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Proposed Residential Development 1950 Scott Street and 312-314 Clifton Road

Transportation Impact Assessment

Proposed Residential Development 1950 Scott Street and 312-314 Clifton Road

Transportation Impact Assessment

Prepared By:

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

> Dated: July 2024 Revised: September 2024 Revised: October 2024

Novatech File: 121301 Ref: R-2021-156



October 30, 2024

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

Attention: Mr. Wally Dubyk Project Manager, Infrastructure Approvals

Dear Mr. Dubyk:

Reference: 1950 Scott Street and 312-314 Clifton Road Transportation Impact Assessment Novatech File No. 121301

We are pleased to submit the following Transportation Impact Assessment (TIA), in support of a Site Plan Control application at 1950 Scott Street and 312-314 Clifton Road, for your review and signoff. The structure and format of this report is in accordance with the City of Ottawa's *Revised Transportation Impact Assessment Guidelines* (June 2023).

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

Yours truly,

NOVATECH

Joshua Audia, P.Eng. Project Engineer | Transportation

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Certification Form for Transportation Impact ttawa Assessment (TIA) Study Program Manager

TIA Plan Reports

On April 14, 2022, the Province's Bill 109 received Royal Assent providing legislative direction to implement the More Homes for Everyone Act, 2022 aiming to increase the supply of a range of housing options to make housing more affordable. Revisions have been made to the TIA guidelines to comply with Bill 109 and streamline the process for applicants and staff.

Individuals submitting TIA reports will be responsible for all aspects of developmentrelated 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 they meet the four criteria listed below.

Certification

~

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 (Update Effective July 2023);



✓ 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;



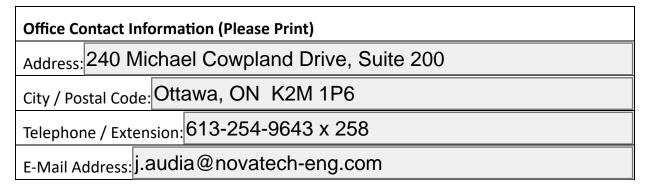
I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and

City of Ottawa **Transportation Engineering Services** Planning, Real Estate and Economic Development 110 Laurier Avenue West, 4th fl. Ottawa, ON K1P 1J1 Tel.: 613-580-2424 Fax: 613-560-6006

✓ I am either a licensed or registered¹ professional in good standing, whose field of expertise [check ✓ appropriate field(s)]:

	is either transportation engineering or transportation planning.
Dated at Ottav (City)	this 30th day of October , 2024.
Name:	Brad Byvelds, P.Eng.
Professional Title:	Project Manager
	B. Byvelds

Signature of Individual certifier that they meet the above four criteria



Stamp



¹ 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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EXECUTIVE SUMMARY

This Transportation Impact Assessment (TIA) has been prepared in support of a Site Plan Control application for the property located at 1950 Scott Street and 312-314 Clifton Road. The subject site has most recently been occupied by the International Buddhist Progress Society of Ottawa and its surface parking, and is surrounded by the following:

- Scott Street and the future extension of the Confederation Line LRT to the north;
- Residential development and mixed use development to the south;
- Clifton Road and residential development to the east; and
- Existing mixed-use development and McRae Avenue to the west.

The subject site is designated as 'Corridor – Mainstreet' (Scott Street) in Schedule B2 of the City of Ottawa's Official Plan and zoned as 'Traditional Mainstreet' (TM[2581] S400-h).

The proposed development consists of one 22-storey residential tower with a total of 244 dwellings and approximately 2,098 ft² of ground-floor commercial space. Based on the preliminary site plan, the development will include an underground parking garage with a total of 91 parking spaces and access via one full-movement driveway to Clifton Road. A residential loading access to Clifton Road is proposed immediately south of the parking garage access. The proposed development will be completed in one phase, and is anticipated to be fully occupied in 2026.

The study area for this report includes the boundary roadways Scott Street and Clifton Road, as well as the following intersections:

- Scott Street/Clifton Road;
- Scott Street/Lanark Avenue/West Village Private.

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

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

Forecasting

• The proposed development is projected to generate a total of 119 person trips (including 18 vehicle trips) during the AM peak hour, and 137 person trips (including 24 vehicle trips) during the PM peak hour.

<u>Access Design</u>

- The design of the proposed accesses meet most relevant provisions of the City's *Private Approach By-Law* (PABL) and *Zoning By-Law* (ZBL), and the Transportation Association of Canada (TAC)'s *Geometric Design Guide for Canadian Roads*.
- Section 25(1)(m)(ii) of the PABL identifies a requirement for any two private approaches to be separated by 15m or more, when a site abuts or is within 46m of an arterial or major collector roadway. It is requested that this requirement be waived to permit adjacent parking garage and loading accesses to serve the development, as the loading access will be used infrequently.

- Section 25(1)(p) of the PABL identifies a minimum separation requirement of 3m between a private approach and the nearest property line, as measured at the street line. This requirement is not met by the proposed loading access to Clifton Road, which is 1.4m from the southern property line. TAC's *Geometric Design Guide* identifies a recommended minimum spacing of 1m between curb returns of adjacent residential driveways to local and collector roadways. The adjacent approved development at 316-332 Clifton Road proposes a driveway at the shared property line with the subject site, however neither development is anticipated to generate high volumes of traffic, and conflicts between the two driveways are anticipated to be minimal.
- Section 25(1)(u) of the PABL identifies a requirement that any private approach serving a parking area with more than 50 parking spaces shall not have a grade exceeding 2% for the first 9m inside the property line. A waiver of this requirement is requested. The proposed maximum grade of the garage ramp is approximately 3.3% from the sidewalk to the garage door (i.e. for a distance of approximately 7.5m). This grade is not anticipated to obscure drivers' vision of pedestrians crossing the proposed access, as an entire vehicle can be located outside of the proposed building before crossing the sidewalk on Clifton Road.

Development Design and Parking

- Sidewalks will be maintained along the subject site's frontages to Scott Street and Clifton Road, and internal walkways will be provided around the perimeter of the building to provide connectivity from all building entrances to these sidewalks.
- A total of 250 bicycle parking spaces will be provided on-site, with 15 exterior spaces, 30 spaces in a bike room on the ground floor, and 205 spaces within the underground parking garage. This meets the minimum requirement of 1.0 bicycle spaces per unit. It should be noted that this requirement was established during the Zoning By-Law Amendment application stage, and is more than twice the typical bicycle parking rate of 0.5 bicycle spaces per unit.
- The proposed parking supply is 28 spaces short of the minimum requirement. Providing limited parking near transit stations act as a strong incentive for residents, visitors, and patrons of the proposed development to travel to/from the site via transit or active modes.
- OC Transpo's service design guideline for peak period service is to provide service within a five-minute (400m) walk of home, work, or school for 95% of urban residents. Main entrances to both proposed buildings are anticipated to be within 400m walking distance of Westboro Station and bus stops on Scott Street, McRae Avenue, or Richmond Road.
- All required Transportation Demand Management (TDM)-supportive design and infrastructure measures in the checklist will be met.
- The garbage room will be located within the underground parking garage, and garbage bins will be wheeled up to the curb, to be collected curbside on Clifton Road. There is no proposed on-site fire route for the development, as the main entrance fronts onto Scott Street.
- A residential loading access for move-ins is proposed to be located adjacent to the south side of the parking garage access. Moving trucks are anticipated to reverse into the loading access and drive forward out.

The existing bulbout on Scott Street that is straddling the subject site and the neighbouring
property at 1960 Scott currently introduces a transit-exclusive lane. Once the Confederation
Line LRT is open and the Scott Street bus detour is decommissioned, a second bulbout at
the northwest corner of Scott Street/Clifton Road is planned to be implemented, and the two
bulbouts will delineate a parking lay-by along the subject site's frontage to Scott Street. It is
proposed that signage to include a commercial loading space for the ground-floor units be
included within this proposed lay-by on Scott Street.

Boundary Streets

- The results of the segment MMLOS analysis can be summarized as follows:
 - Neither boundary street meets the target pedestrian level of service (PLOS) A;
 - Both boundary streets meet the target bicycle level of service (BLOS) A or D;
 - Scott Street does not meet the target transit level of service (TLOS) A;
 - Scott Street meets the target truck level of service (TkLOS) D.
- The existing pedestrian facilities on Scott Street achieve the best-possible PLOS, and therefore no recommendations are identified. The east side of Clifton Road does not include a sidewalk, and the target PLOS A can be achieved by constructing a sidewalk with a minimum width of 1.8m. This is identified for the City's consideration.
- Once Stage 2 of the Confederation Line LRT is complete, the bus detour will not need to run along Scott Street, and light rail transit will be provided immediately north of the roadway. Therefore, the target TLOS will be met.

Transportation Demand Management

- A review of the City's *TDM Measures Checklist* has been conducted by the proponent, and will provide the following TDM measures:
 - Display local area maps with walking/cycling access routes and key destinations at major entrances;
 - Display relevant transit schedules and route maps at entrances;
 - Unbundle parking cost from monthly rent;
 - Provide a multi-modal travel information package to new residents or employees.
- The proposed development is recommended from a transportation perspective.

1.0 SCREENING

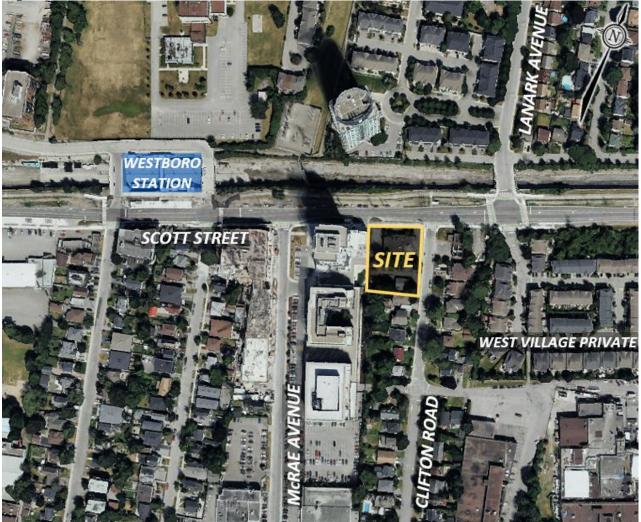
1.1 Introduction

This Transportation Impact Assessment (TIA) has been prepared in support of a Site Plan Control application for the property located at 1950 Scott Street and 312-314 Clifton Road. The subject site has most recently been occupied by the International Buddhist Progress Society of Ottawa and its surface parking, and is surrounded by the following:

- Scott Street and the future extension of the Confederation Line LRT to the north;
- Residential development and mixed use development to the south;
- Clifton Road and residential development to the east; and
- Existing mixed-use development and McRae Avenue to the west.

A view of the subject site is provided in Figure 1.

Figure 1: Site Location



1.2 Proposed Development

The subject site is designated as 'Corridor – Mainstreet' (Scott Street) in Schedule B2 of the City of Ottawa's Official Plan and zoned as 'Traditional Mainstreet' (TM[2581] S400-h).

The proposed development consists of one 22-storey residential tower with a total of 244 dwellings and approximately 2,098 ft² of ground-floor commercial space. Based on the site plan, the development will include an underground parking garage with a total of 91 parking spaces and access via one full-movement driveway to Clifton Road. A residential loading access to Clifton Road is proposed immediately south of the parking garage access. The proposed development will be completed in one phase, and is anticipated to be fully occupied in 2026.

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

1.3 Screening Form

The City's *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 site is located within a Mainstreet Corridor Design Priority Area; further assessment **is required** based on this trigger.
- Safety Triggers None of the Safety Triggers are met; further assessment **is not required** based on this trigger.

2.0 SCOPING

2.1 Existing Conditions

2.1.1 Roadways

Scott Street falls under the jurisdiction of the City of Ottawa, and is classified as an arterial roadway east of Churchill Avenue, and a local roadway west of Churchill Avenue. It runs on an east-west alignment from Bayview Station Road/Albert Street to Churchill Avenue. Transit vehicles are able to travel on a temporary detour route west of Churchill Avenue, which connects to Kichi Sibi Mikan (formerly the Sir John A. Macdonald Parkway). Within the study area, Scott Street has a two-lane undivided urban cross-section, with sidewalks and cycle tracks on both sides. On-street parking is permitted on the north side of Scott Street between Clifton Road and Tweedsmuir Avenue. Scott Street has a posted speed limit of 50km/h. East of Churchill Avenue, it is also designated as a truck route, permitting full loads. The Official Plan reserves a 26m right-of-way (ROW) for Scott Street; a widening has been taken along the property frontage as part of a previous application.

Clifton Road falls under the jurisdiction of the City of Ottawa, and is a north-south local roadway that runs from Scott Street to Richmond Road. The roadway has a two-lane semi-urban cross-section with a curb/sidewalk on the west side, and a posted speed limit of 30 km/h. Clifton Road is not designated as a truck route. One-hour parking between 7:00am and 7:00pm is permitted on the east side of the roadway year-round. One-hour weekday parking from 7:00pm to 7:00am and all-day weekend parking is permitted on the west side between April 1 and November 30 (fully prohibited from December 1 to March 31). The Official Plan does not reserve additional ROW protections for Clifton Road.

Lanark Avenue falls under the jurisdiction of the City of Ottawa, and is a collector roadway that generally travels on a north-south alignment between Scott Street and just south of Latchford Road, before curving onto an east-west alignment between Latchford Road and Churchill Avenue. Lanark Avenue has a two-lane undivided urban cross-section, sidewalks on both sides, and an unposted speed limit of 50 km/h. Lanark Avenue is not designated as a truck route. On-street parking is generally permitted on either side of the roadway, but is prohibited on the south side between Beechgrove Avenue and Churchill Avenue.

West Village Private is a curvilinear private roadway that runs south of Scott Street. The roadway has a two-lane undivided urban cross-section, no sidewalks, and a posted speed limit of 25 km/h. On-street parking is not permitted.

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

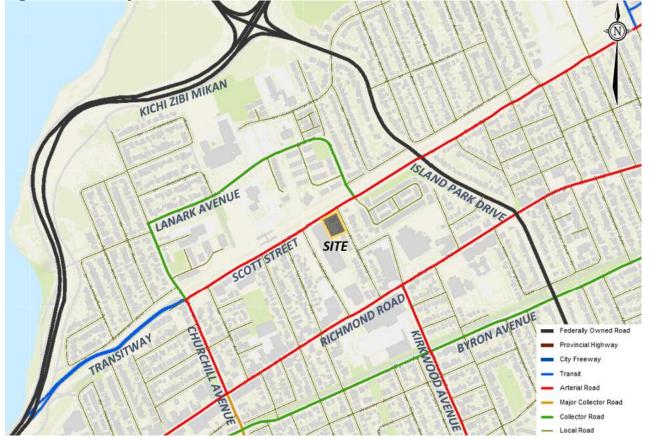


Figure 2: Roadway Network

2.1.2 Intersections

Scott Street/Lanark Avenue/West Village Private

- Signalized protected intersection
- North/South Approaches (Lanark/West Village): one left turn lane and one shared through/right turn lane
- East Approach (Scott Street): one left turn lane and one shared through/right turn lane
- West Approach (Scott Street): one left turn lane, one through lane, and one shared through (transit-exclusive)/right turn lane
- Crossrides and ladder crosswalks on all approaches
- Cycle tracks on east/west approaches

Scott Street/Clifton Road

- Unsignalized, stop-controlled on the minor approach (Clifton Road)
- South Approach (Clifton Road): one shared left turn/right turn lane (northbound right turn restriction during the weekday PM peak period)
- East Approach (Scott Street): one shared left turn/through lane (westbound left turn restriction during the weekday AM peak period)
- West Approach (Scott Street): one through lane and one shared through/right turn lane (eastbound through is transit-only)
- Crossride and ladder crosswalk on south approach
- Cycle tracks on east/west approaches

2.1.3 Driveways

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

Scott Street, north side

• None

Scott Street, south side

- One driveway to 1946 Scott Street
- One driveway to the mixed-use development at 1960 Scott Street
- Access to the parking area for a moving company at 1994 Scott Street

Clifton Road, west side

- Open frontage along 1950 Scott Street (site)
 with perpendicular parking
- Ten driveways to residences at 312-360 Clifton Road

Clifton Road, east side

- One driveway to 305 Clifton Road
- Twelve driveways to residences at 311-369 Clifton Road



2.1.4 Pedestrian and Cycling Facilities

Concrete sidewalks are provided on both sides of Lanark Avenue, Scott Street, and the west side of Clifton Road. West of the study area, intersection pedestrian signals are provided on Scott Street, east of Tweedsmuir Avenue and west of Athlone Avenue, providing easy pedestrian access to the Westboro Transit Station.

Cycle tracks are provided along both sides of Scott Street within the study area.

In the City of Ottawa's cycling network, Scott Street is classified as a Crosstown Bikeway. Clifton Road, Lanark Avenue, and West Village Private do not have any cycling route classifications.

2.1.5 Area Traffic Management

Within the study area, there are no Area Traffic Management (ATM) studies that are currently in progress.

Speed humps and midblock or intersection narrowings have been implemented in select locations on Lanark Avenue and Clifton Road. At the Scott Street/Clifton Road intersection, there is signage indicating a restriction on northbound right turns from 3:00pm to 6:00pm on weekdays and a restriction on westbound left turns from 7:00am to 9:00am on weekdays. Authorized vehicles and bicycles are exempt from these restrictions.

2.1.6 Transit

The locations of OC Transpo bus stops in the vicinity of the subject site are described in **Table 1**, and are shown in **Figure 3**. A summary of the various routes which serve the study area is included in **Table 2**. Detailed route information and an excerpt from the OC Transpo System Map are included in **Appendix C**.

Stop	Location	Routes Serviced
#0428	South side of Scott Street, east of West Village Private	50, 81
#2356	North side of Richmond Road, east of McRae Avenue	11, 81, 153
#2389	South side of Richmond Road, west of Kirkwood Avenue	11, 81, 153
#3012 (Westboro)	North side of Scott Street, between Athlone Avenue and Tweedsmuir Avenue; temporary platforms currently along Scott Street during LRT construction	16, 50, 57, 61, 62, 63, 64, 66, 67, 73, 74, 75, 82, 87, 153, 164, 252, 256, 257, 258, 261, 262, 263, 264, 265, 267, 268, 282, 404
#4841	East side of McRae Avenue, south of Scott Street	81, 153
#4863	South side of Richmond Road, west of McRae Avenue	11
#4893	West side of McRae Avenue, south of Scott Street	81, 153
#6929	West side of Kirkwood Avenue, south of Richmond Road	51, 81
#6930	East side of Kirkwood Avenue, south of Richmond Road	51
#7375	North side of Scott Street, east of Clifton Road	50, 81
#7376	South side of Scott Street, east of McRae Avenue	50, 153

Table 1: OC Transpo Transit Stops

Route	From ↔ To	Frequency
		15-30 minute headways, 7 days per week,
11	Lincoln Fields / Bayshore ↔ Laurier	all day service
16	Main ↔Tunney's Pasture / Westboro	30 minute headways, 7 days per week, all day service
50	Tunney's Pasture ↔ Lincoln Fields	30 minute headways, Mon-Sat
51	Tunney's Pasture ↔ Britannia	15-30 minute headways, 7 days per week, all day service
57	Tunney's Pasture ↔ N Rideau	30 minute headways, 7 days per week, all day service
61	Terry Fox / Stittsville ↔ Tunney's Pasture / Gatineau	20 minute headways, 7 days per week, all day service
62	Terry Fox / Stittsville ↔ Tunney's Pasture	30 minute headways, 7 days per week, all day service
63	Briarbrook ↔ Tunney's Pasture / Gatineau	5-10 minute headways during peak periods, 7-days per week, all day service
64	Morgan's Grant ↔ Tunney's Pasture	15 minute headways during peak periods, Mon-Fri, all day service
66	Kanata / Solandt ↔ Gatineau/Tunney's Pasture	15 minute headways, Mon-Fri, peak periods only
67	Terry Fox / Tunney's Pasture \leftrightarrow Cope	30 minute headways, Mon-Fri, all day service
73	Leikin ↔ Tunney's Pasture	30 minute headways, Mon-Fri, peak periods only
74	Nepean Woods ↔ Tunney's Pasture	30 minute headways, 7 days per week, all day service
75	Tunney's Pasture / Gatineau ↔ Barrhaven Centre / Cambrian	15 minute headways, 7 days per week, all day service
81	Tunney's Pasture \leftrightarrow Clyde	30 minute headways, 7 days per week, no evening service on weekends
82	Lincoln Fields / Tunney's Pasture ↔ Bayshore	30 minute headways, 7 days per week, all day service
87	Tunney's Pasture ↔ Baseline	15 minute headways, 7 days per week, all day service
153	Tunney's Pasture / Carlingwood ↔ Lincoln Fields	60 minute headways, 7 days per week, select time periods
252	Tunney's Pasture ↔ Templeford	30 minute headways, Mon-Fri, peak periods only
256	Tunney's Pasture ↔ Bridlewood	30 minute headways, Mon-Fri, peak periods only
257	Tunney's Pasture ↔ Bridlewood	30 minute headways, Mon-Fri, peak periods only
258	Grandview ↔ Tunney's Pasture	30 minute headways, Mon-Fri, peak periods only
261	Tunney's Pasture ↔ Stittsville Main	30-60 minute headways, Mon-Fri, peak periods only
262	Tunney's Pasture ↔ West Ridge	30 minute headways, Mon-Fri, peak periods only
263	Tunney's Pasture ↔ Stanley Corners	60 minute headways, Mon-Fri, peak periods only
264	Tunney's Pasture ↔ Terry Fox	60 minute headways, Mon-Fri, peak periods only
265	Tunney's Pasture ↔ Beaverbrook	60 minute headways, Mon-Fri, peak periods only
267	Tunney's Pasture ↔ Glen Cairn	30 minute headways, Mon-Fri, peak periods only
268	Tunney's Pasture ↔ Kanata Lakes	30 minute headways, Mon-Fri, peak periods only
282	Trend-Arlington ↔ Tunney's Pasture	30 minute headways, Mon-Fri, peak periods only
404	Canadian Tire Centre ↔	5-20 minute headways, only during periods before
707	Tunney's Pasture	or after events at the Canadian Tire Centre

Table 2: OC Transpo Route Information

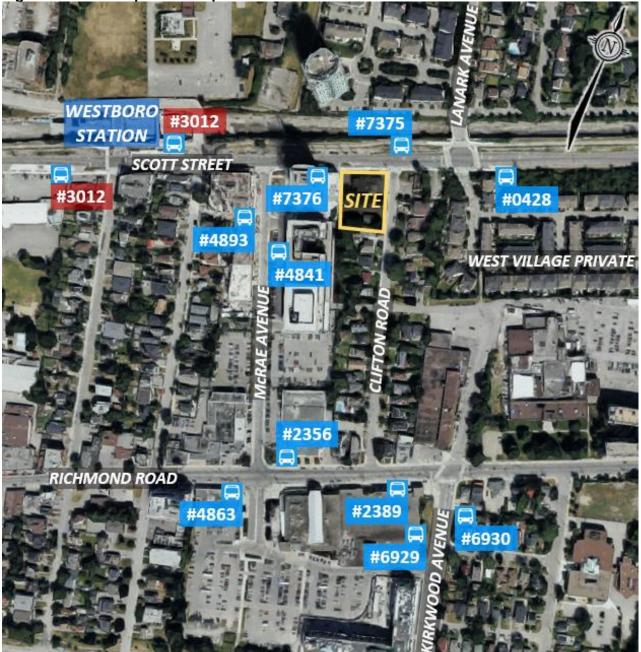


Figure 3: OC Transpo Bus Stop Locations

Note: Temporary bus platforms on Scott Street are provided for Westboro Station (stop #3012) during construction of the Confederation Line LRT extension. The eastbound platform is located along the frontage to 2026 Scott Street, and the westbound platform is located between Athlone Avenue and Tweedsmuir Avenue.

2.1.7 Existing Traffic Volumes

Weekday traffic counts were completed by the City of Ottawa or for recent TIA studies and have been used to determine the existing traffic volumes at the study area intersections. The traffic counts were completed on the following dates.

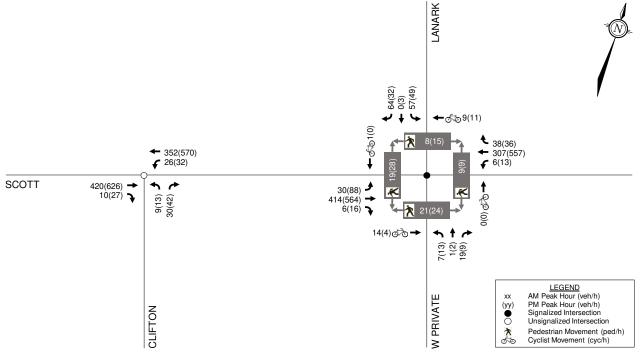
- Scott Street/Clifton Road
- Scott Street/Lanark Avenue/West Village Pvt

Count Date May 24, 2018 November 30, 2023 Source (2019 TIA, 1950 Scott) (City Count)

Pedestrian and cyclist counts were only completed at Scott Street/Lanark Avenue/West Village Private, and it is noted that the pedestrian and cyclist volumes observed may be higher during warmer months. The eastbound/westbound through volumes observed at Scott Street/Lanark Avenue/West Village Private has been carried to the Scott Street/Clifton Road intersection, as the count conducted at Scott Street/Clifton Road only considered traffic turning onto/from Clifton Road.

All traffic count data previously discussed are included in **Appendix D**. Traffic volumes within the study area are shown in **Figure 4**.





2.1.8 Collision Records

Historical collision data from the last five years available was obtained from the City's Public Works and Service Department for the study area intersections and midblock segments. 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, which are defined in the *TIA Guidelines* as 'more than six collisions in five years' for any one movement. The number of collisions at each intersection from January 1, 2017 to December 31, 2021 is summarized in **Table 3**.

Table 3: Reported Collisions

Intersection or Segment	Approach	Angle	Rear End	Sideswipe	Turning Movement	SMV ⁽¹⁾ / Other	Total
Scott Street/ Clifton Road	-	2	-	-	-	-	2
Scott Street/Lanark Avenue/ West Village Private	-	1	-	-	1	-	2
Scott Street between McRae Avenue & Clifton Road	-	-	-	-	-	-	0
Scott Street between Clifton Road & Lanark Avenue	-	-	-	-	1	-	1
Clifton Road between Scott Street & Wilber Avenue	-	-	-	-	-	1	1

1. SMV = Single Motor Vehicle

Scott Street/Clifton Road

A total of two collisions were reported at this intersection in the last five years. These were both angle impacts. One of the collisions occurred in clear conditions and one occurred in snowy conditions. Neither collision resulted in injuries.

Scott Street/Lanark Avenue/West Village Private

A total of two collisions were reported at this intersection in the last five years. These collisions included an angle impact and turning movement impact. Both impacts occurred in clear conditions, involved cyclists, and resulted in non-fatal injuries.

The two collisions occurred prior to the installation of a fully-protected intersection at this location, and collisions involving cyclists are anticipated to be mitigated in the future.

Scott Street between McRae Avenue & Clifton Road

No collisions were reported along this segment in the last five years.

Scott Street between Clifton Road & Lanark Avenue

One collision was reported along this segment in the last five years. This collision was a turning movement impact in clear conditions, and did not result in injuries.

Clifton Road between Scott Street & Wilber Avenue

One collision was reported along this segment in the last five years. This collision was a single vehicle/other impact in clear conditions, and did not result in injuries.

2.2 Planned Conditions

2.2.1 Planned Transportation Projects

The City of Ottawa's Transportation Master Plan (TMP) 2031 Affordable Rapid Transit and Transit Priority (RTTP) Network identifies the extension of Light Rail Transit (LRT) to the east, west, and south (Phase 2). Construction for Phase 2 of the LRT (i.e. the Confederation Line Extension West) began in 2019, and is anticipated to be completed in 2026. This project involves extending the western LRT terminus from Tunney's Pasture Station to both Moodie Station and Algonquin College. As part of this project, the Westboro Transit Station will be converted to Westboro LRT Station. The planned western Confederation Line extension is shown in **Figure 5**.



Figure 5: LRT Phase 2 – Confederation Line Extension West

During the LRT Phase 2 construction, buses are routed off the existing Transitway onto Scott Street, which has been extended west of Churchill Avenue to Roosevelt Avenue, crossing to the north side of the Transitway on a temporary bridge at Roosevelt Avenue and extended westerly from Workman Avenue to Kichi Zibi Mikan Parkway. This detour is anticipated to be used by buses until 2026 (i.e. the estimated completion time for Phase 2 LRT). It is acknowledged that the temporary Westboro Station platforms on Scott Street may remain in place for a period after rail service begins.

Once the Scott Street transitway detour is removed, the bulbout on Scott Street at the subject site and 1960 Scott Street will remain, and a second bulbout at the northwest corner of Scott Street/ Clifton Road will be implemented. This new bulbout will not narrow the Clifton Road throat at the intersection with Scott Street. The two bulbouts will delineate a parking lay-by along the subject site's frontage to Scott Street, and will replace the eastbound transit-exclusive lane. The eastbound right turn/transit through lane at Scott Street/Lanark Avenue/West Village Private will also be removed. The existing cycle track and sidewalk on the south side of Scott Street will not be impacted by this conversion.

South of the study area, the 2031 Affordable RTTP Network identifies Richmond Road/Wellington Street West/Somerset Street as a Transit Priority Corridor with Isolated Measures. Transit signal priority is planned between Woodroffe Avenue and Bank Street.

2.2.2 Other Area Developments

A review of the City's Development Application Search Tool has been conducted to identify any developments in the vicinity of the subject site that are being constructed, are approved, or are in the approval process. Other developments in the area are described as follows:

210 Clearview Avenue

A residential development is proposed at 310 Clearview Avenue. This development proposed 177 apartment units. A TIA, dated April 2023, was prepared by CGH Transportation in support of Official Plan Amendment and Zoning By-Law Amendment applications for this development. The estimated date of full occupancy is 2027.

316-332 Clifton Road

A TIA Screening form was prepared in support of a development that includes 29 dwelling units and an internal private road with two connections to Clifton Road. Since the form identified that the development did not screen in for a TIA due to the low trip generation and other factors, a TIA was not prepared or required. The form identified a buildout year of 2025.

319-327 Richmond Road, 380 Winona Avenue, and 381 Churchill Avenue

A mixed-use development is proposed at 319-327 Richmond Road, 380 Winona Avenue, and 381 Churchill Avenue. This development proposes 184 apartment units and 1,738m² of retail space. Access is proposed on Churchill Avenue and Winona Avenue. A TIA was prepared by CGH Transportation, dated May 2020, in support of this development. The estimated date of occupancy was 2022.

320 McRae Avenue

A mixed-use development is under construction at 320 McRae Avenue. This development proposes 307 apartment units, 11 townhouses, and 9,494 ft² of commercial land uses. A TIA, dated January 2020, was prepared by CGH Transportation in support of a Site Plan application for this development. The estimated date of full occupancy was 2022.

335 Roosevelt Avenue

A residential development is proposed at 335 Roosevelt Avenue. The development proposes two high-rise residential buildings with 246 units and two mid-rise residential buildings with 17 units. A TIA report, dated December 2020 and revised March 2022, was prepared by Novatech in support of Official Plan Amendment and Zoning By-Law Amendment applications for this site. The estimated date of full occupancy is 2026.

1946 Scott Street

A residential development is proposed at 1946 Scott Street. This development proposes a 12-storey building with approximately 60 apartment units. A TIA was prepared by Parsons, dated August 2017, in support of this development. The estimated date of full occupancy was 2019.

1950 Scott Street

A Transportation Brief was prepared by Parsons in July 2018, in support of a 20-storey development with 141 condominium/apartment units at the subject site. Traffic count data at Scott Street/Clifton Road was obtained from this study.

2026 Scott Street

A mixed-use development is proposed at 2026 Scott Street. This development proposes two 40storey buildings with a total of approximately 856 apartment units and 3,207 ft² of ground-floor commercial space. A TIA was prepared by Novatech, dated April 2024. The estimated date of occupancy for the first building is 2026 and the estimated date of occupancy for the second building is 2029.

2050 Scott Street

A mixed-use development is proposed directly west of the subject site. The development proposes a 30-storey residential building on three- and six- storey podiums with approximately 353 units and 233m² of ground floor commercial/office. Access is proposed via Scott Street. A TIA report was prepared by Parsons, dated February 2021, in support of a Zoning By-Law Amendment for the proposed development. The estimated date of occupancy was 2021.

2070 Scott Street

A mixed-use development is proposed at the southeast corner of the Scott Street/Churchill Avenue intersection. The development proposes a 23-storey tower with 241 units and 5,500 ft² of retail. An underground parking garage with access to Winona Avenue is proposed. A TIA was prepared by Stantec, dated November 2019, in support of a Zoning By-Law Amendment and Site Plan Control for this development. The estimated date of occupancy was 2022.

2.3 Study Area and Time Periods

The study area for this report includes the boundary roadways Scott Street and Clifton Road, as well as the following intersections:

- Scott Street/Clifton Road;
- Scott Street/Lanark Avenue/West Village Private.

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

2.4 Access Design

Access to the proposed underground parking garage will be provided via one full-movement driveway to Clifton Road. A loading access for move-ins is proposed immediately south of the parking garage access. The design of the proposed accesses have been evaluated using the relevant provisions of the City's *Private Approach By-Law* (PABL) and *Zoning By-Law* (ZBL), and the Transportation Association of Canada (TAC)'s *Geometric Design Guide for Canadian Roads*.

Section 25(1)(a) of the PABL identifies that, for sites with 35m to 150m of frontage, a maximum of two two-way private approaches are permitted. This requirement is met.

Section 25(1)(c) of the PABL identifies a maximum width requirement of 9.0m for any two-way private approach, as measured at the street line. This requirement is met by the proposed accesses to Clifton Road.

Section 107(1)(a) of the ZBL requires any two-way private approach serving an apartment parking garage with 20 or more parking spaces to have a minimum width of 6.0m and a maximum width of 6.7m. The proposed access to Clifton Road will be approximately 6.07m in width, meeting the requirements.

Based on Section 25(1)(m)(ii) of the PABL, the nearest edge of any private approach that serves 20 to 99 parking spaces must be a minimum of 18m from the nearest intersecting street line, when the approach serves a residential development that is located within 46m of an arterial roadway. This requirement is met by the proposed parking garage access to Clifton Road.

Section 25(1)(m)(ii) of the PABL also identifies a requirement for any two private approaches to be separated by 15m or more. It is requested that this requirement be waived to permit adjacent parking garage and loading accesses to serve the development, as the loading access will be used infrequently.

Section 25(1)(p) of the PABL identifies a minimum separation requirement of 3m between a private approach and the nearest property line, as measured at the street line. This requirement is not met by the proposed loading access to Clifton Road, which is 1.4m from the southern property line. TAC's *Geometric Design Guide* identifies a recommended minimum spacing of 1m between curb returns of adjacent residential driveways to local and collector roadways. The adjacent approved development at 316-332 Clifton Road proposes an egress driveway at the shared property line with the subject site, however neither development is anticipated to generate high volumes of traffic, and conflicts between the two driveways are anticipated to be minimal.

Section 25(1)(u) of the PABL identifies a requirement that any private approach serving a parking area with more than 50 parking spaces shall not have a grade exceeding 2% for the first 9m inside the property line. A waiver of this requirement is requested. The proposed maximum grade of the garage ramp is approximately 3.3% from the sidewalk to the garage door (i.e. for a distance of approximately 7.5m). This grade is not anticipated to obscure drivers' vision of pedestrians crossing the proposed access, as an entire vehicle can be located outside of the proposed building before crossing the sidewalk on Clifton Road.

Section 107(1)(c) of the ZBL identifies that any drive aisles serving parking spaces within a parking garage must have a minimum width of 6.0m. As the width of all drive aisles within the parking garage have a width of 6.0m or greater, this requirement is met.

TAC's *Geometric Design Guide* identifies minimum stopping sight distance (SSD) and intersection sight distance (ISD) requirements, based on the roadway grade and design speed (taken as the speed limit plus 10 km/h). A level roadway grade and design speed of 40 km/h for Clifton Road have been assumed in this review. The minimum SSD required is 50m, and the minimum ISD desired is 85m for left turns and 75m for right turns.

As Clifton Road is a straight and generally level roadway, adequate SSD can be provided at the proposed access locations. It is anticipated that adequate ISD can be provided for any vehicles turning left or right from the proposed access as well, as there is very limited vegetation on neighbouring properties that could obscure sightlines for outbound drivers.

2.5 Development-Generated Travel Demand

2.5.1 Trip Generation

The traffic volumes at Scott Street/Clifton Road were collected in 2018, when the previous use of the subject site (International Buddhist Progress Society of Ottawa) was operational. In the interest of providing a conservative study, any trips generated by the previous use have not been deducted from the trip generation estimates below.

Proposed Residential Trip Generation

The number of person trips generated by the proposed residential dwellings have been estimated using the *TRANS Trip Generation Manual*, which present peak hour trip generation rates and mode shares for different types of housing for the AM and PM peak periods. The data is divided into rates and mode shares for Single-Family Detached Housing, Low-Rise Multifamily Housing (one or two storeys), and High-Rise Multifamily Housing (three or more storeys). For the High-Rise Multifamily Housing land use, the process of converting the trip generation estimates from peak period to peak hour is shown as follows.

The *TRANS Trip Generation Manual* identifies the subject site as being located within the Ottawa West district, which has the following observed mode shares for high-rise multifamily housing during the peak hours:

- Auto Driver: 28% AM peak, 33% PM peak;
- Auto Passenger: 11% AM peak, 11% PM peak;
- Transit: 41% AM peak, 26% PM peak;
- Cyclist: 3% AM peak, 7% PM peak;
- Pedestrian: 16% AM peak, 23% PM peak.

The subject site is located within a Transit-Oriented Development (TOD) zone. The City has provided target mode shares for any transit-oriented developments, which are the following:

- Auto Driver: 15% during both peak hours;
- Auto Passenger: 5% during both peak hours;
- Transit: 65% during both peak hours;
- Non-Auto: 15% during both peak hours.

It is assumed that the proposed residences will generally be consistent to the TOD mode shares with an increase to the pedestrian mode share, reflecting the higher number of pedestrians within the Ottawa West area. The process of converting the trip generation estimates from peak period to peak hour is shown in the following tables. The estimated number of person trips generated by the proposed development during the AM and PM peak periods are shown in **Table 4**. A breakdown of these trips by mode share is shown in **Table 5**.

Table 4: Proposed Residential – Peak Period Trip Generation

Land Use	TRANS Rate	Unite	AM Pea	k Period	(ppp ⁽¹⁾)	PM Pe	ak Perioc	l (ppp)
		Units	IN	OUT	тот	IN	OUT	тот
High-Rise Multifamily Housing	AM: 0.80 PM: 0.90	244	60	135	195	128	92	220

1. ppp: Person Trips per Peak Period

Travel Mode	Mode Share	AI	I Peak Peri	od	PM Peak Period		
		IN	OUT	тот	IN	OUT	тот
Residentia	60	135	195	128	92	220	
Auto Driver	15%	9	20	29	19	14	33
Auto Passenger	5%	3	7	10	6	5	11
Transit	55%	33	74	107	71	50	121
Cyclist	5%	3	7	10	6	5	11
Pedestrian	20%	12	27	39	26	18	44

Table 5: Proposed Residential – Peak Period Trips by Mode Share

Table 4 of the *TRANS Trip Generation Manual* includes adjustment factors to convert the estimated number of trips generated for each mode from peak period to peak hour. A breakdown of the peak hour trips by mode is shown in **Table 6**.

Table 6: Proposed Residential – Peak Hour Trips by Mode Share

Travel Mode	Adj. F	actor	Α	M Peak Ho	ur	PM Peak Hour			
	AM	PM	IN	OUT	ТОТ	IN	OUT	тот	
Auto Driver	0.48	0.44	4	10	14	8	6	14	
Auto Passenger	0.48	0.44	1	3	4	3	2	5	
Transit	0.55	0.47	18	41	59	33	24	57	
Cyclist	0.58	0.48	2	4	6	3	2	5	
Pedestrian	0.58	0.52	7	16	23	13	10	23	
Peak Hou	n Trips	32	74	106	60	44	104		

From the previous table, the proposed residences are estimated to generate 106 person trips (including 14 vehicle trips) during the AM peak hour, and 104 person trips (including 14 vehicle trips) during the PM peak hour.

Proposed Commercial Trip Generation

The number of person trips generated by the proposed ground-floor commercial/retail units has been estimated using the trip generation rates in the *ITE Trip Generation Manual*, 11th Edition, corresponding to the Strip Retail Plaza (code 822) land use. Trips estimated using the *ITE Trip Generation Manual* have been converted to person trips using an adjustment factor of 1.28, consistent with the City's *TIA Guidelines*. The *TRANS Trip Generation Manual* identifies the following observed mode shares for commercial developments within Ottawa West during the peak hours:

- Auto Driver: 55% AM peak, 50% PM peak;
- Auto Passenger: 11% AM peak, 16% PM peak;
- Transit: 11% AM peak, 11% PM peak;
- Cyclist: 0% AM peak, 5% PM peak;
- Pedestrian: 23% AM peak, 18% PM peak.

The assumed proposed ground-floor commercial is a blend of the TOD shares and the Ottawa West commercial mode shares described above, with an increase to the pedestrian mode share. This can be summarized as 30% driver, 10% passenger, 30% transit, 5% cyclist, and 25% pedestrian.

The estimated number of person trips generated by the proposed commercial uses are shown in **Table 7**, and broken down by mode share in **Table 8**.

Table 7: Proposed Commercial – Peak Hour Trip Generation

Land Use	ITE Code	GFA	AM Peak Hour (pph ⁽¹⁾)			PM Peak Hour (pph)		
			IN	OUT	TOT	IN	OUT	тот
Strip Retail Plaza	822	2,098 ft ²	8	5	13	15	16	31

1. pph: Person Trips per Peak Hour

Table 8: Proposed Commercial – Peak Hour Trips by Mode Share

Travel Mode	Mode Share	Α	M Peak Hou	ur	PM Peak Hour			
	mode onare	IN	OUT	тот	IN	OUT	тот	
Commercial Person Trips		8	5	13	16	17	33	
Auto Driver	30%	2	2	4	5	5	10	
Auto Passenger	10%	1	-	1	1	2	3	
Transit	30%	2	2	4	5	5	10	
Cyclist	5%	1	-	1	1	1	2	
Pedestrian	25%	2	1	3	4	4	8	

From the previous table, the proposed ground-floor commercial is estimated to generate 13 person trips (including four vehicle trips) during the AM peak hour, and 33 person trips (including ten vehicle trips) during the PM peak hour.

Total Trip Generation

Based on the results of **Table 6** and **Table 8**, the total trip generation projections for the proposed development are included in **Table 9**.

Travel Mode	Α	M Peak Ho	ur	PM Peak Hour			
Traver Mode	IN	OUT	тот	IN	OUT	тот	
Proposed Residential Trips	32	74	106	60	44	104	
Auto Driver	4	10	14	8	6	14	
Auto Passenger	1	3	4	3	2	5	
Transit	18	41	59	33	24	57	
Cyclist	2	4	6	3	2	5	
Pedestrian	7	16	23	13	10	23	
Proposed Commercial Trips	8	5	13	16	17	33	
Auto Driver	2	2	4	5	5	10	
Auto Passenger	1	-	1	1	2	3	
Transit	2	2	4	5	5	10	
Cyclist	1	-	1	1	1	2	
Pedestrian	2	1	3	4	4	8	
Total Person Trips	40	79	119	76	61	137	
Auto Driver	6	12	18	13	11	24	
Auto Passenger	2	3	5	4	4	8	
Transit	20	43	63	38	29	67	
Cyclist	3	4	7	4	3	7	
Pedestrian	9	17	26	17	14	31	

Table 9: Net Person Trip Generation

From the previous table, the proposed development is projected to generate a total of 119 person trips (including 18 vehicle trips) during the AM peak hour, and 137 person trips (including 24 vehicle trips) during the PM peak hour.

2.5.2 Trip Distribution and Assignment

As the proposed development is projected to generate significantly less than 75 vehicle trips during the peak hours, intersection analysis is exempt from analysis (as shown in Section 2.6), and the site-generated volumes have not been distributed to the road network. All vehicle trips would be assigned to the proposed access to Clifton Road.

2.6 Exemptions Review

This module reviews possible exemptions from the final TIA, as outlined in the *TIA Guidelines*. The applicable exemptions for this site are shown in **Table 10**.

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

Table 10: TIA Exemptions

Module	Element	Exemption Criteria	Status
4.9 Intersection Design	All elements	 Required when proposed development generates more than 75 vehicle trips 	Exempt

Based on the foregoing, the following modules will be included in the TIA report:

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

3.0 BACKGROUND NETWORK TRAVEL DEMAND

3.1 General Background Growth Rate

A review of the City's *Strategic Long-Range Model* has been conducted, comparing snapshots of the 2011 and 2031 AM peak hour traffic volumes. The long-range snapshots are included in **Appendix F**.

Within the study area, the long-range snapshots identify generally negative growth on Scott Street between 2011 and 2031. It is anticipated that the transit and non-auto infrastructure upgrades along Scott Street, which includes improvements such as the extension of the Confederation Line LRT and cycle tracks along Scott Street, will increase the use of active transportation modes. To maintain a conservative analysis, an annual growth rate of 0% for vehicular traffic volumes within the study area has been applied, and the traffic volumes generated by the other area developments described in the previous section have been added directly.

3.2 Other Area Developments

Traffic generated by the following proposed developments have been added to the future background volumes. Relevant excerpts from their associated traffic studies are included in **Appendix G**.

210 Clearview Avenue

The development proposes 177 apartment dwellings. The TIA report, prepared in April 2023 by CGH Transportation, estimated that full buildout of the development will occur in 2027. Therefore, traffic generated by this development has been added to the 2031 background volumes.

335 Roosevelt Avenue

The development proposes 246 high-rise dwellings and 17 mid-rise dwellings. The TIA report, prepared in December 2020 and revised in March 2022 by Novatech, estimated that full buildout of the development will occur in 2026. Therefore, traffic generated by this development has been added to the 2026 and 2031 background volumes.

<u>319-327 Richmond Road, 380 Winona Avenue, and 381 Churchill Avenue</u> The development proposes 184 apartment dwellings and 1,738m² of retail space. The TIA report, prepared in May 2020 by CGH Transportation, estimated that full buildout of the development would occur in 2022. Therefore, traffic generated by this development has been added to the 2026 and 2031 background volumes.

320 McRae Avenue

The development proposes 307 apartment dwellings, 11 townhouses, and 9,494 ft² of commercial land uses. The TIA report, prepared in January 2020 by CGH Transportation, estimated that full buildout of the development would occur in 2022. Therefore, traffic generated by this development has been added to the 2026 and 2031 background volumes.

2026 Scott Street

The development proposes 856 apartment dwellings and 298m² of ground floor retail space. The TIA report, prepared in April 2024 by Novatech, estimated that buildout of Phase 1 will occur in 2026 and full buildout will occur in 2031. Therefore, traffic generated by Phase 1 has been added to the 2026 background volumes and traffic generated by the full development has been added to the 2031 background volumes.

2050 Scott Street

The development proposes 353 apartment dwellings and 233m² of ground floor commercial/office space. The TIA report, prepared in February 2021 by Parsons, estimates that full buildout of the development would occur in 2021. Therefore, traffic generated by this development has been added to the 2026 and 2031 background volumes.

2070 Scott Street

The development proposes 241 apartment dwellings and 5,500 ft² of retail space. The TIA report, prepared in November 2019 by Stantec, estimates that full buildout of the development would occur in 2022. Therefore, traffic generated by this development has been added to the 2026 and 2031 background volumes.

3.3 Future Traffic Conditions

The figures listed below show the following traffic volumes:

- Other area development traffic in 2026 is shown in Figure 6;
- Other area development traffic in 2031 is shown in **Figure 7**;
- Background traffic volumes in 2026 is shown in Figure 8;
- Background traffic volumes in 2031 is shown in Figure 9.

3.4 **Demand Rationalization**

The Demand Rationalization module includes identifying any locations and approaches where total auto demand is projected to exceed capacity, and what reduction in peak hour volumes are required for demand to meet capacity. However, determining whether any approach has volumes that exceed capacity requires intersection capacity analysis, which is outside the scope of this TIA (as shown in Table 10).

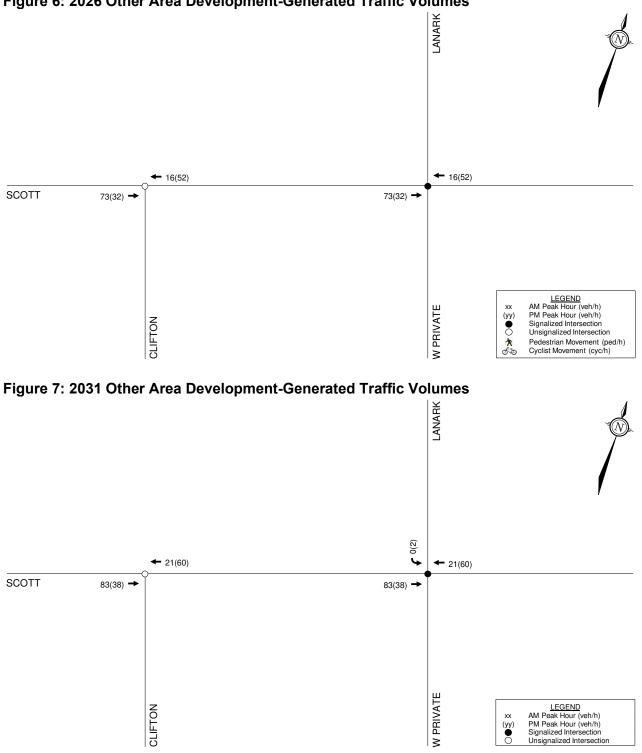
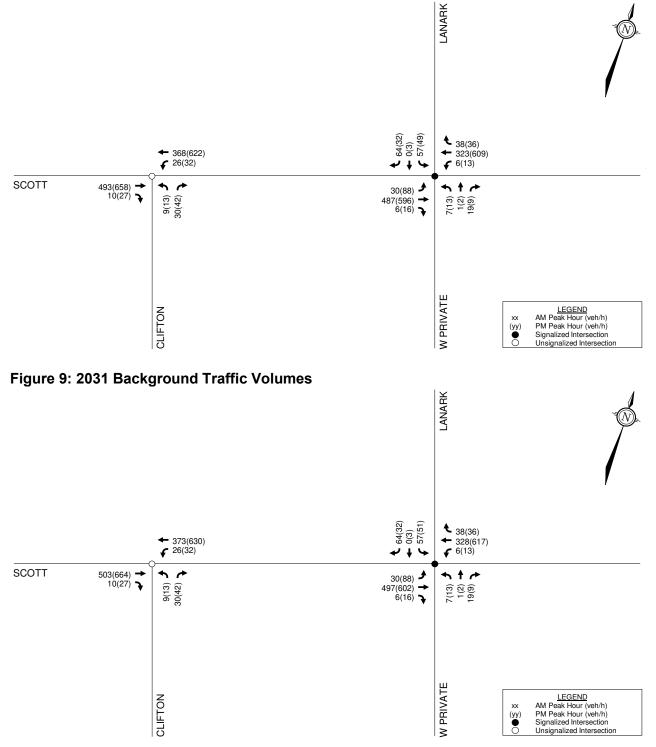


Figure 6: 2026 Other Area Development-Generated Traffic Volumes





4.0 ANALYSIS

4.1 Development Design

4.1.1 Design for Sustainable Modes

Sidewalks will be maintained along the subject site's frontages to Scott Street and Clifton Road, and internal walkways will be provided around the perimeter of the building to provide connectivity from all building entrances to these sidewalks.

A total of 245 bicycle parking spaces will be provided on-site, with 15 exterior spaces, 30 spaces in a bike room on the ground floor, and 205 spaces within the underground parking garage. The total number of bicycle parking spaces will meet the minimum required number of bicycle spaces per the City's ZBL.

OC Transpo's service design guideline for peak period service is to provide service within a fiveminute (400m) walk of home, work, or school for 95% of urban residents. Main entrances to both proposed buildings are anticipated to be within 400m walking distance of Westboro Station and bus stops on Scott Street, McRae Avenue, or Richmond Road. These stops are shown in **Figure 3**.

A review of the *Transportation Demand Management (TDM)-Supportive Development Design and Infrastructure Checklist* has been conducted, and is included in **Appendix H**. All required TDMsupportive design and infrastructure measures in the TDM checklist will be met. In addition to the required measures, it is anticipated that the following 'basic' or 'better' measures will be met:

- 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.

4.1.2 Circulation and Access

The garbage room will be located within the underground parking garage, and garbage bins will be wheeled up to the curb, to be collected curbside on Clifton Road. There is no proposed on-site fire route for the development, as the main entrance fronts onto Scott Street.

Policy 4.6.5.3 of the City's *Official Plan* identifies that loading should be internalized if possible, but this may be relaxed for lots that cannot reasonably accommodate loading areas without compromising site functionality. It is understood that no loading access to Scott Street will be supported. Based on the parking garage location and building layout, residential loading can be internalized, provided the loading access is located as far south as possible. A residential loading access to Clifton Road is proposed on this basis, and is consistent with the *Official Plan* policy described above. Further discussion of residential and commercial loading is included below.

The residential loading access for move-ins is proposed to be located adjacent to the south side of the parking garage access. Moving trucks are anticipated to reverse into the loading access and drive forward out. Turning movements have been prepared for the proposed loading access, using a Medium Single Unit (MSU) design vehicle, and indicate that moving trucks will be able to manoeuvre into/out of the proposed development as described. The turning movements are included in **Figure 10** and **Figure 11**.

The existing bulbout on Scott Street that is straddling the subject site and the neighbouring property at 1960 Scott currently introduces a transit-exclusive lane. Once the Confederation Line LRT is open and the Scott Street bus detour is decommissioned, a second bulbout at the northwest corner of Scott Street/Clifton Road is planned to be implemented, and the two bulbouts will delineate a parking lay-by along the subject site's frontage to Scott Street. It is proposed that signage to include a commercial loading space for the ground-floor units be included within this proposed lay-by on Scott Street.

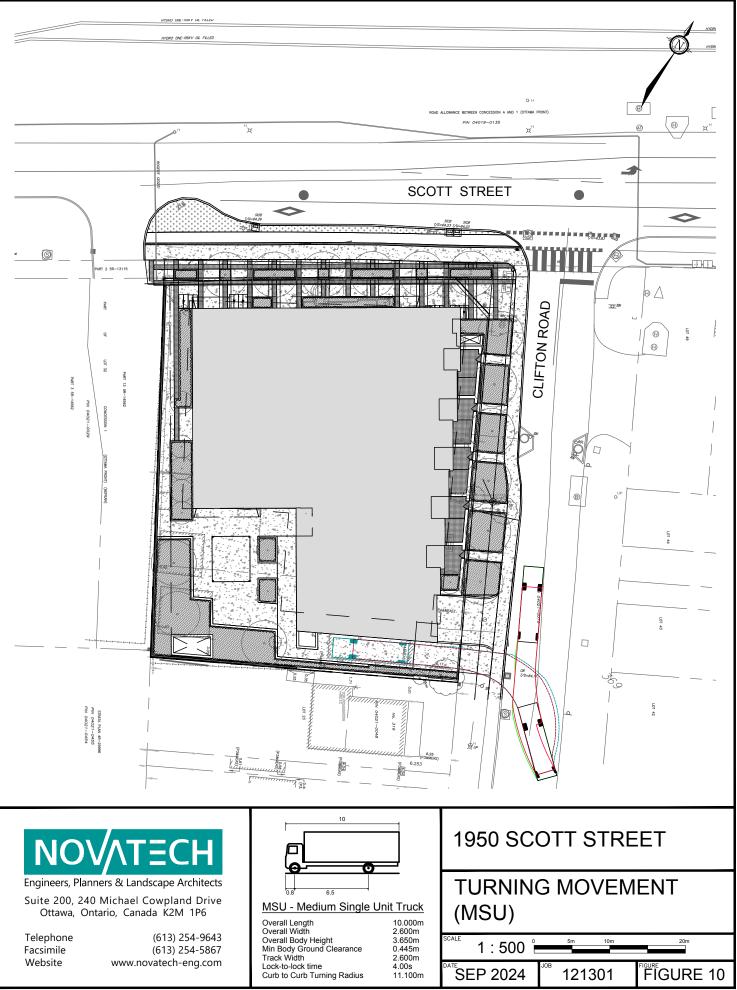
4.2 Parking

The subject site is located in Area B of Schedule 1 and Area Y of Schedule 1A of the City's ZBL, and is located within 600m of a rapid transit station as identified in Schedule 2A of the City's ZBL. The minimum/maximum vehicular, minimum bicycle parking, and minimum loading spaces rates for the proposed development are identified in Sections 101, 102, 103, 111, and 113 of the ZBL.

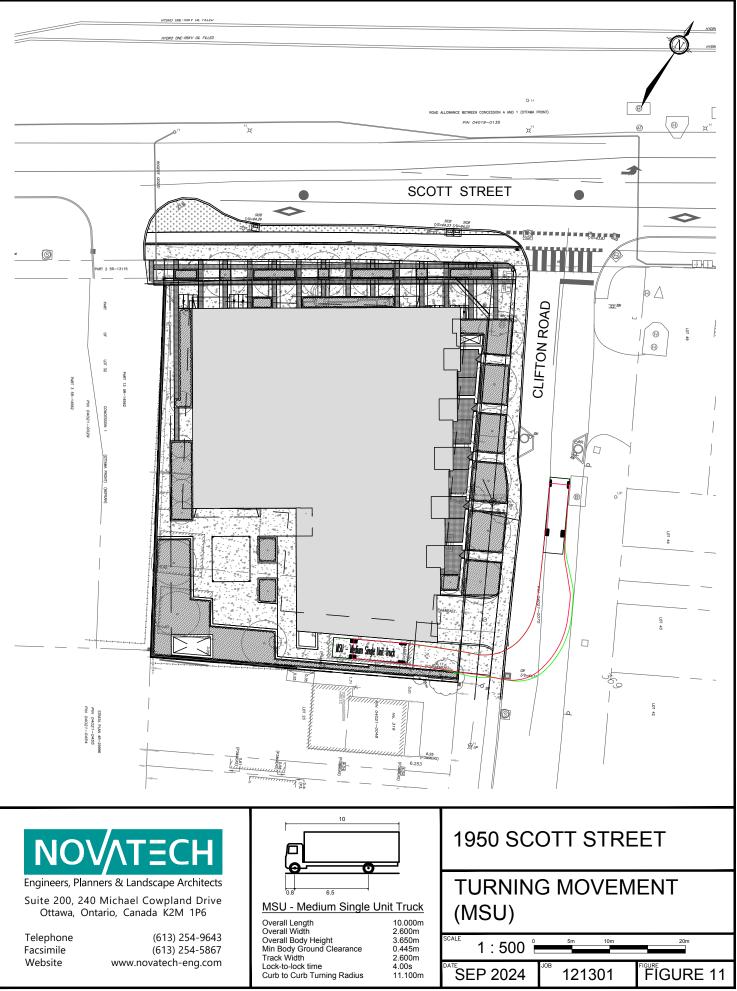
A review of the proposed parking supply versus the minimum/maximum parking requirements per the City's ZBL are shown in **Table 11**.

Land Use	Rate	Units	Required	Provided	
Minimum Res	sident and Visitor Vehicle Parking (Section 101/102 of J	ZBL)			
Apartment,	0.5 spaces per dwelling unit after the first 12 units and reduced by 20 overall, as all parking is below grade	244 units	96 (resident)	68	
High-Rise	0.1 spaces per dwelling unit after the first 12 units and up to a maximum of 30 spaces per building	244 units	23 (visitor)	23	
Retail Store	No minimum retail parking rate, as it is located entirely on the ground floor and is less than 500 m ² GFA	195 m²	0	0	
		Total	119	91	
Maximum Ve	hicle Parking (Exception 2581 or Section 103 of ZBL)				
Apartment, High-Rise	1.15 spaces per dwelling unit, per Exception 2581 (combined resident and visitor parking)	244 units	281	91	
Retail Store	3.6 spaces per 100 m ² GFA, per Section 103	195 m ²	7	0	
		Total	288	91	
Minimum Bic	ycle Parking (Exception 2581 or Section 111 of ZBL)				
Apartment, High-Rise	1.0 spaces per dwelling unit, per Exception 2581	244 units	244	250	
Retail Store	1.0 space per 250 m ² GFA, per Section 111	195 m ² 1		1	
		Total	245	250	

Table 11: Parking Review



C:\temp\AcPublish_16860\121301-TM.dwg, TM1, Sep 24, 2024 - 10:13am, rhillier



C:\temp\AcPublish_16860\121301-TM.dwg, TM2, Sep 24, 2024 - 10:13am, rhillier

SHT8X11.DWG - 216mmx279mm

Based on the previous table, the proposed development will be 28 vehicle parking spaces short of the minimum vehicle parking requirement based on the current ZBL. However, it should be noted that the City's *Official Plan* and draft updates to the ZBL seek to remove the requirement for minimum residential parking requirements (while maintaining a minimum parking requirement for visitors). It is requested that the proposed parking supply for the development be approved on this basis.

The proposed development will meet the maximum vehicle parking and minimum bicycle parking requirements outlined in the ZBL. There is no requirement to provide any loading spaces under Section 113 of the ZBL.

4.3 Boundary Streets

This section provides a review of the boundary streets Scott Street and Clifton Road, 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 each alternative mode of transportation on the boundary streets. The MMLOS review has been conducted based on existing conditions.

Based on Exhibit 22 of the *MMLOS Guidelines*, the boundary streets have been evaluated using the targets for roadways 'within 600m of a rapid transit station.' A detailed MMLOS review of the boundary streets is included in **Appendix I**. A summary of the segment MMLOS results for Scott Street and Athlone Avenue is provided in **Table 12**.

Table 12: Segment MMLOS Summary

Segment	PLOS		BLOS		TLOS		TkLOS	
Segment	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Scott Street	С	۸	А	А	D	А	В	D
Clifton Road	С	A	А	D	-	-	-	-

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

- Neither boundary street meets the target pedestrian level of service (PLOS) A;
- Both boundary streets meet the target bicycle level of service (BLOS) A or D;
- Scott Street does not meet the target transit level of service (TLOS) A;
- Scott Street meets the target truck level of service (TkLOS) D.

Per Exhibit 4 of the *MMLOS Guidelines*, Scott Street cannot achieve the target PLOS based on the magnitude of existing traffic volumes. The existing pedestrian facilities on Scott Street achieve the best-possible PLOS, and therefore, no recommendations are identified. The east side of Clifton Road does not include a sidewalk, and the target PLOS A can be achieved by constructing a sidewalk with a minimum width of 1.8m. This is identified for the City's consideration.

Per Exhibit 15 of the *MMLOS Guidelines*, Scott Street can only achieve the target TLOS A by providing segregated transit facilities. Once Stage 2 of the Confederation Line LRT is complete, the bus detour will not need to run along Scott Street, and light rail transit will be provided immediately north of the roadway. Therefore, the target TLOS will be met.

4.4 Transportation Demand Management

4.4.1 Context for TDM

The proposed development will include 2,098 ft² of ground-floor commercial space, and 244 dwellings. The dwellings can be broken down by number of bedrooms as follows:

- 57 studio units;
- 118 one-bedroom units;
- 69 two-bedroom units.

4.4.2 Need and Opportunity

The subject site is designated as 'Corridor – Mainstreet' on Schedule B2 of the City's Official Plan, and within the Scott Street Traditional Main Street DPA. As shown in Section 2.5.1, the peak hour driver shares observed within the Ottawa West district (28% in AM peak and 33% in PM peak for residential generators, and 55% in AM peak and 50% in PM peak for commercial generators) are significantly greater than the driver share target for Transit-Oriented Developments (15% in both peaks). If the proposed residences have a driver share of 30% during the peak hours (i.e. more consistent with the observed residential shares within the Ottawa West district), rather than the assumed driver share of 15%, this would equate to an increase of approximately 13 to 14 vehicles during the peak hours.

A failure to meet the mode share targets is not anticipated to result in failing operations within the study area. It is anticipated that the mode share targets are attainable, as the subject site is proximally located to commercial areas, parks, and recreation areas, and within walking distance to future LRT service.

4.4.3 TDM Program

A review of the City's *TDM Measures Checklist* has been conducted by the proponent. A copy of the completed checklist is included in **Appendix H**. The proponent will provide the following TDM measures:

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

The proposed parking supply is 28 spaces short of the minimum requirements outlined in the current ZBL. Providing limited parking near transit stations act as a strong incentive for residents, visitors, and patrons of the proposed development to travel to/from the site via transit or active modes. Further, a total of 245 bicycle parking spaces are proposed. This meets the minimum requirement of 1.0 bicycle spaces per unit. It should be noted that this requirement was established during the Zoning By-Law Amendment application stage, and is twice the typical bicycle parking rate of 0.5 bicycle spaces per unit.

5.0 CONCLUSIONS AND RECOMMENDATIONS

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

Forecasting

• The proposed development is projected to generate a total of 119 person trips (including 18 vehicle trips) during the AM peak hour, and 137 person trips (including 24 vehicle trips) during the PM peak hour.

Access Design

- The design of the proposed accesses meet most relevant provisions of the City's *Private Approach By-Law* (PABL) and *Zoning By-Law* (ZBL), and the Transportation Association of Canada (TAC)'s *Geometric Design Guide for Canadian Roads*.
- Section 25(1)(m)(ii) of the PABL identifies a requirement for any two private approaches to be separated by 15m or more, when a site abuts or is within 46m of an arterial or major collector roadway. It is requested that this requirement be waived to permit adjacent parking garage and loading accesses to serve the development, as the loading access will be used infrequently.
- Section 25(1)(p) of the PABL identifies a minimum separation requirement of 3m between a private approach and the nearest property line, as measured at the street line. This requirement is not met by the proposed loading access to Clifton Road, which is 1.4m from the southern property line. TAC's *Geometric Design Guide* identifies a recommended minimum spacing of 1m between curb returns of adjacent residential driveways to local and collector roadways. The adjacent approved development at 316-332 Clifton Road proposes a driveway at the shared property line with the subject site, however neither development is anticipated to generate high volumes of traffic, and conflicts between the two driveways are anticipated to be minimal.
- Section 25(1)(u) of the PABL identifies a requirement that any private approach serving a parking area with more than 50 parking spaces shall not have a grade exceeding 2% for the first 9m inside the property line. A waiver of this requirement is requested. The proposed maximum grade of the garage ramp is approximately 3.3% from the sidewalk to the garage door (i.e. for a distance of approximately 7.5m). This grade is not anticipated to obscure drivers' vision of pedestrians crossing the proposed access, as an entire vehicle can be located outside of the proposed building before crossing the sidewalk on Clifton Road.

Development Design and Parking

• Sidewalks will be maintained along the subject site's frontages to Scott Street and Clifton Road, and internal walkways will be provided around the perimeter of the building to provide connectivity from all building entrances to these sidewalks.

- A total of 250 bicycle parking spaces will be provided on-site, with 15 exterior spaces, 30 spaces in a bike room on the ground floor, and 205 spaces within the underground parking garage. This meets the minimum requirement of 1.0 bicycle spaces per unit. It should be noted that this requirement was established during the Zoning By-Law Amendment application stage, and is more than twice the typical bicycle parking rate of 0.5 bicycle spaces per unit.
- The proposed parking supply is 28 spaces short of the minimum requirement. Providing limited parking near transit stations act as a strong incentive for residents, visitors, and patrons of the proposed development to travel to/from the site via transit or active modes.
- OC Transpo's service design guideline for peak period service is to provide service within a five-minute (400m) walk of home, work, or school for 95% of urban residents. Main entrances to both proposed buildings are anticipated to be within 400m walking distance of Westboro Station and bus stops on Scott Street, McRae Avenue, or Richmond Road.
- All required Transportation Demand Management (TDM)-supportive design and infrastructure measures in the checklist will be met.
- The garbage room will be located within the underground parking garage, and garbage bins will be wheeled up to the curb, to be collected curbside on Clifton Road. There is no proposed on-site fire route for the development, as the main entrance fronts onto Scott Street.
- A residential loading access for move-ins is proposed to be located adjacent to the south side of the parking garage access. Moving trucks are anticipated to reverse into the loading access and drive forward out.
- The existing bulbout on Scott Street that is straddling the subject site and the neighbouring
 property at 1960 Scott currently introduces a transit-exclusive lane. Once the Confederation
 Line LRT is open and the Scott Street bus detour is decommissioned, a second bulbout at
 the northwest corner of Scott Street/Clifton Road is planned to be implemented, and the two
 bulbouts will delineate a parking lay-by along the subject site's frontage to Scott Street. It is
 proposed that signage to include a commercial loading space for the ground-floor units be
 included within this proposed lay-by on Scott Street.

Boundary Streets

- The results of the segment MMLOS analysis can be summarized as follows:
 - Neither boundary street meets the target pedestrian level of service (PLOS) A;
 - Both boundary streets meet the target bicycle level of service (BLOS) A or D;
 - Scott Street does not meet the target transit level of service (TLOS) A;
 - Scott Street meets the target truck level of service (TkLOS) D.
- The existing pedestrian facilities on Scott Street achieve the best-possible PLOS, and therefore no recommendations are identified. The east side of Clifton Road does not include a sidewalk, and the target PLOS A can be achieved by constructing a sidewalk with a minimum width of 1.8m. This is identified for the City's consideration.

• Once Stage 2 of the Confederation Line LRT is complete, the bus detour will not need to run along Scott Street, and light rail transit will be provided immediately north of the roadway. Therefore, the target TLOS will be met.

Transportation Demand Management

- A review of the City's *TDM Measures Checklist* has been conducted by the proponent, and will provide the following TDM measures:
 - Display local area maps with walking/cycling access routes and key destinations at major entrances;
 - Display relevant transit schedules and route maps at entrances;
 - Unbundle parking cost from monthly rent;
 - Provide a multi-modal travel information package to new residents or employees.

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

NOVATECH

Prepared by:

Hudia

Joshua Audia, P.Eng. Project Engineer | Transportation

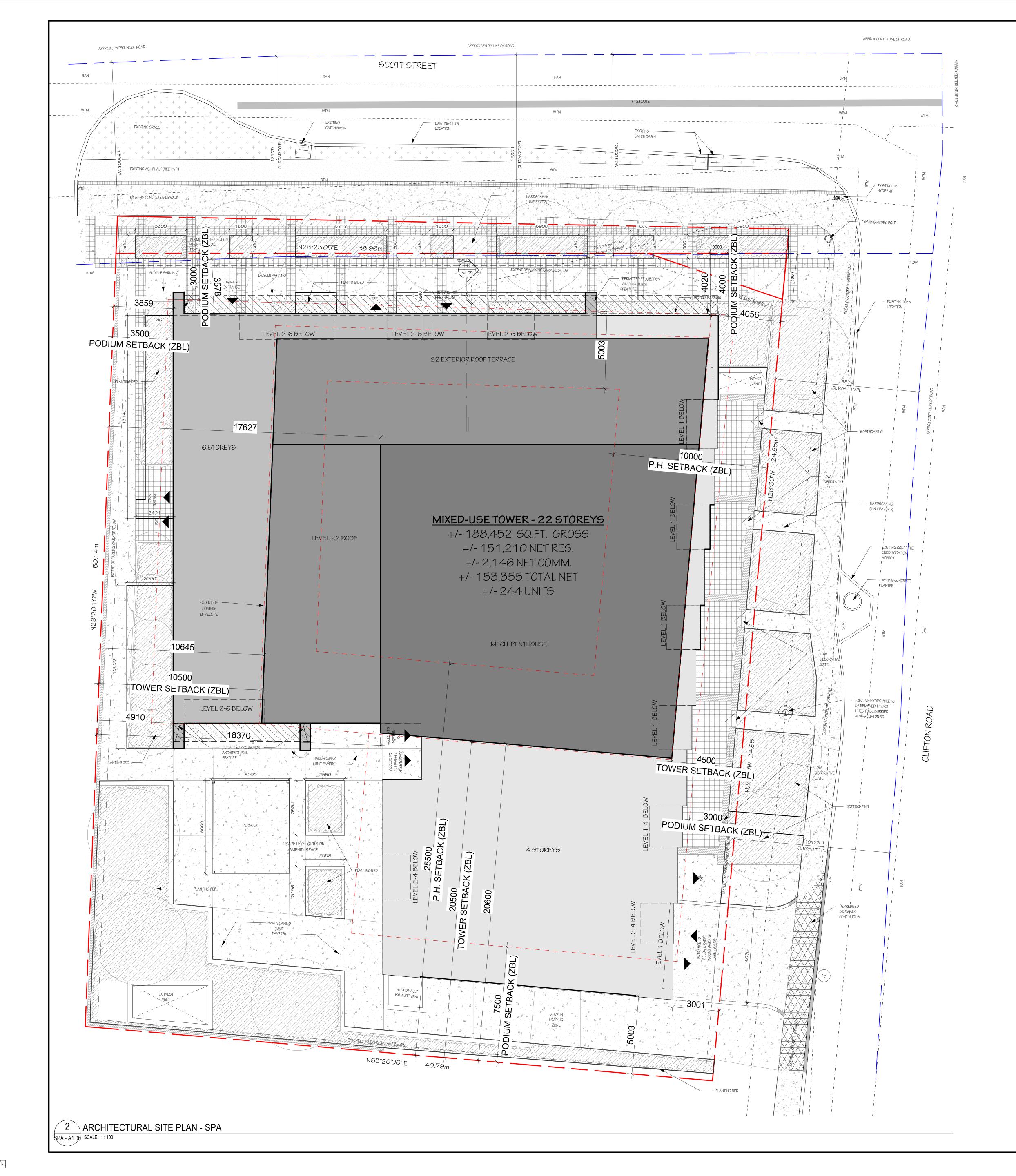
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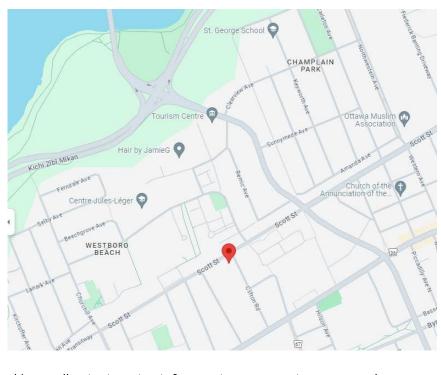


Brad Byvelds, P.Eng. Project Manager | Transportation

APPENDIX A

Site Plan





Note: all existing site information as per site survey plan dated March 2, 2018 and prepared by STANTEC GEOMATICS ltd. Ref No. 161613828-110

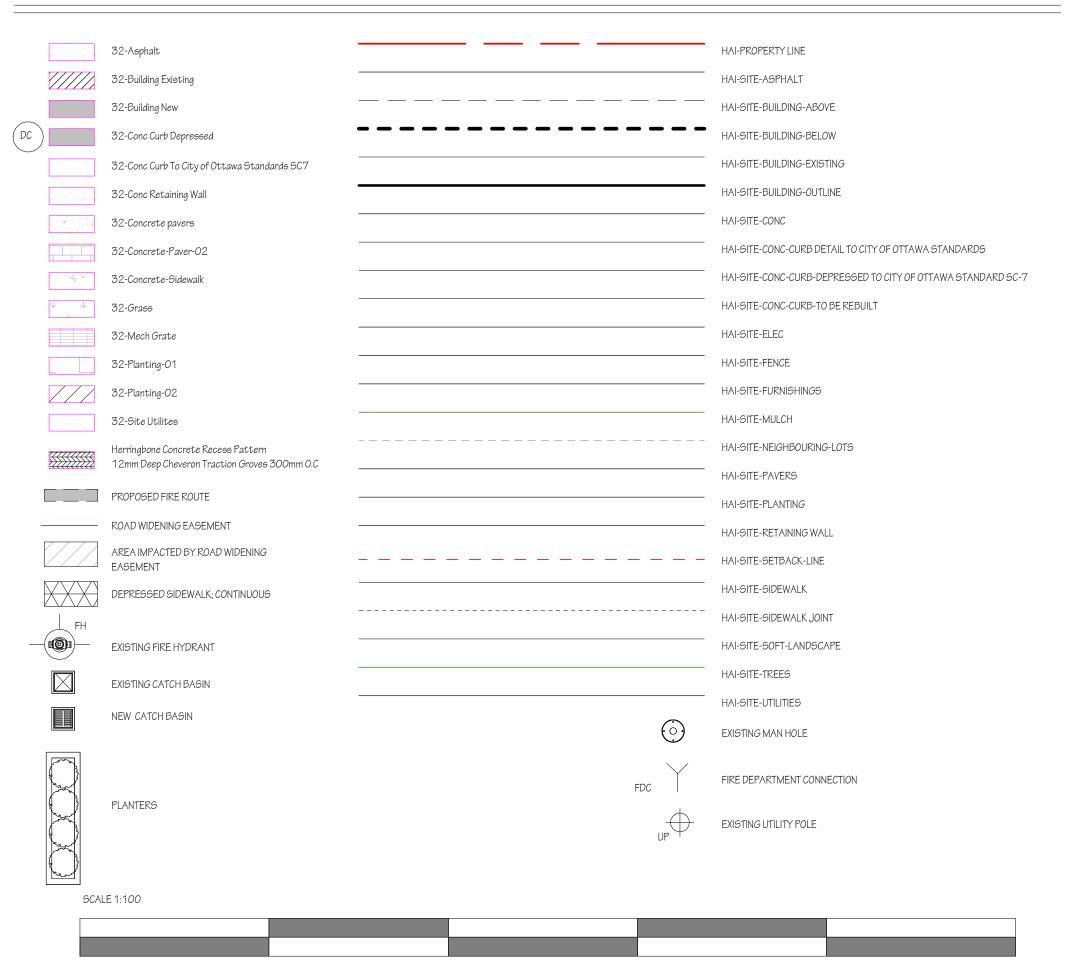
LOTS 24 AND 25 AND PART OF LOTS 45, 46, 47 AND 48 REGISTERED PLAN 369 CITY OF OTTAWA

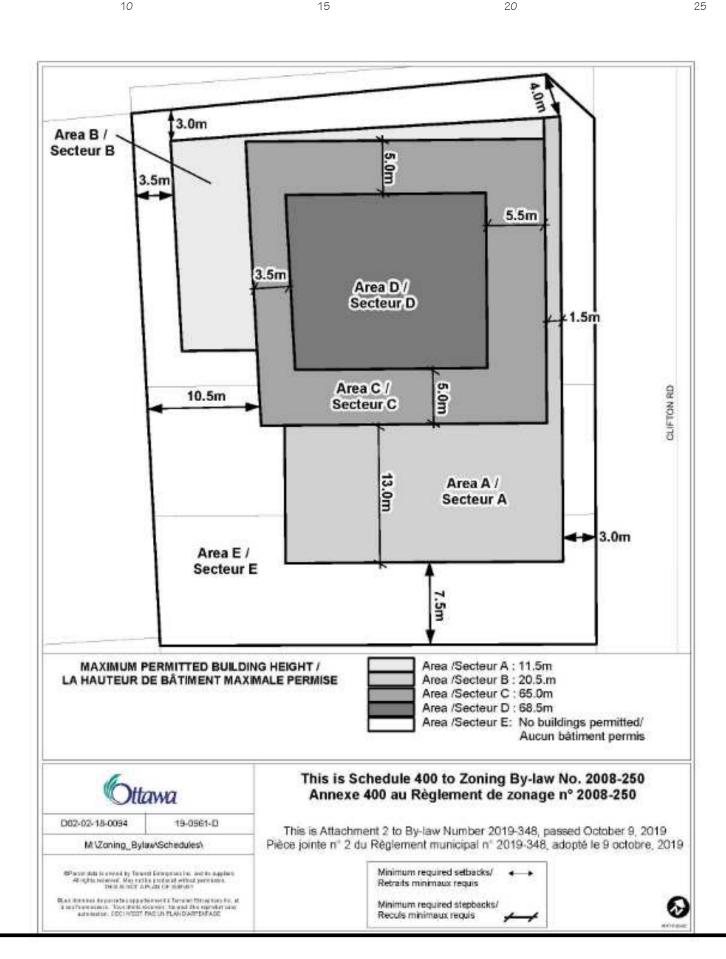
Note: Bearings and Lengths of all property boundaries noted on the site plan are reflect the original survey, and do not account for changes to the corner site triangle.

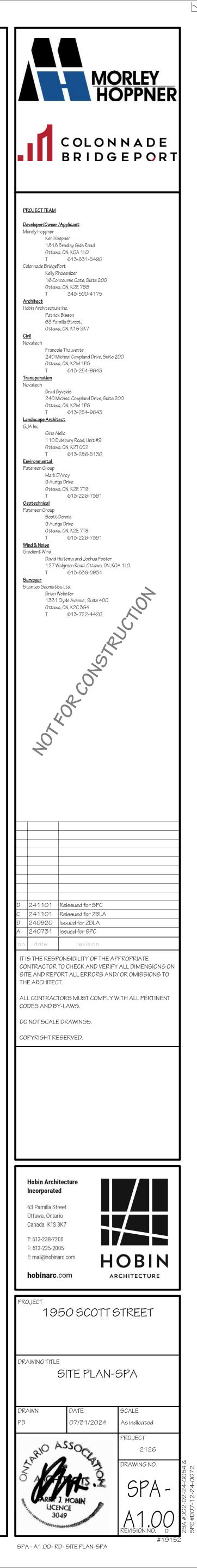
Snow Storage Strategy: Snow to be collected and relocated off site.

Current Zonina	1	TM[2581] 5400-h			
Site Area	J	$2,176.48 \mathrm{m^2}$ 23,427.43 ft ²			
	uildina Area	$18,109 \mathrm{m}^2$ $194,923 \mathrm{ft}^2$			
Total Gross Building Area Total Gross Floor Area (City Def.)		$10,100 \text{ m}^2$ $154,707 \text{ ft}^2$			
	ooss Floor Area (City. Def.)	$14,178 \mathrm{m}^2 \qquad 152,609 \mathrm{ft}^2$			
	Gross Floor Area (City. Def.)	195 m^2 2,098 ft ²			
Number of Dwe		244 units			
NUMPER OF DWG		Unit Type:	No. of Units:	Percentage:	
		Studio	57	23%	
		1 Bed	60	25%	
		1 Bed - Internal	3	1%	
		1 Bed + Den Internal	3	1%	
		1 Bed + Den	52	21%	
		2 Beds - 1 Internal	20	8%	
		2 Beds	39	16%	
		2 Beds + Den	10	4%	
		REQUIRED	PROVIDED		
Lot Area		N/A	2,176.48 m ²	23,427.43 ft	
Lot Frontage		N/A	38.92 m		
Minimum Lot V		N/A	38.92 m		
	Front Yard	REFER TO ZONING ENVELOPE	4.0m		
Setbacks	Corner Side Yard	REFER TO ZONING ENVELOPE	3.0 m		
	Interior Side Yard	REFER TO ZONING ENVELOPE	3.8 m		
	Rearyard	REFER TO ZONING ENVELOPE	5.0 m		
Maximum Build		68.5m - REFER TO ZONING ENVELOPE	68.5m (excludes permitted mech. projecti		
Amenity Area			Private Amenity Sp	pace: 1,186 m ²	
	er dwelling unit	Total ($6m^2$ per dwelling unit): 1,463m ²	Common Amenity Space: 799 m ²		
of which 50% is	s required to be communal	Communal (50% of required total): 732 m ²			
			Total Amenity Space: 1,968 m ²		
Percentage of Site Landscaping		30% Site Area =	Landscaped Area =	= 930 m ²	
	be landscaped	651.879m ²			
Parking		Minium Required:	Total Provided: 91 (0.37 ratio)		
Residential: .5 spaces/ unit after first 12		Residential: No Minimum	Residential: 68 spaces (0.27 ratio)		
Visitors: .1 spa	aces/unit after first 12	Visitors: .1 = 25 spaces	Visitors: 23 spaces	6 (0.1 ratio)	
Bycycle Parking Requirements		Minium Required:	Total Provided: 250 (1.02 ratio)		
Residential: 1.0 spaces/ unit		, Residential: 244 units x 1.0 = 244	At Grade Int.: 30 spaces		
				At Grade Ext.: 15 spaces	
				Indoor: Vertical: 41 spaces	
			Indoor: Horizontal Dou		

LEGEND:







APPENDIX B

TIA Screening Form

City of Ottawa 2017 TIA Guidelines TIA Screening

1. Description of Proposed Development

Municipal Address	1950 Scott Street & 312-314 Clifton Road
Description of Location	South side of Scott, west side of Clifton
Land Use Classification	High-Rise Multifamily w/ Ground-Floor Retail
Development Size (units)	244 units
Development Size square metre (m ²)	178 m2 (1,919 ft2) retail
Number of Accesses and Locations	2 (to Clifton)
Phase of Development	1
Buildout Year	2026

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

2. Trip Generation Trigger

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

Table notes:

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

Land Use Type	Minimum Development Size
Single-family homes	60 units
Multi-Use Family (Low-Rise) ¹	90 units
Multi-Use Family (High-Rise) ¹	150 units
Office ²	1,400 m ²
Industrial ²	7,000 m ²
Fast-food restaurant or coffee shop ²	110 m ²
Destination retail ²	1,800 m ²
Gas station or convenience market ²	90 m²

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

3. Location Triggers

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

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

4. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 kilometers per hour (km/h) or greater?		4
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?		~
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 metre [m] of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?		~
Is the proposed driveway within auxiliary lanes of an intersection?		•
Does the proposed driveway make use of an existing median break that serves an existing site?		~

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

Transportation Impact Assessment Guidelines

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

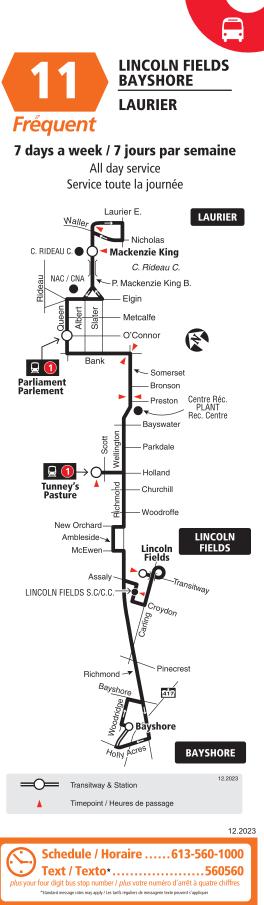
If any of the above questions were answered with 'Yes,' the Safety Trigger is satisfied.

5. Summary			
Results of Screening	Yes	No	
Does the development satisfy the Trip Generation Trigger?	v		
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

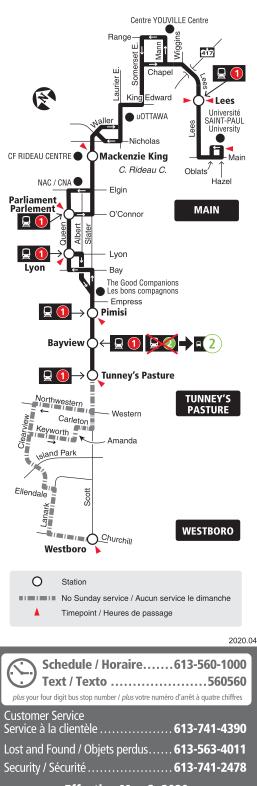
OC Transpo Route Maps



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Security / Sécurité 613-741-2478		
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All day service Service toute la journée



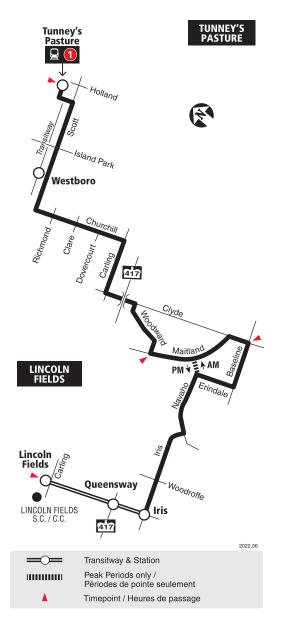
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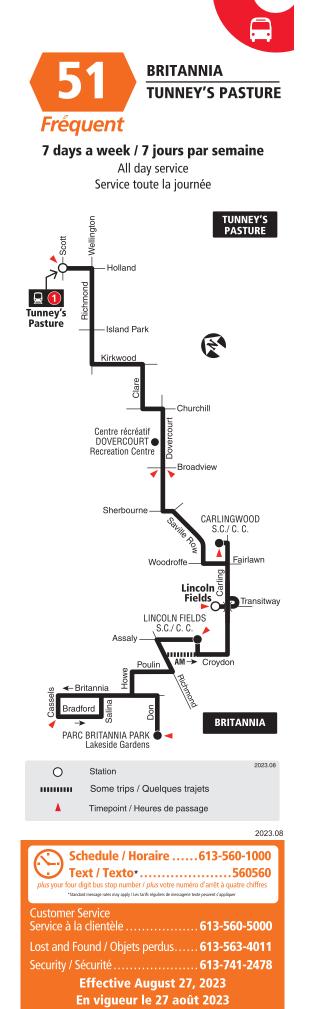
Monday to Saturday / Lundi au samedi

No service Sat. eve. or all day Sunday / Aucun service le soir le sam. ou toute la journée dimanche



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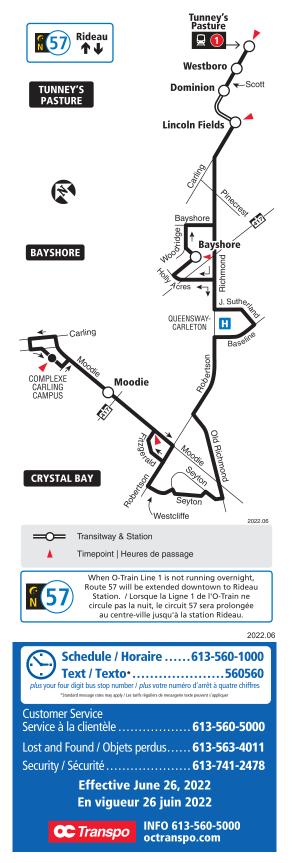
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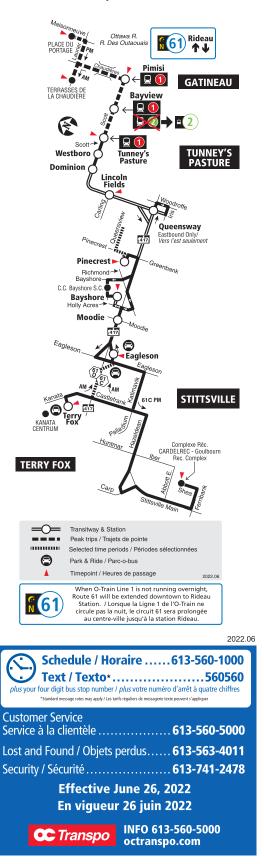


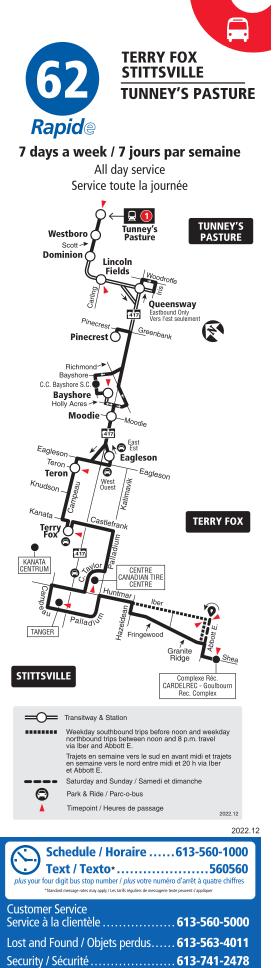
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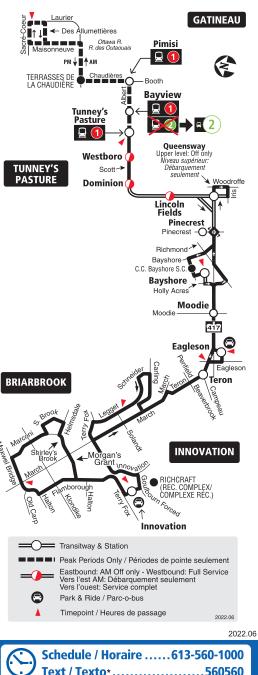
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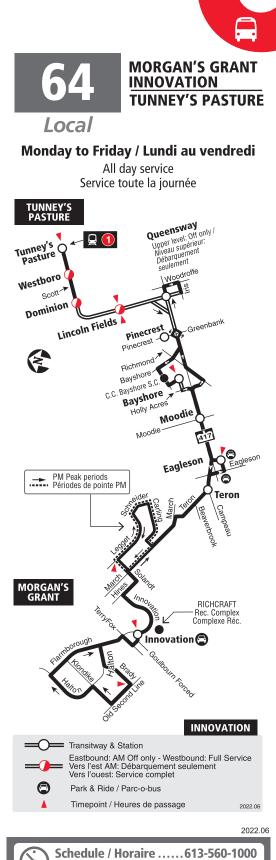
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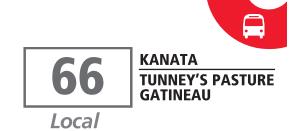
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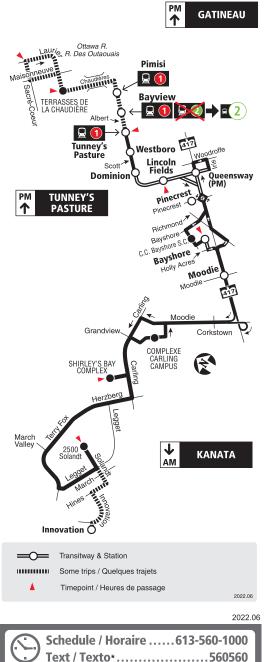


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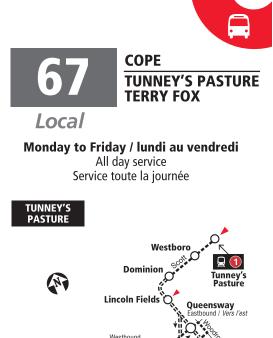


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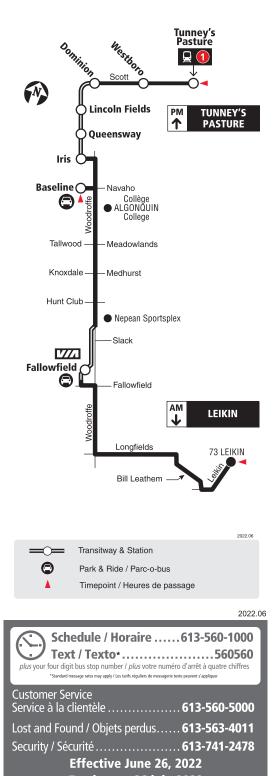




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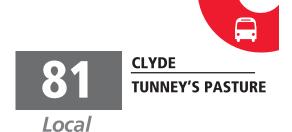
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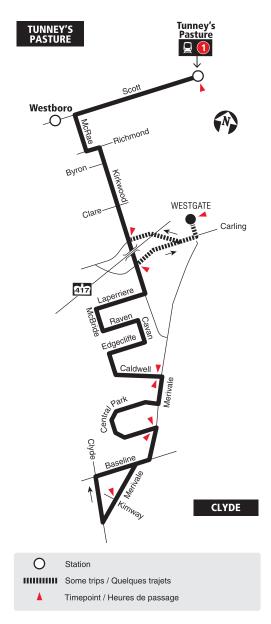


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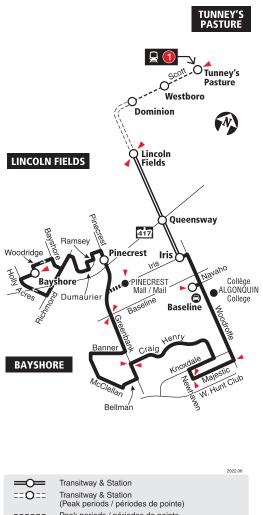
No service in the evening on weekends Aucun service le soir les fins de semaine







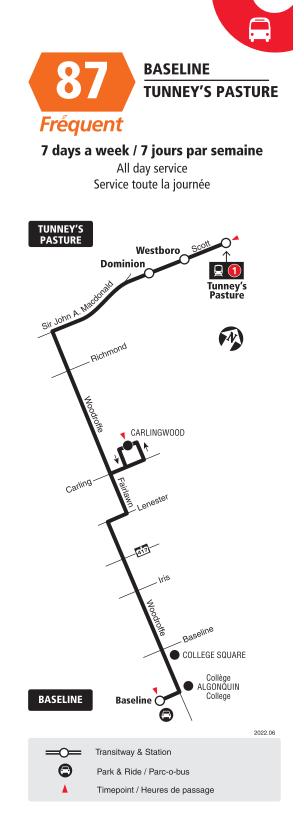
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	Peak periods / périodes de pointe Park & Ride / Parc-o-bus
Ă	Timepoint / Heures de passage

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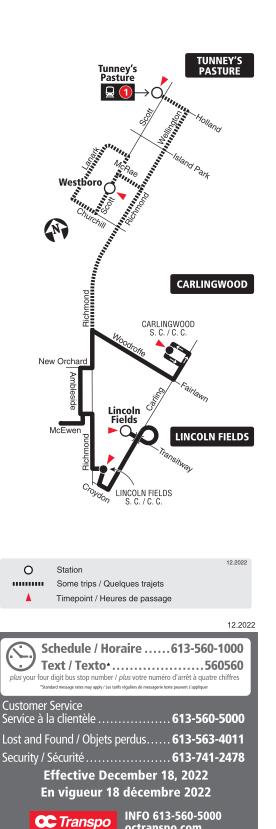


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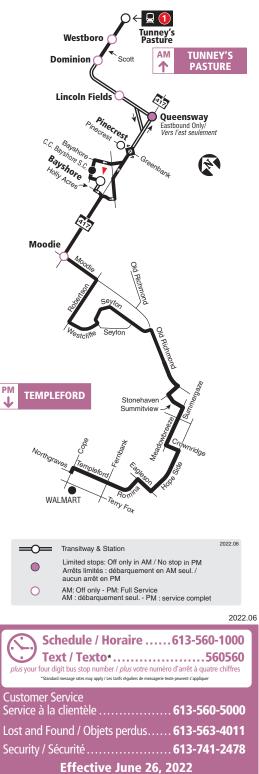
Selected time periods only Périodes sélectionnées seulement



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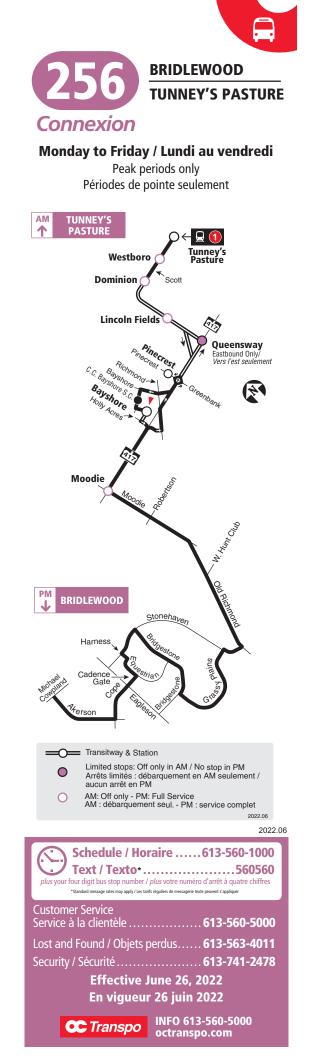


Peak periods only Périodes de pointe seulement



En vigueur 26 juin 2022

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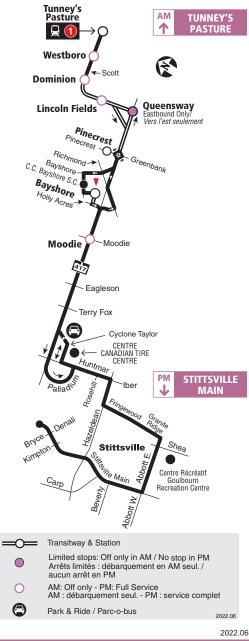






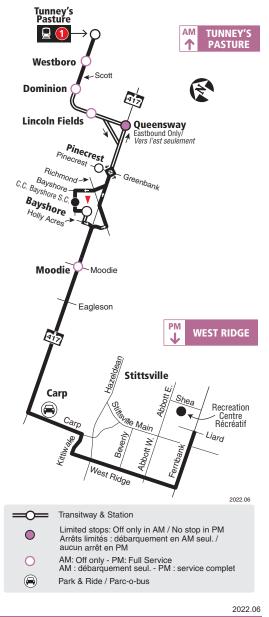
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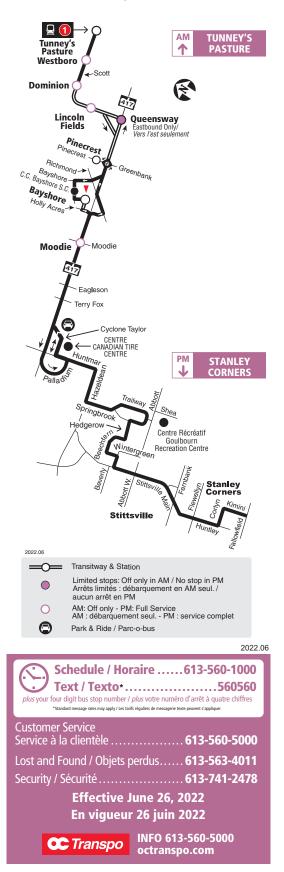
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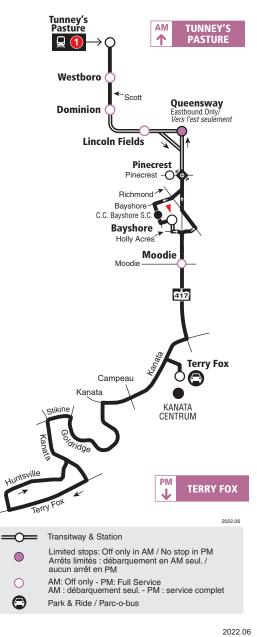


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Security / Sécurité 613-741-2478	
Effective June 26, 2022	
En vigueur 26 juin 2022	
CTranspo INFO 613-560-5000 octranspo.com	







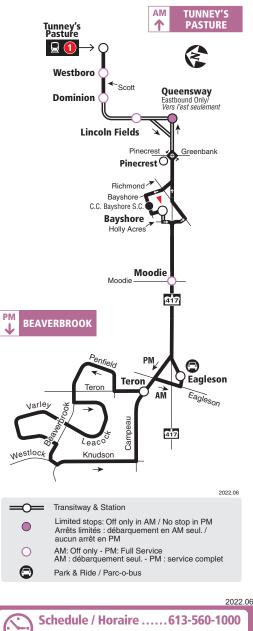


Schedule / Horaire	
Customer Service Service à la clientèle	
Lost and Found / Objets perdus 613-563-4011	
Security / Sécurité	613-741-2478
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En vigueur 26 juin 2022	
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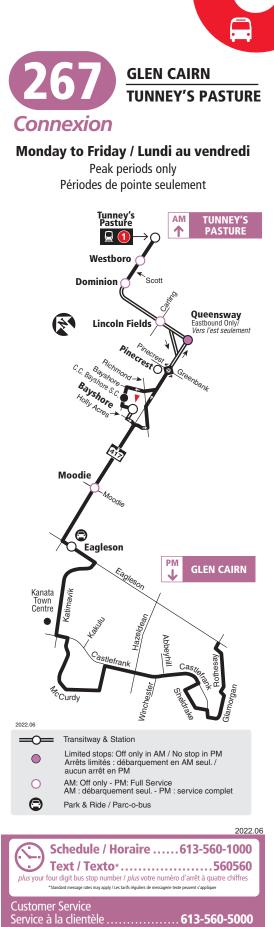


Monday to Friday / Lundi au vendredi

Peak periods only Périodes de pointe seulement



Schedule / Horaire						
Customer Service Service à la clientèle 613-560-5000						
Lost and Found / Objets perdus 613-563-4011						
Security / Sécurité 613-741-2478						
Effective June 26, 2022 En vigueur 26 juin 2022						
CC Transpo INFO 613-560-5000 octranspo.com						



<i>plus</i> your four digit bus stop number / <i>plus</i> votre numé *Standard message rates may apply / Les tarifs réguliers de messagerie	
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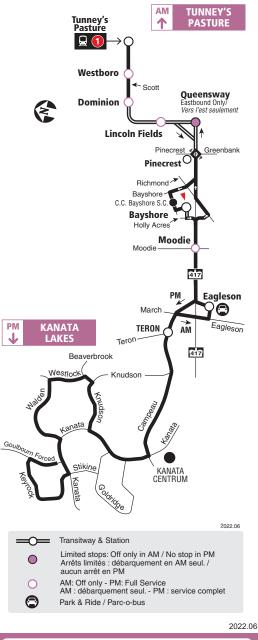
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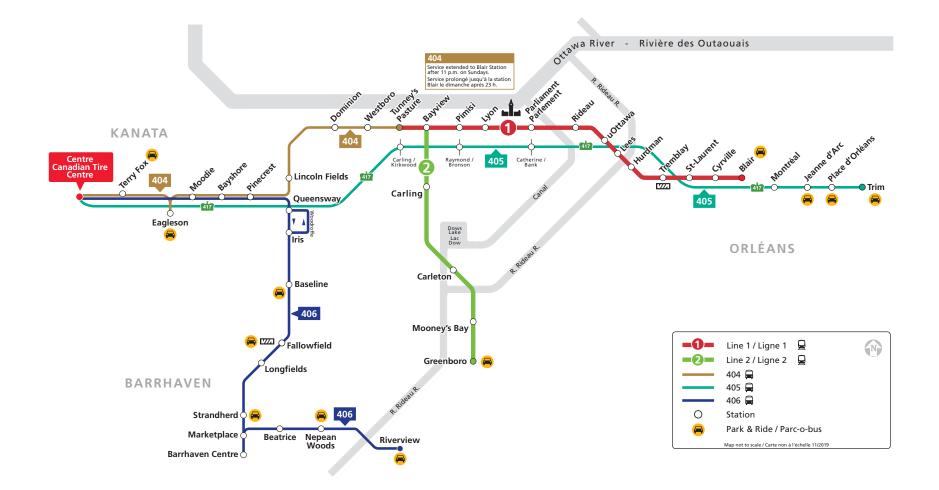
Monday to Friday / Lundi au vendredi

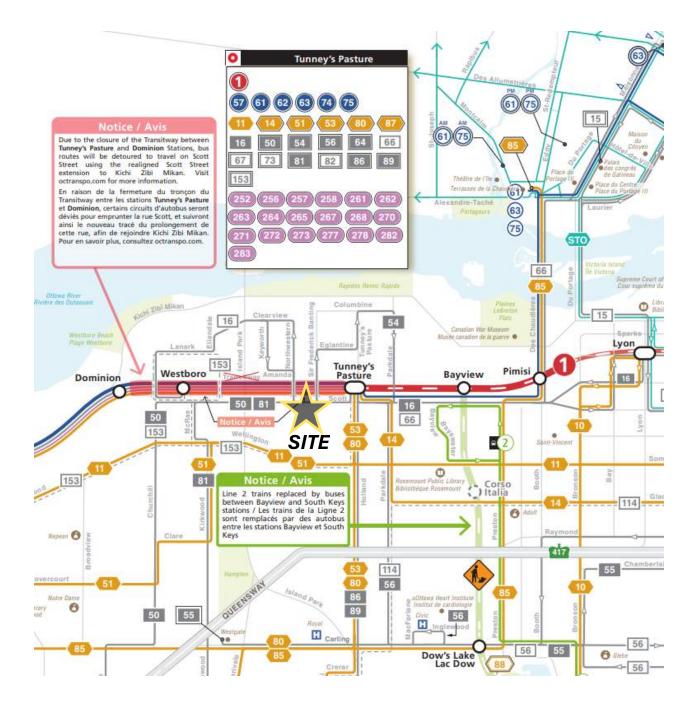
Peak periods only

Périodes de pointe seulement



Customer Service
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En vigueur 26 juin 2022 CC Transpo INFO 613-560-5000 octranspo com



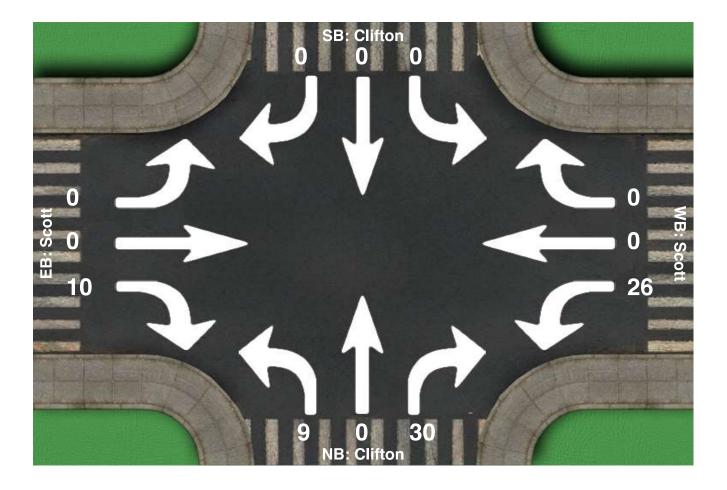


APPENDIX D

Traffic Count Data

Intersection Peak Hour

Location:Clifton at Scott, OttawaGPS Coordinates:Date:2018-05-24Day of week:ThursdayWeather:SunnyAnalyst:Rani Nahas



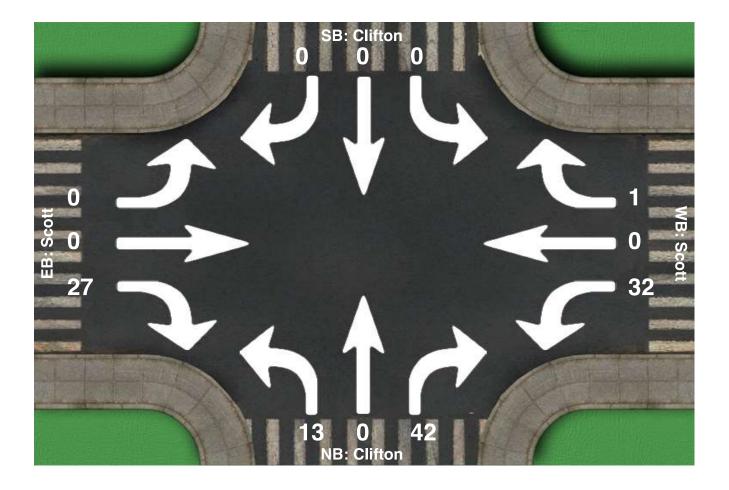
Intersection Peak Hour

08:00 - 09:00

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Vehicle Total	0	0	0	26	0	0	9	0	30	0	0	10	75
Factor	0.00	0.00	0.00	0.72	0.00	0.00	0.56	0.00	0.54	0.00	0.00	0.50	0.78
Approach Factor		0.00			0.72			0.54			0.50		

Intersection Peak Hour

Location: Clifton at Scott, Ottawa GPS Coordinates: Date: 2018-05-24 Day of week: Thursday Weather: Sunny Analyst: Rani Nahas



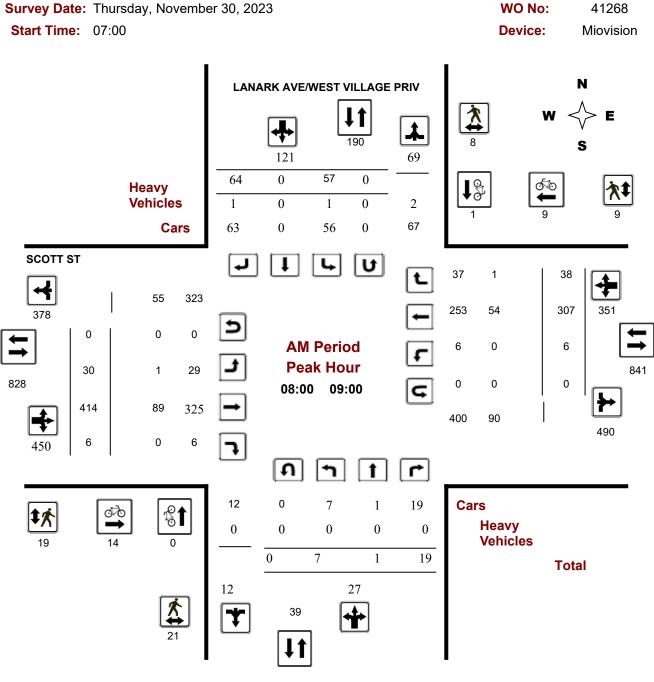
Intersection Peak Hour

16:30 - 17:30

	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total
Vehicle Total	0	0	0	32	0	1	13	0	42	0	0	27	115
Factor	0.00	0.00	0.00	0.80	0.00	0.25	0.46	0.00	0.81	0.00	0.00	0.75	0.74
Approach Factor		0.00			0.82			0.69			0.75		



Turning Movement Count - Peak Hour Diagram LANARK AVE/WEST VILLAGE PRIV @ SCOTT ST



Comments



Turning Movement Count - Peak Hour Diagram LANARK AVE/WEST VILLAGE PRIV @ SCOTT ST

Survey Date: Thursday, November 30, 2023 WO No: **Start Time:** 07:00 **Device:** Miovision LANARK AVE/WEST VILLAGE PRIV Ν lt Е ✦ S Heavy **Vehicles** Cars SCOTT ST U Ļ t Ļ Ł \$ ÷ **PM Period** F → **Peak Hour** Ģ 16:45 17:45 ₩ ÷ F Ļ **ค**| ħ t Cars 坹 Heavy **Vehicles** Total X ✤ *

Comments



Turning Movement Count - Study Results LANARK AVE/WEST VILLAGE PRIV @ SCOTT ST

Survey Da	ite: Th	nursda	ay, No	vembe	er 30, 2	2023						wo	No:			41	268		
Start Tim	e: 07	7:00										Devi	ce:			Miov	vision		
				F	Full S	Stud	v Sı	umma	rv (8		Sta	ndar	d)						
Survey Da	te: T	hursd	lav. N	- ovemb			,		•		/ed U-		•.,					T Facto	or
· · · · · , · · ·			, ,		,		١	Northboun		00011		nbound:	0				.90	TTACK	Л
								Eastbound	1: 1		West	bound:	1				.90		
	LAN	IARK	AVE/\	WEST	VILLA	GE PF	RIV					SC	сотт	ST					
	Nor	thbou	nd		Sol	uthbou	ind			F	astbou				Vestbo	und			
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	11	0	10	21	50	0	71	121	142	17	283	1	301	5	249	12	266	567	709
08:00 09:00	7	1	19	27	57	0	64	121	148	30	414	6	450	6	307	38	351	801	949
09:00 10:00	12	0	8	20	40	0	46	86	106	27	296	5	328	9	297	19	325	653	759
11:30 12:30	4	0	8	12	55	0	53	108	120	43	321	9	373	2	349	36	387	760	880
12:30 13:30	4	1	4	9	36	1	47	84	93	56	329	9	394	6	292	37	335	729	822
15:00 16:00	9	7	18	34	62	2	46	110	144	82	517	11	610	12	476	36	524	1134	1278
16:00 17:00	11	2	11	24	49	3	35	87	111	90	478	13	581	13	540	30	583	1164	1275
17:00 18:00	18	1	6	25	39	2	40	81	106	86	538	21	645	10	525	38	573	1218	1324
Sub Total	76	12	84	172	388	8	402	798	970	431	3176	75	3682	63	3035	246	3344	7026	7996
U Turns				0				0	0				1				1	2	2
Total	76	12	84	172	388	8	402	798	970	431	3176	75	3683	63	3035	246	3345	7028	7998
EQ 12Hr	106	17	117	239	539	11	559	1109	1348	599	4415	104	5119	88	4219	342	4650	9769	11117
Note: These va	alues ar	e calcu	lated by	y multiply	ying the	totals b	y the a	ppropriate	expans	ion fact	tor.			1.39					
AVG 12Hr	95	15	105	215	485	13	659	998	1213	539	3974	94	4607	79	3797	308	4185	8792	10005
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor90																			
AVG 24Hr	124	20	138	282	635	17	863	1307	1589	706	5206	123	6035	103	4974	403	5482	11518	13107
Note: These vo	olumes	are calc	culated	by multi	plying th	e Avera	age Dai	ly 12 hr. to	otals by	12 to 2	4 expan	sion fact	or.	1.31					

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.

APPENDIX E

Collision Records



Traffic Control: Stop sign Total Collisions: 2									
Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuve	er Vehicle type	First Event	No. Ped
2017-Jan-04, Wed, 15:45	Snow	Angle	P.D. only	Loose snow	North	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Aug-08, Thu,08:08	Clear	Angle	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	



Traffic Control: Tra	ffic signal						Total Collis	ions: 2	
Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuve	er Vehicle type	First Event	No. Ped
2020-Jun-06, Sat,15:42	Clear	Turning movement	Non-fatal injury	Dry	East	Going ahead	Bicycle	Other motor vehicle	0
					East	Turning left	Pick-up truck	Cyclist	
2021-May-06, Thu,13:30	Clear	Angle	Non-fatal injury	Dry	East	Going ahead	Bicycle	Other motor vehicle	0
					North	Turning right	Passenger van	Cyclist	



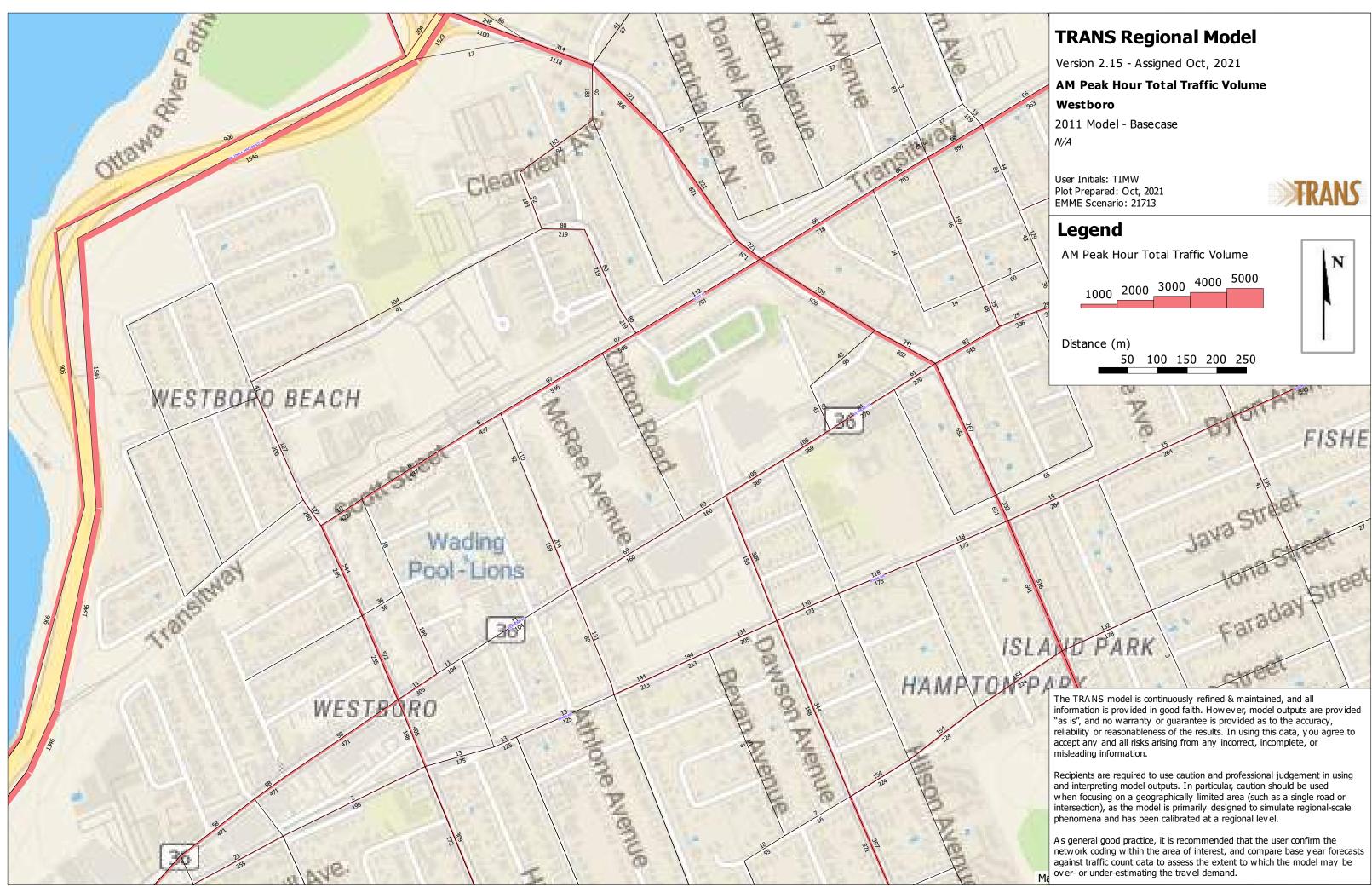
Location: SCOTT	Location: SCOTT ST btwn CLIFTON RD & LANARK AVE									
Traffic Control: No control						Total Collisions: 1				
Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver Vehicle type	First Event	No. Ped		
2019-Nov-18, Mon,16:42	Clear	Turning movement	P.D. only	Dry	East	Making "U" turn Automobile, stat	ion wagon Other motor vehicle	0		
					East	Going ahead Automobile, stat	ion wagon Other motor vehicle			

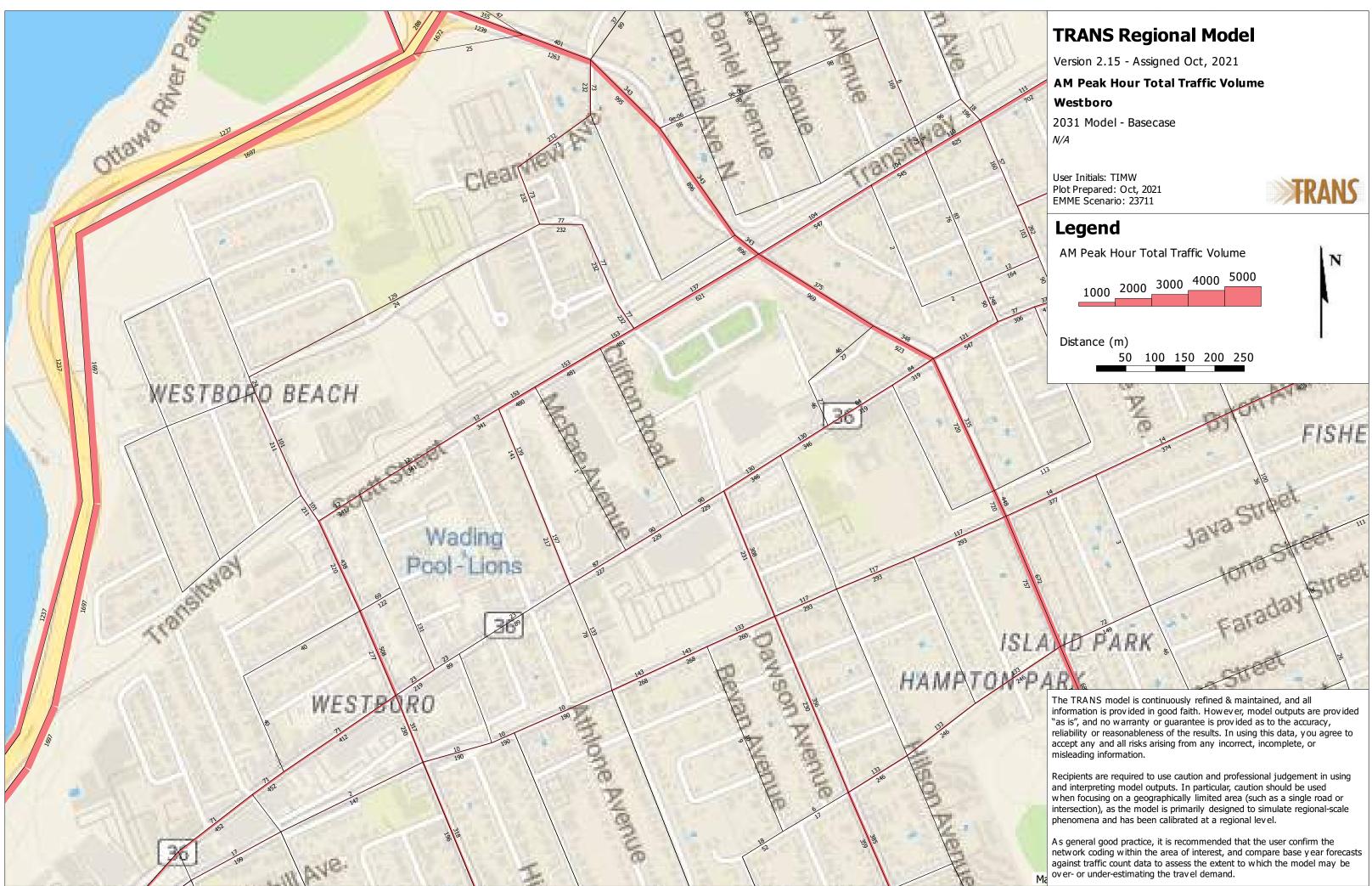


Location: CLIFTON RD btwn SCOTT ST & WILBER AVE									
Traffic Control: No control							Total Collisi	ons: 1	
Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuve	r Vehicle type	First Event	No. Ped
2021-Sep-06, Mon,00:00	Clear	SMV unattended vehicle	P.D. only	Dry	Unknown	Unknown	Unknown	Unattended vehicle	0

APPENDIX F

Long-Range Model Snapshots





APPENDIX G

Other Area Developments

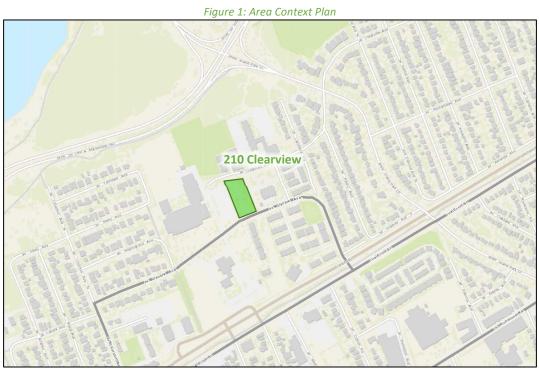
1 Screening

This study has been prepared according to the City of Ottawa's 2017 Transportation Impact Assessment (TIA) Guidelines. Accordingly, a Step 1 Screening Form has been prepared and is included as Appendix A, along with the Certification Form for the TIA Study PM. As shown in the Screening Form, a TIA is required including the Network Impact Component. This study has been prepared to support an official plan amendment and zoning by-law amendment application.

2 Existing and Planned Conditions

2.1 Proposed Development

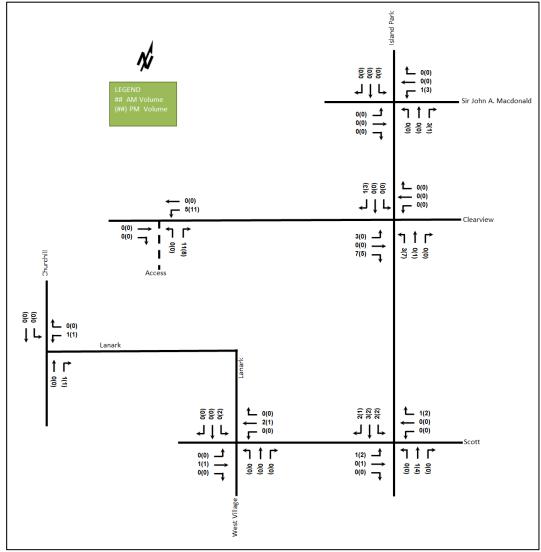
The existing site, located at 200 Clearview Avenue, is planned to redevelop the existing surface parking lot. Approximately 90 existing surface parking spaces will be replaced with the two-level underground parking. The proposed development address will become 210 Clearview Avenue. The existing 26-storey apartment building will remain on the east side of the proposed development and the proposed building will consist of a four-storey podium and 25-storey tower with a total of 177 apartment units. A total of 213 underground vehicle parking spaces and 169 underground bike parking spaces are proposed. The existing surface parking lot accesses will be converted to an access to the underground parking from Clearview Avenue and access to the loading area from Lanark Avenue. An access is proposed to connect Lanark Avenue and Ellendale Crescent for the existing 26-storey apartment building on the east side of the proposed development. The site will also connect through the existing site to Ellendale Crescent. The front entrance will be located on Lanark Avenue. The anticipated full build-out and occupancy horizon is 2027 with construction occurring in a single phase. The site is zoned as Residential Fifth Density Zone (R5C H(28) S216). The site is located within Richmond Road/Westboro secondary plan and Richmond Road/Westboro community design plan areas. Figure 1 illustrates the study area context. Figure 2 illustrates the proposed concept plan.



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: July 5, 2022







6 Background Network Travel Demands

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3 and have been incorporated into the road network analysis.

6.2 Background Growth

A review of the background projections from the City's TRANS Regional Model for the 2011 and 2031 horizons was completed to determine the background growth for each of the study area roadways. The background TRANS model growth rates are summarized in Table 14 and the TRANS model plots are provided in Appendix G.



1.0 SCREENING

1.1 Introduction

This Transportation Impact Assessment (TIA) report has been prepared in support of Official Plan Amendment and Zoning By-law Amendment applications for 335 Roosevelt Avenue.

The subject site is surrounded by the following:

- A Multi-Use Pathway (MUP) and the OC Transpo East-West Transitway to the north;
- Wilmont Avenue and low density residential development to the south;
- A high density residential apartment building to the east; and
- Roosevelt Avenue and low density residential development to the west.

A view of the subject site is provided in Figure 1.

The site currently has gated accesses at Roosevelt Avenue and at Wilmont Avenue, restricting local traffic from shortcutting between Richmond Road and Churchill Avenue.

Figure 1: View of the Subject Site

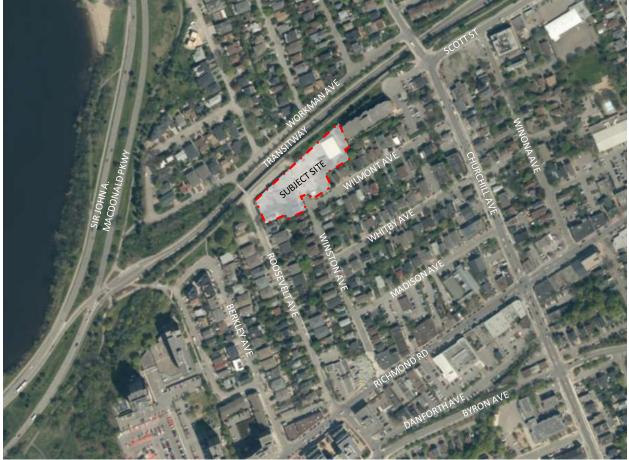
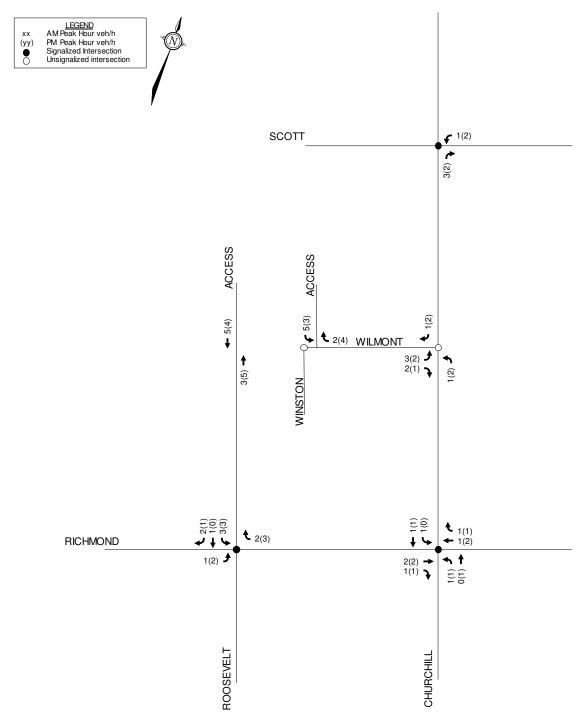


Figure 8: Site Generated Traffic



Screening 1

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

Existing and Planned Conditions 2

Proposed Development 2.1

The proposed development, located at 381 Churchill Avenue, 380 Winona Avenue, 319, 325, and 327 Richmond Road, is currently zoned as part Traditional Mainstreet (TM H15), part General Mixed Use (GM1), and part Residential Fourth Density (R4). The existing land uses include a car garage and maintenance shop, two small retail stores and a residential apartment with six units. TOD principles apply to the proposed development Study Area.

The proposed development is a nine-storey building with 184 apartment units, 1738 square metres of retail space, 130 vehicle parking spots, and 99 bicycle parking spaces. The site is proposed to have two accesses; one of which is a full movement access on Churchill Avenue approximately 65 metres north of the Churchill Avenue / Richmond Road intersection (measured from access centreline to intersection centre). The second access is located on Winona Avenue approximately 50 metres north of the Winona Avenue / Richmond Road intersection (measured from access centreline to intersection centre) and is a loading entrance with access solely to loading aisles. The anticipated full build-out and occupancy horizon is 2022. Figure 1 illustrates the Study Area context. Figure 2 illustrates the proposed site plan of the development.

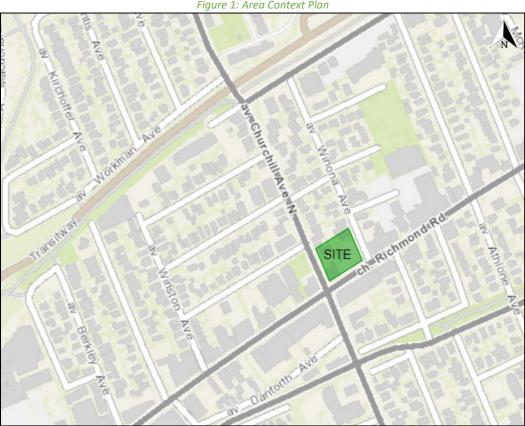
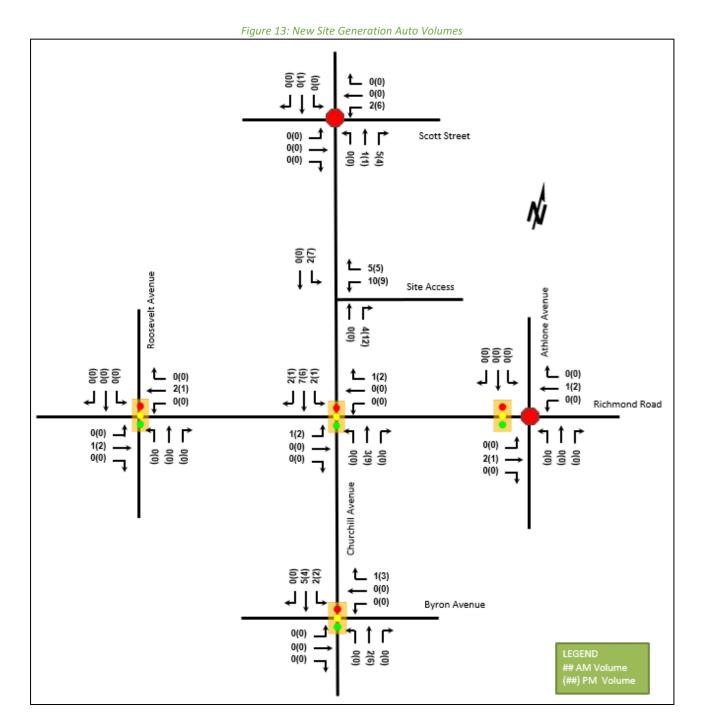


Figure 1: Area Context Plan





6 Background Network Travel Demands

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3.1. Both TOD policies and the opening of the Westboro LRT station and Dominion LRT station have been accounted for within the modal share assumptions. No road improvements are noted for this area with the exception of future road sewer, and water work along Winona Avenue.



1 Screening

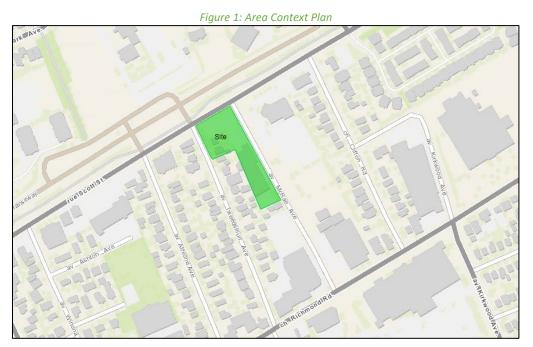
This study has been prepared according to the City of Ottawa's 2017 Transportation Impact Assessment (TIA) Guidelines. Accordingly, a Step 1 Screening Form has been prepared and is included as Appendix A, along with the Certification Form for TIA Study PM. As shown in the Screening Form, a TIA is required including the Design Review component and the Network Impact Component. This study has been prepared to support a site plan application for 320 McRae Avenue.

2 Existing and Planned Conditions

2.1 Proposed Development

The proposed development located at 320 McRae Avenue is currently a mix of residential and commercial buildings. The site is in an area that is zoned as part Traditional Mainstreet (TM 2489 S382-h), part Parks and Open Space (O 1) and part General Mixed Zone (GM2490 H (15) h). The proposed development is within 400 metres of the future Westboro LRT Station to be built by 2025 and therefore TOD principles apply to the applicable future horizons.

The proposed development is made up of a four-storey commercial / residential tower, and a commercial / residential tower with both a 26-storey and a six-storey component. The development is expected to have 882 square metres (9,494 square feet) of commercial space, 307 apartment units, 11 townhouse units, 185 underground automobile parking spaces and 163 bicycle parking spaces. Of the 163 bicycle spaces, 123 will be underground and due to space restrictions, 15 bicycle parking spaces will be slightly off the property and 25 will be in the loading area. The site is proposed to have two full-movement accesses, one approximately 40 metres, curb to curb, south of Scott Street on Tweedsmuir Avenue (Site Access #1) and the second approximately 120 metres, curb to curb, south of Scott Street on McRae Avenue (Site Access #2). Site Access #2 is a loading access and is intended for truck use only. A drop-off area is located on McRae Avenue, approximately 23 metres, curb to curb, south of Scott Street. The anticipated full build-out and occupancy horizon is 2022. Figure 1 illustrates the Study Area Context. Figure 2 illustrates the proposed concept plan.





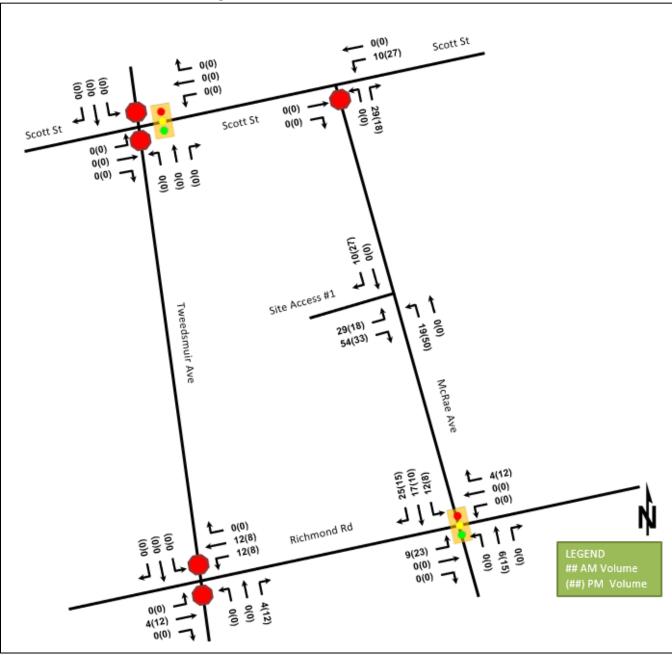


Figure 13: New 2022 Site Generation Auto Volumes

TRANSITWAY		
TRAN	STREET	
scoll		PROPOSED AUGUNDAS PROPOSED AUGUNDAS INTERVIEW AUGUNDAS
	WEST TONES, DREY PROPOSED RESIDING UNED USE SIN UNED USE SIN UNED USE SIN COMPANY OF SIN UNED USE SIN COMPANY OF SIN C	
ASHTON AVENUE		
NOVATECH		2026 SCOTT STREET
Engineers, Planners & Landscape Architects Suite 200, 240 Michael Cowpland Drive Ottawa, Ontario, Canada K2M 1P6		CONTEXT PLAN
Telephone(613) 254-9643Facsimile(613) 254-5867Websitewww.novatech-eng.com		N.T.S. DATE APR 2024 DOB 121302 FIGURE 2

SHT8X11.DWG - 216mmx279mm

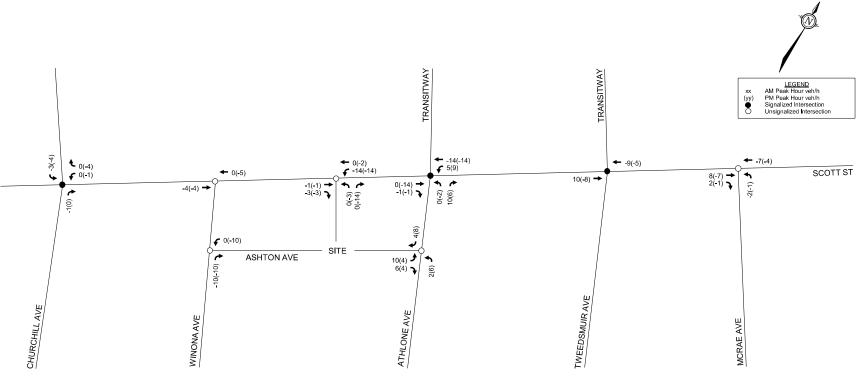


Figure 10: Net Site-Generated Traffic Volumes (2026)

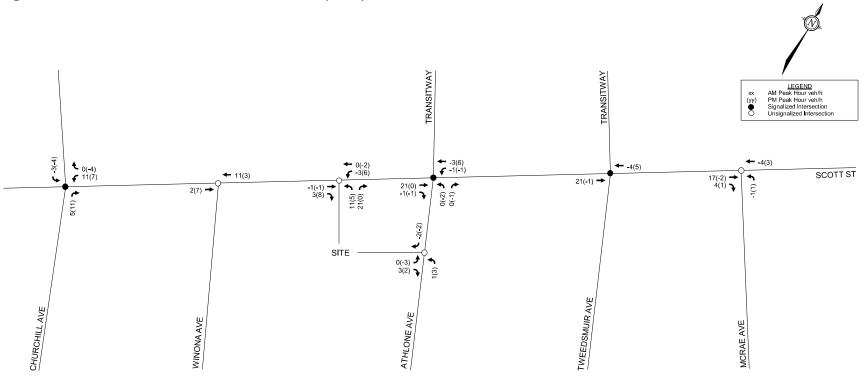


Figure 11: Net Site-Generated Traffic Volumes (2031)

PARSONS TIA STRATEGY REPORT



The following Strategy Report has been prepared in support of a Zoning By-Law Amendment (ZBLA) for the proposed residential development located at 2050 Scott Street. This document follows the TIA process, as outlined in the City Transportation Impact Assessment (TIA) Guidelines (2017). City comments and responses have been included as Appendix Α.

1. SCREENING FORM

The completed Screening Form for the proposed residential development at 2050 Scott Street confirmed the need for a TIA in support of the proposed development based on the Trip Generation, Location and Safety triggers. The proposed development consists of approximately 355 residential units; is located in a Design Priority Area (DPA) and Transit Oriented Development (TOD) area; and has a proposed driveway within the influence area of an adjacent traffic signal. The Screening Form is provided in Appendix B.

2. SCOPING REPORT

2.1. **EXISTING AND PLANNED CONDITIONS**

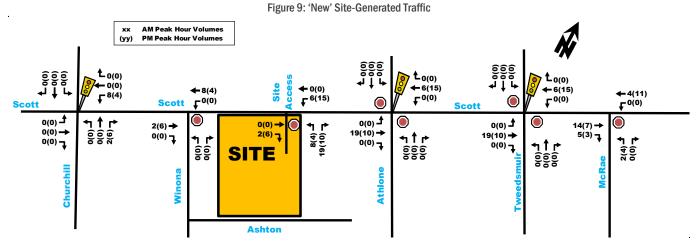
2.1.1. PROPOSED DEVELOPMENT

It is our understanding that the proponent is proposing to construct a residential development located at 2050 Scott Street. A single-phased project is proposed with assumed buildout year of 2021. The development will consist of a 30-storey residential building on a 3- and 6-storey podiums with approximately 353 units and 233 m² of ground commercial/office. The taller portion of the building is located closer to Scott Street while the 3- and 6-storey podiums extend towards Ashton Avenue. Vehicle access is proposed at Scott Street via a single all movement driveway. An underground parking lot with 204 vehicle spaces and 292 bicycle spaces are proposed. The site is located between 2 different land zonings, TM[103] fronting Scott Street and R4G on the south portion of the parcel towards Ashton Avenue. This TIA is in support of a Zoning By-Law Amendment (ZBLA) to vary the height schedule from 6-storeys (18 meters) to 30-storeys within the TM zoning and from 4-storeys (11 meters) to 6-storeys within the R4 zoning. Height step-backs (staggering) are proposed to assist in the transition from low-rise to mid- and high-rise from south to north. This TIA is also in support of a Site Plan Application (SPA). The site is currently occupied by a mechanic garage, a hot tub retailer and 3 residential houses. The local context of the site is provided as Figure 1 and the proposed Site Plan is provided as Figure 2.



Figure 1: Local Context

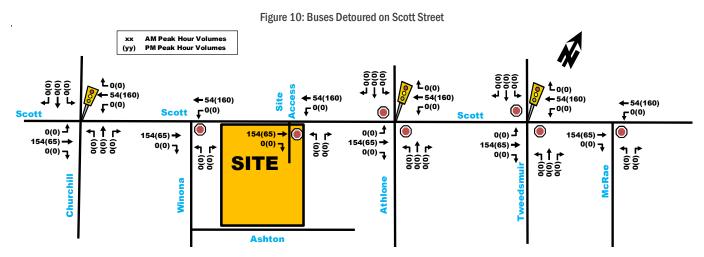
PARSONS



3.2. BACKGROUND NETWORK TRAVEL DEMANDS

3.2.1. TRANSPORTATION NETWORK PLANS

As mentioned in Section 2.1.3 Planned Conditions, 210 to 225 buses will be detoured on to Scott Street for the AM and PM peak periods respectively as part of the Stage 2 LRT West Extension construction. These buses were layered on to the study area intersections for the duration of anticipated construction (2021 to 2025) and are exhibited in **Figure 10**. Note that as part of the bus detours, Churchill/Scott intersection will be upgraded to a signalized intersection.



3.2.2. BACKGROUND GROWTH & OTHER DEVELOPMENTS

The emphasis in the City's recent Official Plan and Transportation Master Plan is to place priority on transit, encourage intensification around transit stations, encourage mixed-use developments and provide "complete streets" that better accommodate the active transportation needs of its residents and reduce the use of the private auto. Given the location of the site near future Confederation Line LRT Extension and future Scott Street 'Complete Street' plan, the trips generated from this development as well as nearby developments will likely choose alternate modes of transportation over driving. It is expected to see a decrease in vehicle traffic along Scott Street in the future as the public transportation network near the site becomes mature and alternate modes of transportation become more desirable (see map of anticipated background growth attached as Appendix F). As such, the background vehicle traffic volumes for horizon year 2026 is assumed to be the same as year 2021.

The projected vehicle volumes from the planned area developments as discussed in Section 2.1.3. 'Planned Conditions – Other Area Developments' were added to the study area intersections and are shown in **Figure 11**. The volumes from the other area development along with detoured buses were layered onto the existing traffic volumes for the future interim analysis volumes. Since the bus detour are anticipated between 2021 and 2025, they have been removed from 2026

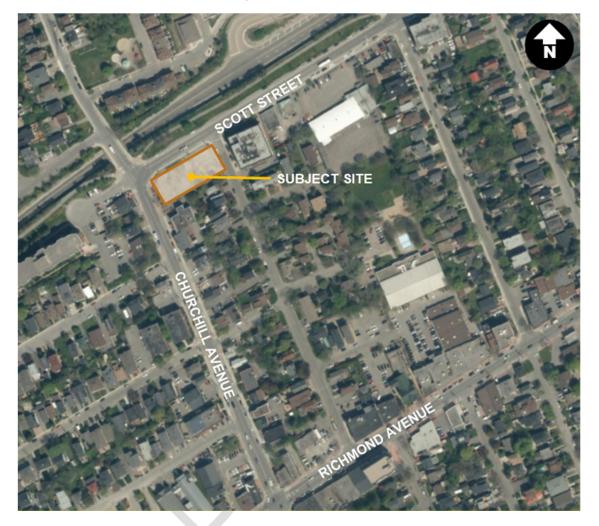


Figure 1 - Site Location



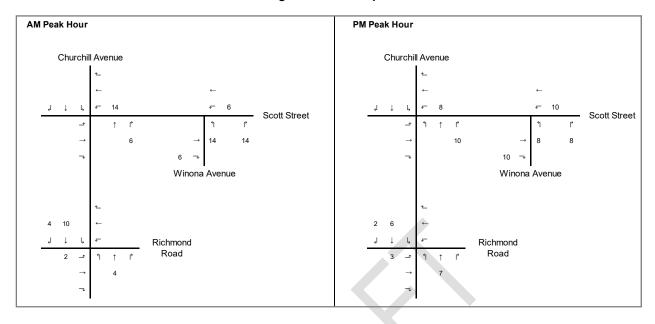


Figure 12 - Site Trips

3.2 BACKGROUND NETWORK TRAVEL DEMAND

3.2.1 Transportation Network Plans

As outlined in **Table 4** in **Section 2.1.3.1**, there are two transit projects that are expected to occur within the vicinity of the proposed development; Western Light Rail Transit and the Richmond Road Transit Signal Priority. Based on direction from the City of Ottawa, the Western LRT is planned to be implemented by the 2027 ultimate horizon of the subject development.

3.2.2 Background Growth

The City of Ottawa provided **Figure 13** below, which outlines the average annual growth rates based on trend lines. As illustrated in this figure, the average annual growth in the Westboro neighbourhood is in the range of 0.2% - 2.0%. To be conservative, a 2% annual background growth rate was used in the subject analysis.



APPENDIX H

Transportation Demand Management

TDM-Supportive Development Design and Infrastructure Checklist:

Non-Residential Developments (office, institutional, retail or industrial)

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-s	supportive design & infrastructure measures: Non-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 <i>(see Official Plan policy 4.3.3)</i>	
REQUIRED	1.2.2	Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible <i>(see Official</i> <i>Plan policy 4.3.12)</i>	

	TDM-s	supportive design & infrastructure measures: Non-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-s	supportive design & infrastructure measures: Non-residential developments	Check if completed & add descriptions, explanations or plan/drawing references
	2.	WALKING & CYCLING: END-OF-TRIP FACILI	TIES
	2.1	Bicycle parking	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible <i>(see Official Plan policy 4.3.6)</i>	
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 <i>(see Zoning By-law Section 111)</i>	
BASIC	2.1.4	Provide bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met), plus the expected peak number of customer/visitor cyclists	
BETTER	2.1.5	Provide bicycle parking spaces equivalent to the expected number of commuter and customer/visitor cyclists, plus an additional buffer (e.g. 25 percent extra) to encourage other cyclists and ensure adequate capacity in peak cycling season	
	2.2	Secure bicycle parking	
REQUIRED	2.2.1	Where more than 50 bicycle parking spaces are provided for a single office 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 the expected number of commuter cyclists (assuming the cycling mode share target is met)	
	2.3	Shower & change facilities	
BASIC	2.3.1	Provide shower and change facilities for the use of active commuters	
BETTER	2.3.2	In addition to shower and change facilities, provide dedicated lockers, grooming stations, drying racks and laundry facilities for the use of active commuters	
	2.4	Bicycle repair station	
BETTER	2.4.1	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)	

	TDM-s	supportive design & infrastructure measures: Non-residential developments	Check if completed & add descriptions, explanations or plan/drawing references
	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	
	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	
	4.2	Carpool parking	·
BASIC	4.2.1	Provide signed parking spaces for carpools in a priority location close to a major building entrance, sufficient in number to accommodate the mode share target for carpools	
BETTER	4.2.2	At large developments, provide spaces for carpools in a separate, access-controlled parking area to simplify enforcement	
	5.	CARSHARING & BIKESHARING	
	5.1	Carshare parking spaces	
BETTER	5.1.1	Provide carshare parking spaces in permitted non- residential zones, occupying either required or provided parking spaces (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	

	TDM-s	supportive design & infrastructure measures: Non-residential developments	Check if completed & add descriptions, explanations or plan/drawing references
	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 <i>(see Zoning By-law</i> <i>Section 104)</i>	
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 <i>(see Zoning By-law Section 111)</i>	
	6.2	Separate long-term & short-term parking areas	•
BETTER	6.2.1	Separate short-term and long-term parking areas using signage or physical barriers, to permit access controls and simplify enforcement (i.e. to discourage employees from parking in visitor spaces, and vice versa)	
	7.	OTHER	
	7.1	On-site amenities to minimize off-site trips	
BETTER	7.1.1	Provide on-site amenities to minimize mid-day or mid-commute errands	

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-s	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 <i>(see Official</i> <i>Plan policy 4.3.12)</i>	

	TDM-s	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: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
	2.	WALKING & CYCLING: END-OF-TRIP FACILI	TIES
	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 <i>(see Zoning By-law Section 111)</i>	
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-s	upportive design & infrastructure measures: Residential developments	Check if completed & add descriptions, explanations or plan/drawing references
	4.	RIDESHARING	
BASIC	4.1 4.1.1	Pick-up & drop-off facilities 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 <i>(see Zoning By-law Section 94)</i>	
	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 <i>(see Zoning By-law</i> <i>Section 104)</i>	
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 <i>(see Zoning By-law Section 111)</i>	
	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:

Non-Residential Developments (office, institutional, retail or industrial)

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: Non-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 & destination	ations
BASIC	2.1.1	Display local area maps with walking/cycling access routes and key destinations at major entrances	
	2.2	Bicycle skills training	
		Commuter travel	
BETTER	* 2.2.1	Offer on-site cycling courses for commuters, or subsidize off-site courses	
	2.3	Valet bike parking	
		Visitor travel	
BETTER	2.3.1	Offer secure valet bike parking during public events when demand exceeds fixed supply (e.g. for festivals, concerts, games)	

TDM Measures Checklist Version 1.0 (30 June 2017)

	TDM	measures: Non-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	
BASIC	3.1.2	Provide online links to OC Transpo and STO information	
BETTER	3.1.3	Provide real-time arrival information display at entrances	
	3.2	Transit fare incentives	
		Commuter travel	
BETTER	3.2.1	Offer preloaded PRESTO cards to encourage commuters to use transit	
BETTER ★	3.2.2	Subsidize or reimburse monthly transit pass purchases by employees	
		Visitor travel	
BETTER	3.2.3	Arrange inclusion of same-day transit fare in price of tickets (e.g. for festivals, concerts, games)	
	3.3	Enhanced public transit service	
		Commuter travel	
BETTER	3.3.1	Contract with OC Transpo to provide enhanced transit services (e.g. for shift changes, weekends)	
		Visitor travel	
BETTER	3.3.2	Contract with OC Transpo to provide enhanced transit services (e.g. for festivals, concerts, games)	
	3.4	Private transit service	
		Commuter travel	
BETTER	3.4.1	Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for shift changes, weekends)	
		Visitor travel	
BETTER	3.4.2	Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for festivals, concerts, games)	

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	TDM measures: Non-residential developments		Check if proposed & add descriptions
	4.	RIDESHARING	
	4.1	Ridematching service	
		Commuter travel	:
BASIC *	4.1.1	Provide a dedicated ridematching portal at OttawaRideMatch.com	
	4.2	Carpool parking price incentives	
		Commuter travel	1
BETTER	4.2.1	Provide discounts on parking costs for registered carpools	
	4.3	Vanpool service	
		Commuter travel	1 <u> </u>
BETTER	4.3.1	Provide a vanpooling service for long-distance commuters	
	5.	CARSHARING & BIKESHARING	
	5.1	Bikeshare stations & memberships	
BETTER	5.1.1	Contract with provider to install on-site bikeshare station for use by commuters and visitors	
		Commuter travel	1
BETTER	5.1.2	Provide employees with bikeshare memberships for local business travel	
	5.2	Carshare vehicles & memberships	
		Commuter travel	1 <u> </u>
BETTER	5.2.1	Contract with provider to install on-site carshare vehicles and promote their use by tenants	
BETTER	5.2.2	Provide employees with carshare memberships for local business travel	
	6.	PARKING	
	6.1	Priced parking	
		Commuter travel	
BASIC ★	6.1.1	Charge for long-term parking (daily, weekly, monthly)	
BASIC	6.1.2	Unbundle parking cost from lease rates at multi-tenant sites	
		Visitor travel	i
BETTER	6.1.3	Charge for short-term parking (hourly)	

TDM Measures Checklist

Version 1.0 (30 June 2017)

	TDM	measures: Non-residential developments	Check if proposed & add descriptions
	7.	TDM MARKETING & COMMUNICATIONS	
	7.1	Multimodal travel information	
		Commuter travel	
BASIC *	7.1.1	Provide a multimodal travel option information package to new/relocating employees and students	
	740	Visitor travel	
BETTER ★	7.1.2	Include multimodal travel option information in invitations or advertising that attract visitors or customers (e.g. for festivals, concerts, games)	
	7.2	Personalized trip planning	
		Commuter travel	
BETTER ★	7.2.1	Offer personalized trip planning to new/relocating employees	
	7.3	Promotions	
		Commuter travel	
BETTER	7.3.1	Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes	
	8.	OTHER INCENTIVES & AMENITIES	
	8.1	Emergency ride home	
		Commuter travel	
BETTER ★	8.1.1	Provide emergency ride home service to non-driving commuters	
	8.2	Alternative work arrangements	
		Commuter travel	
BASIC ★	8.2.1	Encourage flexible work hours	
BETTER	8.2.2	Encourage compressed workweeks	
BETTER ★	8.2.3	Encourage telework	
	8.3	Local business travel options	
		Commuter travel	
BASIC *	8.3.1	Provide local business travel options that minimize the need for employees to bring a personal car to work	
	8.4	Commuter incentives	
		Commuter travel	
BETTER	8.4.1	Offer employees a taxable, mode-neutral commuting allowance	
	8.5	On-site amenities	
		Commuter travel	
BETTER	8.5.1	Provide on-site amenities/services to minimize mid-day or mid-commute errands	

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

	TDN	I 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 & des	tinations
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 (<i>subdivision</i>)	
	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 (<i>multi-family</i>)	
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	

APPENDIX I

MMLOS Analysis

Segment MMLOS Analysis

This section provides a review of the boundary streets Scott Street and Clifton Road, 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 each alternative mode of transportation, based on the targets for roadways 'within 600m of a rapid transit station.'

Exhibit 4 of the *MMLOS Guidelines* has been used to evaluate the segment pedestrian level of service (PLOS) of the boundary streets. Exhibit 22 of the *MMLOS Guidelines* suggest a target PLOS A for all roadways within 600m of a rapid transit station. The results of the segment PLOS analysis are summarized in **Table 1**.

Exhibit 11 of the *MMLOS Guidelines* has been used to evaluate the segment bicycle level of service (BLOS) of the boundary streets. Exhibit 22 of the *MMLOS Guidelines* suggest a target BLOS A for Crosstown Bikeways within 600m of a rapid transit station (Scott Street), and a target BLOS D for all roadways with no cycling designation within 600m of a rapid transit station (Clifton Road). The results of the segment BLOS analysis are summarized in **Table 2**.

Exhibit 15 of the *MMLOS Guidelines* has been used to evaluate the segment transit level of service (TLOS) of Scott Street only, as transit service is not provided on Clifton Road. Exhibit 22 of the *MMLOS Guidelines* suggest a target TLOS A for Rapid Transit Corridors within 600m of a rapid transit station. The results of the segment TLOS analysis are summarized in **Table 3**.

Exhibit 20 of the *MMLOS Guidelines* has been used to evaluate the segment truck level of service (TkLOS) of Scott Street only, as Clifton Road is not a truck route. Exhibit 22 of the *MMLOS Guidelines* suggest a target TkLOS D for Truck Routes within 600m of a rapid transit station. The results of the segment TkLOS analysis are summarized in **Table 4**.

Table 1: PLOS Segment Analysis

Sidewalk Width	Boulevard Width	Avg. Daily Curb Lane Traffic Volume	Presence of On- Street Parking	Operating Speed ⁽¹⁾	PLOS
Scott Street (north side, Mo	Rae Avenue to Clifton F	Road)		
<u>></u> 2.0m	> 2.0m	> 3,000 vpd	Yes	60 km/h	В
Scott Street (south side, McRae Avenue to Clifton Road)					
<u>></u> 2.0m	> 2.0m	> 3,000 vpd	No	60 km/h	С
Clifton Road (east side, Scott Street to Wilber Avenue)					
No sic	dewalk	<u><</u> 3,000 vpd	N/A	30 km/h	С
Clifton Road (west side, Scott Street to Wilber Avenue)					
<u>></u> 2.0m	0m	<u><</u> 3,000 vpd	N/A	30 km/h	А
1. Operating	speed taken as the	e speed limit plus 10 km/h for Sco	tt Street;	·	

Operating speed taken as the speed limit plus 10 km/h for Scott Street; Operating speed taken as the 30 km/h speed limit for Clifton Road, given the implementation of traffic calming measures

Table 2: BLOS Segment Analysis

Road Class	Bike Route	Type of Bikeway	Travel Lanes	Operating Speed	BLOS	
Scott Street	Scott Street (north side, McRae Avenue to Clifton Road)					
Arterial	Crosstown Bikeway	Cycle Track	2	60 km/h	А	
Clifton Road	Clifton Road (both sides, Scott Street to Richmond Road)					
Local	No Class	Mixed Traffic	2	30 km/h	А	

Table 3: TLOS Segment Analysis

Fooility Type	Exposure to Cong	oosure to Congestion Delay, Friction, and Incidents				
Facility Type	Congestion	Friction	Incident Potential	TLOS		
Scott Street (McRae Avenue	Scott Street (McRae Avenue to Clifton Road)					
Mixed Traffic – Limited Parking/Driveway Friction	Yes	Low	Medium	D		

Table 4: TkLOS Segment Analysis

Curb Lane Width	TkLOS				
Scott Street (McRae Avenue to Clifton Road)					
3.5m to 3.7m	1	В			