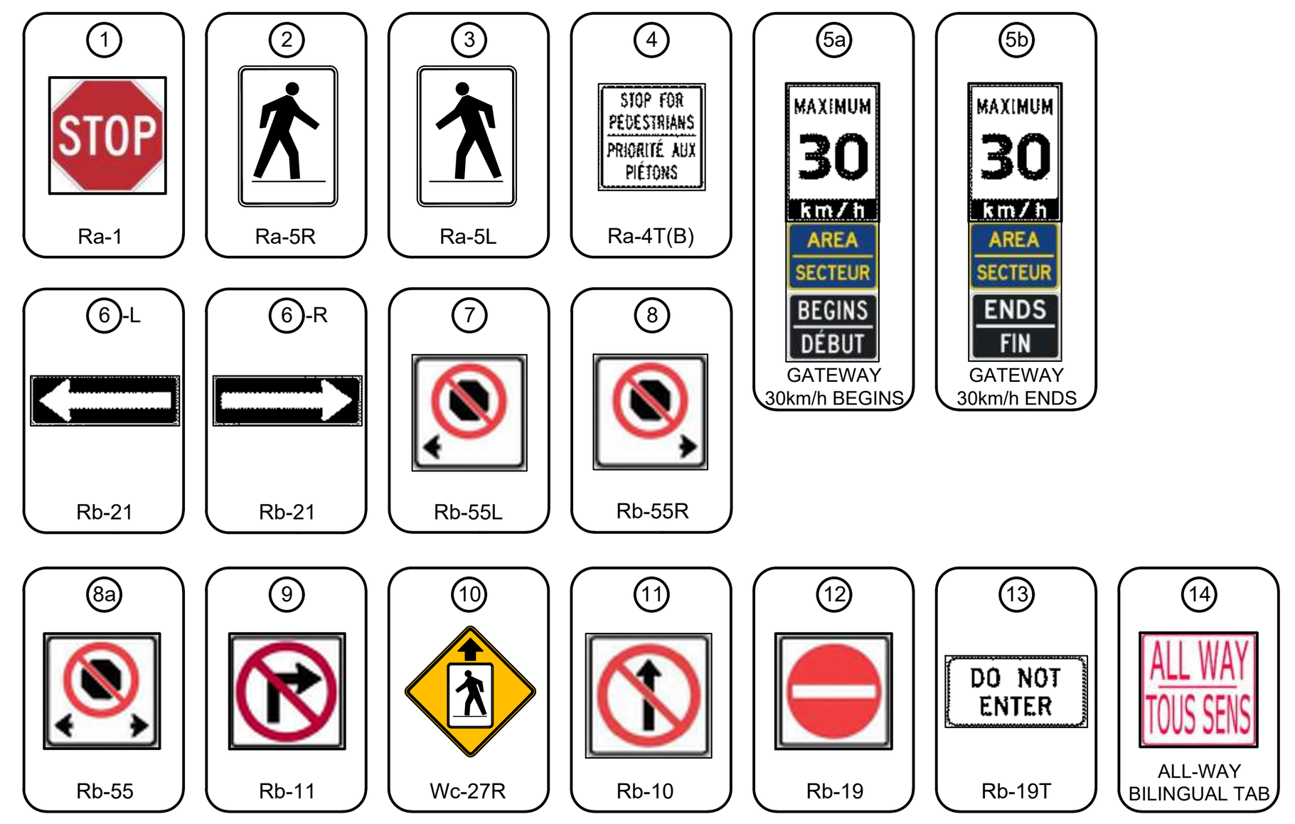

D07-16-15-0001 PHASE 2 AND 3

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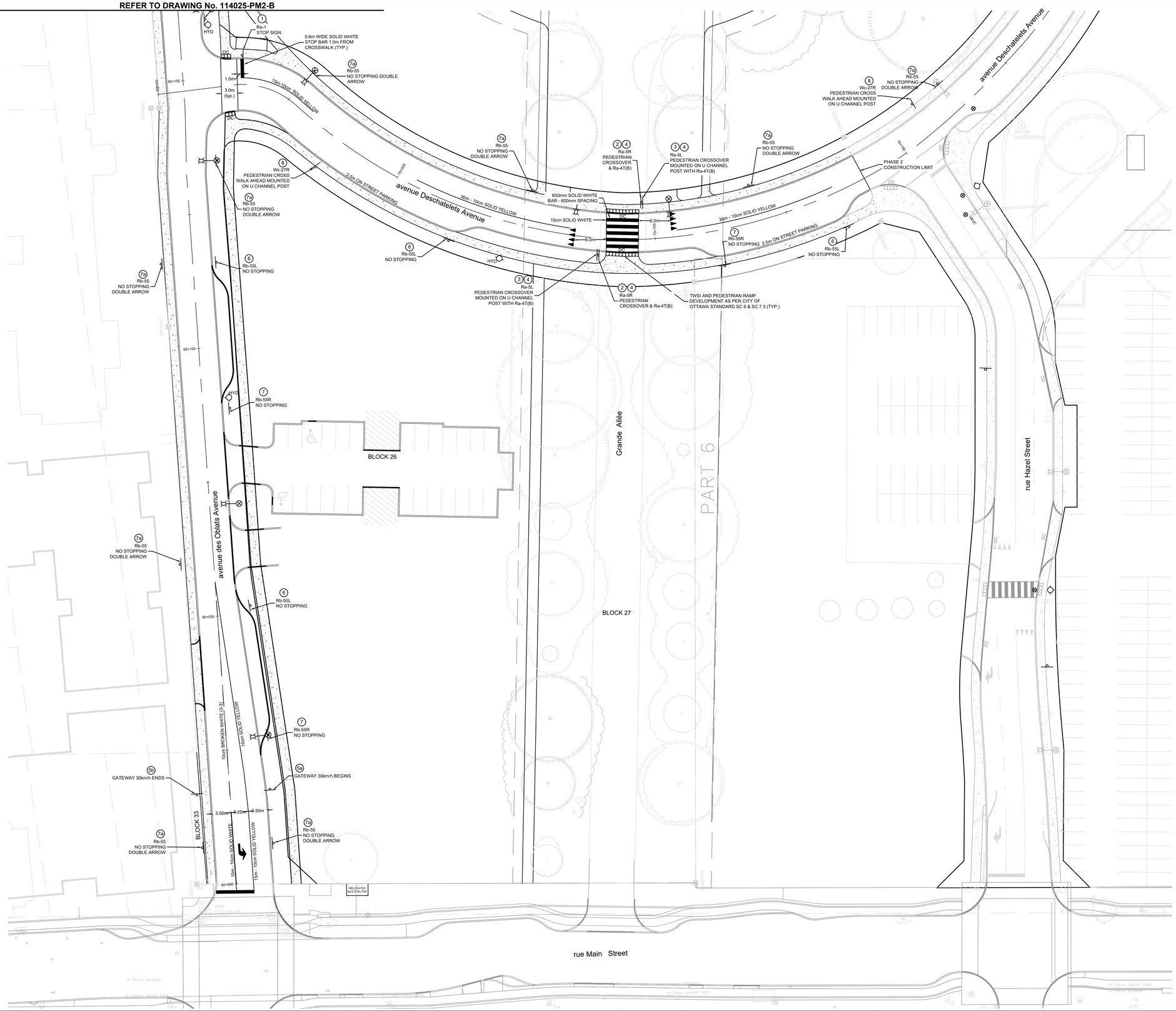
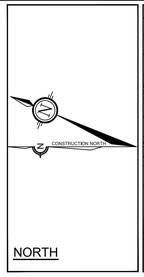
175 MAIN STREET

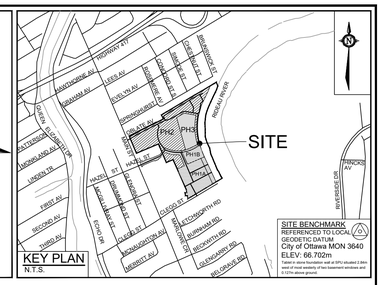
DRAWING NAME
PAVEMENT MARKINGS AND SIGNAGE - HAZEL STREET PHASE 1A AND 1B

PROJECT No. 114025-00
REV # 5
DRAWING No. 114025-PM4

REFER TO DRAWING No. 114025-PM2-B







LEGEND

SITE BOUNDARY

PROPOSED STREET SIGN LOCATON & DESIGNATION

REFER TO 114025-N&L-B FOR ADDITIONAL NOTES AND CATCHBASIN TABLES

Reviewed By Development Review Branch

Signed: _____

Date: _____, 2017

Plan Number: _____

D07-16-15-0001 PHASE 2 AND 3

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2.	ISSUED FOR TENDER	APR 19/17	JAG
1.	ISSUED AS PER CITY COMMENTS	MAR 8/17	JAG

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DESIGN JAG
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PAVEMENT MARKINGS AND SIGNAGE
PHASE 2 AND 3

PROJECT No. 114025-00
REV # 8
DRAWING No. 114025-PM1-B

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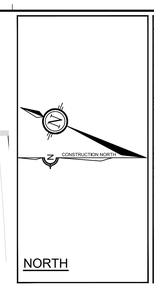

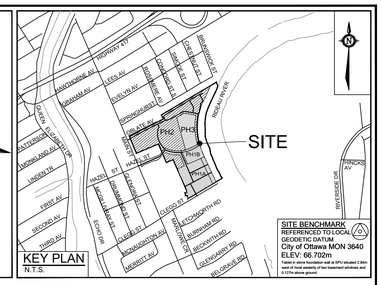

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REFER TO DRAWING No. 114025-PM1-B

NORTH

KEY PLAN
N.T.S.

SITE BENCHMARK
REFERENCED TO LOCAL GEODETIC DATUM
City of Ottawa MON 3640
ELEV: 66.702m
Tablet in stone foundation wall at SPU situated 2.84m west of most westerly of two basement windows and 0.127m above ground.

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SITE BOUNDARY

① PROPOSED STREET SIGN LOCATON & DESIGNATION

D07-16-15-0001 PHASE 2 AND 3

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175 MAIN STREET

DRAWING NAME

PAVEMENT MARKINGS AND SIGNAGE
PHASE 2 AND 3

PROJECT No. 114025-00
REV REV # 7
DRAWING No. 114025-PM2-B

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REV # 7
DRAWING No. 114025-PM3-B

APPENDIX H

Transportation Demand Management Checklists

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

Legend

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

		TDM-supportive design & infrastructure measures: *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	☐