2025 Mer Bleue Road

Transportation Impact Assessment

Prepared for:

Mer Bleue Orleans Co-Tenancy – DV

Prepared by:

Stantec Consulting Ltd.

July 24, 2025

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1.0 SCREENING

1.1 SUMMARY OF DEVELOPMENT

Municipal Address	2025 Mer Bleue – Phase 3 – BLDG. S2
Description of Location	The property consists of vacant land located in a suburban area designated as an Evolving Neighborhood in the City of Ottawa's Official Plan. It falls under the zoning regulations of By-law 2008-250. The site is situated at the northwest corner of Roger Pharand Street and Noella Leclair Way. It lies within a block bounded by the intersections of Innes Road & Mer-Bleue Road and Innes Road & Noella Leclair Way to the north, and Mer-Bleue Road & Roger Pharand Street and Roger Pharand Street & Noella Leclair Way to the south.
Land Use Classification	Mixed Use/Commercial Zones
Development Size (units)	1
Development Size (m^2)	3,783.40
Number of Accesses and Locations	7 – The plaza currently has 4 general traffic entrances and 1 loading entrance from Roger Pharand Street. The proposed development will add 1 private entrance from Noella Leclair Way for general traffic and 1 private approach from Roger Pharand Street for trucks.
Phase of Development	3
Buildout Year	Fall 2026

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

1.2 TRIP GENERATION TRIGGER

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

Land Use Type	Min. Dev. Size (60 Trips)	Triggered
Single-Detached	60 units	✗
Multi-Use Family (Low-Rise)	90 units	✗
Multi-Use Family (High-Rise)	150 units	✗
Office	1,400 m^2	✗
Industrial (Lab)	7,000 m^2	✗
Fast-food restaurant or coffee shop	110 m^2	✗
Destination retail	1,800 m^2	✓
Gas station or convenience market	90 m^2	✗

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

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

1.3 LOCATION TRIGGERS

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

**DPA and TOD are identified in the City of Ottawa Official Plan (DPA in Section 2.5.1 and Schedules A and B; TOD in Annex 6). See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA).PMTSAs are identified in Schedule C1 – Protected Major Transit Station Areas (PMTSA).*

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

1.4 SAFETY TRIGGERS

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

1.5 SUMMARY

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

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

2.0 SCOPING

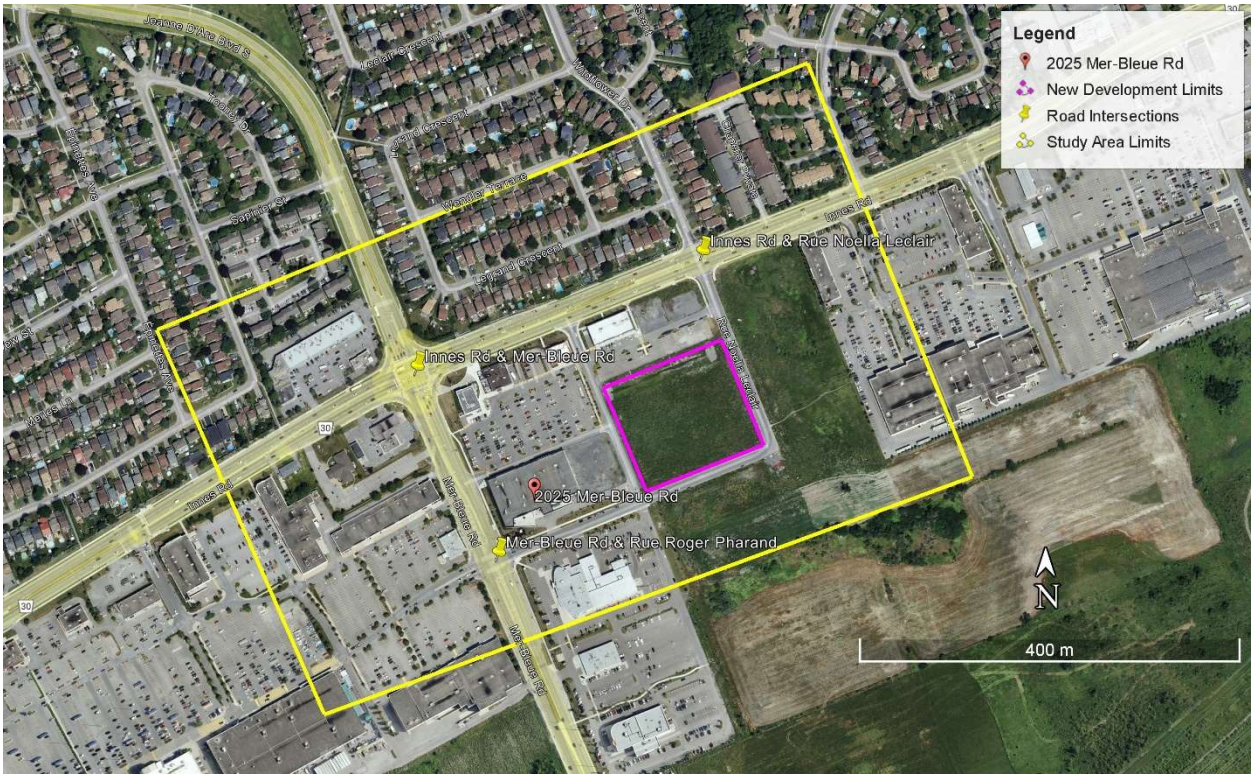
2.1 EXISTING AND PLANNED CONDITIONS

2.1.1 Proposed Development

This Transportation Impact Assessment (TIA) has been prepared in support of the site plan application for the proposed Phase 3 development at 2025 Mer Bleue Road (southwest corner of Mer Bleue Road and Innes Road) in Ottawa, Ontario. The subject site is currently vacant and designated for commercial use. The proposed development consists of a single retail food store, identified as Building S2 on the Site Plan, with a gross floor area of 3,783.40 m². This building is part of Phase 3 and will include associated parking, loading facilities, and active transportation infrastructure.

The site is bounded by Mer Bleue Road to the west, Innes Road to the north, Roger Pharand Street to the south, Noella Leclair Way to the east, and adjacent commercial properties to the west and south. **Figure 1** illustrates the site location.

Figure 1 - Site Location



The subject site is zoned Arterial Mainstreet (AM) under the City of Ottawa's Zoning By-Law. According to the zoning designation, the purpose of the AM Zone is to:

- Accommodate a broad range of uses, including retail, service commercial, office, residential, and institutional uses in a compact, mixed-use, and pedestrian-friendly environment;

- Facilitate the development of areas with high levels of accessibility for all modes of transportation, including transit, walking, and cycling; and
- Allow for a mix of uses that contribute to the creation of vibrant, liveable communities.

The Phase 3 development will feature the following access configuration:

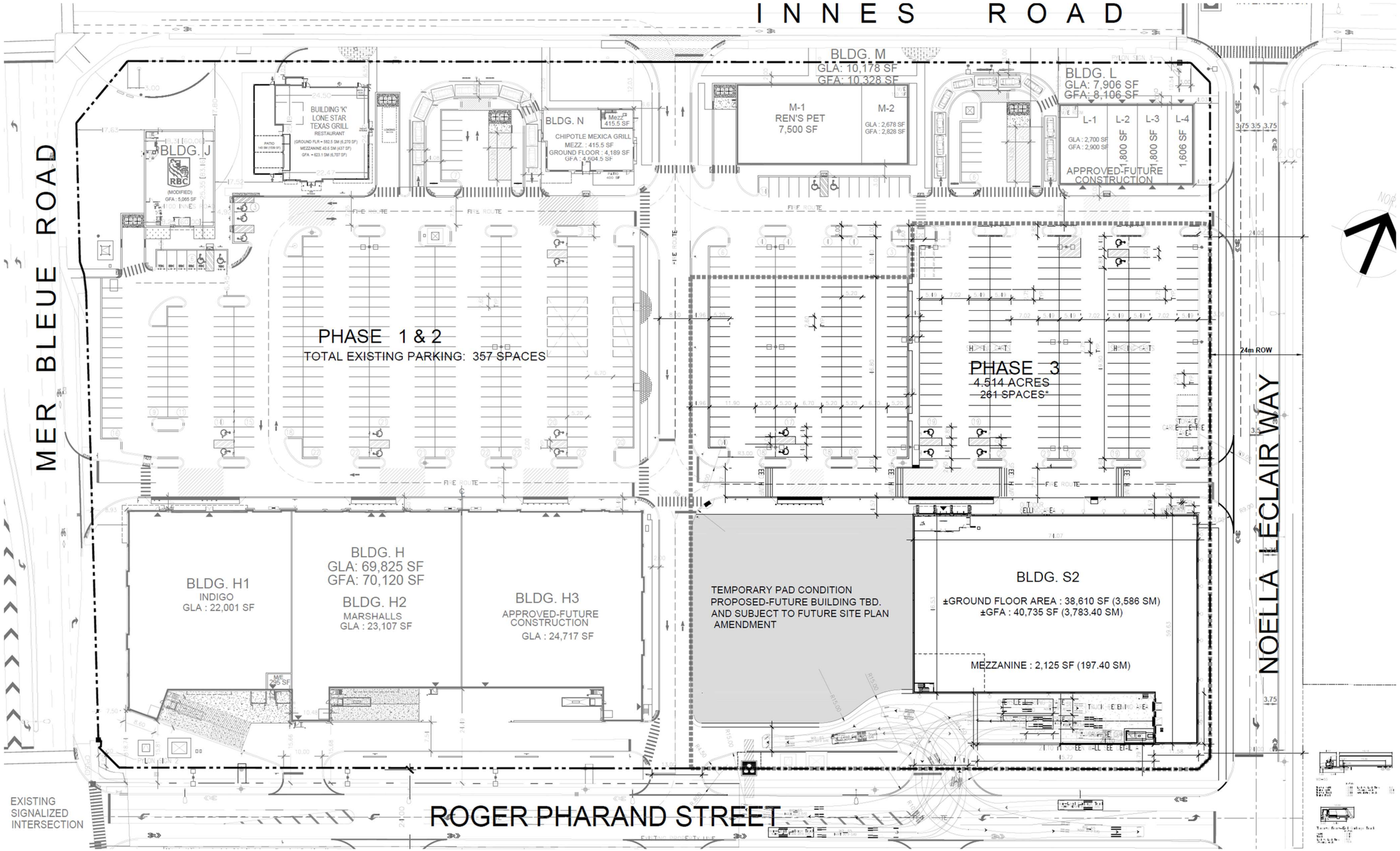
- Four general traffic entrances and one truck loading entrance currently exist along Roger Pharand Street.
- A new private entrance from Noella Leclair Way will be added for general traffic.
- A new private approach from Roger Pharand Street will be added specifically for truck loading and deliveries.

The full build-out and occupancy of the proposed development (BLDG. S2) are anticipated to occur in 2026, in a single phase. The phase 3 full buildout development includes 261 parking spaces, and 60 bicycle parking spaces, exceeding the minimum by-law requirement of 28 spaces for all phases. This includes parking spaces that have already been constructed at the north end of the existing parking lot that fall within the site boundaries. In addition, two loading spaces are provided for operational needs (one oversized and one standard), and 8 barrier-free spaces, are incorporated to ensure accessibility compliance.

Modifications shown in the site plan to Noella LeClair Way and Roger-Pharand Street, such as intersection control or turning lanes. The timing of these changes is outside the scope of this Transportation Impact Assessment.

Figure 2 illustrates the proposed development site plan, highlighting the layout of parking, loading, and access routes. The site design emphasizes safe and efficient circulation for all modes of transportation while integrating with the surrounding transportation network.

Figure 2 - Proposed Development Site Plan



2.1.2 Existing Conditions

2.1.2.1 Roads and Traffic Control

The roadways and intersections under consideration in the study area are described as follows:

Innes Road is a municipal four-lane arterial roadway with a posted speed limit of 60 km/h. Across the frontage of the study area, Innes Road features two through lanes in each direction. At the intersection with Mer Bleue Road, Innes Road includes one left-turn lane, one right-turn lane, and two through lanes in both the eastbound and westbound directions. At the intersection with Noella Leclair Way, Innes Road includes one left-turn lane, one through lane, and one shared through/right-turn lane in both the eastbound and westbound directions. Sidewalks and designated cycling lanes are provided on both sides of the roadway, ensuring connectivity for both pedestrians and cyclists.

Innes Road is designated as an Arterial Mainstreet in the City of Ottawa's Official Plan, accommodating multi-modal transportation, including pedestrians, cyclists, transit users, and motorists. This section of Innes Road is also part of the City's Cross-Town Cycling Network, facilitating east-west active transportation. On-street parking is prohibited along Innes Road in the vicinity of the study area.

The intersections of Innes Road and Mer Bleue Road, as well as Innes Road and Noella Leclair Way are signalized.

Mer-Bleue Road is a municipal two-lane arterial roadway with a posted speed limit of 60 km/h. At the intersection with Innes Road, Mer Bleue Road has two left-turn lanes, one through lane, and one shared through/right-turn lane in both the northbound and southbound directions. At the intersection with Roger Pharand Street, Mer Bleue Road has one left-turn lane, one channelized right-turn lane, and two through lanes in both the northbound and southbound directions. Sidewalks and dedicated cycling lanes are provided on both sides of the roadway, ensuring accessibility and safety for all users.

The cycling lanes along Mer Bleue Road form part of the City's north-south cycling network. On-street parking is prohibited along Mer Bleue Road in the vicinity of the study area. The intersection of Mer Bleue Road and Roger Pharand Street is signalized.

Roger Pharand Street is a municipal two-lane local roadway. At the intersection with Mer Bleue Road, Roger Pharand Street features one left-turn lane and one shared through/right-turn lane in both the eastbound and westbound directions. Sidewalks are provided along both sides of the roadway, ensuring pedestrian connectivity.

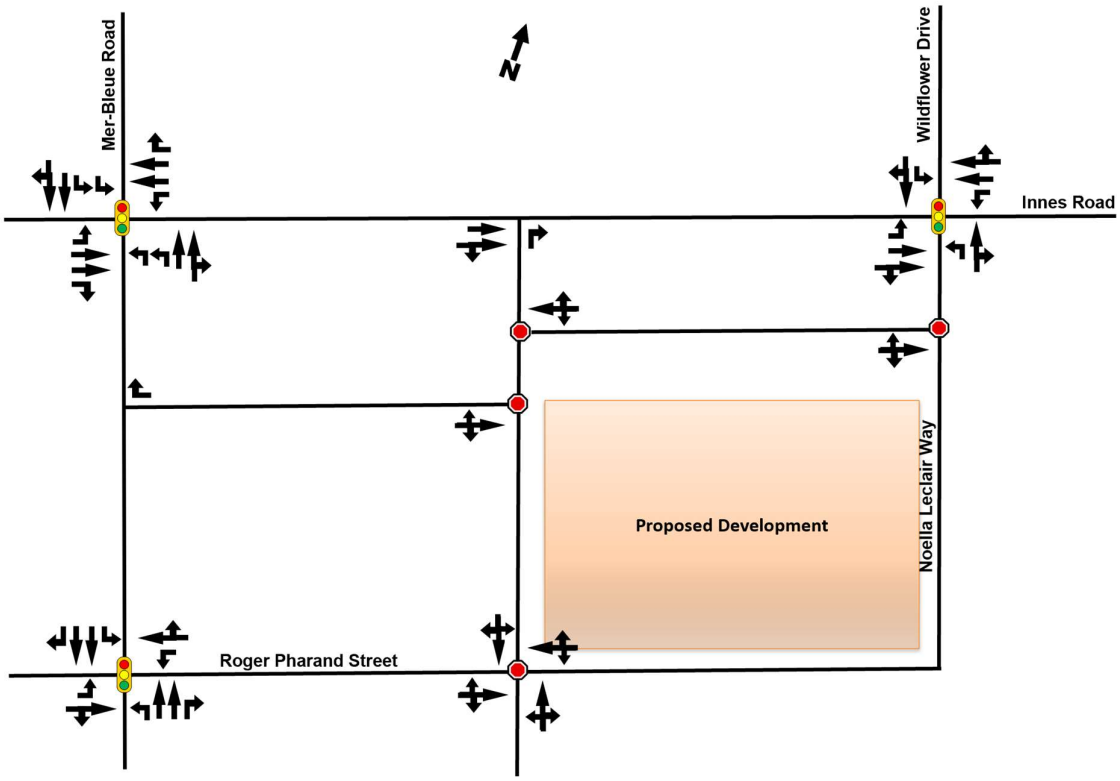
Noella Leclair Way is a municipal two-lane local roadway. At the intersection with Innes Road, Rue Noella Leclair has one left-turn lane and one shared through/right-turn lane in both the northbound and southbound directions. Sidewalks and cycling facilities are not provided on Noella Leclair Way.

The existing developments at 2025 Mer Bleue Road includes access points that facilitate efficient circulation and connectivity:

- Innes Road Eastbound (Right-In/Right-Out): Located 150 meters east of the Innes Road and Mer Bleue Road intersection.
- Mer Bleue Road Northbound (Right-In/Right-Out): Situated 75 meters north of the Mer Bleue Road and Roger Pharand Street intersection.

Figure 3 illustrates the existing lane configuration and traffic control.

Figure 3 - Existing Lane Configuration and Traffic Control



2.1.2.2 Walking and Cycling

The active transportation network in the study area surrounding **2025 Mer Bleue Road** provides robust infrastructure to support walking and cycling, promoting safe and sustainable travel options. The existing facilities ensure seamless connectivity to the site and surrounding neighborhoods.

Walking Network

The pedestrian network in the study area includes continuous sidewalks along all major roadways, providing safe and accessible walking routes:

- **Mer Bleue Road:** Features sidewalks on both sides, providing north-south connectivity and direct access to adjacent commercial and residential developments.
- **Innes Road:** Sidewalks on both sides facilitate east-west pedestrian movement and provide connections to nearby transit stops and amenities.

The development is within **400 meters of transit stops** on Mer Bleue Road and Innes Road, offering convenient access for transit users on foot.

Cycling Network

The study area is well-served by cycling infrastructure, supporting safe and efficient travel for cyclists:

- **Innes Road:** Designated as part of the **Cross-Town Bikeways** in the City of Ottawa's new Transportation Master Plan (TMP), it features dedicated bike lanes on both sides, providing a key east-west route for cycling commuters.
- **Mer Bleue Road:** Equipped with dedicated bike lanes on both sides, facilitating north-south connectivity and linking to nearby commercial areas and transit stops.
- **Connections to Multi-Use Pathways:** MUPs provide connections to surrounding residential streets, including Tooney Drive, Legrand Crescent, and Leclair Crescent, linking the study area to the Avalon and Chapel Hill neighborhoods.

Figure 4 illustrates the existing pedestrian and cycling facilities within the vicinity of the subject site.

Figure 4 - Existing Pedestrian and Cycling Network

Source: geoOttawa, accessed September 2024

2.1.2.3 Transit

The study area is served by OC Transpo Routes 25, 30, 32, 37, 131 and 138, providing essential transit connections for residents, commuters, and shoppers. These routes ensure accessibility to key destinations across the city, connecting the study area with residential, commercial, and institutional hubs.

- Route 25 runs along Innes Road, offering a vital connection to College La Cité in the westbound direction and Millennium Station in the eastbound direction. It functions as a key east-west transit link, serving both local and regional transit users in the area.
- Route 30 provides a north-south transit connection along Mer Bleue Road. Southbound, it serves Millennium Station, facilitating access to local neighborhoods and transit hubs. Northbound, the route connects to Blair Station, providing commuters with direct access to Ottawa's broader transit network.
- Route 32 also operates along Mer Bleue Road, running southbound to Chapel Hill South and northbound to Blair Station. This route ensures connectivity between the residential areas south of the study area and the city's central transit hubs.
- Route 37 provides transit services to Queenswood Heights, offering connections to residential neighborhoods and nearby commercial centers.
- Route 131 serves both Fallingbrook and Chapel Hill, connecting residential areas to major transit hubs such as Place d'Orléans Station. This route supports local transit needs and provides a link to the city's broader transit network.
- Route 138 operates along Innes Road, providing east-west transit services in the study area. Westbound, it travels towards Place d'Orléans Station, while eastbound it continues towards Innes Road and Tenth Line Road Intersection. This route primarily serves residential communities and commercial centers along the corridor.

Figure 5 illustrates the transit routes and stops.

Figure 5 - Study Area Transit Routes and Stops

Source: OC Transpo System Map [Accessed January 2025]

2.1.2.4 New Ways to Bus

Effective April 27, 2025, OC Transpo will implement its "New Ways to Bus" transit network redesign. This system-wide overhaul introduces major changes to routes throughout Ottawa, including those that serve the study area. The restructured network aims to improve service reliability, increase frequency on core corridors, and better respond to evolving ridership patterns.

Key Changes Affecting the Study Area

- Route 25 will be extended to operate between Millennium Station and Wateridge Village on weekdays, expanding the coverage of the route further east. This change will likely have minimal impact on the operations in the study area.

- Route 30 will continue to provide service between Millennium Station and Blair Station. However, all trips will now run via Montmère Avenue throughout the day, which will have minimal impact on operations within the study area.

- Route 32 will be adjusted to provide service to Place d'Orléans Station, providing connectivity to the Confederation Line LRT, which may result in additional ridership along the route.

- Route 37 will be discontinued and its service area reallocated across multiple routes:
  - Route 31 will serve du Grand Bois Avenue and Innes Road.
  - Route 35 will cover Prestone Drive and Centrum Boulevard.
  - Route 36 will operate along des Épinettes Avenue and Jeanne d'Arc Boulevard.
  - Route 234 will take over Chartrand Avenue, Duford Drive, Gleneagles Avenue, St. Georges Street, and Prestwick Drive.

- Route 131 will be removed and replaced, and its service area redistributed among several routes:
  - Route 31 will cover Youville Drive, Forest Valley Drive, Meadowglen Drive, Viseneau Drive, and Innes Road.
  - Route 33 will serve Princess Louise Drive, Charlemagne Avenue, Tompkins Avenue, Major Road, and Place d'Orléans Drive.
  - Route 36 will cover Jeanne d'Arc Boulevard between Innes and des Épinettes, and des Épinettes Avenue itself.
  - Route 138 will take over St-Joseph Boulevard between Grey Nuns Drive and Place d'Orléans Drive.

- Route 138 will be revised to operate between Place d'Orléans Station and Hiawatha Park Road, which is unlikely to have much of an operational impact on the study area.

2.1.2.5 Traffic Management Measures

There are currently no traffic management measures in the vicinity of the subject development.

2.1.2.6 Traffic Volumes

Turning movement count (TMC) data was obtained from the City of Ottawa for key intersections within the study area. The most recent counts were collected on the following dates:

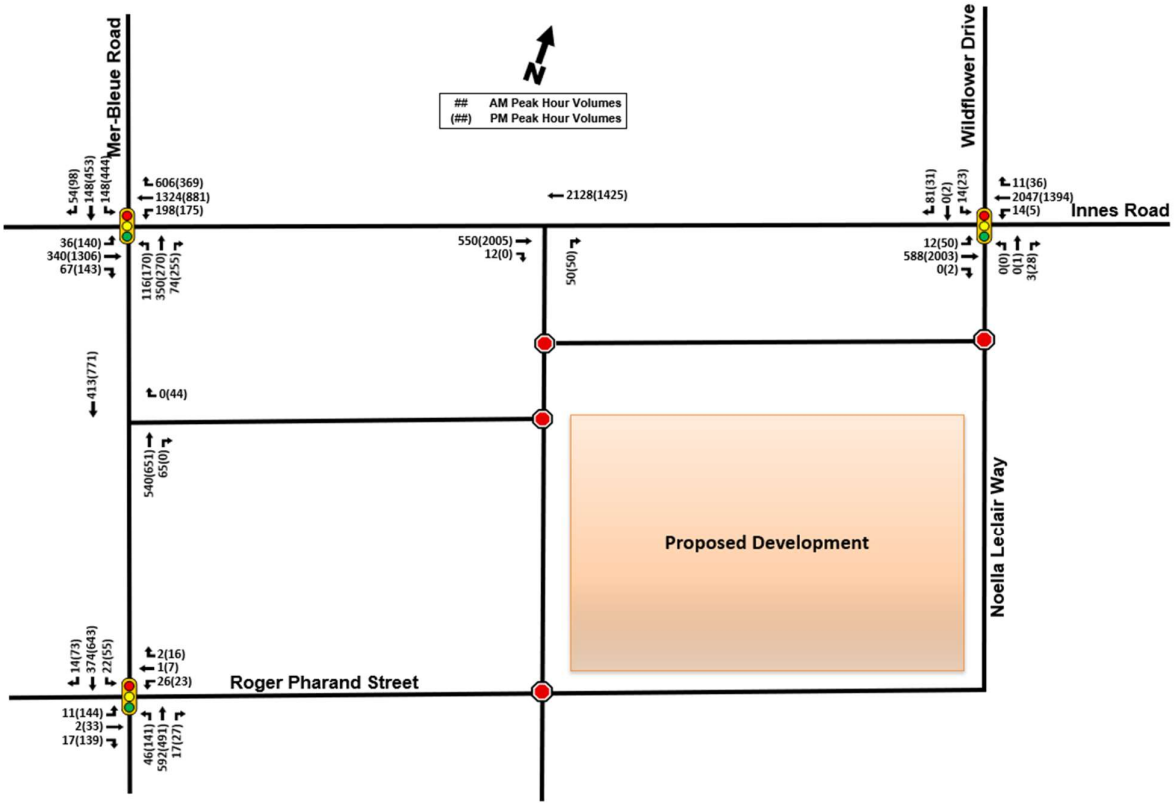
- Innes Road and Mer Bleue Road: January 9, 2020
- Innes Road and Wildflower Drive / Noella Leclair Way: April 19, 2018
- Mer-Bleue Road and Roger Pharand Street: January 15, 2019

Traffic counts from these dates were adjusted to project volumes to 2025, ensuring consistency with current conditions. Traffic volumes between intersections were balanced to align with observed travel patterns. Heavy vehicle (HV) percentages were incorporated to account for commercial traffic impacts in the area. This comprehensive traffic volume assessment ensures accurate representation of current conditions to inform the planning and design of future roadway improvements.

The turning movement counts were used to calibrate existing volumes at key intersections in the study area. Detailed traffic count data and associated signal timing plans are included in **Appendix A.**

The 2025 existing traffic volumes can be seen in **Figure 6** for the AM and PM peak hours.

Figure 6 - 2025 Existing Traffic Volumes



2.1.2.7 Collision History

Collision data for the study area was reviewed for key intersections, focusing on the period between 2017 and 2022. A total of 201 collisions were reported across the three main intersections during this time. The majority of these incidents, 160 (80%), resulted in property damage only, 41 (20%) involved non-fatal injuries, and no fatal injuries were recorded.

The Innes Road and Mer Bleue Road intersection accounted for the highest number of collisions, with 155 reported incidents (77% of the total). Of these, 128 (83%) were property damage only, 27 (17%) resulted in non-fatal injuries, and no fatal injuries occurred. The high frequency of rear-end collisions (76 incidents) may be attributed to queuing during peak periods at this signalized intersection, compounded by the high traffic volume.

The Innes Road and Wildflower Drive/Noella Leclair Way intersection recorded 34 collisions (17% of total collisions). Of these, 25 (74%) were property damage only, and 9 (26%) resulted in non-fatal injuries. Rear-end collisions (26 incidents) were the most common type, reflecting potential conflicts during merging and turning movements.

The Mer Bleue Road and Roger Pharand Street intersection experienced fewer collisions, with 12 reported incidents (6% of the total). Of these, 7 (58%) were property damage only, and 5 (42%) involved non-fatal injuries. Angle/turning collisions accounted for the majority of incidents at this intersection, likely due to the mixed traffic movements at this signalized intersection.

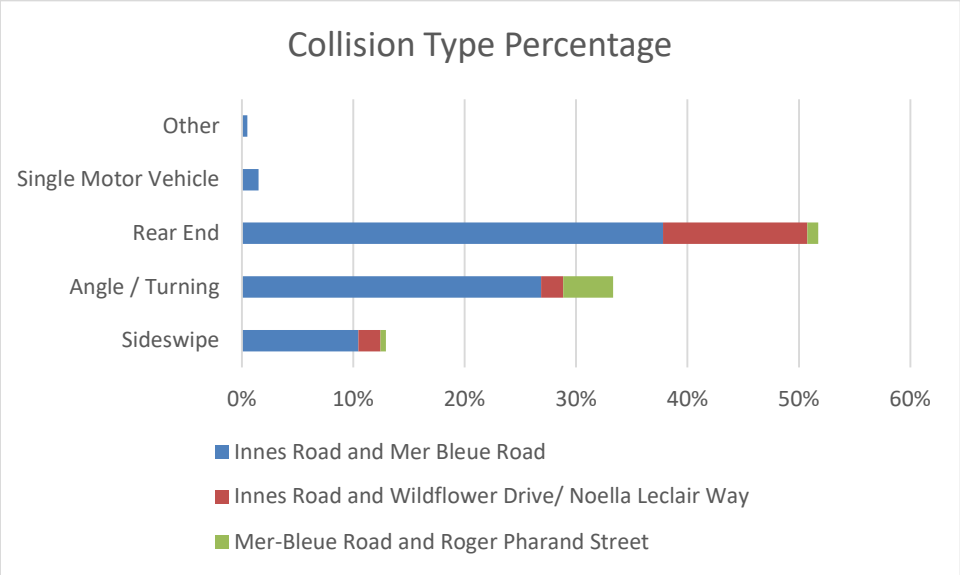
A summary of the detailed historical collision records, including collision types and environmental conditions, is provided in **Appendix B**. **Table 1** below summarizes the collision statistics for each intersection in the study area.

Table 1 - Collision Statistics

		Innes Road and Mer Bleue Road	Innes Road and Wildflower Drive/ Noella Leclair Way	Mer-Bleue Road and Roger Pharand Street
Classification	Property Damage Only	128	25	7
	Non-Fatal Injury	27	9	5
	Fatal Injury	--	--	--
Collision Type	Sideswipe	21	4	1
	Angle / Turning	54	4	9
	Rear End	76	26	2
	Single Motor Vehicle	3	--	--
	Other	1	--	--
Environmental Condition	Clear	132	29	9
	Rain	12	5	3
	Snow	6	--	--
	Freezing Rain	3	--	--
Collision Counterpart	Other Motor Vehicle	152	34	12
	Motorcycles	--	--	--
	Cyclist	--	--	--
	Pedestrian	--	--	--

As illustrated in **Figure 7**, rear-end collisions were the most common collision type, accounting for 52% of all incidents, followed by angle/turning collisions at 33%, sideswipe collisions at 13%, and fewer incidents involving single motor vehicles or other types.

Figure 7 - Collision Patterns



Identified Collision Patterns

In accordance with the City of Ottawa's Transportation Impact Assessment (TIA) Guidelines, collision patterns involving more than six occurrences of a similar type and direction over a five-year period are summarized as follows:

1. **Innes Road & Mer Bleue Road**:

    - Rear-End Collisions: A total of 76 rear-end collisions were reported, representing 49% of all collisions at this intersection. This pattern suggests frequent stop-and-go conditions and queuing during peak periods, particularly along the eastbound and westbound approaches.
    - Angle/Turning Collisions: 54 collisions (35%) were attributed to angle or turning movements, indicating potential conflicts between left-turning vehicles and opposing through traffic during signal phases.
    - These two patterns each exceed the threshold of six collisions and represent consistent operational safety concerns.

2. **Innes Road & Wildflower Drive / Noella Leclair Way**:

    - **Rear-End Collisions**: A total of **26 rear-end collisions** were recorded (76% of all collisions at this intersection). The high frequency may be linked to merging conflicts and driver response during signal changes.

- While other collision types are present, only rear-end incidents exceed the threshold for pattern identification.

3. **Mer Bleue Road & Roger Pharand Street**:

    - **Angle/Turning Collisions**: This intersection recorded **9 angle/turning collisions**, making up **75%** of all reported collisions at this location. The pattern is indicative of conflicts between turning vehicles and through traffic under mixed-volume conditions at this signalized intersection.

No other collision types or patterns exceeded the threshold of six collisions over the review period at any of the study intersections.

2.1.3 Planned Conditions

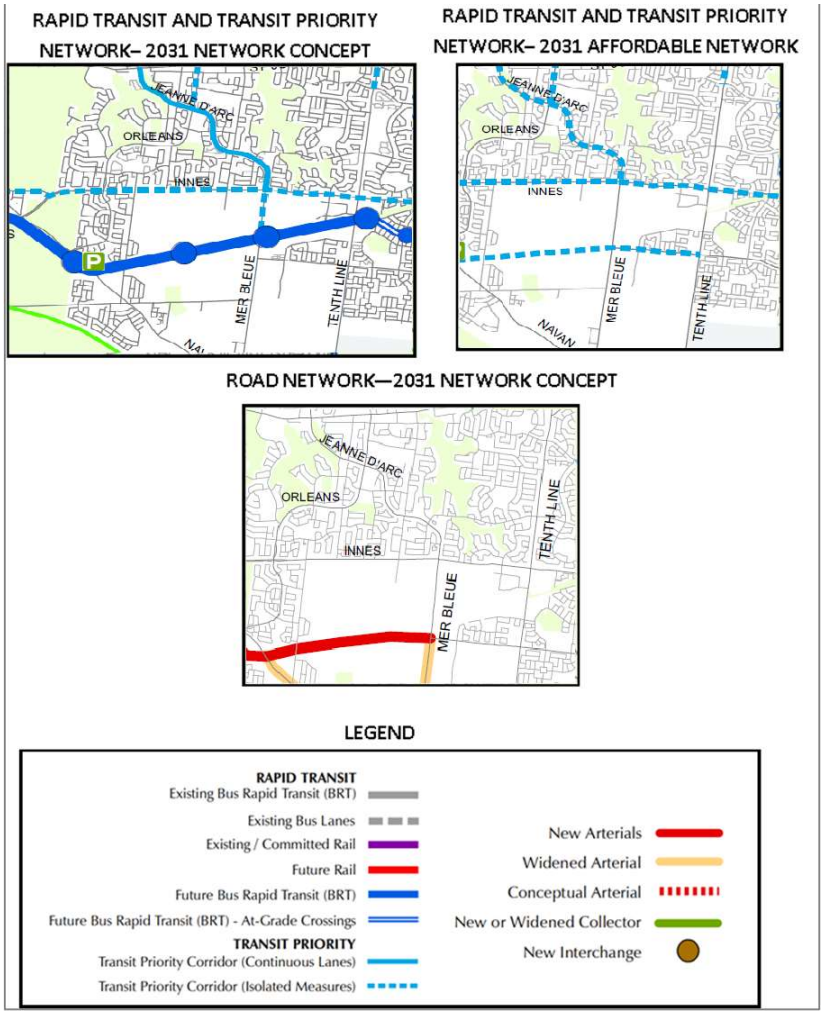
2.1.3.1 Road Network Modifications

Table 2 identifies the City of Ottawa's 2013 Transportation Master Plan (TMP) projects located in the vicinity of the subject site. The City of Ottawa is currently undertaking Part 2 – Capital Infrastructure Plan of the new TMP, anticipated for release in 2025. **Figure 8** illustrates planned network modifications near the proposed development from the 2013 TMP.

Table 2 - City of Ottawa 2013 Transportation Master Plan Projects

Project	Description	TMP Phase
Blair Station / Blackburn Bypass / Navan Road / Mer Bleue Road.	Grade Separated Bus Rapid Transit connecting Blair Station to Blackburn Bypass, Navan Road, and Mer Bleue Road.	2031 Network Concept

Figure 8 - Planned Network Modifications



Source: City of Ottawa 2013 TMP, accessed January 2025

2.1.3.2 Future Background Developments

In response to the City of Ottawa's formal circulation comments, several planned developments were initially flagged for background inclusion. These included sites at 4200 Innes Road, 5000 Roger-Pharand Street, 2127 & 2159 Mer Bleue Road, and Trailsedge North. However, based on follow-up correspondence with City staff (email exchange dated July 8, 2025), it was confirmed that:

- 5000 Roger-Pharand Street: Approval has lapsed and no TIA is available.
- 2127 & 2159 Mer Bleue Road: Pre-consultation stage only and considered confidential.
- Trailsedge North: Trailsedge North is on the west side of Mer Bleue and does not feed into any of the streets fronting the new development.

As a result, only the three active developments at 1045 Noella Leclair Way, 1070 Noella Leclair Way, and 600 Lady Pellatt Street were considered relevant and included in this analysis. These consist of a long-term care facility and apartment buildings (totaling 293 + 157 units) fronting Noella Leclair Way and Roger-Pharand Street.

As part of the background conditions review, planned residential developments in the immediate area were evaluated for inclusion in the 2031 background traffic analysis. Based on consultation with the City of Ottawa and a review of available documentation, the following active developments were identified:

1. **Extendicare Orleans – 1045 Noella Leclair Way**

A long-term care facility consisting of a four-storey building with 256 beds and a total of 110 parking spaces. Site access is provided from the extended Noella Leclair Way and Vanguard Drive. This development was assumed to be built and occupied by 2026 and included using the trip generation estimates provided in the February 2023 TIA (prepared by Stantec)

2. **Trinity Apartments – 1070 Noella Leclair Way**

A multi-building residential apartment complex consisting of four six-storey buildings totaling 293 residential units. The site plan identifies access via Noella Leclair Way and Roger Pharand Street. Although a formal TIA was not available for this component, trip generation was conservatively estimated based on ITE rates for mid-rise apartments (Land Use Code 221) using 0.62 trips per unit in the AM peak and 0.79 in the PM peak hour. Peak hour trip distribution was based on proportional directional split assumptions derived from the site plan orientation.

3. **Residential Development - 600 Lady Pellatt Street**

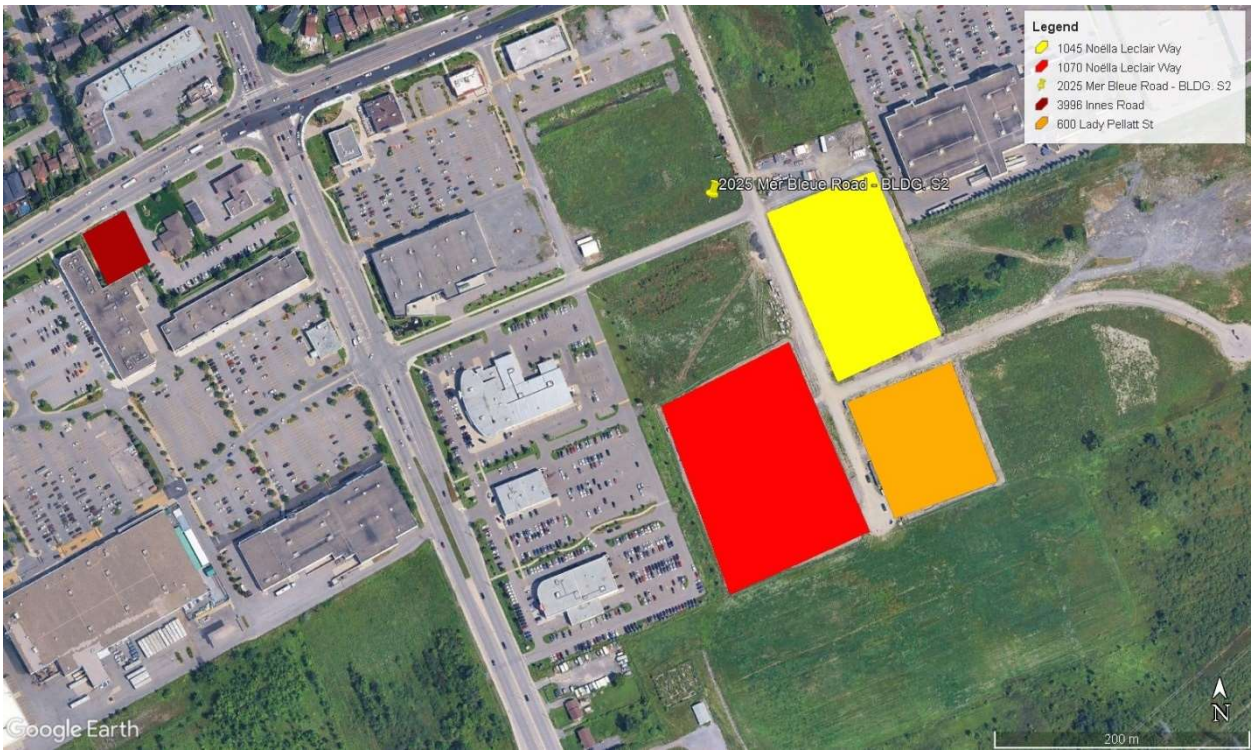
A multi-building residential apartment complex consisting of two, six-storey, mid-rise residential buildings, providing approximately 157 rental dwelling units and 195 parking spaces on 600 Lady Pellatt Street. Part of the Smart Centres Subdivision Plan.

4. **3996 Innes Road Mixed-Use Development**

Located south of Innes Road and west of Mer Bleue Road, the 3996 Innes Road development involves a five-story mixed-use building featuring 20 residential units, 175 m² of pharmacy space, and 200 m² of medical facilities. The development includes 37 parking spaces, with a mix of underground and surface stalls. Access to the site is provided via a single right-in/right-out entrance along Innes Road, approximately 160 meters west of the Innes Road and Mer Bleue Road intersection. The project is expected to impact local traffic patterns minimally due to its low anticipated trip generation rates. The development was planned to be constructed by the year 2022, but was not developed yet at the writing of this report.

Figure 9 below shows all surrounding developments around the study area.

Figure 9 - Developments in The Study Area



2.2 STUDY AREA AND TIME PERIODS

2.2.1 Study Area

The study area includes the following intersections:

1. Innes Road at Mer Bleue Road
2. Innes Road at Noella Leclair Way/Wildflower Drive
3. Mer Bleue Road at Roger Pharand Street
4. Roger Pharand Street at Noella Leclair Way
5. All site access intersections, as shown in **Figure 2**.

2.2.2 Time Periods

The scope of the transportation assessment includes the following analysis time periods:

- Weekday AM peak hour of roadway; and
- Weekday PM peak hour of roadway.

2.2.3 Horizon Years

The scope of the transportation assessment includes the following horizon years:

- 2025 existing conditions;
- 2026 future background conditions;
- 2026 total future conditions (site build-out); and
- 2031 total future conditions (5 years beyond build-out).

2.3 DEVELOPMENT GENERATED TRAVEL DEMAND

2.3.1 Trip Generation

The trip generation and mode share analysis evaluate the number of trips generated by the proposed retail development and the distribution of these trips across various transportation modes. This analysis is essential for understanding the travel demand created by the development and ensuring that the surrounding transportation network can accommodate these trips effectively.

The analysis is based on the TRANS Trip Generation Manual (2020) and the ITE Trip Generation Manual (11th Edition), which provide industry-standard methodologies for estimating trips for commercial land uses. The development, classified as a supermarket under Land Use Code 850, is expected to generate a significant number of trips during the AM and PM peak hours, as well as across peak periods.

Key steps in the trip generation analysis include:

- Calculating person-trips during the AM and PM peak periods and peak hours.
- Converting vehicle trips to person-trips using the appropriate factors from the TRANS Trip Generation Manual.
- Applying mode share distributions to determine the breakdown of trips across driving, transit, cycling, walking, and other modes.
- Disaggregating trips into inbound and outbound flows based on directional splits for peak periods and hours.

This section provides a detailed overview of the trips generated by the proposed development and their allocation by mode, highlighting the anticipated impacts on the surrounding transportation network. The analysis also considers the development's alignment with sustainable transportation goals, emphasizing active and public transit options.

The following **Table 3** outlines the trip generation rates used for the peak hour in this analysis.

Table 3 - Trip Generation Rates

Land Use	Land Use Code (ITE)	AM Peak Hour	PM Peak Hour
Retail - Supermarket (850) (X = 1,000 ft2 GFA) (ITE)	ITE 822 - General Urban/Suburban	N/A	Ln(T) = 0.81 Ln(X) + 2.92

Note: T = Average Person Trip Ends

To properly consider multi-modal trips, projected site traffic is converted to projected site-generated person trips. To convert projected ITE vehicle trips to person trips, an auto occupancy factor and non-auto factor is applied to the ITE trip generation rates. According to the City's TIA Guidelines, and based on available American Census data, the typical modal share of non-auto person trips is approximately 10% and the typical auto occupancy is 1.15. When combined/solving for "person trips" (i.e., Persons = 1.15xAutos + 0.10xPersons), a factor of 1.28 is used to convert vehicle trips to person trips. These person trips are then broken down into trips for different modes (vehicle, transit, cycling and walking) by using the mode split from the City of Ottawa's TRANS Trip Generation Manual (2020).

Table 4 - Projected Site Person Trip Generation

Land Use	AM Peak Hour	PM Peak Hour	AM Peak Period	PM Peak Period
Commercial Auto Trips	111	358	222	813
Commercial Person Trips	142	458	284	1040

As shown in **Table 4**, the subject development is projected to generate approximately 142 and 458 trips per hour during weekday morning and afternoon peak hours, respectively.

2.3.2 Travel Mode Shares

The total projected person trips are subdivided by mode share values to determine the number of person trips arriving and departing by travel mode. The subject site falls within the Orleans District as identified in the 2020 TRANS Trip Generation Manual, where the associated Commercial Generator mode share values are as shown in **Table 5.**

Table 5 - Observed Orleans Mode Shares and Counts

Mode	AM Peak (%)	AM Peak Period Trips	AM Peak Hour Trips	PM Peak (%)	PM Peak Period Trips	PM Peak Hour Trips
Auto Driver	77%	219	109	71%	738	325
Auto Passenger	14%	31	16	20%	208	92
Transit	3%	7	3	2%	21	9
Cycling	0%	0	0	1%	10	5
Walking	6%	13	7	5%	52	23

Directional splits for commercial trips were calculated using the trip generation rates from the ITE Trip Generation Manual (11th Edition) and generalized for all modes.

Directional Distribution:

- AM Peak Period: 59% Inbound, 41% Outbound
- PM Peak Period: 50% Inbound, 50% Outbound

Directional splits for inbound and outbound trips are presented in

Table 6 (peak period) and **Table 7** (peak hour), indicating:

Table 6 – Commercial Trips – Directional Splits for Peak Period

Mode	AM Peak Period Inbound Trips	AM Peak Period Outbound Trips	PM Peak Period Inbound Trips	PM Peak Period Outbound Trips
Auto Driver	129	90	369	369
Auto Passenger	18	13	104	104
Transit	4	3	10	10
Cycling	0	0	5	5
Walking	8	5	26	26

Table 7 – Commercial Trips – Directional Splits for Peak Hour

Mode	AM Peak Hour Inbound Trips	AM Peak Hour Outbound Trips	PM Peak Hour Inbound Trips	PM Peak Hour Outbound Trips
Auto Driver	65	45	163	163
Auto Passenger	9	6	46	46
Transit	2	1	5	5
Cycling	0	0	2	2
Walking	4	3	11	11

2.3.3 Trip Distribution and Assignment

The distribution of traffic to / from the proposed development was determined through examination of the Trans Committee's 2011 Origin-Destination (O-D) Survey for the Orleans District. Table 8 provides a summary of the estimated distribution for the traffic generated by the proposed development.

Table 8 - Traffic Distribution Assumptions

Cardinal Direction		Via (to / from)			
		Mer-Bleue Road	Mer-Bleue Road	Innes Road	Innes Road
		North	South	West	East
North	3%	3%			
South	1%		1%		

West	32%	10%		22%	
East	3%				3%
Internal (Orleans)	61%	30%	11%		20%
Total	100%	43%	12%	22%	23%

Site generated trips were assigned to the study area road network based on the trip distribution assumptions outlined in **Table 8** above. **Figure 10** outlines the site assignment assumptions. It should be noted that the red value represents the outbound trips, and the black values represent the inbound trips.

Based on the above assumed distribution, projected site-generated traffic was assigned to the study are network, as shown below in

Figure 11.

Figure 10 - Site Traffic Assignment

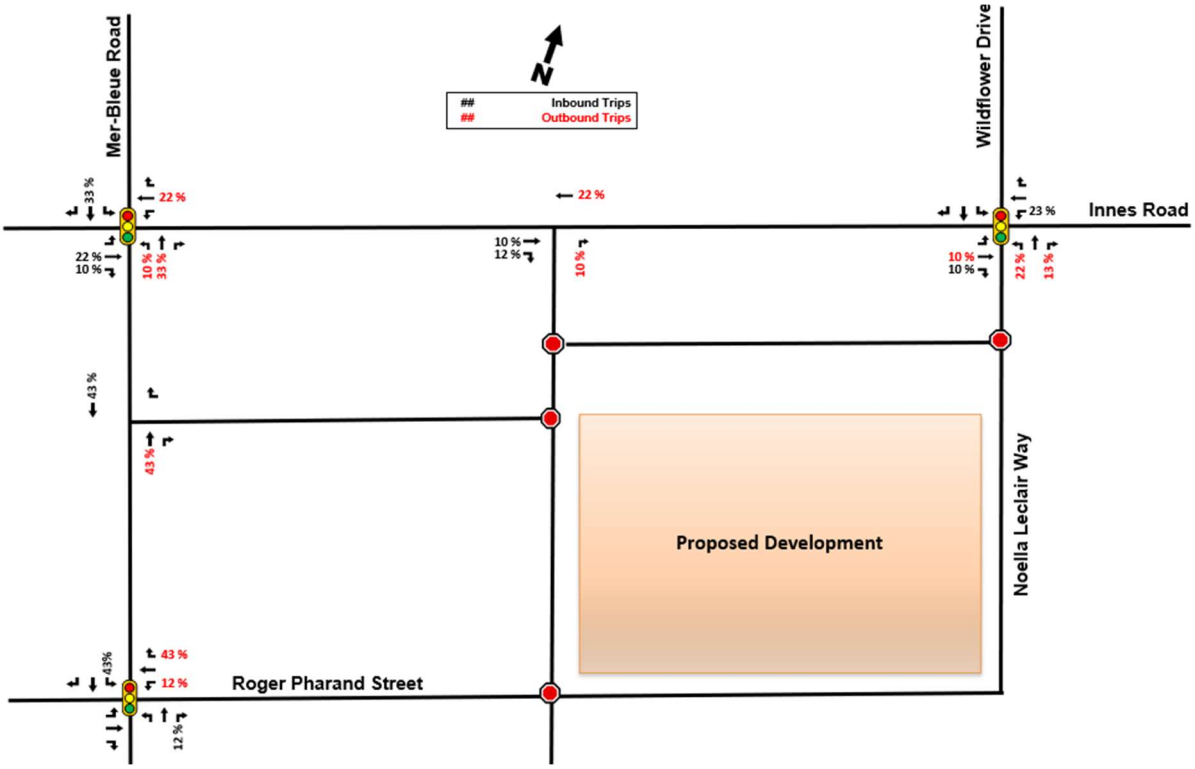
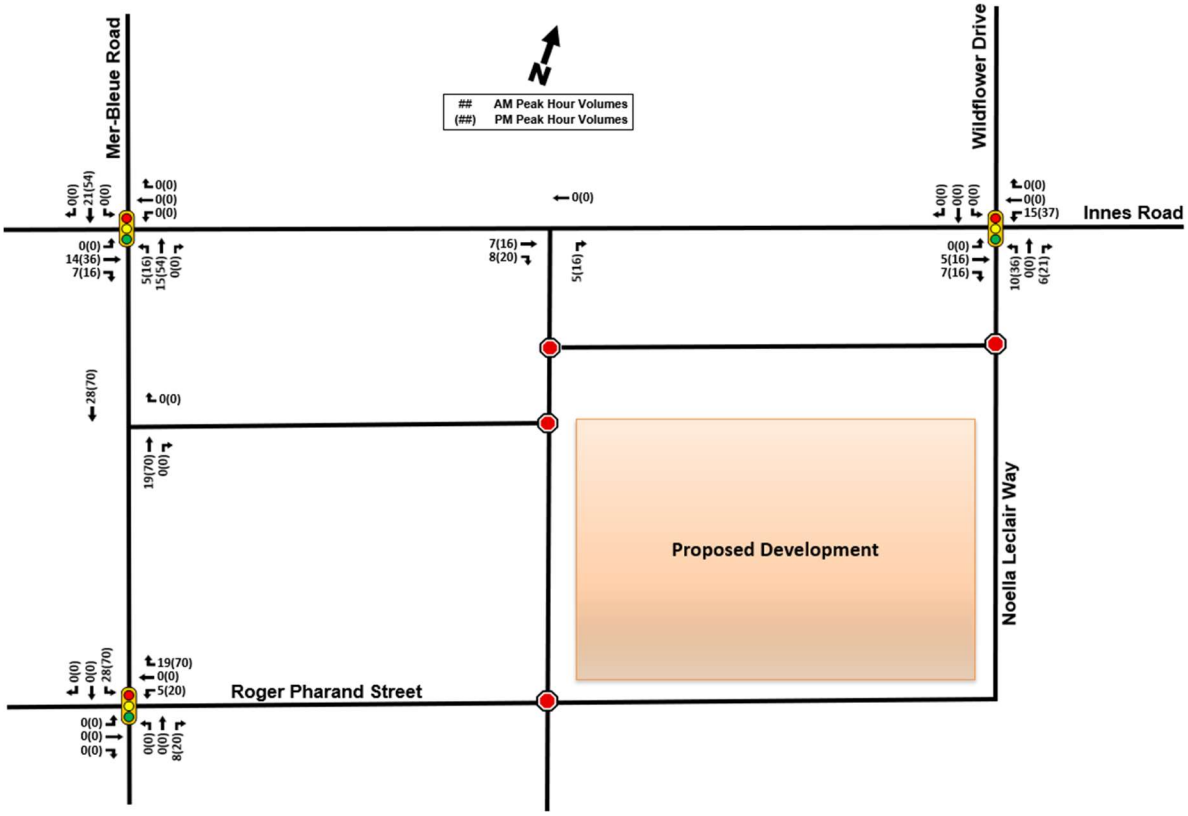


Figure 11 - Projected Site-Generated Traffic



2.4 FUTURE DEVELOPMENTS GENERATED TRAVEL DEMAND

2.4.1 Trip Generation

This section evaluates the travel demand expected to be generated by the three identified developments located at 1045 Noella Leclair Way, 1070 Noella Leclair Way, and 600 Lady Pellatt Street, comprising a long-term care facility and two high-rise residential apartment sites. The objective is to assess their peak-hour trip contributions to the surrounding transportation network and incorporate them into the 2031 background traffic volumes.

Trip generation estimates are based on a combination of industry-standard resources, including the ITE Trip Generation Manual (11th Edition) and the TRANS Trip Generation Manual (2020). These sources provide person-trip or vehicle-trip rates appropriate for long-term care homes and high-rise residential buildings. Mode shares and directional splits were applied using TRANS modal distribution guidance, supported by development type and regional travel behavior patterns.

Key steps in the analysis include:

- Deriving vehicle or person-trip generation rates using appropriate land use codes and peak hour/period assumptions.
- Applying directional splits to disaggregate trips by inbound and outbound flows during the AM and PM peak hours.
- Applying mode share distributions to disaggregate total trips across driving, transit, walking, cycling, and passenger trips.

The trip generation inputs for each development are summarized in **Table 9**, which outlines the applicable land use code, source, trip type, variables, and AM/PM peak hour generation rates.

Table 9 - Trip Generation Rates

Development	Land Use	Source	Trip Type	Variable	AM	PM
Extendicare Orleans – 1045 Noella Leclair Way	620 – Nursing Home	ITE Trip Generation Manual, 11th Edition	Vehicle	256 Beds	Trips = 0.10(X) + 5.42 (Peak Hour)	Trips = 0.11(X) + 3.98 (Peak Hour)
Trinity Apartments – 1070 Noella Leclair Way	LUC 221 & 222 – Multi-Unit (High-Rise)	TRANS 2020	Person	293 Dwelling Units	0.8 (Peak Period)	0.9 (Peak Period)
Residential Development - 600 Lady Pellatt Street	LUC 221 & 222 – Multi-Unit (High-Rise)	TRANS 2020	Person	157 Dwelling Units	0.8 (Peak Period)	0.9 (Peak Period)

Person trips for the residential sites were converted to peak hour trips using TRANS Trip Generation Manual (2020) peak hour factors, and then assigned to individual modes based on TRANS mode share assumptions. For the Nursing Home care site, ITE Trip Generation Manual (11th Edition) directional and modal breakdowns were applied directly. **Table 10** below shows the ITE Trip Generation Manual (11th Edition) directional percentages.

Table 10 - ITE Trip Generation Manual (11th Edition) directional percentages

ITE Land Use Code	Dwelling Unit Type	Period	Inbound	Outbound
620 – Nursing Home	256 Beds	AM	72%	28%
		PM	33%	67%

Based on the ITE Trip Generation Manual (11th Edition) directional percentages the trips generation for the Nursing Home is shown in **Table 11**.

Table 11 – Nursing Home Peak Hour Auto Driver Trips

Mode	AM Peak Hour Inbound Trips	AM Peak Hour Outbound Trips	PM Peak Hour Inbound Trips	PM Peak Hour Outbound Trips
Auto Driver	26	10	12	24

Using the TRANS (2020) trip generation rate of 0.8 trips/unit (AM) and 0.9 trips/unit (PM), the residential development generates 360 person trips in the AM peak period and 405 in the PM peak. After applying TRANS peak hour factors and mode shares, the result is 184 peak hour trips in both AM and PM, as detailed in **Table 12**.

Table 12 – Residential Developments Peak Hour Trips by Mode

LUC 221 & 222 – Multi-Unit (High-Rise)	Mode Share		Peak Period Person Trips Generated		Peak Hour Adjustment		Peak Hour Trips	
	AM	PM	AM	PM	AM	PM	AM	PM
Auto Mode Share	54%	61%	194	247	0.48	0.44	93	109
Auto Passenger	7%	13%	25	53	0.48	0.44	12	23
Transit	29%	21%	104	85	0.55	0.47	57	40
Cycling	0%	0%	0	0	0.58	0.48	0	0
Walking	10%	6%	36	24	0.58	0.52	21	13
Total	**100%**	**100%**	**360**	**405**	**-**	**-**	**184**	**184**

Table 13 below shows the TRANS Trip Generation Manual (2020) directional percentages for 221 & 222 – Multi-Unit (High-Rise) land use.

Table 13 – TRANS directional percentages for 221 & 222 – Multi-Unit (High-Rise)

ITE Land Use Code	Dwelling Unit Type	Period	Inbound	Outbound
221 & 222 – Multi-Unit (High-Rise)	157 + 293 Units	AM	31%	69%
		PM	58%	42%

The combined peak hour trips generation for the Trinity Apartments and 600 Lady Pellatt Street Residential Development is shown in Table 14.

Table 14 – Trinity Apartments and Residential Development Peak Hour Trips by Mode and Direction

Mode	AM Peak Hour Inbound Trips	AM Peak Hour Outbound Trips	PM Peak Hour Inbound Trips	PM Peak Hour Outbound Trips
Auto Driver	29	64	63	46
Auto Passenger	4	8	13	10
Transit	18	40	23	17
Cycling	0	0	0	0
Walking	6	14	7	5

2.4.2 Combined Impact of Background Auto Driver Trips

The combined auto driver trips from the three developments are consolidated in **Table 15**, which presents the total auto driver demand added to the 2031 Future Background scenario.

Table 15– Summary of Auto Driver Trips from Background Developments

Mode	AM Peak Hour Inbound Trips	AM Peak Hour Outbound Trips	PM Peak Hour Inbound Trips	PM Peak Hour Outbound Trips
Auto Driver	55	74	75	70

Site generated trips were assigned to the study area road network based on the trip distribution assumptions outlined in **Table 8** above. **Figure 12** outlines the site assignment assumptions. It should be noted that the red value represents the outbound trips, and the black values represent the inbound trips. Based on the above assumed distribution, projected site-generated traffic was assigned to the study are network, as shown below in **Figure 13.**

Figure 12 – Future Developments Traffic Assignment

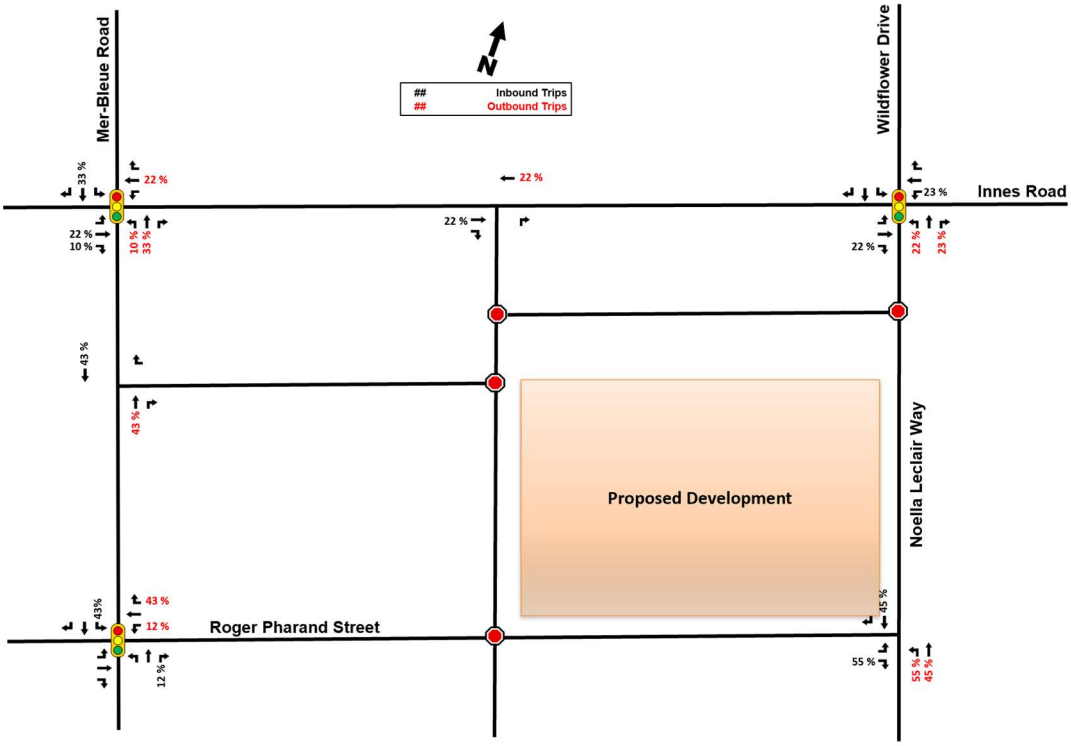
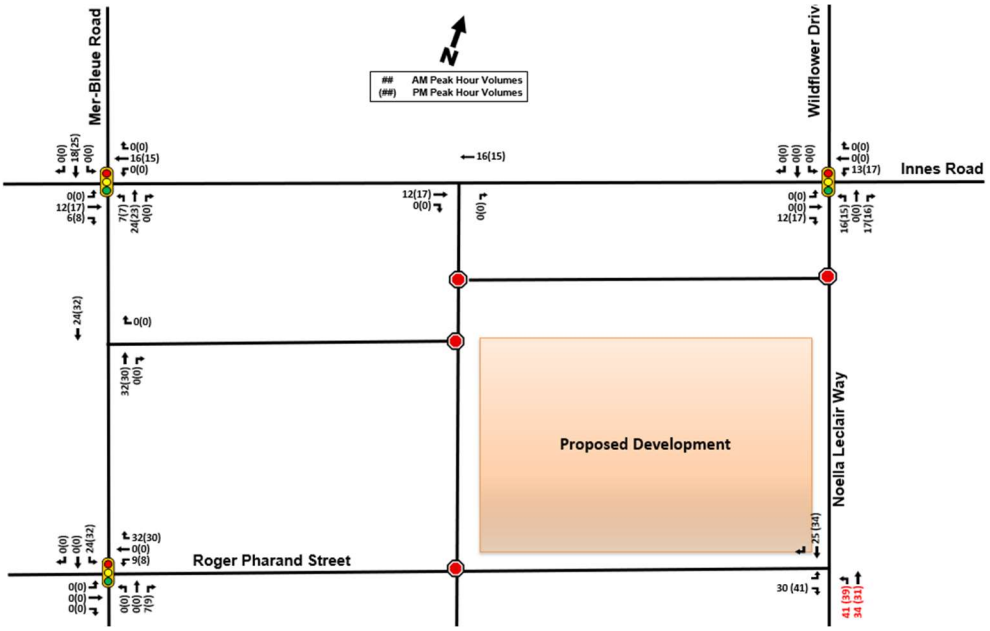


Figure 13 – Projected Future Developments Generated Traffic



2.5 EXEMPTIONS REVIEW

Table 16 summarizes the Exemptions Review table from the City of Ottawa's 2017 Transportation Impact Assessment Guidelines with revisions effective June 2023.

Table 16 - Exemptions Review

Module	Element	Exemption Considerations	Status
Design Review Component			
4.1 Development Design	4.1.2 Circulation and Access	Only required for site plans	Not Exempt
	4.1.3 New Street Networks	Only required for plans of subdivision	Exempt
4.2 Parking	4.2.1 Parking Supply	Only required for site plans	Not Exempt
	4.2.2 Spillover Parking	Eliminated in 2023 TIA Update	N/A
Network Impact Component			
4.5 Transportation Demand Management	All Elements	Not required for site plans expected to have fewer than 60 employees and/or students on location at any given time	Not Exempt
4.6 Neighbourhood Traffic Calming	All Elements	Required if the development meets all of the following criteria along the route(s) site generated traffic is expected to utilize between an arterial road and the site's access: 1) Access to Collector or Local 2) "Significant sensitive land use presence" 3) Zoning or Subdivision application 4) At least 75 site-generated auto trips 5) Site Trip Infiltration is expected	Exempt
4.7 Transit	4.7.1 Transit Route Capacity	>75 site transit trips	Exempt
	4.7.2 Transit Priority Requirements	>75 site auto trips	Not Exempt
4.8 Network Concept	All Elements	Only required when proposed development generates more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by established zoning	Exempt
4.9 Intersection Design	4.9.1 Intersection Controls (including site accesses)	>75 site auto trips	Not Exempt
	4.9.2 Intersection Design	>75 site auto trips	Not Exempt

3.0 ANALYSIS

3.1 BACKGROUND NETWORK TRAFFIC

3.1.1 Changes to the Background Transportation Network

As outlined in the City of Ottawa's 2013 Transportation Master Plan (TMP), Innes Road and Mer Bleue Road—connecting northward to Jeanne d'Arc Boulevard—are designated as part of a Transit Priority Corridor. This corridor is included in the 2031 Network Concept and is intended to implement measures such as queue jump lanes, transit signal priority, and other improvements that support more efficient bus operations along key arterial routes. However, as these measures are not yet committed or scheduled for implementation, they have not been included in the operational analysis presented in this report.

3.1.2 General Background Growth Rates

A general background growth rate of 1.6% per year was applied to the existing traffic volumes to account for anticipated increases in traffic demand due to ongoing regional development and population growth. This growth rate is based on the traffic projections from the City of Ottawa's EMME model.

The growth rate is consistent with trends in the study area and ensures that background traffic conditions in the analysis scenarios accurately reflect expected future volumes. This rate was applied uniformly across all roadways and intersections within the study area for the 2026 and 2031 horizon years.

3.2 DEMAND RATIONALIZATION

Based on the foregoing information, **Figure 14** and **Figure 15** below show the 2026 Future Background and 2031 Future Background traffic volumes.

Figure 14 - 2026 Future Background Volumes

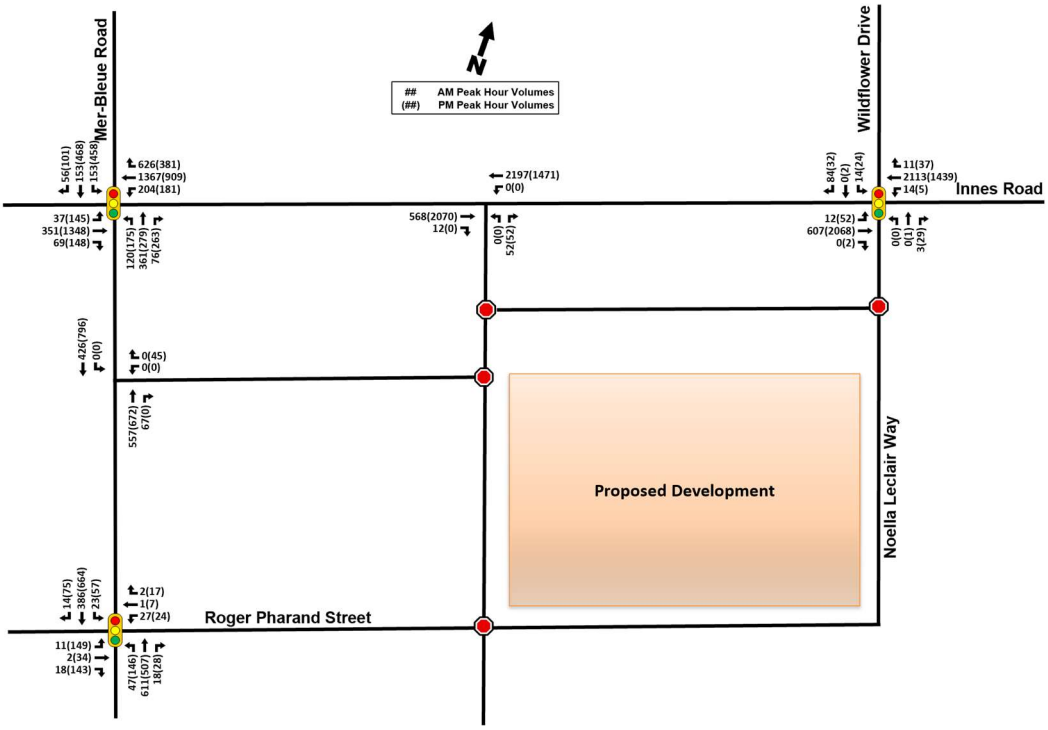
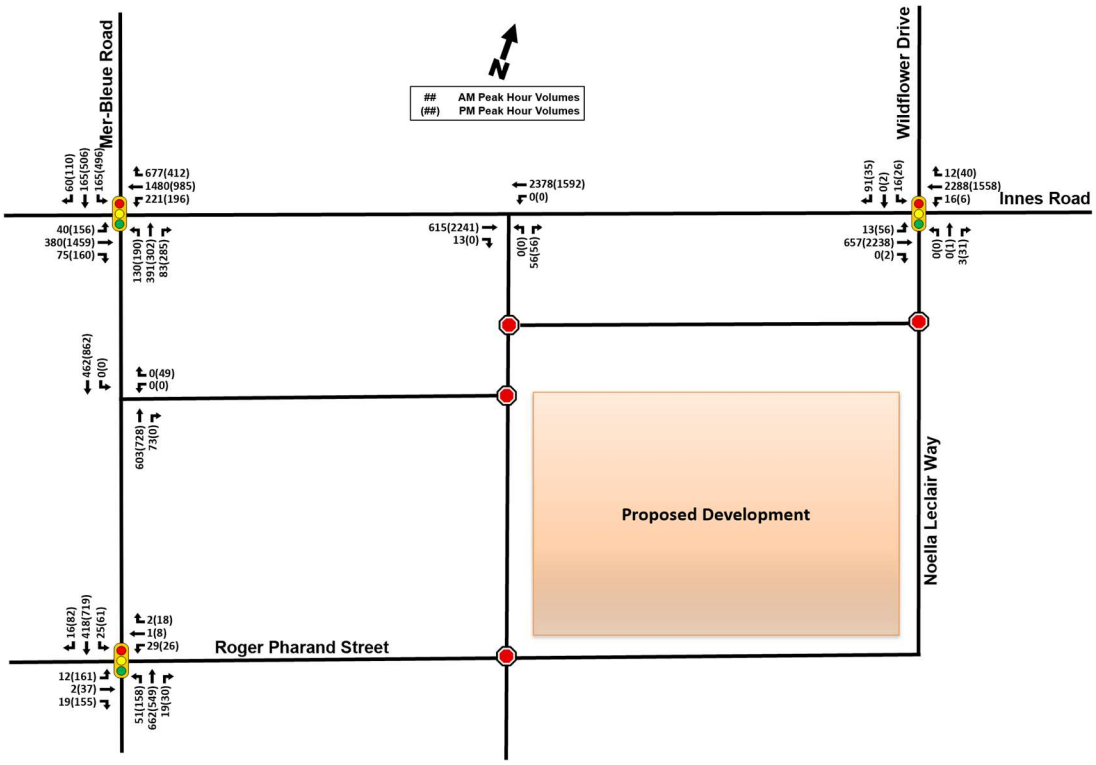


Figure 15 - 2031 Future Background Volumes



3.3 DEVELOPMENT DESIGN

3.3.1 Design for Sustainable Modes

The proposed development at 2025 Mer Bleue Road incorporates multiple design elements that support walking, cycling, and transit, promoting sustainable modes of transportation. The site is strategically designed to integrate with the surrounding active transportation and transit networks, ensuring accessibility and connectivity for all users.

Walking

The site includes hardscaped pathways that connect the main entrances of the building to the adjacent sidewalks and parking areas, including the sidewalks along both Mer Bleue Road and Innes Road. These pathways are well-lit and accessible, ensuring safe and convenient access for pedestrians. Additional landscaping and seating areas are incorporated near the building entrance to enhance the pedestrian experience.

Cycling

The development supports cycling by providing 16 bicycle parking spaces in line with the City of Ottawa's requirements. Bicycle parking is strategically located near the building entrance for convenience. The surrounding cycling infrastructure includes dedicated cycling lanes along both Mer Bleue Road and Innes Road. These facilities encourage the use of bicycles as a viable mode of transportation for both customers and staff.

Transit

The site is well-served by OC Transpo bus routes, with nearby stops on Mer Bleue Road and Innes Road providing connections to key destinations across Ottawa. The walking distance to these transit stops is less than 400 meters, ensuring easy access for transit users. Improvements to pedestrian pathways on the site further enhance connectivity to these stops, supporting a multimodal transportation approach.

Transportation Demand Management (TDM)

To promote sustainable travel choices, the development incorporates elements from the City of Ottawa's Transportation Demand Management (TDM) checklist. These include:

- Convenient bicycle parking facilities for short-term use.
- Direct pedestrian connections to transit stops and adjacent sidewalks.
- A compact site design that minimizes travel distances for active transportation users.

The proposed development at 2025 Mer Bleue Road integrates walking, cycling, and transit-supportive design features, aligning with the City of Ottawa's sustainable transportation goals. These measures contribute to reducing the reliance on private vehicles while providing safe, efficient, and accessible transportation options for all users.

Recommended designs to be included to enhance sustainable travel choices include:

- Provision of **direct access to major transit stops** within 600 meters. Provide crosswalk in the northwest corner of the development to connect sidewalks to the adjacent building.

- Smooth and well-drained walking surfaces differentiated from vehicular areas using contrasting materials.
- Inclusion of landscaping, benches, and wayfinding signage to enhance pedestrian and cyclist experience.
- Bicycle parking in visible, well-lit, and weather-protected areas.
- Signed and prioritized parking spaces for carpools, strategically located.

The completed Transportation Demand Management (TDM) – Supportive Development Design and Infrastructure Checklist is included in **Appendix C**.

3.3.2 Circulation and Access

The proposed development at 2025 Mer Bleue Road ensures efficient circulation and access for all users, including general traffic, delivery vehicles, garbage collection, and emergency services. The site design incorporates multiple entry points and designated routes to facilitate smooth traffic flow while maintaining safety and functionality.

General Traffic

The plaza features four existing general traffic entrances and will add one private entrance from Noella Leclair Way, providing direct access to the site for customers and staff. These entry points ensure efficient circulation within the parking lot and minimize congestion during peak hours. The clear separation of vehicle movements supports a safe and functional environment for all users.

Truck Loading and Deliveries

Truck loading and deliveries will be facilitated through a dedicated truck approach from Roger Pharand Street. This entrance is designed to accommodate delivery vehicles, ensuring direct access to the designated loading area at the rear of the building. The provision of two loading spaces (one oversized and one standard) meets operational requirements and aligns with zoning by-law standards. The separation of truck and general traffic routes enhances safety and operational efficiency.

Turning templates for delivery trucks are illustrated in **Figure 2**, demonstrating that delivery movements can be completed. However, the current design maintains a separate loading access to ensure operational flexibility and avoid circulation interference within the parking lot.

Emergency Access and Fire Routes

The site design allows for fire routes through seven entry points across the plaza. These routes provide emergency vehicle access from Noella Leclair Way, Roger Pharand Street, and other site entrances, ensuring compliance with safety regulations. The designated fire routes allow for rapid response times and comprehensive site coverage in case of emergencies.

Garbage Collection

Garbage collection will be managed at the rear of the building, where designated areas provide space for waste storage and pickup. This area is directly accessible via the truck approach from Roger Pharand Street, ensuring efficient waste removal operations without interfering with general traffic or customer access.

The circulation and access strategy for 2025 Mer Bleue Road integrates multiple entry points, dedicated loading facilities, and clear separation of vehicle types to support efficient and safe site operations. These features enhance functionality while meeting the needs of customers, delivery services, and emergency responders.

Turning templates for garbage trucks are also provided in **Figure 2**. The templates confirm that garbage vehicles can maneuver safely within the site using the proposed access design.

3.4 PARKING

The proposed development at 2025 Mer Bleue Road is located within Area C of Schedule 1A of the City of Ottawa Zoning By-law 2008-250. Based on the zoning designation for retail food store use, the minimum parking requirement is 3.6 spaces per 100 m² of Gross Floor Area (GFA). With a total GFA of 3,783.40m², the by-law requires a minimum of 137 parking spaces.

The development exceeds this requirement by providing 261 parking spaces, which equates to approximately 6.8 spaces per 100 m² of GFA. This additional parking ensures ample availability for customers and staff, accommodating peak demand.

The proposed development also includes 2 loading spaces, exceeding the by-law's minimum requirement of 1 loading space. This ensures sufficient capacity to manage delivery and operational needs effectively.

To support active transportation, the by-law requires 1 bicycle parking space per 250 m² of GFA, resulting in a requirement of 16 spaces. The site design includes these facilities, with 60 bicycle parking spaces provided, promoting sustainable transportation options.

In compliance with the Accessibility for Ontarians with Disabilities Act (AODA), the proposed parking layout includes 6 barrier-free parking spaces, to ensure accessibility for all users. These spaces are designed according to AODA standards and are strategically located near the building entrance for convenience.

The proposed parking provisions, including the surplus vehicle parking and loading spaces, exceed by-law requirements, supporting the operational and accessibility needs of the development while encouraging sustainable transportation options.

3.5 BOUNDARY STREETS

3.5.1 Mobility

The City of Ottawa evaluates transportation performance using the Multi-Modal Level of Service (MMLOS) framework, which assesses the Level of Service (LOS) for all modes of transportation, including pedestrians (PLOS), cyclists (BLOS), transit (TLOS), and vehicles (AutoLOS). These MMLOS guidelines provide direction on balancing trade-offs across different transportation modes, tailored to the specific location and land use context of the study site.

It is noted that the MMLOS framework and associated guidelines used in this assessment are based on the City of Ottawa's draft MMLOS methodology, which has not yet been formally approved by Council. The results are presented to provide a high-level assessment of multimodal performance in accordance with the latest available guidance.

The site at 2025 Mer Bleue Road is located within an urban area and designated as part of the City's evolving transit and active transportation network. The Official Plan emphasizes the promotion of sustainable, multi-modal corridors, setting high MMLOS targets for pedestrians and cyclists while ensuring reasonable accommodation for vehicular and transit traffic. The MMLOS targets for the site are summarized as follows:

- Pedestrian LOS (PLOS): High standards are expected to support safe, accessible, and continuous pedestrian connectivity along adjacent streets and within the site.
- Bicycle LOS (BLOS): High standards reflect the presence of dedicated cycling lanes on Mer Bleue Road and Innes Road, promoting safe and convenient cycling access.
- Transit LOS (TLOS): Transit services along Mer Bleue Road and Innes Road aim to maintain moderate to high levels of service, ensuring efficient connections to the broader OC Transpo network.
- Auto LOS (AutoLOS): AutoLOS targets aim to balance the accommodation of vehicular traffic with the prioritization of sustainable transportation modes.

The design of the proposed development aligns with the City of Ottawa's MMLOS framework, integrating features that enhance pedestrian and cyclist infrastructure while supporting efficient transit and vehicular circulation. These elements contribute to a sustainable, multi-modal transportation system in line with the City's Official Plan objectives. **Table 17** captures the MMLOS targets for the subject site.

Table 17 - Minimum Desirable MMLOS Targets by Official Plan Designation / Policy

OP Designation / Policy Area	PLOS	BLOS		TLOS		AutoLOS
		Cross-Town	Elsewhere	TP – Isolated Measures*	Mixed Traffic	
Outer Urban or Suburban *Mer Bleue Road*	C	B	C	C	E	E
Mainstreet Corridor (outside a Hub) *Innes Road*	B	B	C	C	E	E

The study area is bound by Innes Road (east-west arterial) and Mer Bleue Road (north-south arterial). Segment MMLOS analysis for future background conditions was conducted for these roads. Detailed MMLOS results are included in **Appendix D** and summarized in **Table 18** below.

Table 18 - Segment MMLOS for Boundary Streets, Future Background

	PLOS	BLOS		TLOS		Public Realm LOS
		Cross-Town	Elsewhere	TP – Isolated Measures	Mixed Traffic	

Target	**B**	**B**	**C**	**C**	**E**	**E**
Innes, Mer Bleue to Noella Leclair	B (North Side) A (South Side)	D			C	C
Target	**C**	**B**	**C**	**C**	**E**	**E**
Mer Bleue, Innes to Roger Pharand	B (west side) A (east side)		D		C	C

The segment MMLOS results indicate that PLOS, TLOS, and Public Realm LOS targets are met for both Innes Road and Mer Bleue Road. However, BLOS targets are not met due to insufficient cycling infrastructure along these corridors. There are opportunities to better align these streets with the City of Ottawa's complete streets policy and the Transportation Master Plan (TMP) goals.

Innes Road, Mer Bleue to Noella Leclair

High traffic volumes, limited separation between vehicle lanes and sidewalks, and a lack of protected cycling infrastructure contribute to the BLOS failing to meet targets for this segment. While the PLOS and TLOS meet the required thresholds, improvements are necessary to enhance multi-modal connectivity and safety.

- PLOS Performance: The north side achieves a PLOS "B," offering a comfortable pedestrian environment, while the south side achieves an "A," representing a very comfortable pedestrian experience. This performance is attributed to the provision of sidewalks and consistent pedestrian facilities.
- Cycling Infrastructure: The BLOS rating of D highlights the need for improved cycling facilities. Cycle tracks, physically separated from vehicular traffic, would greatly enhance safety and comfort for cyclists and align this segment with its TMP designation as a Cross-Town Bikeway.
- TLOS and Public Realm LOS: TLOS meets the minimum desirable "C" rating, suggesting moderate transit service accessibility. Public Realm LOS remains at "C," which indicates adequate, though not exceptional, space and amenities for active transportation.

Mer Bleue Road (Innes to Roger Pharand)

- PLOS Performance: Both sides of Mer Bleue Road achieve desirable scores, with the west side scoring "B" and the east side achieving "A." These scores are reflective of continuous sidewalks and other pedestrian-friendly infrastructure.
- BLOS Performance: The segment scores "D" for cycling, primarily due to the lack of designated cycling facilities and high traffic volumes.
- TLOS and Public Realm LOS: TLOS meets the minimum desirable "C," ensuring acceptable transit connectivity, while Public Realm LOS achieves a "C," providing basic amenities and separation from traffic for active modes.

Recommendations for Boundary Streets

- Innes Road Improvements: To enhance BLOS performance, it is recommended that cycle tracks or buffered bike lanes be added along Innes Road, in alignment with the TMP designation of the corridor as a Cross-Town Bikeway. This addition would also contribute to improved Public Realm LOS by providing a greater sense of safety and comfort for cyclists.
- Mer Bleue Road Improvements: Similarly, to meet BLOS targets, physically separated cycling facilities should be introduced along Mer Bleue Road. These facilities would align with the TMP's emphasis on sustainable and active modes of transportation.
- Transit Enhancements: Provide improved transit stops with shelters, seating, and accessible boarding areas to further enhance TLOS performance. Integrate transit priority measures where feasible, such as queue jump lanes or dedicated bus lanes.

3.5.2 Road Safety

As discussed in Section 2.1.2.7, there were no concerning trends in historical collision data. The road safety assessment for the study area was conducted using collision data from the City of Ottawa and considered existing conditions along Innes Road (Mer Bleue to Noella Leclair) and Mer Bleue Road (Innes to Roger Pharand). The analysis identifieed key trends and areas for potential safety improvements to enhance the overall functionality and safety of the road network. Key findings include:

Collision data for the past five years indicates a total of 201 reported collisions across the study area intersections. The majority of these incidents were rear-end collisions, often associated with high traffic volumes, queuing at intersections, and the relatively high posted speed limits on Innes Road and Mer Bleue Road.

Intersection of Innes Road and Mer Bleue Road:

- This location experienced the highest number of collisions in the study area, accounting for 77% of all reported incidents.
- Rear-end collisions were the most common type, attributed to queuing and high-speed traffic during peak periods.
- The lack of adequate turning lanes and long crossing distances for pedestrians further contribute to operational challenges and safety concerns.

Intersection of Innes Road and Noella Leclair Way:

- Representing 17% of reported collisions, this intersection primarily experienced rear-end and sideswipe collisions.

Intersection of Mer Bleue Road and Roger Pharand Street:

- This intersection accounted for 6% of reported collisions.
- Angle and turning collisions were prevalent, linked to limited visibility and high turning movements during peak hours.

3.6 TRANSPORTATION DEMAND MANAGEMENT (TDM)

3.6.1 Context for TDM

The surrounding area is designated within Area C of Schedule 1A under the City of Ottawa's Zoning By-Law, and the applicable transportation demand management (TDM) measures aim to encourage active and sustainable modes of transportation.

As outlined in the City's Transportation Master Plan (TMP), the site falls within an Outer Urban/Suburban zone. The TMP sets mode share targets for active and public transportation in this area, emphasizing the reduction of auto mode share. The planned Blair Station to Mer Bleue Road Bus Rapid Transit (BRT) corridor improvements are expected to enhance transit accessibility and increase the transit mode share over time.

The development proposes 261 parking spaces and two loading spaces, aligning with the parking requirements under the zoning by-law. Additionally, barrier-free parking and bicycle parking are included in the site plan to support active and accessible transportation options.

3.6.2 Need and Opportunity

The proposed development presents a unique opportunity to support the City of Ottawa's transportation goals, particularly for active and sustainable modes of transportation. Key factors include:

- The site's proximity to the planned Mer Bleue BRT corridor, which will enhance transit service and reduce reliance on private vehicles.
- Cycling infrastructure improvements along Innes Road and Mer Bleue Road, which are identified as critical links in the Cross-Town Bikeway network under the TMP.
- Provision of on-site sidewalk facilities to support connections between the development, nearby transit stops, and adjacent areas.

3.6.3 TDM Program

The Transportation Demand Management (TDM) – **Supportive Development Design and Infrastructure Checklist** has been reviewed, and the following measures are recommended to support active and sustainable transportation options at the proposed development:

TDM Program Management

- **Travel Surveys and Monitoring**: Periodic travel surveys or monitoring programs should be implemented to gather commute data and identify barriers to sustainable transportation choices.
- **Awareness Campaigns**: Workplace campaigns or programs should promote sustainable commuting options such as transit use, cycling, and carpooling through advertisements, events, and incentive programs.

On-Site Amenities

- **Errand Reduction**: The retail nature of the development provides opportunities to reduce the need for separate trips by offering goods and services on-site. Employees and customers can complete errands without additional vehicle trips.
- **Bicycle Facilities**: Provision of secure, sheltered, and well-lit bicycle parking for both employees and customers to encourage cycling as a primary mode of transport.

Transit Amenities

- **Transit Information Displays**: Install digital screens in public areas such as the lobby to display real-time transit updates, route maps, and schedules, making transit more convenient and accessible for employees and customers.

Pedestrian and Cyclist Infrastructure

- **Enhanced Walkability**: Design safe, accessible, and well-lit pedestrian pathways connecting building entrances to public sidewalks, transit stops, and parking areas.

Delivery and Logistics

- **Efficient Loading Areas**: Provide clearly marked, designated spaces for deliveries and trucks to minimize conflicts with pedestrians and cyclists and reduce idling times.

By implementing these TDM measures, the proposed development will support the City of Ottawa's objectives for sustainable urban growth, enhance the commuting experience for employees and customers, and reduce dependency on private vehicle use. These recommendations align with the City's **Transportation Master Plan (TMP)** and encourage a shift toward more sustainable modes of transportation. The completed TDM Checklists are included in **Appendix C**.

3.7 TRANSIT

3.7.1 Transit Priority

Timelines for the planned transit priority measures by the City of Ottawa which include transit signal priority, queue jump lanes, and the ultimate establishment of a BRT, are not confirmed. Such transit priority measures are supported to accommodate the anticipated growth on study area corridors, and projected network traffic volumes.

3.8 INTERSECTION DESIGN

3.8.1 Intersection Controls

The existing intersection control will be maintained for all study area intersections for both 2025 existing conditions and future conditions assessments. Key assumptions for the study area include:

1. The existing signalized intersections at **Innes Road and Mer Bleue Road** and **Innes Road and Noella Leclair Way** will remain signalized.
2. No major intersection control upgrades are assumed within the study area.

3.8.2 Intersection MMLOS

Intersection Multi-Modal Level of Service (MMLOS) analysis was conducted to evaluate the performance of intersections in the study area under existing, future background, and future total conditions. The analysis assessed the comfort, safety, and operational efficiency for all travel modes, including pedestrians (PLOS), cyclists (BLOS), transit users (TLOS), and drivers (AutoLOS). The results were evaluated against the MMLOS targets defined in the City of Ottawa's 2024 MMLOS Guideline Update, which reflects the latest standards for multi-modal transportation assessment. Detailed MMLOS results are provided in **Appendix D** and summarized below.

Intersection MMLOS for Existing conditions are shown in **Table 19**, with a summary of results provided below.

Table 19 - Intersection MMLOS, Existing

	PLOS	BLOS	TLOS	AutoLOS
Innes Road, Mer Bleue to Noella Leclair				
Target	**C**	**B**	**D**	**E**
Innes Road & Mer Bleue Road	E	F	C	D
Innes Road & Noella Leclair Way	C	F	C	E
Mer Bleue, Innes to Roger Pharand				
Target	**C**	**C**	**D**	**E**
Mer Bleue, Road & Roger Pharand Street	C	F	B	A

- **Innes Road & Mer Bleue Road**: PLOS (E) and BLOS (F) do not meet their respective targets (C and B) due to long crossing distances, the absence of protected cycling infrastructure, and high traffic volumes. TLOS (C) and AutoLOS (D) both meet their respective targets, indicating acceptable operations for transit users and general vehicular traffic.
- **Innes Road & Noella Leclair Way**: PLOS (C) meets the target, while BLOS (F) falls short, primarily due to the lack of protected cycling facilities. AutoLOS (E) is at the target, indicating operations are within acceptable levels under current conditions. TLOS (C) also meets the target.
- **Mer Bleue Road & Roger Pharand Street**: PLOS (C) meets the target (C), while BLOS (F) does not meet the target (C) due to insufficient cycling infrastructure. However, TLOS and AutoLOS operate within acceptable levels.

Intersection MMLOS for Future Background conditions are summarized in

Table 20**.** There is minimal variation of MMLOS results from Existing to Future Background conditions as there are no major changes to these intersections from known, committed projects.

Table 20 - Intersection MMLOS, 2031 Future Background

	PLOS	BLOS	TLOS	AutoLOS
Innes Road, Mer Bleue to Noella Leclair				
Target	**C**	**B**	**D**	**E**

Innes Road & Mer Bleue Road	E	F	D	D
Innes Road & Noella Leclair Way	C	F	D	E
Mer Bleue, Innes to Roger Pharand				
Target	**C**	**C**	**D**	**E**
Mer Bleue, Road & Roger Pharand Street	C	F	B	A

Intersection MMLOS for Future Total conditions are summarized in **Table 21.**

Table 21 - Intersection MMLOS, 2031 Future Total

	PLOS	BLOS	TLOS	AutoLOS
Innes Road, Mer Bleue to Noella Leclair				
Target	**C**	**B**	**D**	**E**
Innes Road & Mer Bleue Road	E	F	E	D
Innes Road & Noella Leclair Way	C	F	D	E
Mer Bleue, Innes to Roger Pharand				
Target	**C**	**C**	**D**	**E**
Mer Bleue, Road & Roger Pharand Street	C	F	B	A

- **Innes Road & Mer Bleue Road**: PLOS (E) and BLOS (F) remain below their respective targets (C and B) due to high traffic volumes and the continued absence of dedicated pedestrian and cycling infrastructure. TLOS decreases from C to D in the future background and to E in the future total scenario, not meeting the target the future total scenario. AutoLOS remains at D, which meets the target (E) across both future scenarios.
- **Innes Road & Noella Leclair Way**: PLOS (C) continues to meet the target, while BLOS (F) remains well below the target (B). TLOS decreases from C to D, and AutoLOS remains at target (E).
- **Mer Bleue Road & Roger Pharand Street**: Results remain unchanged, with BLOS not meeting the target MMLOS.

3.8.3 Existing Conditions

The following section summarizes the study area intersection capacity analysis for Existing, Future Background and Future Total Volume scenarios. Detailed results will be provided if required.

Using the intersection capacity analysis software Synchro, study area intersections were assessed in terms of vehicle delay, volume-to-capacity ratio (v/c) and the corresponding Level of Service (LOS). It should be noted that the overall performance of a signalized intersection is calculated as a weighted v/c ratio and assigned a corresponding LOS, with critical movements assigned a LOS based on their respective v/c ratio. Unsignalized intersections are given an LOS based on delay. Full Synchro output reports for all scenarios are available in **Appendix E**. **Table 22** shows the vehicular level of service that corresponds to each v/c ratio.

Table 22 - Level of Service vs. v/c Ratio

Level of Service	Volume to Capacity Ratio
A	0 to 0.60
B	0.61 to 0.70
C	0.71 to 0.80
D	0.81 to 0.90
E	0.91 to 1.00
F	> 1.00

Table 23 below summarize the results of the Synchro traffic analysis in Existing conditions for AM and PM peak hours.

Table 23 – Signalized Intersection Operations, Existing Conditions 2025, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
Mer-Bleue Road & Innes Road	EBL	17 (27)	0.27 (0.62)	A (B)	9 (32)
	EBT	20 (79)	0.24 (1.06)	A (F)	38 (#257)
	EBR	1 (5)	0.09 (0.22)	A (A)	0 (13)
	WBL	12 (95)	0.41 (0.97)	A (E)	m22 (#82)
	WBT	31 (27)	0.86 (0.70)	D (B)	#224 (134)
	WBR	17 (4)	0.70 (0.47)	B (A)	m153 (17)
	NBL	46 (56)	0.26 (0.44)	A (A)	23 (35)
	NBTR	55 (53)	0.78 (0.87)	C (D)	70 (78)
	SBL	65 (100)	0.63 (1.01)	B (F)	#33 (#111)
	SBTR	49 (76)	0.60 (0.95)	A (E)	34 (#116)
	Overall	**31 (58)**	**0.81 (1.00)**	**D (E)**	**-**
Noella Leclair Way & Innes Road	EBL	8 (4)	0.09 (0.23)	A (A)	m3 (m3)
	EBTR	8 (11)	0.25 (0.78)	A (C)	44 (m167)
	WBL	3 (3)	0.03 (0.04)	A (A)	2 (1)
	WBTR	17 (10)	0.88 (0.60)	D (A)	#326 (124)
	NBL	0 (0)	0.00 (0.00)	()	0 (0)
	NBTR	0 (23)	0.01 (0.21)	A (A)	0 (10)
	SBL	54 (63)	0.14 (0.25)	A (A)	11 (16)
	SBTR	20 (23)	0.44 (0.24)	A (A)	17 (11)
	Overall	**15 (11)**	**0.86 (0.76)**	**D (C)**	**-**
Mer-Bleue Road & Roger Pharand Street	EBL	38 (46)	0.08 (0.65)	A (B)	7 (42)
	EBTR	19 (12)	0.11 (0.46)	A (A)	7 (21)
	WBL	40 (30)	0.20 (0.14)	A (A)	13 (10)
	WBTR	29 (16)	0.02 (0.08)	A (A)	3 (7)
	NBL	4 (11)	0.07 (0.36)	A (A)	5 (28)
	NBT	3 (7)	0.23 (0.24)	A (A)	21 (31)
	NBR	1 (2)	0.01 (0.03)	A (A)	1 (2)
	SBL	4 (8)	0.04 (0.11)	A (A)	3 (10)
	SBT	3 (8)	0.15 (0.32)	A (A)	13 (42)
	SBR	1 (3)	0.01 (0.08)	A (A)	0 (5)
	Overall	**4 (11)**	**0.22 (0.37)**	**A (A)**	**-**

1. Mer Bleue Road & Innes Road:

   The intersection operates near capacity during the PM peak period, with an overall v/c ratio of 1.00 and LOS E. Critical movements include the eastbound through (EBT) and southbound left (SBL), both of which

experience LOS F and queue lengths of 257 metres and 111 metres, respectively. The westbound left (WBL) movement also performs poorly during the PM peak, operating at LOS E with a v/c ratio of 0.97 and a queue length of 82 metres.

While the AM peak is more manageable (v/c ratio 0.81, LOS D), it still features long queues for movements such as NBTR (70 m) and SBTR (116 m).

To mitigate congestion, it is recommended to increase the overall cycle length and reallocate green time toward the EBT and SBL phases during the PM peak. However, due to high commuter volumes along Innes Road, these improvements may offer only marginal relief. A more sustainable solution involves encouraging a modal shift through enhanced transit services along the Innes Road Transit Priority Corridor, which is expected to reduce single-occupancy vehicle demand and improve long-term network efficiency.

2. Noella Leclair Way & Innes Road:

   This intersection shows moderate congestion with an overall v/c ratio of 0.86 (AM) and 0.76 (PM), and corresponding LOS D (AM) and C (PM). The westbound through/right (WBTR) movement presents operational concerns during the AM peak, reaching a v/c ratio of 0.88 and a 95th percentile queue of 326 metres, despite only moderate delay. In the PM peak, the eastbound through/right (EBTR) movement becomes more constrained, with a v/c ratio of 0.78 and a queue extending to 167 metres.

   While the intersection does not operate over capacity, targeted signal timing adjustments—such as reallocation of green time toward WBTR in the AM peak and EBTR in the PM peak—may help improve traffic flow and reduce queue lengths. Given the critical location along Innes Road, these measures should be coordinated with long-term transit investments to support sustainable travel choices in the corridor.

3. Mer Bleue Road & Roger Pharand Street:

   The intersection operates efficiently, with all movements achieving acceptable delays and v/c ratios. No immediate improvements are required.

3.8.4 2026 Future Background

Table 24 below summarize the results of the Synchro traffic analysis in Future Background 2026 conditions.

Table 24 – Signalized Intersection Operations, Future Background 2026, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
Mer-Bleue Road & Innes Road	EBL	15 (23)	0.22 (0.53)	A (A)	9 (29)
	EBT	20 (59)	0.22 (0.98)	A (E)	35 (#228)
	EBR	1 (5)	0.09 (0.21)	A (A)	0 (13)
	WBL	12 (81)	0.38 (0.91)	A (E)	m23 (#73)
	WBT	27 (26)	0.78 (0.65)	C (B)	#201 (122)
	WBR	14 (4)	0.64 (0.45)	B (A)	154 (20)
	NBL	46 (55)	0.25 (0.40)	A (A)	22 (33)
	NBTR	55 (49)	0.77 (0.84)	C (D)	65 (70)
	SBL	64 (74)	0.60 (0.89)	A (D)	#30 (#100)
	SBTR	49 (70)	0.58 (0.91)	A (E)	32 (#104)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
	Overall	**29 (48)**	**0.68 (0.91)**	**B (E)**	**-**
Noella Leclair Way & Innes Road	EBL	8 (4)	0.08 (0.19)	A (A)	m3 (m3)
	EBTR	7 (9)	0.23 (0.73)	A (C)	40 (m164)
	WBL	3 (3)	0.02 (0.03)	A (A)	2 (1)
	WBTR	13 (9)	0.79 (0.56)	C (A)	240 (106)
	NBL	0 (0)	0.00 (0.00)	()	0 (0)
	NBTR	0 (23)	0.01 (0.20)	A (A)	0 (10)
	SBL	54 (62)	0.12 (0.23)	A (A)	10 (15)
	SBTR	18 (23)	0.41 (0.23)	A (A)	15 (11)
	Overall	**12 (9)**	**0.77 (0.72)**	**C (C)**	**-**
Mer-Bleue Road & Roger Pharand Street	EBL	38 (46)	0.07 (0.63)	A (B)	7 (39)
	EBTR	19 (12)	0.11 (0.44)	A (A)	7 (20)
	WBL	40 (31)	0.18 (0.13)	A (A)	12 (9)
	WBTR	29 (16)	0.02 (0.08)	A (A)	3 (7)
	NBL	4 (10)	0.06 (0.31)	A (A)	4 (24)
	NBT	3 (7)	0.21 (0.22)	A (A)	19 (28)
	NBR	1 (2)	0.01 (0.03)	A (A)	0 (2)
	SBL	4 (7)	0.04 (0.10)	A (A)	3 (9)
	SBT	3 (7)	0.13 (0.29)	A (A)	12 (37)
	SBR	0 (2)	0.01 (0.07)	A (A)	0 (5)
	Overall	**4 (11)**	**0.20 (0.34)**	**A (A)**	**-**

The intersection operational results between the 2025 Existing Conditions and 2026 Future Background scenarios show marginal improvements in v/c ratios and delays for several movements, which may appear counterintuitive given the expected increase in traffic volumes. However, the improvements can be attributed to a change in the Peak Hour Factor (PHF) applied in the modeling. In line with City of Ottawa standards, the Existing Conditions analysis used a PHF of 0.90, while the Future Background analysis applied a PHF of 1.00. This adjustment reflects a more uniform traffic arrival pattern in the future scenario, leading to slightly improved capacity utilization under the same geometric and control conditions.

1. Mer Bleue Road & Innes Road:

   Under 2026 future background conditions, this intersection continues to approach capacity during the PM peak period with an overall v/c ratio of 0.91 and LOS E. The eastbound through (EBT) movement is the most constrained, operating at v/c ratio 0.98, LOS E, and a 95th percentile queue of 228 metres, indicating a high likelihood of residual queuing beyond the signal cycle. The westbound left (WBL) and southbound through/right (SBTR) movements also show late-cycle spillback risk with v/c ratios over 0.90 and queue lengths exceeding 100 metres.

   During the AM peak, the intersection performs more favorably, with an overall v/c ratio of 0.68 and LOS B, although some movements still exhibit signs of delay, including the northbound through/right (NBTR) at v/c 0.77 and LOS C.

   To maintain performance and mitigate PM congestion, it is recommended to prioritize green time for EBT, WBL, and SBTR movements. However, improvements may be limited due to growing corridor-wide demands. A longer-term solution should involve travel demand management and multimodal infrastructure along Innes Road to support modal shift toward transit, consistent with the City's Transit Priority Corridor plan.

2. Noella Leclair Way & Innes Road:

   The intersection operates acceptably in both AM and PM peak periods with overall v/c ratios of 0.77 (AM) and 0.72 (PM), and LOS C in both periods. The westbound through/right (WBTR) movement presents the highest concern during the AM peak, with a v/c ratio of 0.79 and a 95th percentile queue of 240 metres, potentially impacting upstream circulation.

   The eastbound through/right (EBTR) movement also approaches capacity during the PM peak (v/c = 0.73, LOS C, 164 metres queue).

   While the intersection remains under capacity overall, it is recommended to monitor WBTR and EBTR performance in future phases of development. Adjustments to phase durations or the implementation of adaptive signal control could help optimize operations under growing volumes.

3. Mer Bleue Road & Roger Pharand Street:

   - All movements continue to operate well within capacity, with LOS 'A' maintained across both time periods.
   - The only minor variation is in queue lengths and slight improvements in delay due to smoother arrival assumptions from the PHF.

3.8.5 2031 Future Background

Table 25 below summarize the results of the Synchro traffic analysis in Future Background 2031 conditions.

Table 25 – Signalized Intersection Operations, Future Background 2031, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
Mer-Bleue Road & Innes Road	EBL	17 (28)	0.29 (0.62)	A (B)	9 (32)
	EBT	20 (81)	0.24 (1.06)	A (F)	38 (#259)
	EBR	1 (5)	0.10 (0.23)	A (A)	0 (13)
	WBL	12 (98)	0.42 (0.98)	A (E)	m21 (#83)
	WBT	33 (27)	0.89 (0.71)	D (C)	m#231 (135)
	WBR	18 (4)	0.72 (0.48)	C (A)	m152 (17)
	NBL	47 (56)	0.26 (0.44)	A (A)	24 (35)
	NBTR	56 (52)	0.80 (0.87)	C (D)	71 (79)
	SBL	66 (105)	0.65 (1.04)	B (F)	#34 (#111)
	SBTR	49 (78)	0.61 (0.96)	B (E)	34 (#118)
	Overall	**32 (59)**	**0.84 (1.01)**	**D (F)**	**-**
Noella Leclair Way & Innes Road	EBL	8 (4)	0.09 (0.23)	A (A)	m3 (m3)
	EBTR	8 (11)	0.26 (0.79)	A (C)	45 (m166)
	WBL	3 (3)	0.03 (0.04)	A (A)	2 (1)
	WBTR	19 (10)	0.90 (0.61)	D (B)	#336 (125)
	NBL	0 (0)	0.00 (0.00)	()	0 (0)
	NBTR	0 (23)	0.01 (0.21)	A (A)	0 (10)
	SBL	54 (63)	0.14 (0.25)	A (A)	11 (16)
	SBTR	20 (23)	0.44 (0.24)	A (A)	17 (11)
	Overall	**16 (11)**	**0.88 (0.77)**	**D (C)**	**-**
Mer-Bleue Road & Roger Pharand Street	EBL	38 (45)	0.08 (0.65)	A (B)	7 (42)
	EBTR	19 (13)	0.11 (0.46)	A (A)	7 (22)
	WBL	40 (30)	0.19 (0.14)	A (A)	13 (10)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
	WBTR	29 (16)	0.02 (0.08)	A (A)	3 (7)
	NBL	4 (11)	0.07 (0.36)	A (A)	5 (28)
	NBT	3 (7)	0.23 (0.24)	A (A)	22 (31)
	NBR	1 (2)	0.01 (0.03)	A (A)	1 (2)
	SBL	4 (8)	0.04 (0.11)	A (A)	3 (10)
	SBT	3 (8)	0.15 (0.32)	A (A)	13 (42)
	SBR	1 (2)	0.01 (0.08)	A (A)	0 (5)
	Overall	**4 (11)**	**0.22 (0.37)**	**A (A)**	**-**

The comparison between the 2025 Existing Conditions and the 2031 Future Background Conditions at the three study intersections is summarized below. The analysis highlights how performance evolves as traffic demand grows, assuming no changes to roadway geometry or signal timing.

1. Mer Bleue Road & Innes Road:

   This intersection is approaching capacity under both 2025 and 2031 conditions, with an overall v/c ratio increasing from 0.81 to 0.84 and LOS degrading from D to D (AM) and E to F (PM). Notable observations include:

   - The eastbound through (EBT) movement remains the most critical constraint, with v/c ratio of 1.06 and LOS F in both scenarios, and queue lengths of 257 m (2025) and 259 m (2031). This reflects ongoing oversaturation during the PM peak.
   - The westbound left (WBL) movement operates near capacity in both conditions, reaching v/c of 0.98 and LOS E in 2031, with queue lengths up to 83 m.
   - The southbound through/right (SBTR) movements also exhibit high demand, with v/c ratios close to or above 0.95 and queues exceeding 100 metres, indicating significant pressure from southbound traffic.
   - The westbound through (WBT) increases in delay, reaching v/c ratio 0.89 and LOS D with queue length over 230 m.

   These results confirm that intersection capacity constraints intensify by 2031, particularly in the PM peak, despite minimal changes in delay. It is recommended to explore signal timing adjustments focused on the EBT, WBL, and SBTR movements and to support multimodal improvements along the Innes Road corridor, consistent with the City's Transit Priority plan..

2. Noella Leclair Way & Innes Road:

   The intersection operates acceptably in both AM and PM peak periods with overall v/c ratios of 0.86 (AM) and 0.76 (PM) in 2025, increasing slightly to 0.88 (AM) and 0.77 (PM) in 2031. LOS remains stable at D (AM) and C (PM) in both scenarios.

   The westbound through/right (WBTR) movement presents the highest concern during the AM peak, with a v/c ratio of 0.90 and a 95th percentile queue of 336 metres, potentially affecting upstream operations.

   The eastbound through/right (EBTR) movement also approaches capacity during the PM peak, operating at v/c = 0.79, LOS C, and 166 metres queue.

While the intersection remains under capacity overall, continued monitoring of WBTR and EBTR performance is advisable. Signal timing adjustments or adaptive control strategies may be warranted in future phases to maintain acceptable operations as volumes grow..

4. Mer Bleue Road & Roger Pharand Street:

   - Movements continue to operate well within capacity, with LOS 'A' maintained across both time periods.
   - The only minor variation is in queue lengths and slight improvements in delay due to smoother arrival assumptions from the PHF.

3.8.6 2026 Future Total

Table 26 below summarize the results of the Synchro traffic analysis in Future Total 2026 conditions. Projected Future Total 2026 and 2031 traffic volumes are shown at the end of this section in **Figure 16 and Figure 17**.

Table 26 – Signalized Intersection Operations, Future Total 2026, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
Mer-Bleue Road & Innes Road	EBL	15 (23)	0.22 (0.53)	A (A)	9 (29)
	EBT	20 (66)	0.23 (1.01)	A (F)	37 (#238)
	EBR	1 (5)	0.10 (0.23)	A (A)	0 (13)
	WBL	12 (81)	0.38 (0.91)	A (E)	m23 (#73)
	WBT	28 (27)	0.79 (0.65)	C (B)	#201 (123)
	WBR	14 (4)	0.65 (0.45)	B (A)	153 (15)
	NBL	47 (56)	0.27 (0.45)	A (A)	23 (36)
	NBTR	56 (56)	0.78 (0.88)	C (D)	68 (#88)
	SBL	64 (93)	0.60 (0.98)	A (E)	#30 (#100)
	SBTR	51 (80)	0.61 (0.97)	B (E)	36 (#120)
	Overall	**30 (54)**	**0.76 (0.97)**	**C (E)**	**-**
Noella Leclair Way & Innes Road	EBL	8 (5)	0.08 (0.19)	A (A)	m3 (m4)
	EBTR	9 (15)	0.24 (0.80)	A (C)	42 (m219)
	WBL	3 (9)	0.05 (0.28)	A (A)	3 (5)
	WBTR	13 (9)	0.79 (0.56)	C (A)	240 (114)
	NBL	53 (65)	0.09 (0.33)	A (A)	8 (20)
	NBTR	1 (20)	0.02 (0.30)	A (A)	0 (13)
	SBL	54 (61)	0.12 (0.22)	A (A)	10 (15)
	SBTR	18 (23)	0.41 (0.22)	A (A)	15 (11)
	Overall	**12 (13)**	**0.77 (0.77)**	**C (C)**	**-**
Mer-Bleue Road & Roger Pharand Street	EBL	37 (47)	0.07 (0.65)	A (B)	7 (39)
	EBTR	19 (12)	0.10 (0.43)	A (A)	7 (20)
	WBL	41 (32)	0.21 (0.22)	A (A)	14 (14)
	WBTR	18 (10)	0.11 (0.26)	A (A)	7 (12)
	NBL	4 (10)	0.06 (0.31)	A (A)	5 (25)
	NBT	3 (7)	0.21 (0.22)	A (A)	20 (29)
	NBR	1 (3)	0.02 (0.05)	A (A)	1 (4)
	SBL	4 (9)	0.08 (0.23)	A (A)	5 (20)
	SBT	3 (8)	0.13 (0.29)	A (A)	12 (39)
	SBR	0 (3)	0.01 (0.07)	A (A)	0 (5)
	Overall	**5 (11)**	**0.20 (0.34)**	**A (A)**	**-**

The operational performance of study area intersections under 2026 Future Total conditions (with development traffic) was compared directly to the 2026 Future Background scenario (without development traffic) to assess the impact of the proposed retail development. Based on the Synchro results, the development introduces minor increases in v/c ratios and queue lengths at some intersections, but no new failing movements are triggered, and the overall LOS remains largely unchanged. The following key comparisons highlight the level of impact:

1. Mer Bleue Road & Innes Road
    - Overall Intersection: v/c increases slightly from 0.68 to 0.76 (AM) and from 0.91 to 0.97 (PM).
    - EBT (PM peak): v/c rises from 0.98 to 1.01 (LOS F) but this movement was already approaching capacity in the Future Background. The marginal increase indicates the development has a measurable but not transformative effect.
    - SBTR (PM peak): v/c increases from 0.91 to 0.97, LOS E, which may indicate some degradation, but remains within the acceptable level of performance for the City.
2. Noella Leclair Way & Innes Road
    - Overall Intersection: v/c remains stable at 0.77 (AM) and slightly increases from 0.72 to 0.77 (PM), while LOS remains C (AM) and C (PM).
    - EBTR (AM): v/c rises marginally from 0.79 to 0.8, retaining LOS C during the PM peak hour.
    - WBTR (AM): No change in v/c 0.79 (AM).
    - The intersection remains capacity constrained, but development traffic does not significantly worsen operations. Most movements operate as they did under background conditions, and no new mitigation appears warranted solely due to site-generated traffic.
3. Mer Bleue Road & Roger Pharand Street
    - Overall Intersection: v/c remains at 0.20 (AM) and from 0.34 (PM). LOS remains A in all cases.
    - All critical movements (e.g., NBT, SBT) show no meaningful increase in v/c or delay.
    - This intersection is not impacted by the development and continues to operate at a high level of service.

Across all study intersections, no significant degradation in LOS or v/c ratios is observed when comparing Future Background (2026) to Future Total (2026) conditions. Although some movements, such as EBT at Mer Bleue & Innes Road, operate near or just above capacity, these were already constrained in the background scenario. Therefore, no additional intersection improvements are triggered as a direct result of the proposed development. The existing and planned transportation infrastructure is deemed adequate to support the anticipated site traffic under 2026 conditions.

3.8.7 2031 Future Total

Table 27 below summarize the results of the Synchro traffic analysis in Future Total 2031 conditions.

Table 27 – Signalized Intersection Operations, Future Total 2031, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
Mer-Bleue Road & Innes Road	EBL	17 (28)	0.29 (0.62)	A (B)	9 (32)
	EBT	20 (90)	0.25 (1.09)	A (F)	40 (#269)
	EBR	1 (5)	0.11 (0.25)	A (A)	1 (14)
	WBL	13 (98)	0.43 (0.98)	A (E)	m21 (#82)
	WBT	33 (28)	0.90 (0.71)	D (C)	m#232 (128)
	WBR	18 (4)	0.73 (0.48)	C (A)	m152 (13)
	NBL	48 (57)	0.28 (0.48)	A (A)	25 (38)
	NBTR	57 (61)	0.81 (0.92)	D (E)	74 (#101)
	SBL	67 (127)	0.65 (1.11)	B (F)	#34 (#111)
	SBTR	51 (97)	0.63 (1.04)	B (F)	38 (#134)
	Overall	**33 (67)**	**0.85 (1.05)**	**D (F)**	**-**
Noella Leclair Way & Innes Road	EBL	8 (4)	0.09 (0.23)	A (A)	m3 (m3)
	EBTR	10 (16)	0.27 (0.86)	A (D)	47 (m162)
	WBL	3 (14)	0.05 (0.31)	A (A)	3 (8)
	WBTR	19 (10)	0.90 (0.61)	D (B)	#336 (131)
	NBL	53 (65)	0.09 (0.33)	A (A)	8 (20)
	NBTR	1 (20)	0.02 (0.30)	A (A)	0 (13)
	SBL	54 (62)	0.14 (0.24)	A (A)	11 (16)
	SBTR	20 (22)	0.44 (0.23)	A (A)	17 (11)
	Overall	**17 (14)**	**0.87 (0.83)**	**D (D)**	**-**
Mer-Bleue Road & Roger Pharand Street	EBL	37 (46)	0.08 (0.66)	A (B)	7 (42)
	EBTR	19 (12)	0.11 (0.45)	A (A)	7 (21)
	WBL	41 (31)	0.22 (0.23)	A (A)	14 (15)
	WBTR	18 (9)	0.11 (0.26)	A (A)	7 (12)
	NBL	4 (12)	0.07 (0.37)	A (A)	5 (29)
	NBT	3 (8)	0.23 (0.25)	A (A)	22 (32)
	NBR	1 (3)	0.02 (0.05)	A (A)	1 (4)
	SBL	4 (10)	0.09 (0.25)	A (A)	5 (21)
	SBT	3 (8)	0.15 (0.32)	A (A)	14 (44)
	SBR	1 (3)	0.01 (0.08)	A (A)	0 (6)
	Overall	**5 (11)**	**0.22 (0.37)**	**A (A)**	**-**

The operational performance of study area intersections under **2031 Future Total conditions** (with development traffic) was compared directly to the **2026 Future Background scenario** (without development traffic) to assess the cumulative impact of background growth and site-generated volumes. Based on the Synchro results, the addition of development traffic contributes to slight increases in v/c ratios and queue lengths across several movements. While some delays worsen, no new critical failures are introduced, and all movements that become constrained were already operating near or over capacity in the background case.

1. Mer Bleue Road & Innes Road

- Overall Intersection: The overall v/c ratio increases from 0.68 to 0.85 (AM) and from 0.91 to 1.05 (PM), with LOS degrading from B to D (AM) and from E to F (PM), indicating that the intersection is reaching critical capacity during the PM peak.
- EBT (PM): The eastbound through movement experiences a modest v/c increase from 0.98 to 1.09, remaining at LOS F, with queue length extending slightly from 228 m to 269 m. This suggests persistent oversaturation during the PM peak, consistent with prior conditions.

- WBT (AM/PM): The westbound through movement increases in v/c from 0.78 to 0.90 (AM) and 0.65 to 0.71 (PM), with LOS remaining C (AM) and improving to C from B (PM), indicating manageable growth in demand.
- SBTR (PM): This movement continues to operate over capacity, with v/c rising from 0.91 to 1.04 and LOS remaining at F, signaling growing queuing risk. Queues increase from 104 m to 134 m.
- SBL (PM): The southbound left movement also worsens, with v/c increasing from 0.89 to 1.11, and LOS falling from D to F. This reflects mounting congestion pressure from both background growth and site traffic.
- Conclusion: While the intersection already faced capacity constraints in 2026, the development contributes to performance degradation across multiple approaches. Mitigation through signal re-timing, especially for EBT, SBTR, and SBL, or more advanced measures such as queue jump lanes or transit signal priority, should be considered to sustain acceptable operations beyond 2031.

2. Noella Leclair Way & Innes Road

- Overall Intersection: The overall v/c increases from 0.77 to 0.87 (AM) and 0.72 to 0.83 (PM), with LOS worsening from C to D in both periods. The intersection approaches operational limits but remains within a tolerable range.
- WBTR (AM): The westbound through/right movement is the most critical, with v/c rising slightly from 0.79 to 0.90, and queue length increasing from 240 m to 336 m, indicating further strain on this phase.
- EBTR (PM): The eastbound through/right movement also worsens slightly, with v/c increasing from 0.73 to 0.86 and LOS degrading from C to D, though queue length remains largely similar.
- The intersection continues to be heavily impacted by directional commuter demand. The primary issues stem from high-volume east-west movements.
- Operational conditions worsen slightly by 2031, but these are in line with background growth rather than due to development traffic. Signal optimization (e.g., cycle length extension, green reallocation) and modal shift support through the Transit Priority Corridor could be used as a mitigation measure.

3. Mer Bleue Road & Roger Pharand Street

- All movements remain well below v/c = 0.50 with minimal delay or queuing.
- No degradation in performance between 2026 and 2031. No improvements required.

Between 2026 and 2031, the intersections at Mer Bleue & Innes and Noella Leclair & Innes exhibit gradual increases in congestion, primarily driven by area-wide traffic growth. Several movements begin to operate above capacity (v/c > 1.0) by 2031, with LOS degrading to F in key directions. However, these trends are anticipated under normal growth scenarios and not solely a result of site traffic. Mitigation measures might include:

- Signal timing optimization in the short term.
- Supporting modal shift in line with the planned Transit Priority Corridor on Innes and Mer Bleue.

- Monitoring performance beyond 2031 to reassess infrastructure needs if delays worsen.

Figure 16 - 2026 Future Total Traffic Volumes

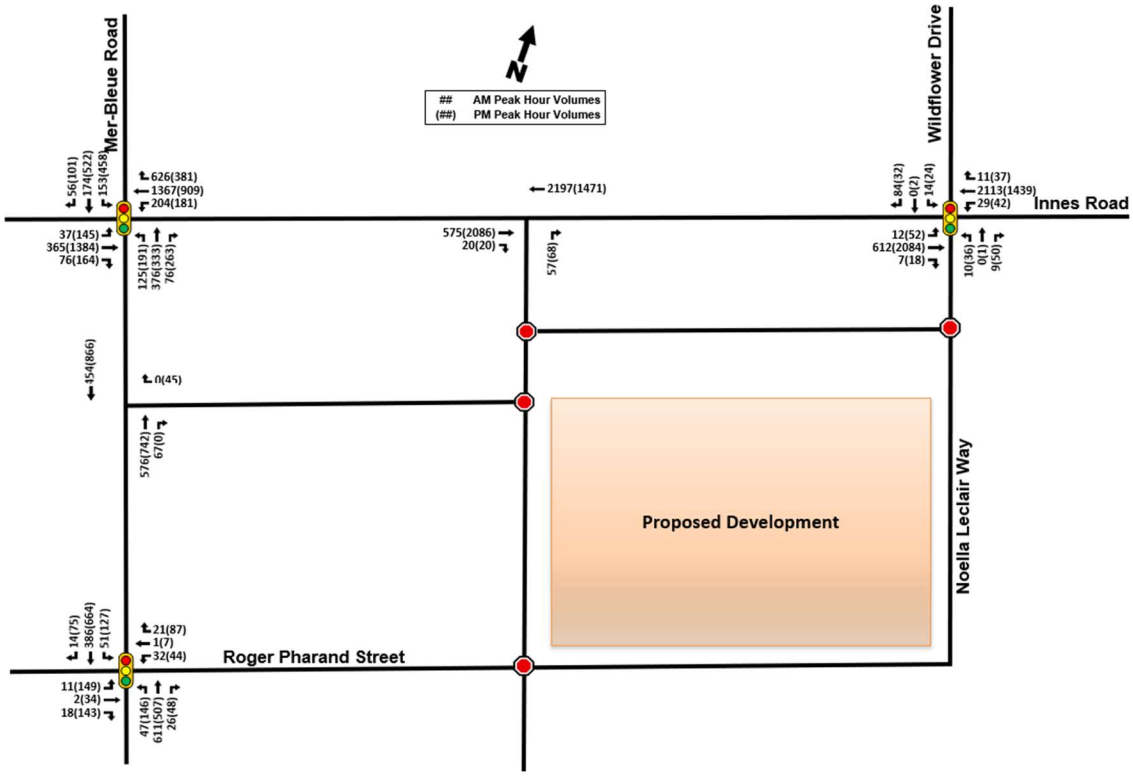
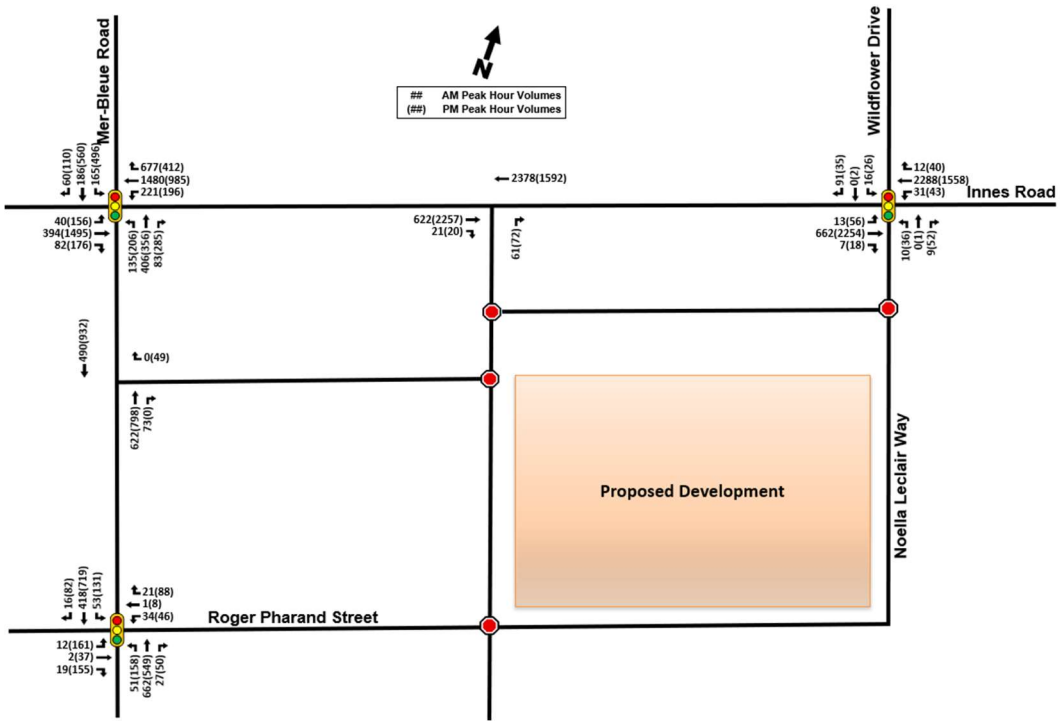


Figure 17 - 2031 Future Total Traffic Volumes



3.8.8 2026 & 2031 Future Total Traffic Volumes with The Three Surrounding developments in the study Area

The operational performance of study intersections was assessed under 2026 and 2031 future total traffic conditions, incorporating volumes from the proposed retail development as well as three additional surrounding developments within the study area. The results are presented in **Table 28** and **Table 29**, and corresponding traffic volumes are shown in **Figure 18** and **Figure 19**.

1. **Mer-Bleue Road & Innes Road**

- Overall Intersection: The intersection continues to experience increasing congestion, with the overall v/c ratio rising to 0.78 (AM) and 0.98 (PM) in 2026, and 0.86 (AM) and 1.06 (PM) in 2031, while LOS deteriorates from C (AM)/E (PM) in 2026 to D (AM)/F (PM) by 2031.
- EBT (PM peak): This movement remains a critical constraint, with v/c increasing to 1.02 (2026) and 1.10 (2031), maintaining LOS F. Queue lengths exceed 240 m, suggesting oversaturation during the peak period.
- WBT (AM/PM): The westbound through movement increases to v/c = 0.80 (2026 AM) and 0.91 (2031 AM), with queues of 206 m and 235 m, respectively. Although LOS remains manageable (C/E), volumes are approaching critical limits.
- SBTR and SBL (PM peak): Both southbound movements operate at or near capacity by 2031, with v/c ratios exceeding 1.0 and LOS F, indicating growing queuing pressure and operational instability. Queues increase to 128 m for SBTR and 111 m for SBL.
- Conclusion: The intersection will likely require signal re-optimization or additional turn lane storage to accommodate future growth. Transit-supportive strategies along the Mer-Bleue corridor may also help relieve pressure on critical movements.

2. **Noella Leclair Way & Innes Road**

- Overall Intersection: Operations remain relatively stable under additional development traffic. The overall v/c remains 0.77 (AM) and 0.78 (PM) in 2026, increasing to 0.87 (AM) and 0.85 (PM) in 2031, with LOS ranging from C to D.
- WBTR (AM peak): The westbound through/right movement remains the most constrained, with v/c increasing slightly to 0.79 (2026) and 0.90 (2031). Queue lengths also grow, peaking at 336 m.
- EBTR (PM peak): Minor degradation observed, with v/c rising from 0.81 to 0.88, LOS remains D. Delay and queuing increase moderately.
- Conclusion: While most movements operate under acceptable conditions, intersection performance should be monitored. Signal timing refinements may be necessary to manage WBTR queues if growth exceeds expectations.

3. **Mer-Bleue Road & Roger Pharand Street**

- Overall Intersection: The intersection remains well under capacity, with overall v/c ratios of 0.22 (AM) and 0.35 (PM) in 2026, and 0.24 (AM) and 0.38 (PM) in 2031. LOS remains A across all peak periods.
- All Movements: All movements, including northbound through, southbound through, and WBTR, maintain very low delays and v/c values below 0.30. No significant queuing is observed.
- Conclusion: The intersection is not affected by the proposed or surrounding developments and does not warrant any operational changes.

In conclusion, the Mer-Bleue Road & Innes Road intersection continues to be the most impacted by cumulative growth, with several movements operating at or above capacity by 2031. Noella Leclair Way & Innes Road is nearing capacity, particularly on westbound approaches. However, Mer-Bleue Road & Roger Pharand Street remains unaffected. While no immediate geometric improvements are triggered, signal timing optimization, transit-supportive strategies, and ongoing performance monitoring are recommended to maintain acceptable levels of service. Please refer to **Table 28** and **Table 29** for detailed intersection metrics, and to **Figure 18** and **Figure 19** for projected traffic volumes.

Table 28 – Signalized Intersection Operations, Future Total 2026 (With The Three Surrounding Developments in the Study Area), AM Peak (PM Peak)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
Mer-Bleue Road & Innes Road	EBL	16 (24)	0.23 (0.54)	A (A)	9 (29)
	EBT	20 (69)	0.24 (1.02)	A (F)	38 (#243)
	EBR	1 (5)	0.11 (0.24)	A (A)	1 (14)
	WBL	12 (82)	0.39 (0.91)	A (E)	m22 (#73)
	WBT	28 (27)	0.80 (0.66)	C (B)	#206 (116)
	WBR	14 (4)	0.65 (0.45)	B (A)	152 (10)
	NBL	47 (57)	0.28 (0.47)	A (A)	24 (37)
	NBTR	56 (59)	0.80 (0.90)	C (D)	72 (#97)
	SBL	65 (101)	0.62 (1.01)	B (F)	#30 (#100)
	SBTR	51 (89)	0.61 (1.01)	B (F)	36 (#128)
	Overall	**30 (57)**	**0.78 (0.98)**	**C (E)**	**-**
Noella Leclair Way & Innes Road	EBL	8 (5)	0.08 (0.19)	A (A)	m3 (m5)
	EBTR	10 (16)	0.25 (0.81)	A (D)	44 (m255)
	WBL	3 (18)	0.07 (0.39)	A (A)	4 (13)
	WBTR	13 (10)	0.79 (0.57)	C (A)	244 (121)
	NBL	57 (68)	0.24 (0.43)	A (A)	15 (25)
	NBTR	1 (18)	0.06 (0.34)	A (A)	0 (14)
	SBL	54 (59)	0.12 (0.21)	A (A)	10 (14)
	SBTR	18 (22)	0.40 (0.20)	A (A)	15 (11)
	Overall	**12 (14)**	**0.77 (0.78)**	**C (C)**	**-**
Mer-Bleue Road & Roger Pharand Street	EBL	37 (48)	0.07 (0.67)	A (B)	7 (39)
	EBTR	19 (12)	0.10 (0.43)	A (A)	7 (20)
	WBL	41 (33)	0.26 (0.26)	A (A)	16 (16)
	WBTR	14 (9)	0.24 (0.33)	A (A)	10 (13)
	NBL	4 (10)	0.06 (0.31)	A (A)	5 (25)
	NBT	4 (7)	0.23 (0.22)	A (A)	21 (29)
	NBR	1 (3)	0.03 (0.06)	A (A)	2 (5)
	SBL	5 (9)	0.13 (0.29)	A (A)	7 (25)
	SBT	4 (8)	0.14 (0.29)	A (A)	13 (39)
	SBR	0 (3)	0.01 (0.07)	A (A)	0 (5)
	Overall	**6 (11)**	**0.22 (0.35)**	**A (A)**	**-**

Table 29 – Signalized Intersection Operations, Future Total 2031 (With The Three Surrounding Developments in the Study Area), AM Peak (PM Peak)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
Mer-Bleue Road & Innes Road	EBL	17 (28)	0.29 (0.63)	A (B)	9 (32)
	EBT	20 (95)	0.26 (1.10)	A (F)	41 (#274)
	EBR	1 (5)	0.11 (0.26)	A (A)	2 (14)
	WBL	13 (99)	0.44 (0.98)	A (E)	m21 (#83)
	WBT	34 (28)	0.91 (0.72)	E (C)	m#235 (120)
	WBR	18 (3)	0.73 (0.48)	C (A)	m147 (9)
	NBL	49 (58)	0.31 (0.50)	A (A)	26 (39)
	NBTR	58 (66)	0.83 (0.95)	D (E)	78 (#110)
	SBL	68 (137)	0.67 (1.14)	B (F)	#34 (#111)
	SBTR	53 (97)	0.66 (1.04)	B (F)	41 (#134)
	Overall	**34 (70)**	**0.86 (1.06)**	**D (F)**	**-**
Noella Leclair Way & Innes Road	EBL	8 (4)	0.09 (0.23)	A (A)	m3 (m3)
	EBTR	11 (17)	0.28 (0.88)	A (D)	49 (m159)
	WBL	3 (24)	0.08 (0.43)	A (A)	4 (16)
	WBTR	19 (11)	0.90 (0.61)	D (B)	#336 (142)
	NBL	58 (68)	0.25 (0.44)	A (A)	15 (26)
	NBTR	1 (18)	0.06 (0.35)	A (A)	0 (14)
	SBL	54 (59)	0.14 (0.23)	A (A)	11 (15)
	SBTR	20 (21)	0.44 (0.22)	A (A)	17 (11)
	Overall	**17 (15)**	**0.87 (0.85)**	**D (D)**	**-**
Mer-Bleue Road & Roger Pharand Street	EBL	37 (47)	0.08 (0.67)	A (B)	7 (42)
	EBTR	18 (12)	0.11 (0.44)	A (A)	7 (21)
	WBL	42 (32)	0.28 (0.27)	A (A)	17 (17)
	WBTR	14 (9)	0.24 (0.32)	A (A)	10 (13)
	NBL	4 (12)	0.07 (0.37)	A (A)	5 (30)
	NBT	4 (8)	0.25 (0.25)	A (A)	23 (33)
	NBR	1 (3)	0.03 (0.06)	A (A)	2 (5)
	SBL	5 (11)	0.14 (0.32)	A (A)	8 (28)
	SBT	4 (8)	0.16 (0.32)	A (A)	14 (45)
	SBR	1 (3)	0.01 (0.08)	A (A)	0 (6)
	Overall	**6 (12)**	**0.24 (0.38)**	**A (A)**	**-**

Figure 18 - 2026 Future Total Traffic Volumes (With The Three Surrounding Developments in the Study Area)

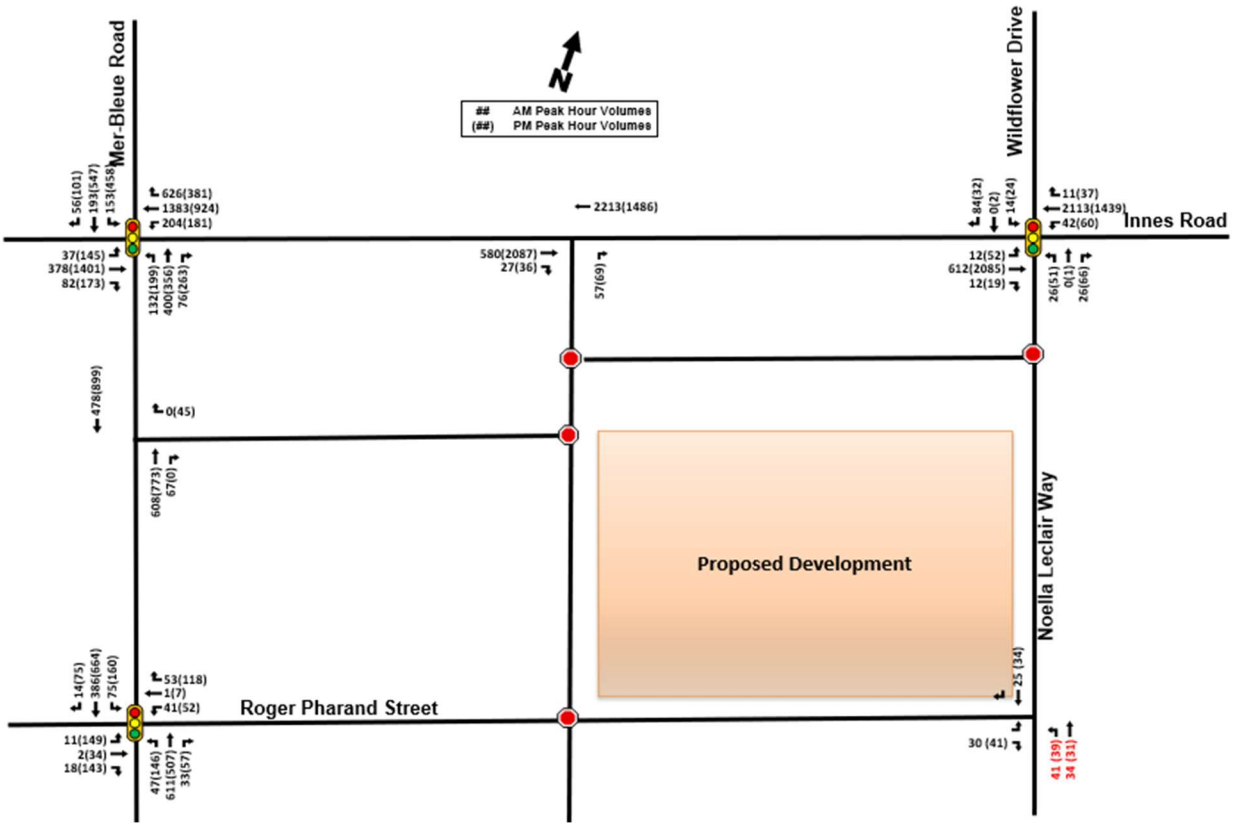
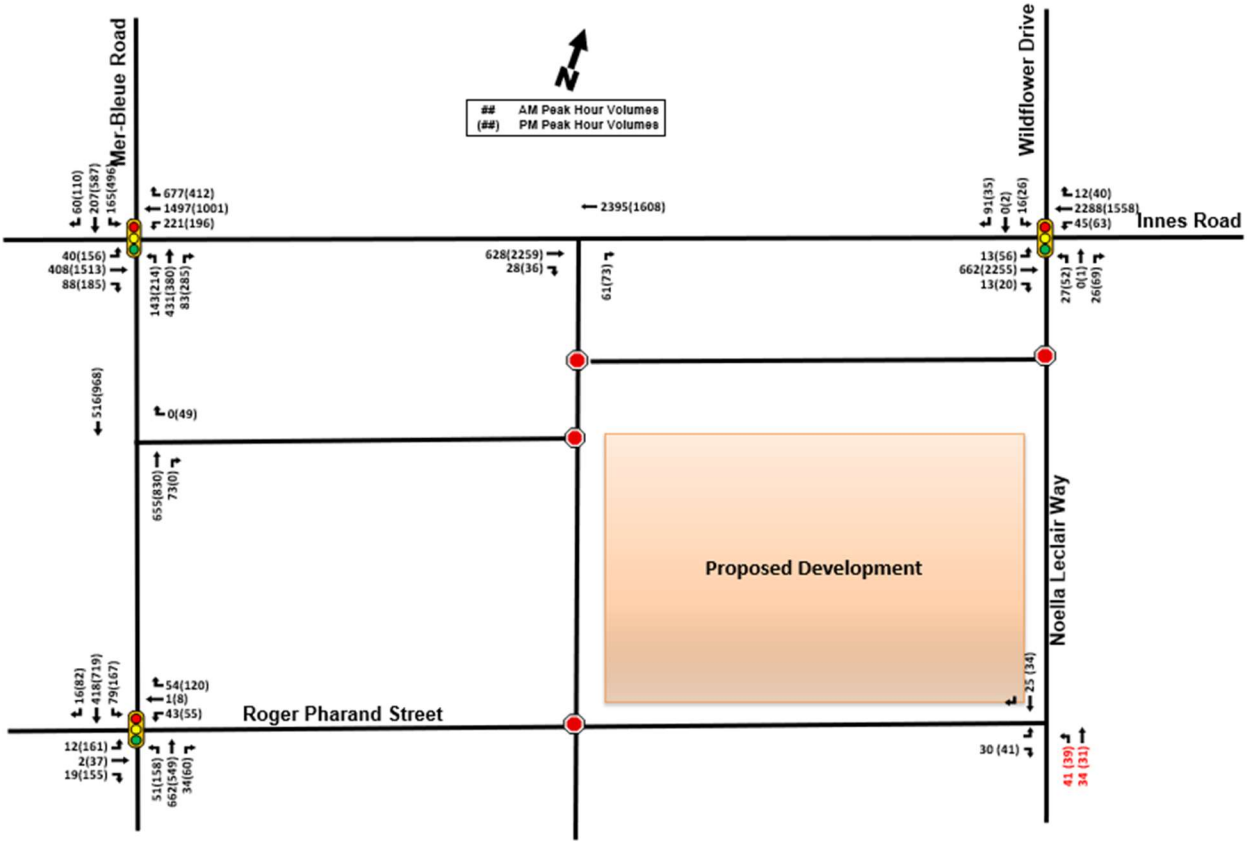


Figure 19 - 2031 Future Total Traffic Volumes (With The Three Surrounding Developments in the Study Area)



3.9 CONCLUSION AND RECOMMENDATION

The Transportation Impact Assessment (TIA) for the proposed development at 2025 Mer Bleue Road concludes that the surrounding transportation network is generally capable of accommodating the anticipated site-generated traffic within the 2026 and 2031 horizon years. However, specific capacity constraints and multimodal deficiencies have been identified at key intersections, along with opportunities for advancing the City of Ottawa's sustainable transportation objectives. Key Conclusions:

1. **Intersection Operations and Capacity**

    - The 2025 Existing Conditions analysis, based on traffic counts collected in December 2024, indicates that the intersections of Innes Road & Mer-Bleue Road and Innes Road & Noella Leclair Way are currently experiencing operational constraints. Specifically, the overall volume-to-capacity (v/c) ratios are 0.81 (AM) / 1.00 (PM) and 0.86 (AM) / 0.76 (PM), respectively, suggesting these intersections are at or over capacity, particularly during the PM peak period. Multiple movements exceed v/c thresholds of 0.85, including the EBT and SBL approaches at Mer-Bleue & Innes (v/c = 1.06 and 1.01, respectively), and the WBTR at Noella Leclair & Innes (v/c = 0.88), resulting in Level of Service

(LOS) F and excessive 95th percentile queue lengths of up to 257m and 326m, respectively. These findings confirm that capacity issues are already present under existing conditions, and the proposed development would add nominal demand to an already constrained network.

- Critical movements, such as the southbound left and eastbound through at Mer Bleue & Innes and westbound through/right at Noella Leclair & Innes, continue to experience LOS F, long delays, and queuing in both background and total future conditions.
- The proposed development does not introduce any new failing movements, and its impact is limited to minor increases in v/c ratios and queue lengths. These increases are not considered significant enough to trigger major geometric upgrades.

2. **Multimodal Level of Service (MMLOS)**
    - Pedestrian and transit levels of service generally meet or exceed City targets.
    - Cycling level of service (BLOS) remains below target across all study area intersections due to the absence of protected or separated infrastructure. This underscores the need for continued investment in active transportation facilities, especially along designated TMP corridors.
3. **Transit Infrastructure**
    - The study area is well-served by multiple OC Transpo routes, with frequent service along Innes and Mer Bleue Roads.
    - The future implementation of the Transit Priority Corridor along Innes, while outside the short-term analysis horizon, is essential to support long-term modal shift and reduce auto demand.
4. **Safety Assessment**
    - A review of collision data identified rear-end collisions as the most frequent type, particularly at Mer Bleue & Innes Road, attributed to queuing and signal delay.
    - No fatal collisions were reported. Operational enhancements such as improved signal timing and targeted pedestrian infrastructure could help mitigate observed patterns.
5. **Transportation Demand Management (TDM)**
    - The development incorporates several TDM-supportive elements (e.g., bicycle parking, pedestrian pathways connecting to transit stops).
    - Further TDM strategies such as transit information displays, incentive programs, and employee commute planning are encouraged to support mode shift and reduce site-related auto dependence.

Recommendations:

1. **Intersection Optimization**

- Adjust signal timing plans to allocate additional green time to EBT and SBL movements at Mer Bleue & Innes and WBTR/EBTR movements at Noella Leclair & Innes.
- Consider cycle length extensions during peak hours to accommodate dominant movements and reduce intersection v/c ratios.

2. **Active Transportation Enhancements**
    - Introduce protected cycle tracks or buffered bike lanes along Mer Bleue Road and Innes Road, consistent with TMP designations for Cross-Town Bikeways.
    - Install enhanced crosswalks and pedestrian refuges at high-volume intersections to improve pedestrian safety and reduce crossing distances.
3. **Transit and TDM Support**
    - Coordinate with the City to implement transit priority measures, including queue jump lanes and transit signal priority, particularly along Innes Road.
    - Provide real-time transit information within the site and improve pedestrian access to nearby transit stops.
4. **Monitoring and Future Review**
    - Reassess intersection performance post-occupancy (i.e., after full build-out in 2026) to determine if additional operational or geometric modifications are warranted.
    - Monitor growth trends toward 2031 and beyond, particularly at the Mer Bleue & Innes intersection, which may require further capacity upgrades if congestion escalates.

The proposed development aligns with the City of Ottawa's vision for sustainable, multi-modal transportation. By addressing the outlined challenges, and implementing the recommended improvements, the project can contribute positively to the area's mobility and safety objectives while supporting future growth.

APPENDICES

APPENDIX A – TRAFFIC COUNT AND SIGNAL TIMING DATA

APPENDIX B - COLLISION DATA

APPENDIX C – TRANSPORTATION DEMAND MANAGEMENT CHECKLIST

APPENDIX D – MMLOS ANALYSIS

APPENDIX E - SYNCHRO ANALYSIS OUTPUT REPORTS