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2765 Palladium Drive Palladium Terrace Phase 2 Transportation Impact Assessment

Prepared for: Seymour Pacific Developments
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2765 Palladium Drive
Palladium Terrace Phase 2
Transportation Impact Assessment

Prepared By:

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June 09, 2026

Novatech File: 125091
Ref: R-2026-027

June 09, 2026

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

Attention: Mike Giampa
Transportation Project Manager, Infrastructure Approvals

Dear Mr. Giampa:

Reference: 2765 Palladium Drive – Palladium Terrace Phase 2
Transportation Impact Assessment
Novatech File No.: 125091

We are pleased to submit the following Transportation Impact Assessment (TIA) in support of Site Plan Control (SPC) application for the above noted property for your review and signoff. A TIA was prepared earlier for 425 Culdaff Road – Palladium Terrace Phase 1, dated, October 07, 2024, and was approved by the city. At the time, only Phase 1 was proposed, and the TIA was limited in scope. This full scope TIA has been prepared combining both the phases of Palladium Terrace. The structure and format of this report is in accordance with the City of Ottawa's 2017 TIA Guidelines and its 2023 revisions.

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

Yours truly,

NOVATECH



Mohammed Talha, M. Eng.
Engineering Intern | Transportation

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EXECUTIVE SUMMARY

This Transportation Impact Assessment (TIA) has been prepared in support of Site Plan Control (SPC) application for the property located at 2765 Palladium Drive, in Ward 6, Stittsville, in Ottawa. The subject site is known as Palladium Terrace Phase 2. Palladium Terrace Phase 1, which is located at 425 Cudaff Road is adjacent to the subject site and is also owned by the client. A TIA was prepared by Novatech for the Palladium Terrace Phase 1, dated, October 07, 2024, and was approved by the city. At the time, only Phase 1 was proposed, and the TIA was limited in scope. The Phase 1 building is now under construction. However, modifications to the parking lot are proposed as part of the Phase 2 Site Plan. This full scope TIA has been prepared combining both the phases of Palladium Terrace.

The subject site is currently vacant and is surrounded by the following:

- Vacant lands, followed by Highway 417 to the north,
- Derreen Avenue, followed by residential uses to the south,
- Palladium Drive followed by Palladium Auto Park Complex to the east, and
- Palladium Terrace Phase 1, followed by Cudaff Road and residential uses to the west.

The previously approved Phase 1 development consisted of a single six-storey residential building with 177 apartment dwellings and a total of 212 vehicle parking spaces. The proposed Phase 2 development consists of three six-storey residential buildings with a total of 304 apartment dwellings and a total of 326 vehicle parking spaces. Combined Phase 1 and Phase 2, there will be four six-storey residential buildings with a total of 481 apartment dwellings and 538 parking spaces. The anticipated buildout for the proposed development is 2028.

The earlier proposed Phase 1 building is currently under construction and will remain as previously proposed; however, minor modifications have been made to the Phase 1 parking lot to accommodate the Phase 2 development, and a single site access will be provided to serve both the Phases.

The study area for this TIA includes the Palladium Drive/Robert Grant Avenue/Derreen Avenue roundabout and the boundary roadways Derreen Avenue and Palladium Drive.

The selected analysis time periods for this TIA are the weekday AM and PM peak hours, as they represent the 'worst case' combination of site generated traffic and adjacent street traffic. The buildout year 2028 and horizon year 2033 has been considered.

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

Trip Generation

- The proposed development is anticipated to generate 192 person trips (including 102 vehicle trips) during the AM peak hour and 198 person trips (including 105 vehicle trips) during the PM peak hour.

Access Design

- The proposed development includes one two-way access to Derreen Avenue, approximately 75m east of Cudaff Road. Curbs will be depressed and continuous across the proposed access. The design of the proposed access meets all the relevant provisions of the city's *Access By-Law (ABL)*, *Zoning By-Law (ZBL)*, and the *Transportation Association of Canada (TAC)'s Geometric Design Guide for Canadian Roads (GDG)*.

Existing and Background Traffic Operations

- All the movements at the study area intersection are operating within acceptable LOS under existing and background conditions.

Development Design

- Walkways will be provided at each entrance between the proposed Building C and the existing sidewalk along Derreen Avenue. On-site walkways will be provided on the inner side of the proposed buildings, and will provide connectivity to the garbage collection area, community garden, dog run, and pergola.
- OC Transpo's service design guideline for peak period service is to provide service within a five-minute (400m) walk of home, work, or school for 95% of urban residents. The proposed development is within 400m walking distance of the existing bus stops at Palladium Drive/Robert Grant Avenue/Derreen Avenue (#0445 and #0446), and the future transit stops at the Derreen Avenue/Culdaff Road intersection.
- A review of the *Transportation Demand Management (TDM) – Supportive Development Design and Infrastructure Checklist* has been conducted. All required TDM-supportive design and infrastructure measures in the TDM checklist for residential developments will be met.

Circulation

- A fire route is provided along the periphery of the main drive aisle and meets the minimum requirements of Section 3.2.5.7 of the *Ontario Building Code (OBC)*.
- Two waste enclosures are provided along the north main drive aisle. Garbage collection will occur at these enclosures.

Parking

- A total of 326 vehicle parking spaces and 258 bicycle parking spaces are proposed.
- Under the city's ZBL 2008-250:
 - The proposed number of tenant vehicle parking spaces do not meet the minimum requirements of the ZBL and a variance is required. The proposed bicycle and visitor vehicle parking supply meets the minimum requirements of the ZBL. 10 vehicle parking spaces will be designated as accessible parking spaces meeting the city's *Accessibility Design Standards*.
 - Section 111(12) of the ZBL identifies that, where the number of bicycle parking spaces required for a single residential building exceeds 50 spaces, a minimum of 25% of the required total must be located within a building or structure, a secure area, or bicycle lockers. This requirement is met, as 242 spaces of the total 258 spaces are located within the proposed buildings.
- Under the city's ZBL 2026-050:
 - All the minimum parking requirements for visitor, electric vehicle, and bicycle parking spaces are met.

Boundary Streets

- Derreen Avenue meets all the segment MMLOS targets as it has recently been designed and constructed as a complete street.
- Palladium Drive does not meet the target PLOS as there are no sidewalks on both sides of the roadway under the existing conditions. It also does not meet the target BLOS as it currently operates under mixed traffic conditions. To meet the target PLOS C, a sidewalk with offset from vehicle travel lane is required on both sides of the roadway. To meet the target BLOS C, a bike lane is required in both directions of the roadway. This is identified for city's consideration as funding becomes available.

Transportation Demand Management

- The list of TDM Measures to be considered by the proponent are summarized as follows:
 - Display local area maps with walking/cycling access routes and key destinations at major entrances.
 - Display relevant transit schedules and route maps at entrances.
 - Unbundle parking price cost from monthly rent.
 - Provide a multimodal travel option information package to new residents.

Transit Priority

- OC Transpo routes 62, 261, 263, and 266 serve the study area. All the four routes perform southbound left turn and westbound right turn movements at the study area intersection and occur in mixed traffic conditions. The impacts of the development on TLOS at these movements are negligible and the TLOS is anticipated to be within acceptable conditions.

Total Traffic Operations

- All the movements at the study area intersection are operating within acceptable LOS under total 2028 and 2033 conditions.

The proposed development is recommended from transportation perspective.

1.0 SCREENING

1.1 Introduction

This Transportation Impact Assessment (TIA) has been prepared in support of Site Plan Control (SPC) application for the property located at 2765 Palladium Drive, in Ward 6, Stittsville, in Ottawa. The subject site is known as Palladium Terrace Phase 2. Palladium Terrace Phase 1, which is located at 425 Cudaff Road is adjacent to the subject site and is also owned by the client. A TIA was prepared by Novatech for the Palladium Terrace Phase 1, dated, October 07, 2024, and was approved by the city. At the time, only Phase 1 was proposed, and the TIA was limited in scope. The Phase 1 building is now under construction. However, modifications to the parking lot are proposed as part of the Phase 2 Site Plan. This full scope TIA has been prepared combining both the phases of Palladium Terrace.

The subject site forms part of the 195 Huntmar Road subdivision. A TIA was prepared by CGH in September 2019 for the subdivision. It then proposed a total of 155 single-detached and 418 townhouse units. It also included 13,747 m² of commercial space, 41,948 m² of office area, and two automobile dealerships of 4,000 m² each. At the time writing this report, only all the townhouse units were recently constructed.

The subject site is currently vacant and is surrounded by the following:

- Vacant lands, followed by Highway 417 to the north,
- Derreen Avenue, followed by residential uses to the south,
- Palladium Drive followed by Palladium Auto Park Complex to the east, and
- Palladium Terrace Phase 1, followed by Cudaff Road and residential uses to the west.

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

1.2 Proposed Development

The property is currently zoned as GM[2654]. Based on Schedule A of the City of Ottawa's Official Plan (OP), the subject site falls within the Suburban (West) Transect. Based on Schedule B5 of the City's OP, the subject property is designated as Mixed Industrial and the boundary roadway, Palladium Drive is designated as Corridor – Minor. Based on Annex 5 of the City's OP, the property is subject to Area 2 – Kanata West, Area-Specific Policy. The subject site falls within the Kanata West Community Design Plan (CDP) area.

The previously approved Phase 1 development consisted of a single six-storey residential building with 177 apartment dwellings and a total of 212 vehicle parking spaces. The proposed Phase 2 development consists of three six-storey residential buildings with a total of 304 apartment dwellings and a total of 326 vehicle parking spaces. Combined Phase 1 and Phase 2, there will be four six-storey residential buildings with a total of 481 apartment dwellings and 538 parking spaces. The anticipated buildout for the proposed development is 2028.

The earlier proposed Phase 1 building is currently under construction and will remain as previously proposed; however, minor modifications have been made to the Phase 1 parking lot to accommodate the Phase 2 development, and a single site access will be provided to serve both the Phases. The proposed development (both Phase 1 and Phase 2) replaces one of the automobile dealerships as originally planned under the 195 Huntmar Road Subdivision TIA.

Figure 1: An aerial of the subject site and its vicinity



Source: Background aerial snapshotted from Google Earth

1.3 Screening Form

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

- Trip Generation Trigger – The development is anticipated to generate over 60 peak hour person trips; further assessment is **required** based on this trigger.
- Location Triggers – The development does not propose a new connection to a designated Rapid Transit or Transit Priority (RTTP) network or a Crosstown Bikeway, and is not located within a Hub, Protected Major Transit Station Area (PMTSA), or Design Priority Area (DPA); further assessment is **not required** based on this trigger.
- Safety Triggers – The proposed development is within 150m of Palladium Drive/Robert Grant Avenue/Derreen Avenue; further assessment is **required** based on this trigger.

2.0 SCOPING

2.1 Existing Conditions

2.1.1 Roadways

All roadways within the study area fall under the jurisdiction of the City of Ottawa. The study area roadways have generally been recently constructed and follow the Geometric Roadway Design Drawing (GRDD) for the 195 Huntmar Drive subdivision. An excerpt of the GRDD is included in **Appendix C**.

Palladium Drive is an arterial roadway that runs on a generally north-south alignment from 100m north of Upper Canada Street to the Palladium Drive/Robert Grant Avenue/Derreene Avenue roundabout, and on a generally east-west alignment from the roundabout to Terry Fox Drive (continuing east as Katimavik Road). In vicinity of the subject site, Palladium Drive has a four-lane undivided urban cross-section and a posted speed limit of 70 km/h. Both the north-south and east-west sections of Palladium Drive are classified as a truck route, allowing full loads. Street parking is generally not permitted.

Robert Grant Avenue is a future arterial roadway, and is planned to run on a generally north-south alignment from Palladium Drive to Fernbank Road. At the time of writing, Robert Grant Avenue immediately south of the roundabout has been constructed to its ultimate four-lane divided urban cross-section. At the time of writing, Robert Grant Avenue has a regulatory unposted speed limit of 50 km/h. Robert Grant Avenue is not classified as a truck route, and street parking is not permitted.

Derreene Avenue is a collector roadway that runs on a curvilinear alignment from Palladium Drive to the planned extension of Stittsville Main Street. In vicinity of the subject site, Derreene Avenue has a two-lane undivided urban cross-section with sidewalks and cycle tracks on both sides, and a regulatory unposted speed limit of 50 km/h. Derreene Avenue is not classified as a truck route, and street parking is generally permitted. Schedule C16 of the City's *Official Plan* does not identify a right-of-way (ROW) protection for Derreene Avenue. The existing right-of-way (ROW) of Derreene Avenue is variable across the subject site's frontage, increasing progressively from approximately 27.0m adjacent to Culdaff Road to approximately 31.0m adjacent to the Palladium Drive/Robert Grant Avenue/Derreene Avenue roundabout.

Culdaff Road is a local roadway south of Derreene Avenue and collector roadway north of Derreene Avenue (i.e. adjacent to the subject site) that runs on a generally north-south alignment from 170m north of Bermondsey Way to the planned extension of Stittsville Main Street. In vicinity of the subject site, Culdaff Road has a two-lane undivided urban cross-section and a regulatory unposted speed limit of 50 km/h. Culdaff Road is not classified as a truck route, and street parking is generally permitted. Schedule C16 of the City's *Official Plan* does not identify a right-of-way (ROW) protection for Culdaff Road. The existing right-of-way (ROW) of Culdaff Road is approximately 26.0m across the subject site's frontage.

2.1.2 Driveways

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

Derreen Avenue (North Side)

- Six driveways to residences at 700-718 Derreen Avenue.

Derreen Avenue (South Side)

- Eight driveways to residences at 701-731 Derreen Avenue.

2.1.3 Study Intersections

Palladium Drive/Robert Grant Avenue/ Derreen Avenue

- Four-legged roundabout
- North Approach (Palladium Drive): inside lane for left turns and through traffic outside lane for through traffic and right turns
- South Approach (Robert Grant Avenue): inside lane for left turns and through traffic outside lane for through traffic and right turns
- East Approach (Palladium Drive): inside lane for left turns and through traffic outside lane is a right turn by-pass
- West Approach (Derreen Avenue): inside lane for left turns and through traffic outside lane for through traffic and right turns
- Pedestrian crossovers on all approaches.
- Sidewalks and cycle tracks or multi-use pathways provided on all approaches



Derreen Avenue/Culdaff Road

- Four-legged unsignalized intersection
- All-way stop-control
- North/South Approaches (Culdaff Road): one shared left turn/through/right turn lane
- East/West Approaches (Derreen Avenue): one shared left turn/through/right turn lane
- Standard crosswalks and crossrides to be provided on all approaches
- Sidewalks to be provided on all approaches
- Cycle tracks to be provided on north, east, and west approaches.

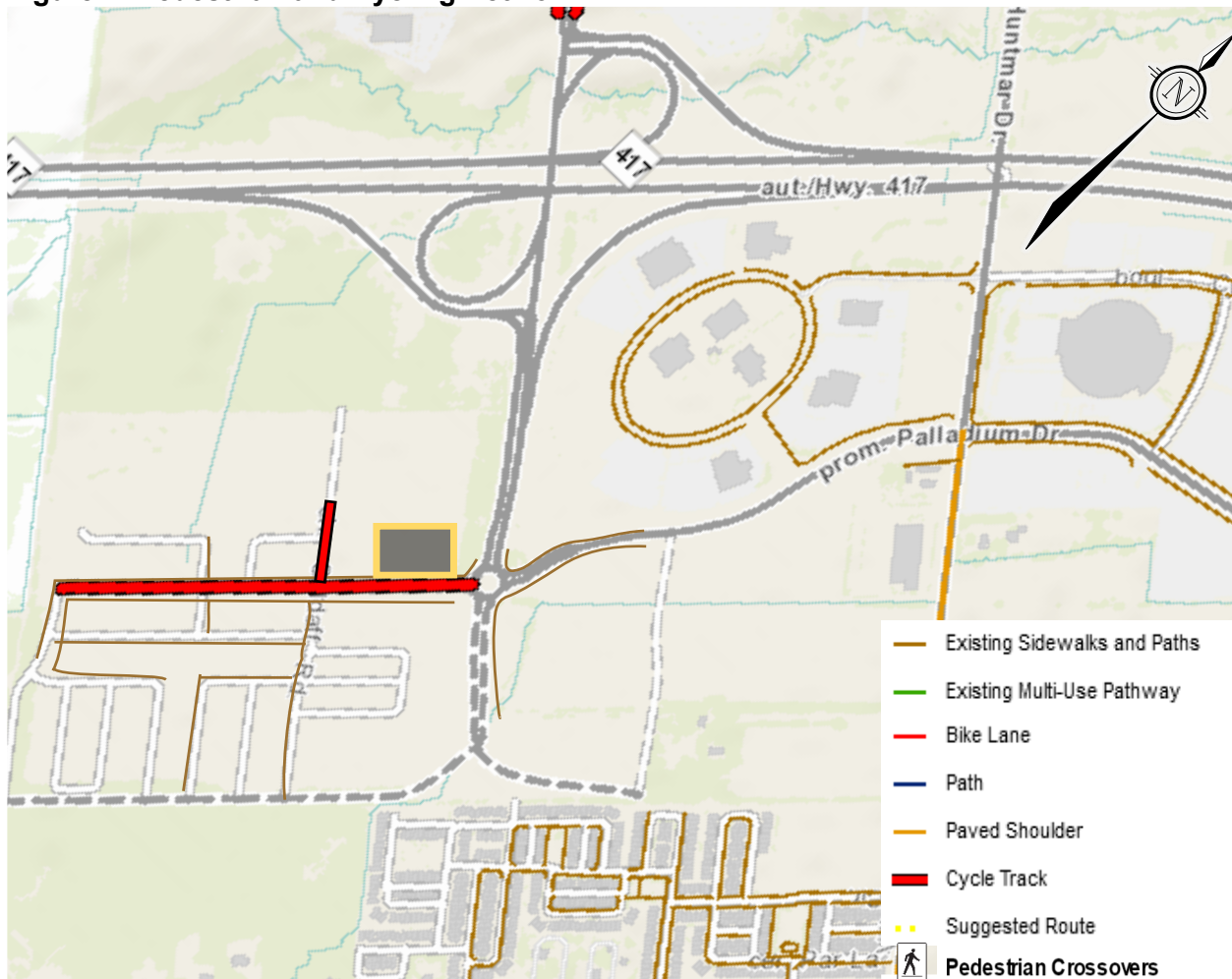


2.1.4 Pedestrian and Cycling Facilities

On both sides of Derreen Avenue and the section of Palladium Drive immediately east of Robert Grant Avenue, concrete sidewalks and asphalt cycle tracks are provided. It is anticipated that similar facilities on both sides of Robert Grant Avenue and Culdaff Road (north of Derreen Avenue) will be constructed as the surrounding neighbourhoods develop. A sidewalk is provided on the west side of Culdaff Road, south of Derreen Avenue. No roadways within the study area are designated cycling routes in the City's cycling network.

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

Figure 2: Pedestrian and Cycling Network



2.1.5 Area Traffic Management

Within the study area, there are no Area Traffic Management (ATM) studies that are in progress. Intersection narrowings have generally been constructed within the subdivision, in accordance with the City's 30 km/h design speed policy, to the west and south of the subject site.

2.1.6 Transit

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

Table 1: OC Transpo Transit Stops

Stop	Location	Routes Served
#0445	East side of Palladium Drive, north of roundabout at Palladium Drive/Robert Grant Avenue/Derreen Avenue	62, 261, 263, 266
#0446	South side of Palladium Drive, east of roundabout at Palladium Drive/Robert Grant Avenue/Derreen Avenue	62, 261, 263, 266

Figure 3: OC Transpo Bus Stop Locations

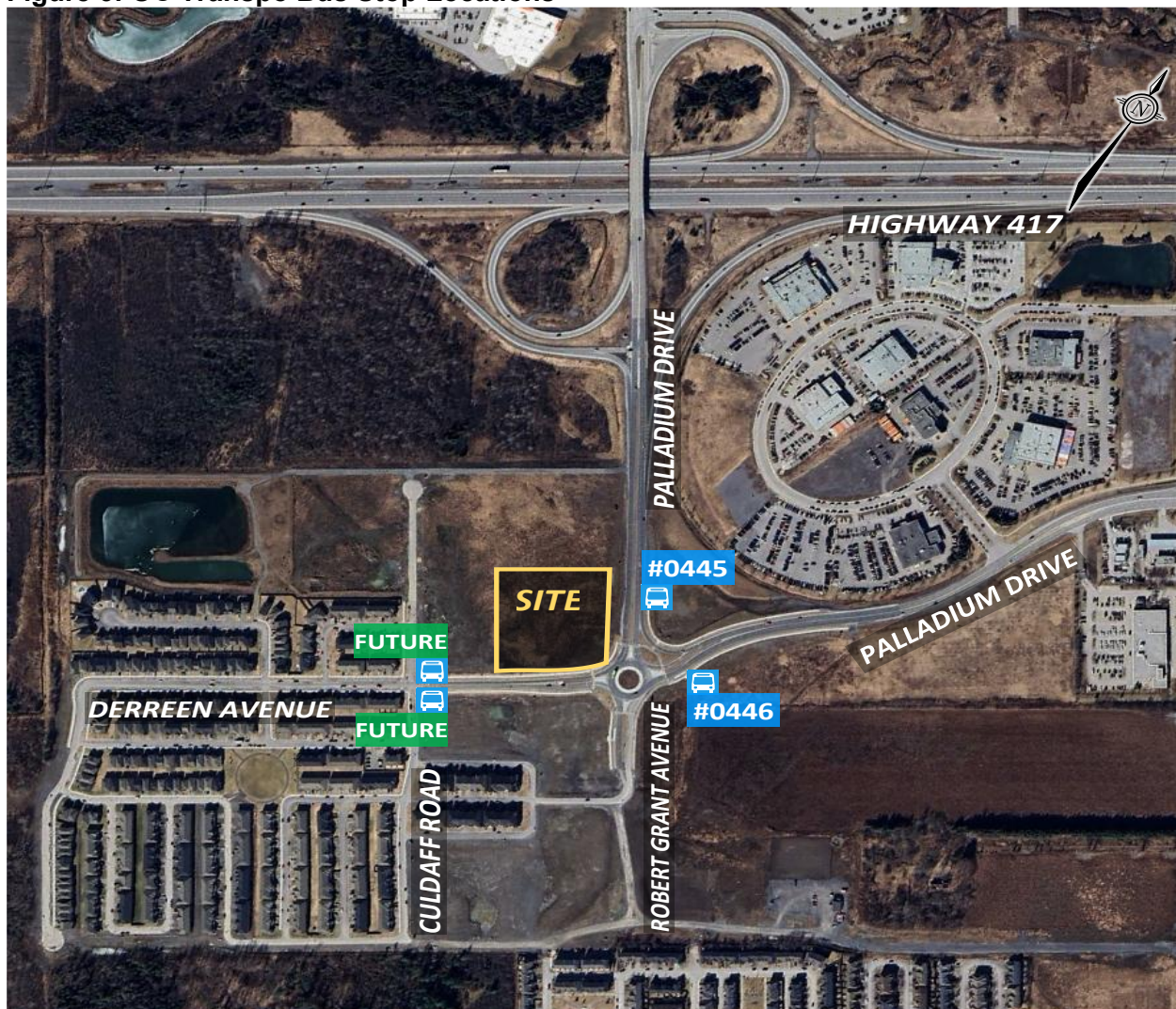


Table 2: OC Transpo Route Information

Route	From ↔ To	Frequency
62	Stittsville ↔ Tunney's Pasture	All day service, seven days a week; 30-minute headways
261	Kittiwake ↔ Tunney's Pasture	Peak period service in peak direction on weekdays; 30- to 60-minute headways
263	Richmond ↔ Tunney's Pasture	Peak period service in peak direction on weekdays; 50- to 60-minute headways
266	Springbrook ↔ Tunney's Pasture	Peak period service in peak direction on weekdays; 40- to 60-minute headways

*Data in table is from OC Transpo website accessed on March 09, 2025

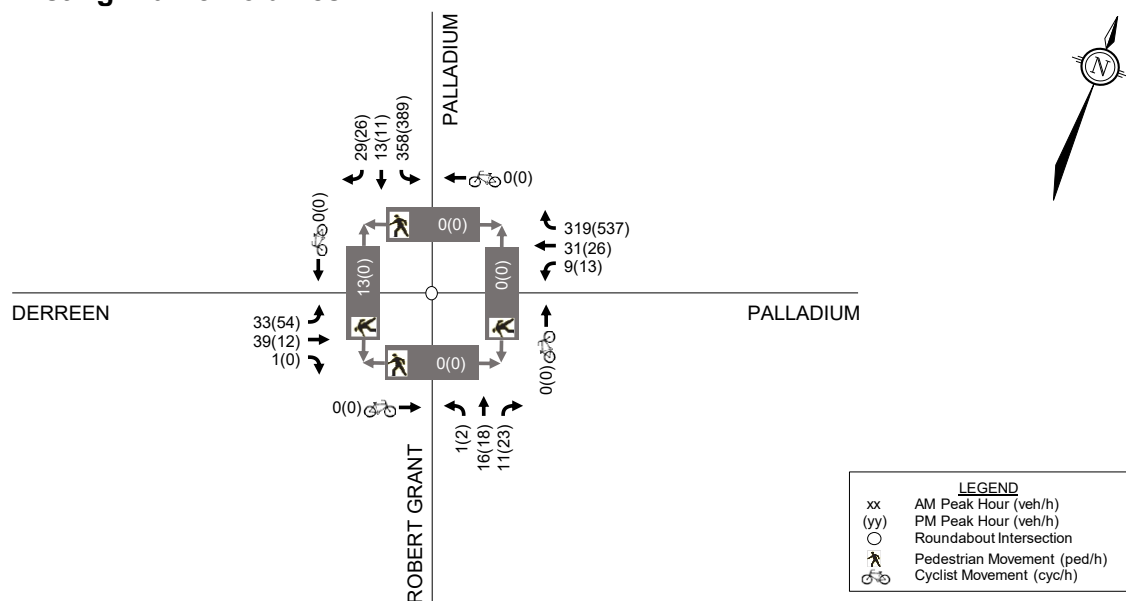
Concrete bus stop pads have been constructed on both sides of Derreen Avenue, immediately east of Culdaff Road. The bus pad on the north side of Derreen Avenue is therefore located along the Palladium Terrace Phase 1 frontage. These stops will serve future transit routes as the surrounding neighbourhoods develop.

2.1.7 Existing Traffic Volumes

Weekday traffic counts completed by the City of Ottawa were used to determine the existing pedestrian, cyclist, and vehicular traffic volumes at the Palladium Drive/Robert Grant Avenue/Derreen Avenue roundabout. This count was completed on Thursday, September 22, 2022. Based on this count, the average annual daily traffic (AADT) volumes on Derreen Avenue is approximately 1,840 vehicles per day.

At the time of the count, some of the townhouse units within the 195 Huntmar Road Subdivision were constructed and occupied and hence there is some vehicular traffic on Derreen Avenue and Robert Grant Avenue.

The traffic count data at this intersection is included in **Appendix E**. Traffic volumes are shown in **Figure 4**.

Figure 4: Existing Traffic Volumes

2.1.8 Collision History

Historical collision data was obtained from the City's Public Works Department for the study area intersections and midblock segments. Copies of the collision summary reports are included in **Appendix F**.

The boundary streets Derreen Avenue and Culdaff Road, as well as the roundabout at Palladium Drive/Robert Grant Avenue/Derreen Avenue, were all recently constructed (i.e. 2021-2022). Therefore, no collisions on Derreen Avenue or Culdaff Road have been recorded. Collisions at Palladium Drive/Robert Grant Avenue/Derreen Avenue from January 1, 2022 to December 31, 2022 were provided by City staff, and these collisions are summarized in **Table 3**.

Table 3: Reported Collisions

Intersection	Impact Types						Total
	Approach	Angle	Rear End	Sideswipe	Turning Movement	SMV ⁽¹⁾ / Other	
Palladium Drive/Robert Grant Avenue/Derreen Avenue	-	-	-	4	-	1	5

1. SMV = Single Motor Vehicle

Palladium Drive/Robert Grant Avenue/Derreen Avenue

A total of five collisions were reported at this intersection in 2022, of which there were four sideswipe impacts and one single vehicle/other impact. No collisions resulted in injuries or fatalities. One of the five collisions (20%) occurred in poor driving conditions. No collisions involved cyclists or pedestrians.

2.2 Planned Conditions

2.2.1 Transportation Projects

In the city's 2023 Transportation Master Plan (TMP) Part 2, i.e., Capital Infrastructure Plan (CIP), the following transportation projects are identified.

Robert Grant Avenue Extension

The Needs Based Road Network and the Priority Road Network identifies a new two-lane road between Palladium Drive and Hazeldean Road. Based on Table 3 of the Amended Development Charges Background Study (Draft), the anticipated timing for this project is 2032-2035.

Stittsville Main Street Extension

The Needs Based Road Network and the Priority Road Network identifies a new north-south collector road between Maple Grove Road and Derreen Avenue, connecting to the new east-west road delivered through developments. Based on Table 3 of the Amended Development Charges Background Study (Draft), the anticipated timing for this project is 2029-2031.

Huntmar Drive Widening

The Needs Based Road Network identifies widening of Huntmar Drive from two to four lanes between Maple Grove Road and Campeau Drive.

O-Train LRT Line 3 Extension

The Needs Based Transit Network and the Priority Transit Network identify a dedicated and grade-separated extension of Light Rail Transit (LRT) Line 3 from Moodie Station to Hazelden

Station providing O-Train services to the Kanata and Stittsville to support growth in the region. The planned LRT station closest to the subject site will be at the Canadian Tire Center.

An Environmental Study Report (ESR) was prepared by Parsons dated, October 16, 2023, for the Huntmar Drive Widening and Stittsville Main Street Extension Project. The ESR considered two scenarios one of which was a “business as usual” scenario which represents a 2040 planning horizon that would see the near buildout of the Kanata West Lands and additional development growth within the Fernbank lands to the south. Traffic volumes were forecasted for this 2040 planning horizon which assumed that the Stittsville Main Street Extension, Derreen Avenue, and Robert Grant Avenue Extension is in place. The second scenario considered a horizon of 2046 and assumed that the LRT Line 3 extension from Moodie Station to Hazeldean Station is also in place. Relevant excerpts from the ESR including the 2040 traffic forecast volumes are included in **Appendix G**.

For the purposes of this TIA, it is assumed that the Stittsville Main Street Extension and Robert Grant Avenue Extension will be in place by the 2033 5-year horizon.

2.2.2 Other Area Developments

In proximity of the proposed development, there are multiple other developments that have recently been completed, are under construction, approved, or are in the approval process. The following developments are assumed to generate volumes that will be observed by the horizon year 2033 and were not captured during the 2022 traffic count at Palladium Drive/Robert Grant Avenue/ Derreen Avenue. Relevant excerpts from respective TIAs are included in **Appendix H**.

130 Huntmar Drive

A TIA was prepared by Dillon in May 2021, in support of a development with 79 single-detached homes, 162 townhomes, 512 stacked townhomes, 30,000 ft² of retail space, and a school. A buildout year of 2024 was identified in the TIA.

195 Huntmar Drive

A TIA was prepared by CGH Transportation in September 2019, in support of a development with 155 single-detached homes, 418 townhomes, 13,747 ft² of retail space, 41,948 ft² of office space, and 8,000 ft² of automobile dealership spaces. A buildout year of 2024 was identified in the TIA. The subject site is located within the area considered in the 195 Huntmar Drive TIA, and therefore this proposed development is assumed to supersede the automobile dealership parcels.

319 Huntmar Drive

A TIA was prepared by IBI in May 2021, in support of a development with 424 apartment dwellings. A buildout year of 2025 was identified in the TIA.

405 Huntmar Drive

A TIA was prepared by Novatech in December 2022 and revised in March 2023, in support of a development with 479,721 ft² of warehousing space. A buildout year of 2024 was identified in the TIA.

1300 Upper Canada Street

A TIA was prepared by Parsons in September 2021, in support of a development with 120,500 ft² of warehousing space. A buildout year of 2023 was identified in the TIA.

1400 Upper Canada Street

A TIA was prepared by Parsons in September 2020, in support of a multi-phased warehousing development. Phase 1 will consist of 8,400 ft² of office space and 57,000 ft² of warehousing space, and a buildout year of 2021 was identified in the TIA for this phase. Phase 2 will consist of adding a warehouse expansion of 11,000 ft² and a 2,600 ft² maintenance building, and a buildout year of 2026 was identified in the TIA for this phase.

1485 Upper Canada Street

A TIA Screening Form was prepared by Dillon for the proposed warehouse development with a GFA of 8,130m². The development was anticipated to be constructed in a single phase with buildout in 2023/2024.

1919 Maple Grove Road

A TIA was prepared by IBI in April 2019, in support of a development with 72 townhomes and 460 apartment dwellings. A buildout year of 2026 was identified in the TIA.

1981 Maple Grove Road

A TIA was prepared by IBI Group in February 2018, in support of a subdivision with 57 single-family dwellings and 139 townhouse/semi-detached dwellings. A buildout year of 2021 was identified in the TIA.

8605 Campeau Drive

A TIA was prepared by NexTrans Consulting in December 2020, in support of a gas station with ten fueling stations, a 770 ft² building for oil changes, and a 1,238 ft² convenience store and eating establishment with drive-through. A buildout year of 2025 was identified in the TIA.

8800 Campeau Drive

A TIA was prepared by Parsons in April 2021, in support of a multi-phased warehousing development. Phase 1 will consist of 6,000 ft² of office space and 60,000 ft² of warehousing space, and a buildout year of 2021 was identified in the TIA for this phase. Phase 2 will consist of adding a warehouse expansion of 11,800 ft², and a buildout year of 2026 was identified in the TIA for this phase.

3075 Palladium Drive

A TIA was prepared by WPE Engineering in June 2025, in support of a retail development with a total gross floor area of 7,911 m². The development is anticipated to occur in two phases, with full buildout and occupancy in 2027.

A figure outlining the location of all the developments above is included in **Figure 5**.

Figure 5: Other Area Developments



2.3 Study Area and Time Periods

The study area for this TIA includes the Palladium Drive/Robert Grant Avenue/Derreen Avenue roundabout and the boundary roadways Derreen Avenue and Palladium Drive.

The selected analysis time periods for this TIA are the weekday AM and PM peak hours, as they represent the 'worst case' combination of site generated traffic and adjacent street traffic. The buildout year 2028 and horizon year 2033 has been considered.

2.4 Development Generated Travel Demand

2.4.1 Trip Generation

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

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

- Auto Driver: 43% in AM peak, 55% in PM peak
- Auto Passenger: 26% in AM peak, 19% in PM peak
- Transit: 28% in AM peak, 21% in PM peak
- Cyclist: 0% in AM peak, 0% in PM peak
- Pedestrian: 4% in AM peak, 5% in PM peak

A single set of mode shares have been assumed for this proposed development, by the mode shares above and reducing the transit share to reflect limited transit service in the area. It is noted that as the area develops, additional transit service could be implemented. Therefore, the assumed mode shares can be summarized as 55% auto driver, 20% auto passenger, 20% transit, 0% cyclist, and 5% pedestrian.

The process of converting the trip generation estimates from peak period to peak hour is shown in the following tables. The estimated number of person trips generated by the proposed development during the AM and PM peak periods are shown in **Table 4**. A breakdown of these trips by mode is shown in **Table 5**.

Table 4: Proposed Residential – Peak Period Trip Generation

Land Use	TRANS Rate	Units	AM Peak Period			PM Peak Period		
			IN	OUT	TOT	IN	OUT	TOT
High-Rise Multifamily Housing	AM: 0.80 PM: 0.90	481	120	265	385	251	181	432

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

Travel Mode	Mode Share	AM Peak Period			PM Peak Period		
		IN	OUT	TOT	IN	OUT	TOT
Residential Person Trips		120	265	385	251	181	432
Auto Driver	55%	66	146	212	138	100	238
Auto Passenger	20%	24	53	77	50	36	86
Transit	20%	24	53	77	50	36	86
Cyclist	0%	0	0	0	0	0	0
Pedestrian	5%	6	13	19	13	9	22

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

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

Travel Mode	Adj. Factor		AM Peak Hour			PM Peak Hour		
	AM	PM	IN	OUT	TOT	IN	OUT	TOT
Auto Driver	0.48	0.44	32	70	102	61	44	105
Auto Passenger	0.48	0.44	12	25	37	24	16	40
Transit	0.55	0.47	13	29	42	24	17	41
Cyclist	0.58	0.48	0	0	0	0	0	0
Pedestrian	0.58	0.52	3	8	11	7	5	12
Pek Hour Person Trips			60	132	192	116	82	198

Based on the foregoing, the proposed development is anticipated to generate 192 person trips (including 102 vehicle trips) during the AM peak hour and 198 person trips (including 105 vehicle trips) during the PM peak hour.

2.4.2 Trip Distribution and Assignment

All the site generated trips are assumed to arrive from and depart to the Palladium Drive/Robert Grant Avenue/Derreen Avenue roundabout. Since the Stittsville Main Street Extension and Robert Grant Avenue Extension is assumed to be in place by 2033, the trip distribution for site generated trips will differ in buildout year 2028 and 5-year horizon 2033. The distribution of site generated trips in 2028 is based on the observed traffic volumes at the roundabout. The volumes considered are outbound volumes in the AM peak hour and inbound volumes in the PM peak hour, consistent with the typical commuter patterns that will leave their residence in the morning and return in the evening. Therefore, the assumed distribution of trips in 2028 can be summarized as follows:

- 45% of trips to/from the north via Palladium Drive (toward HWY417).
- 55% of trips to/from the east via Palladium Drive (toward Huntmar Drive).

The distribution of site generated trips in 2033 has been performed based on the pattern found in 2040 forecasted traffic volumes presented in the Huntmar Drive Widening and Stittsville Main Street Extension ESR (included in **Appendix G**). The assumed trip distribution in 2033 can be summarized as follows:

- 50% of trips to/from the north via Palladium Drive (toward HWY417).
- 35% of trips to/from the south via Robert Grant Avenue.
- 15% of trips to/from the east via Palladium Drive (toward Huntmar Drive).

The distribution of site-generate trips in 2028 and in 2033 is shown in **Figure 6** and **Figure 7** respectively.

Figure 6: Site Generated Traffic Volumes in 2028

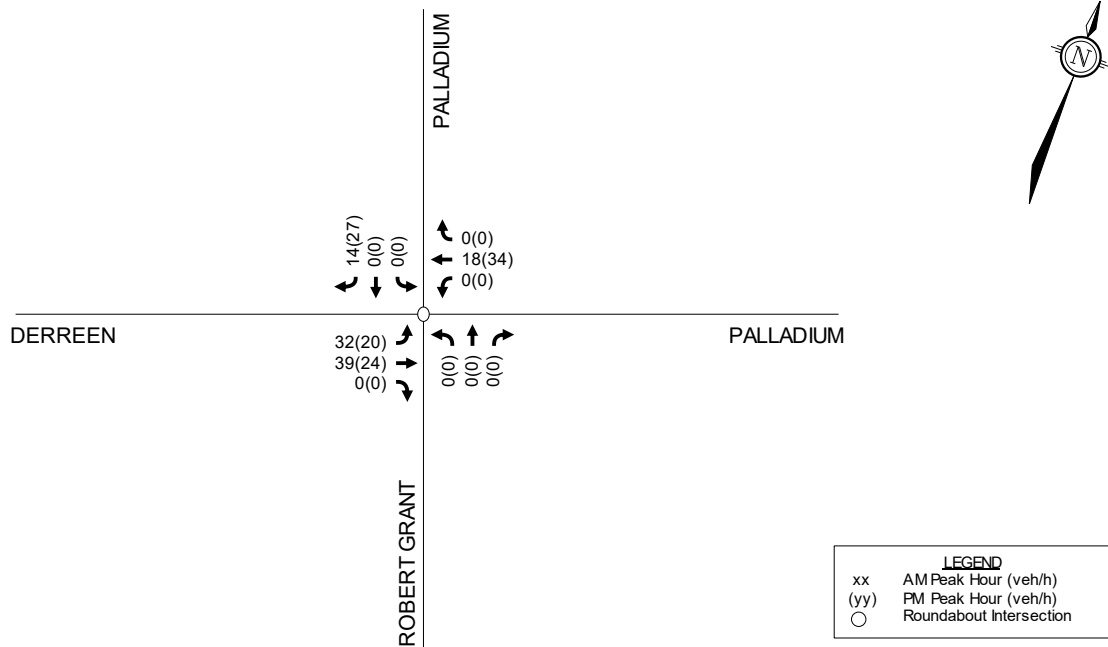
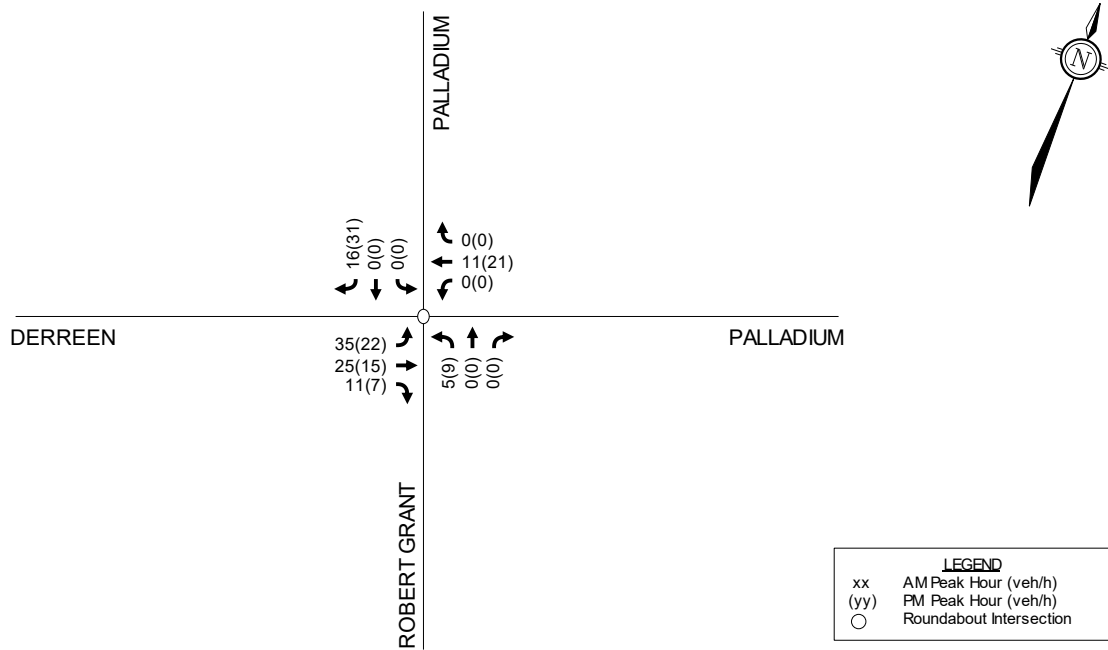


Figure 7: Site Generated Traffic Volumes in 2033



2.4.3 Reduction of Previous Site Generated Traffic

The TIA prepared by CGH for 195 Huntmar Road Subdivision assumed the subject site to be a 4,000 m² car dealership. As traffic generated by the CGH TIA will be included in the background projections, the traffic generated by the previously assumed dealership will be replaced by the new development proposal. The person trip generation for the dealership as presented in the CGH TIA is summarized in **Table 7** and is included in **Appendix H**.

Table 7: Previous Site Person Trip Generation – Automobile Dealership

Land Use	Units	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOT	IN	OUT	TOT
Automobile Sales	4,000 m ²	75	28	103	51	76	127

These total person trips have been distributed between the different modes based on the modal shares assumed in section 2.4.1, and is summarized in **Table 8**.

Table 8: Previous Site Person Trip Generation by Modes – Automobile Dealership

Travel Mode	Mode Share	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOT	IN	OUT	TOT
Person Trips		75	28	103	51	76	127
Auto Driver	55%	41	15	56	28	42	70
Auto Passenger	20%	15	6	21	10	15	25
Transit	20%	15	6	21	10	15	25
Cyclist	0%	0	0	0	0	0	0
Pedestrian	5%	4	1	5	3	4	7

These trips have been distributed to the road network based on the commercial trip distribution pattern derived using the existing turning movement counts mentioned in section 2.1.7 and is consistent with the CGH TIA assumption. The commercial trip distribution is as follows:

- In 2028:
 - 50% to/from north via Palladium Drive
 - 50% to/from east via Palladium Drive
- In 2033:
 - 50% to/from north via Palladium Drive
 - 35% to/from east via Palladium Drive
 - 15% to/from south via Robert Grant Avenue

Trips generated by the previously planned car dealership are shown in **Figure 8** and **Figure 9**.

Figure 8: Previously Planned Subject Site Volumes in 2028

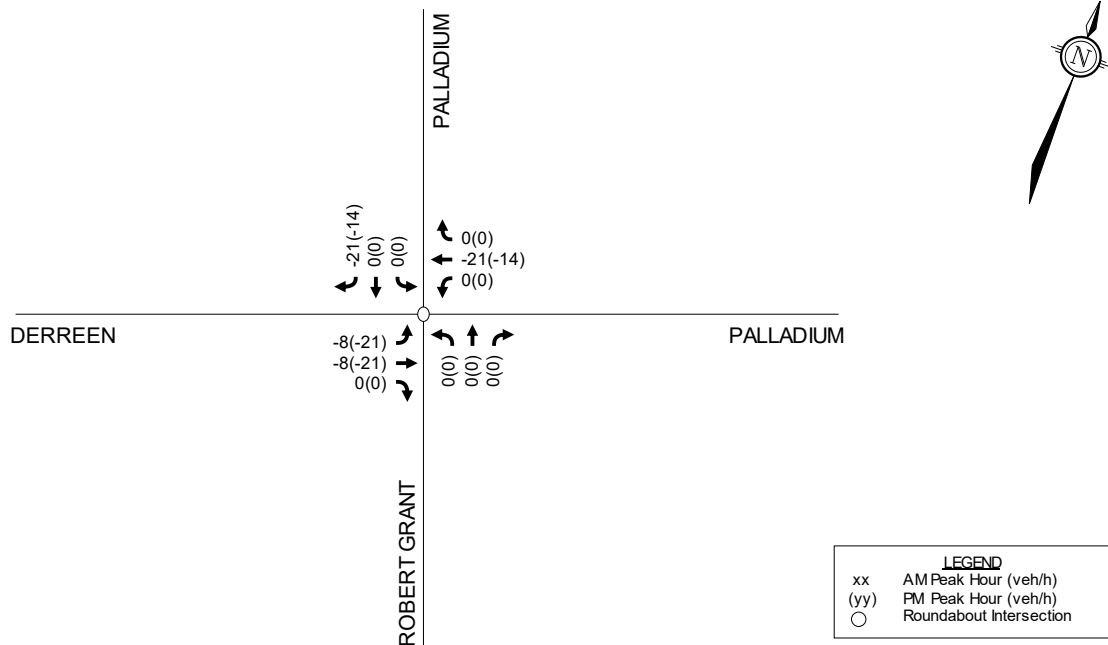
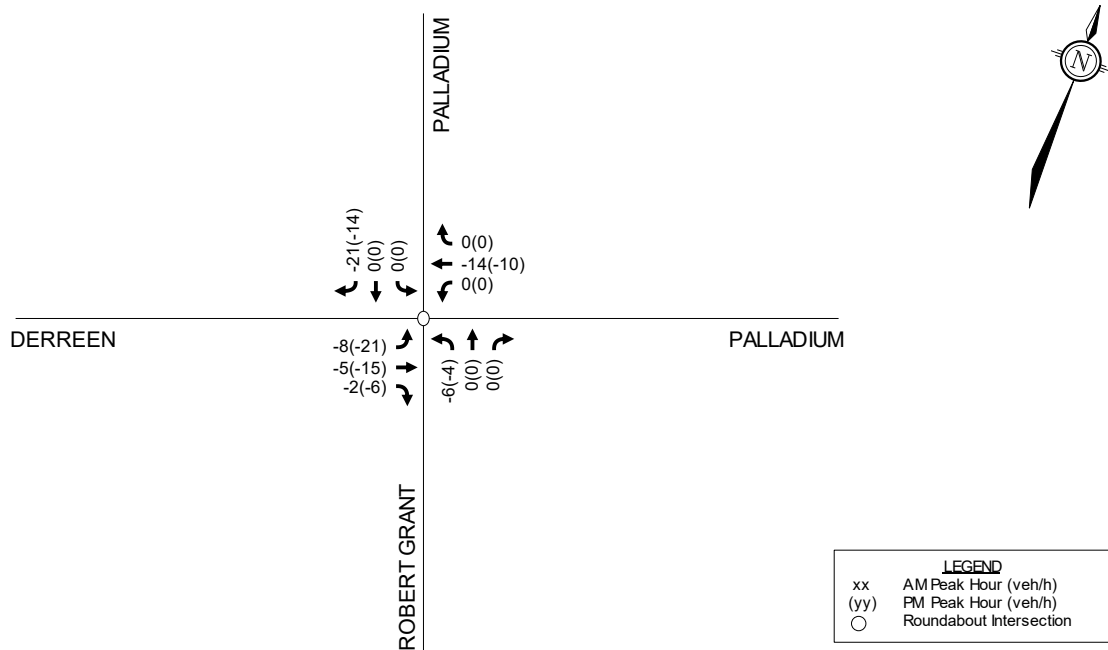


Figure 9: Previously Planned Subject Site Volumes in 2033



2.5 Access Design

The proposed development includes one two-way access to Derreen Avenue, approximately 75m east of Culdaff Road. Curbs will be depressed and continuous across the proposed access. The design of the proposed access has been evaluated using the relevant provisions of the city's Access By-Law (ABL) 2026-139, the Access Design Requirements (ADR) Document (First

Edition; April 08, 2026) contained within the ABL, *Zoning By-Law (ZBL)*, and the Transportation Association of Canada (TAC)'s *Geometric Design Guide for Canadian Roads*.

Section 14 of the ABL identifies a minimum width of 2.4 m and maximum width of 9.0 m for vehicular accesses. The proposed site access is approximately 6.7m in width meeting this requirement.

Section 15 of the ABL identifies that centerline of vehicular access shall intersect the centerline of the roadway as nearly as practicable at a right angle, but in no case shall be less than 70 degrees. The proposed site access meets the roadway at right angle meeting this requirement.

Section 17(1)(a) of the ABL identifies that two-way accesses serving parking lots shall not exceed 9.0 m in width at highway line and 19.0 m in width at curb line/roadway edge. The proposed access is approximately 6.7m at highway line and 14.50 m at curb line meeting this requirement.

Section 3.1.4.1 of the ADR Document identifies that, for sites with 150m to 240m of frontage, a maximum of two two-way accesses or one two-way access and two one-way accesses are permitted. Combined Phase 1 and Phase 2, the subject site has approximately 220m of frontage along Derreen Avenue. The proposed access meets this requirement.

Section 3.1.4.6(1) of the ADR Document identifies that when an access serves more than 300 parking spaces and abuts an arterial or a major collector roadway, then the minimum distance between the access and the nearest intersecting highway line shall be 75m. The proposed site access is located approximately at 145.0 m from the Palladium Drive highway line meeting this requirement.

Section 3.1.4.7 of the ADR Document identifies a minimum setback requirement of 3m between an access and the adjoining property line, as measured at the highway line and at the curb line/roadway edge. Since the access is approximately 75m east of the western property line, this requirement is met.

Section 3.1.5.1 of the ADR Document identifies that the grade of an access excluding any sidewalk or other In-Boulevard Active Transportation Facility shall not be less than 2%, more than 8%, and shall descend in the direction of the roadway. City Standard SC 7.1 (dated March 2021) identifies a maximum cross-slope of 2-4% for sidewalks. The proposed access meets this requirement.

Section 3.1.5.2 of the ADR Document identifies that any access serving a parking area with more than 50 parking spaces shall not have a grade exceeding 8% for the first 9m inside the property line. The proposed access meets this requirement.

Sections 107(1)(a) and 107(1)(aa) of the ZBL identifies that for any driveway providing access to a residential parking garage, a minimum driveway width of 6.0m and maximum driveway width of 6.7m is allowed for a double traffic lane leading to 20 or more spaces. Phase 1 building has an underground parking garage. The proposed access is 6.7m in width, and therefore this requirement is met.

For apartment developments with more than 200 dwellings, a clear throat length of 25m is recommended for any access to a collector roadway. The proposed development meets this criterion, as the proposed access includes approximately 25m of clear throat length before the first point of conflict.

2.6 Exemptions Review

This module reviews possible exemptions from the final TIA, as outlined in the *Revised TIA Guidelines*. The applicable exemptions for this site are shown in **Table 9**.

Table 9: TIA Exemptions

Module	Element	Exemption Criteria	Status
4.1 Development Design	4.1.1 <i>Design for Sustainable Modes</i>	Required for all.	Not Exempt
	4.1.2 <i>Circulation and Access</i>	Required for site plan control and zoning by-law amendment applications	Not Exempt
	4.1.3 <i>New Street Networks</i>	Required for draft plan of subdivision applications	Exempt
4.2 Parking	<i>All elements</i>	Required for site plan control and zoning by-law amendment applications	Not Exempt
4.3 Boundary Street Design	<i>All elements</i>	Required for all.	Not Exempt
4.4 Transportation Demand Management	<i>All elements</i>	Required for all.	Not Exempt
4.6 Neighbourhood Traffic Calming	<i>All elements</i>	If all of the following criteria are met: - Access is provided to a collector or local roadway - Application is for zoning by-law amendment or draft plan of subdivision - Proposed development generated more than 75 vehicle trips - Site trip infiltration is expected, and site-generated traffic will increase peak hour volumes by 50% or more along the route between the site and an arterial roadway - The subject street segment is adjacent to two or more of the following significant sensitive land uses: - School (within 250m walking distance) - Park - Retirement/older adult facility - Licensed child care centre - Community centre 50+% of adjacent properties along the route(s) are occupied by residential lands and at least ten dwellings are occupied	Exempt

Module	Element	Exemption Criteria	Status
4.7 Transit	4.7.1 Transit Route Capacity	Required when proposed development generates more than 75 transit trips	Module Deleted
	4.7.2 Transit Priority Requirements	Required when proposed development generates more than 75 vehicle trips	Not Exempt
4.8 Network Concept	<i>All elements</i>	Required when proposed development generates more than 200 person trips during the peak hour in excess of the equivalent volume permitted by the established zoning	Exempt
4.9 Intersection Design	<i>All elements</i>	Required when proposed development generates more than 75 vehicle trips	Not Exempt

3.0 FORECASTING

3.1 General Background Growth Rate

No general background growth rate has been assumed for 2028 buildout year and 2033 horizon year. In 2028, all the background developments mentioned in section 2.2.2 are considered to capture the traffic growth within the study area.

For the purposes of the 2033 horizon year analysis, the 2040 forecasted traffic volumes from the Huntmar Drive Widening and Stittsville Main Street Extension Project ESR have been carried. The projections in the ESR captures the long-term traffic growth and represents near buildout conditions of the Kanata West Lands and additional development growth within the Fernbank lands to the south. As such, this will provide a conservative representation of traffic in the area from 2033 and beyond. Traffic projections from ESR are included in **Appendix G**.

3.2 Other Area Developments

130 Huntmar Drive

The proposed development was projected to generate 682 vehicle trips during the AM peak hour and 600 vehicle trips during the PM peak hour. A buildout year of 2024 was identified in the TIA, and therefore, traffic generated by this development has been added to the 2028 background conditions.

195 Huntmar Drive

The proposed development was projected to generate 882 vehicle trips during the AM peak hour and 905 vehicle trips during the PM peak hour. As the subject site is assumed to replace the automobile dealership use previously assumed, the 67 AM peak hour vehicle trips and 83 PM peak hour vehicle trips that were projected as dealership trips have been subtracted. A buildout year of 2024 was identified in the TIA, and therefore, traffic generated by this development (except for dealership traffic) has been added to the 2028 background conditions.

319 Huntmar Drive

The proposed development was projected to generate 153 vehicle trips during the AM peak hour and 195 vehicle trips during the PM peak hour. A buildout year of 2025 was identified in the TIA, and therefore, traffic generated by this development has been added to the 2028 background conditions.

405 Huntmar Drive

The proposed development was projected to generate 153 vehicle trips during the AM peak hour and 195 vehicle trips during the PM peak hour. A buildout year of 2024 was identified in the TIA, and therefore, traffic generated by this development has been added to the 2028 background conditions.

1300 Upper Canada Street

The proposed development was projected to generate 34 vehicle trips during the AM peak hour and 36 vehicle trips during the PM peak hour. A buildout year of 2023 was identified in the TIA, and therefore, traffic generated by this development has been added to the 2028 background conditions.

1400 Upper Canada Street

The proposed development was projected to generate 213 vehicle trips during the AM peak hour and 150 vehicle trips during the PM peak hour. An ultimate buildout year of 2026 was identified in the TIA, and therefore, traffic generated by this development has been added to the 2028 background conditions.

1485 Upper Canada Street

The proposed development was projected to generate less than 60 person trips based on the TIA screening form. Therefore, the traffic generated by this development has not been added to the background conditions.

1919 Maple Grove Road

The proposed development was projected to generate 223 vehicle trips during the AM peak hour and 284 vehicle trips during the PM peak hour. A buildout year of 2026 was identified in the TIA, and therefore, traffic generated by this development has been added to the 2028 background conditions. At the time the 1919 Maple Grove Road TIA was written, no traffic was assigned to travel through the 195 Huntmar Drive subdivision, and all traffic to/from the north was distributed to the Huntmar Drive/Maple Grove Road intersection. For the purposes of this TIA, 50% of the traffic distributed to/from the north has been conservatively redistributed to the Palladium Drive/Robert Grant Avenue/Deerreen Avenue intersection.

1981 Maple Grove Road

The TIA prepared in support of this development did not project any site-generated traffic volumes to the study area.

8605 Campeau Drive

The proposed development was projected to generate 110 vehicle trips during the AM peak hour and 119 vehicle trips during the PM peak hour. A buildout year of 2025 was identified in the TIA, and therefore, traffic generated by this development has been added to the 2028 background conditions.

8800 Campeau Drive

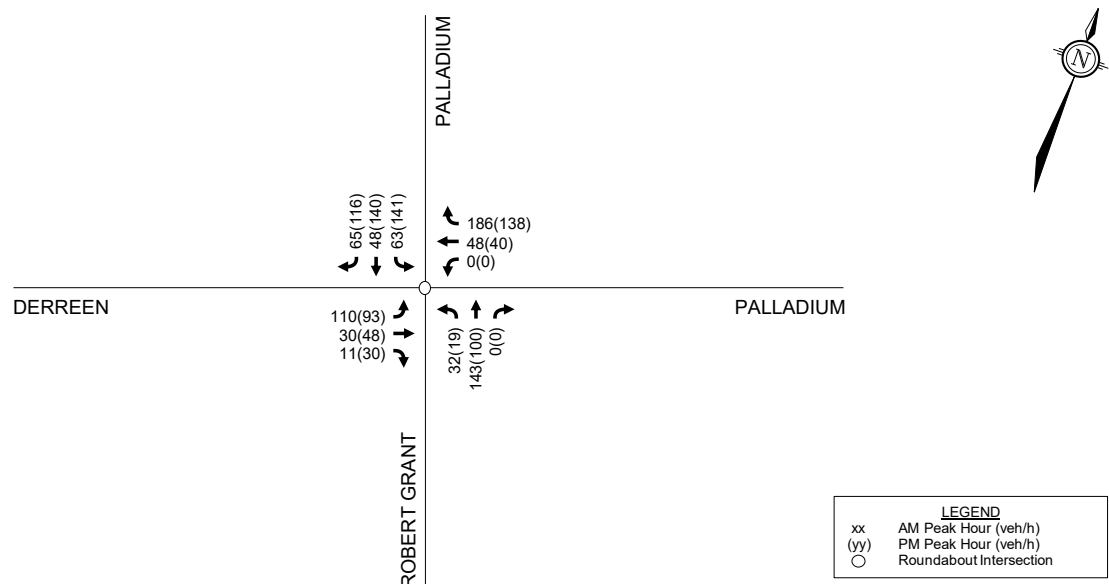
The proposed development was projected to generate 70 vehicle trips during the AM peak hour and 71 vehicle trips during the PM peak hour. An ultimate buildout year of 2026 was identified in the TIA, and therefore, traffic generated by this development has been added to the 2028 background conditions.

3075 Palladium Drive

The proposed development was projected to generate 190 vehicle trips during the weekday PM peak hour and 273 vehicle trips during the Saturday peak hour. An ultimate buildout year of 2027 was identified in the TIA. Based on the traffic assignment for the trips generated by this development, the traffic volumes do not reach the study area intersection.

Traffic generated by these other area developments are shown in **Figure 10**.

Figure 10: Other Area Development-Generated Traffic Volumes



3.2.1 Future Traffic Conditions

The background 2028 traffic volumes have been derived by adding the background development traffic volumes to the existing traffic volumes.

The background 2033 traffic volumes are based on the 2040 forecasted traffic volumes from the Huntmar Drive Widening and Stittsville Main Street Extension Project ESR.

The total traffic volumes were derived by adding site generated traffic volumes to the background traffic volumes and deducting the traffic volumes generated by the previously planned automobile dealership.

The 2028 background and total traffic volumes are shown in **Figure 11** and **Figure 12** respectively. The 2033 background and total traffic volumes are shown in **Figure 13** and **Figure 14** respectively.

Figure 11: Background 2028 Traffic Volumes

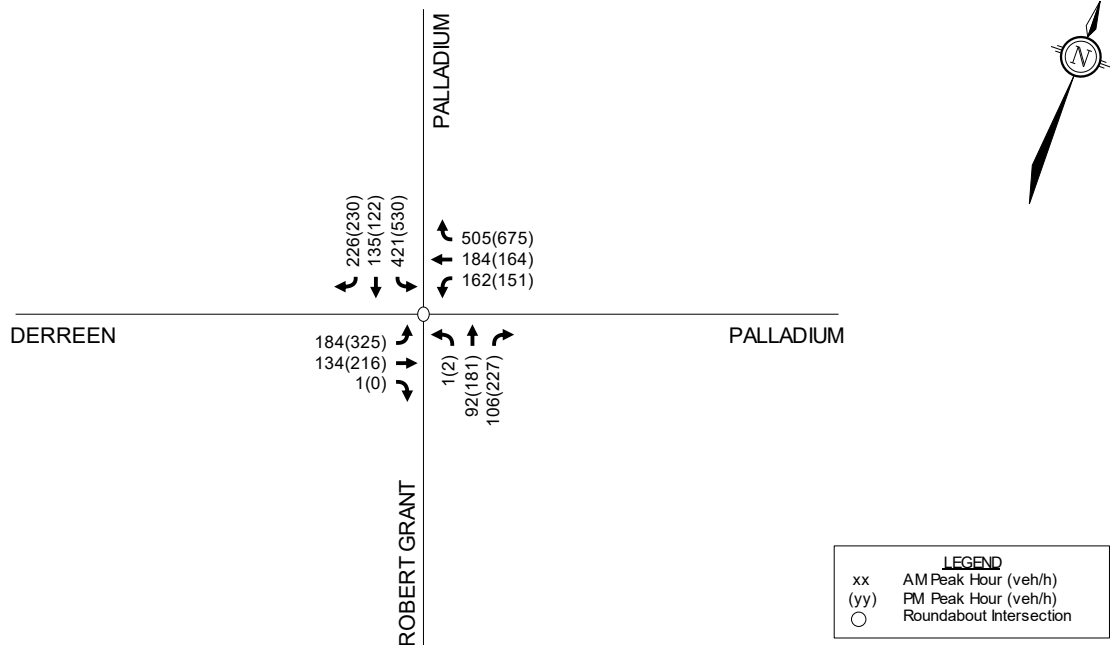


Figure 12: Total 2028 Traffic Volumes

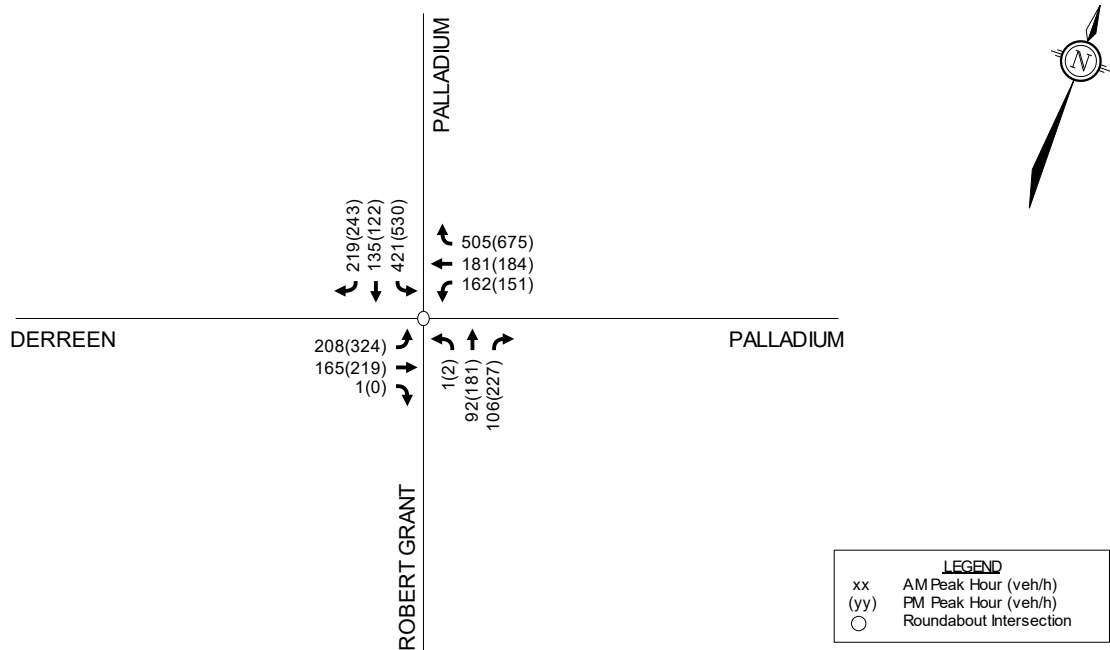


Figure 13: Background 2033 Traffic Volumes

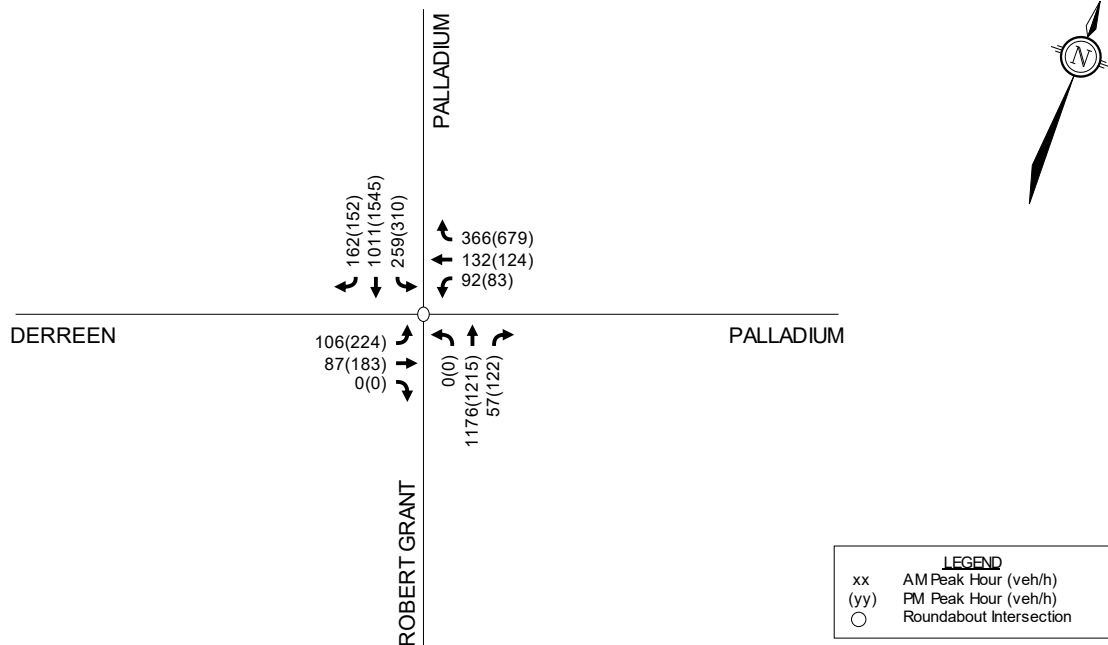
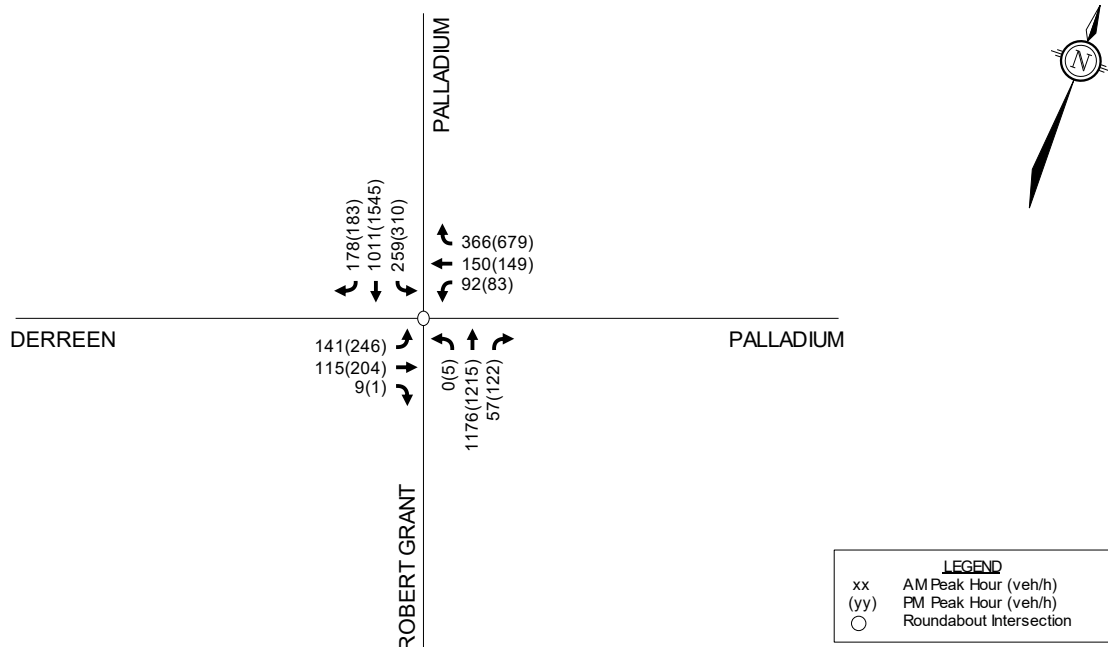


Figure 14: Total 2033 Traffic Volumes (Representative of Total 2040 Huntmar ESR Conditions)



3.3 Demand Rationalization

A review of the existing and background intersection operations has been conducted to determine if and when the traffic volumes exceed the capacity within the study area. Intersection parameters used in the analysis are consistent with the city's *2017 TIA Guidelines* (saturation flow rate: 1800 vphpl, existing conditions PHF: 0.9, future conditions PHF: 1.0).

Per the city's 2023 TMP Part 1, the city-wide target vehicular level of service (Auto LOS) is an LOS E, which equates to a maximum v/c ratio of 1.0 for signalized intersections or a delay of 50 seconds at unsignalized intersections.

3.3.1 Existing Traffic Operations

Intersection capacity analysis has been completed for the existing traffic volumes (see **Figure 4**) and is summarized in **Table 10**. Detailed Rodel analysis reports for existing conditions are included in **Appendix I**.

Table 10: Existing Traffic Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Max. Delay	LOS	Mvmt	Max. Delay	LOS	Mvmt
Palladium Drive/Robert Grant Avenue/Derreene Avenue	3 sec.	A	NB entry	3 sec.	A	NB entry
	2 sec.		SB entry	2 sec.		SB entry
	3 sec.		EB entry	2 sec.		EB entry
	5 sec.		WB entry	5 sec.		WB entry
	0 sec.		WBR bypass	0 sec.		WBR bypass

Based on the foregoing, all the movements at the study area intersection are operating within acceptable LOS under existing conditions.

3.3.2 Background 2028 Traffic Operations

Intersection capacity analysis has been completed for the background 2028 traffic volumes (see **Figure 11**) and is summarized in **Table 11**. Detailed Rodel analysis reports for background conditions are included in **Appendix J**.

Table 11: Background 2028 Traffic Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Max. Delay	LOS	Mvmt	Max. Delay	LOS	Mvmt
Palladium Drive/Robert Grant Avenue/Derreene Avenue	4 sec.	A	NB entry	5 sec.	A	NB entry
	5 sec.		SB entry	5 sec.		SB entry
	4 sec.		EB entry	5 sec.		EB entry
	7 sec.		WB entry	7 sec.		WB entry
	0 sec.		WBR bypass	0 sec.		WBR bypass

Based on the foregoing, all the movements at the study area intersection are operating within acceptable LOS under background 2028 conditions.

3.3.3 Background 2033 Traffic Operations

Intersection capacity analysis has been completed for the background 2033 traffic volumes (see **Figure 13**) and is summarized in **Table 12**. Detailed Rodel analysis reports for background conditions are included in **Appendix J**.

Table 12: Background 2033 Traffic Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Max. Delay	LOS	Mvmt	Max. Delay	LOS	Mvmt
Palladium Drive/Robert Grant Avenue/Derreene Avenue	4 sec.	A	NB entry	7 sec.	D	NB entry
	6 sec.	A	SB entry	26 sec.	B	SB entry
	6 sec.	A	EB entry	14 sec.	A	EB entry
	11 sec.	B	WB entry	12 sec.	B	WB entry
	0 sec.	A	WBR bypass	0 sec.	A	WBR bypass

Based on the foregoing, all the movements at the study area intersection are operating within acceptable LOS under background 2033 conditions.

4.0 ANALYSIS

4.1 Development Design

4.1.1 Design for Sustainable Modes

Walkways will be provided at each entrance between the proposed Building C and the existing sidewalk along Derreen Avenue. On-site walkways will be provided on the inner side of the proposed buildings, and will provide connectivity to the garbage collection area, community garden, dog run, and pergola.

A total of 258 bicycle parking spaces are proposed on-site, with 16 at grade short-term spaces and 242 long-term spaces provided within the proposed buildings. The parking supply and parking requirements are reviewed further in section 4.2.

OC Transpo's service design guideline for peak period service is to provide service within a five-minute (400m) walk of home, work, or school for 95% of urban residents. The proposed development is within 400m walking distance of the existing bus stops at Palladium Drive/Robert Grant Avenue/Derreene Avenue (#0445 and #0446), and the future transit stops at the Derreen Avenue/Culdaff Road intersection.

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

- Locate building entrances in order to minimize walking distances to sidewalks and transit stops/locations.
- Locate building doors and windows to ensure visibility of pedestrians from the building for their security and comfort.
- Provide safe, direct, and attractive walking routes from building entrances to nearby transit stops.

4.1.2 Circulation

A fire route is provided along the periphery of the main drive aisle. The proposed fire route has a minimum clear width of 6.0m and a centerline radius of 12.0m meeting the minimum requirements of Section 3.2.5.7 of the *Ontario Building Code (OBC)*.

Two waste enclosures are provided along the north main drive aisle. Garbage collection will occur at these enclosures. Turning movements for Medium Single Unit (MSU) which is representative of a garbage truck are shown in **Figure 15**.

4.2 Parking

4.2.1 ZBL 2008-250

The minimum parking requirements have been assessed in accordance with the requirements of Part 4 of the city's Zoning By-Law (ZBL) 2008-250 Consolidation. Based on ZBL 2008-250, the subject site is located in Area C on Schedule 1 and 1A.

The minimum parking requirements under ZBL 2008-250 are summarized in **Table 14**.

Table 13: Minimum Parking Requirements (ZBL 2008-250 Consolidation)

Land Use	Minimum Parking Rate	Units	Spaces Required	Spaces Provided
<i>Vehicle Parking</i>				
Apartment	Tenant: 1.2 spaces per unit	304	365	265
	Visitor: 0.2 spaces per unit		61	61
		Total	426	326
<i>Bicycle Parking</i>				
Apartment	0.5 spaces per unit	304	152	258

Based on the foregoing, the proposed number of tenant vehicle parking spaces does not meet the minimum requirements and a variance is required. Of the proposed parking spaces, 5 spaces will be designated as Type A accessible parking space, and 5 spaces will be designated as Type B accessible parking space. The city's *Accessibility Design Standards* identifies that a minimum of four accessible parking spaces should be provided for this supply, and therefore this requirement is met. Additionally, 64 spaces will be designated as Electric Vehicle (EV) Capable.

The proposed bicycle and visitor vehicle parking supply meets the minimum requirements of the ZBL.

Section 111(12) of the ZBL identifies that, where the number of bicycle parking spaces required for a single residential building exceeds 50 spaces, a minimum of 25% of the required total must be located within a building or structure, a secure area, or bicycle lockers. This requirement is met, as 230 spaces of the total 258 spaces are located within the proposed buildings.

4.2.2 ZBL 2026-50

The minimum parking requirements have been assessed in accordance with the requirements of Part 6 the city's new ZBL 2026-50 Consolidation. Based on ZBL 2026-50, the subject site is located in Area E within Schedule A1 and Area B (abuts Area B) within Schedule A3.

The minimum parking requirements under ZBL 2026-50 are summarized in **Table 14**.

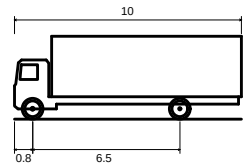
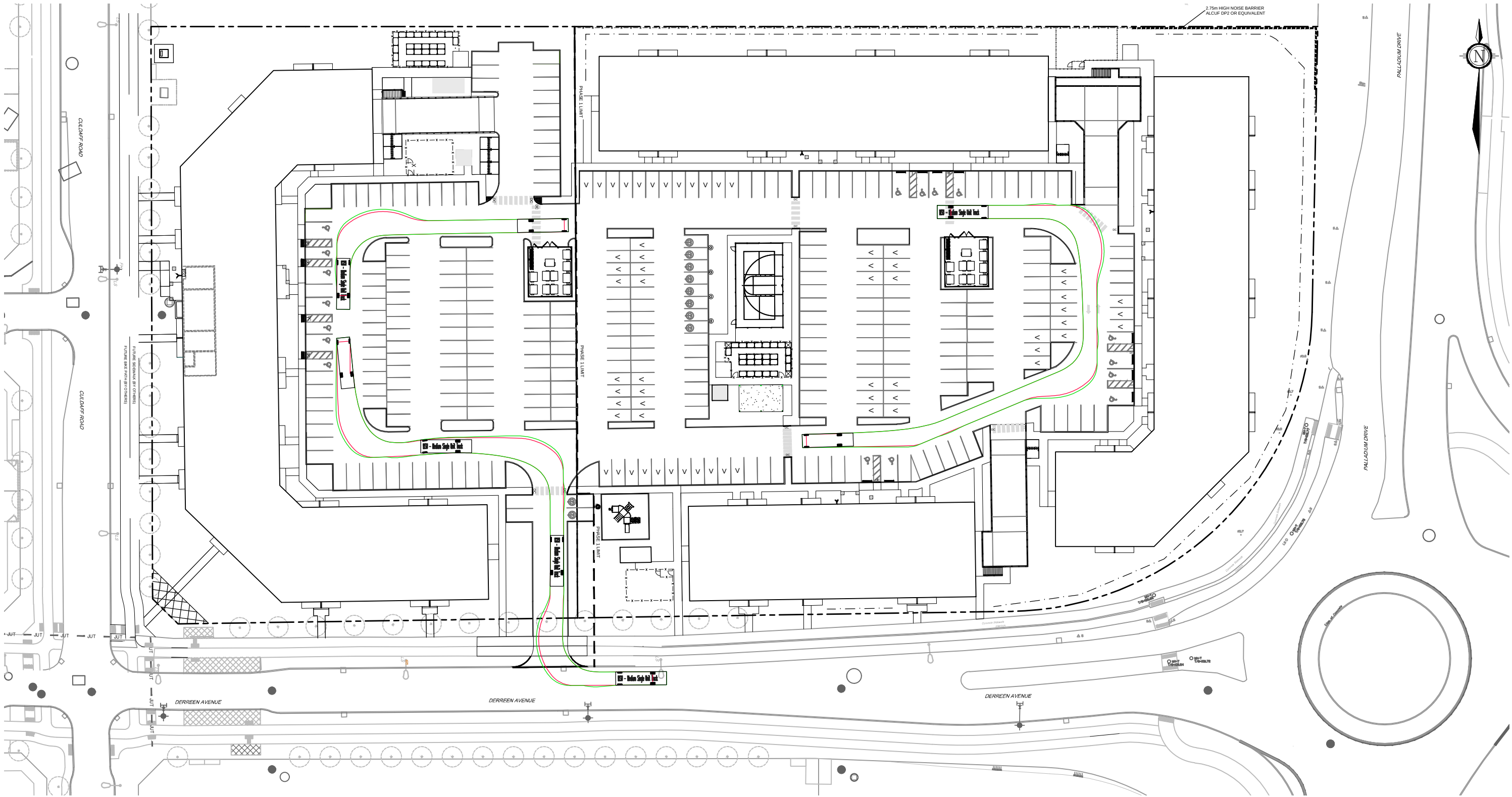
Table 14: Minimum Parking Requirements (ZBL 2026-50 Consolidation)

Land Use	Minimum Parking Rate	Units	Spaces Required	Spaces Provided
<i>Vehicle Parking</i>				
Apartment	Tenant: N/A	304	N/A	265
	Visitor: 0.1 spaces per unit Area B: No spaces required for first 24 units.		Min: 28	61
		Total	-	326
<i>Electric Vehicle Parking</i>				
Apartment	25% of all spaces and capable of level 2 charging (visitor and accessible are exempt)	304	255*25% = 64	64
		Total	64	64
<i>Bicycle Parking</i>				
Apartment	ST: Minimum of 2 spaces with an additional 1 space per 20 dwelling units after the first 20 units. LT: 0.75 spaces per unit Inclusive: 5% of all spaces	304	ST: 16 LT: 228 Inc.: 12	ST: 16 LT: 230 Inc.: 12
		Total	256	258

Note: ST = Short term; LT = Long term

Based on the foregoing, the minimum parking requirements under ZBL 2026-50 are met. Of the proposed parking spaces, 5 spaces will be designated as Type A accessible parking space, and 5 spaces will be designated as Type B accessible parking space. The city's *Accessibility Design Standards* identifies that a minimum of four accessible parking spaces should be provided for this supply, and therefore this requirement is met.

M:\2025\125091\CAD\CIVIL\FIGURES\TRAFFIC\125091-TM.DWG 6/9/2026 3:40 PM - RHILLIER



MSU - Medium Single Unit Truck

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

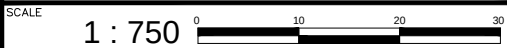


Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

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

2765 PALLADIUM DRIVE

TURNING MOVEMENT
(MSU / GARBAGE TRUCK)



DATE JUN 2026	JOB 125091	FIGURE FIGURE 15
---------------	------------	------------------

4.3 Boundary Streets

This section provides a review of the boundary streets Derreen Avenue and Palladium Drive using the city's complete street principles. *The 2025 Multi-Modal Level of Service (MMLOS) Guidelines* were used to evaluate the LOS for each alternative mode of transportation on the boundary street. Schedule B5 of the city's *OP* identifies the subject site being located within the Suburban transect and Palladium Drive adjacent to subject side is identified as Corridor – Minor. Accordingly, the targets for the boundary streets have been selected based on Exhibit 2 of the *MMLOS Guidelines*.

A detailed segment MMLOS analysis was performed using the city's MMLOS spreadsheet tool and is included in **Appendix L**. A summary of the segment MMLOS analysis is provided in **Table 15**.

Table 15: Segment MMLOS Summary

Segment	PLOS		BLOS		TLOS		PRLOS
	Actual	Target	Actual	Target	Actual	Target	Actual
Derreen Avenue b/w Culdaff Road and Palladium Drive	A	C	B	C	B	D ¹	B
Palladium Drive b/w Derreen Avenue and HWY417 EB Off-Ramp	F		E		C		E

1. Target TLOS has been increased from TLOS E to TLOS D as OC Transpo Route 62 is a frequent route.

Derreen Avenue meets all the MMLOS targets as it has recently been designed and constructed as a complete street. However, Palladium Drive does not meet the target PLOS and BLOS.

Palladium Drive does not meet the target PLOS as there are no sidewalks on both sides of the roadway under the existing conditions. It also does not meet the target BLOS as it currently operates under mixed traffic conditions. To meet the target PLOS C, a sidewalk with offset from vehicle travel lane is required on both sides of the roadway. To meet the target BLOS C, a bike lane is required in both directions of the roadway. This is identified for city's consideration as funding becomes available.

4.4 Transportation Demand Management

4.4.1 Context for TDM

Combined Phase 1 and Phase 2, the proposed development will contain a total of 481 units with the following breakdown:

- 60 studio units (Phase 1: 24 units; Phase 2: 36 units)
- 74 one-bedroom units (Phase 1: 24 units; Phase 2: 57 units)
- 257 two-bedroom units (Phase 1: 93 units; Phase 2: 157 units)
- 90 three-bedroom units (Phase 1: 36 units; Phase 2: 54 units)

4.4.2 Need and Opportunity

As discussed in section 2.4.1, the assumed auto driver modal shares for the proposed development are slightly higher (~5%) than the auto driver modal shares associated with high-rise residential developments in Kanata/Stittsville District to reflect the limited transit service within the study area. Consequently, the assumed transit modal share is slightly less (~5%). As

discussed in section 2.1.6, concrete bus stop pads have been constructed on both sides of Derreen Avenue, immediately east of Culdaff Road for future use. These stops will serve future transit routes as the surrounding neighbourhoods develop. As such, the proposed development is anticipated to meet the assumed modal shares.

4.4.3 TDM Program

The proposed development conforms to the city's Transportation Demand Management (TDM) initiatives by providing easy access to local pedestrian, bicycle and transit systems as outlined in section 4.1.1. A review of the TDM – Measures Checklist for residential developments has been conducted and is included in **Appendix K**. The following measures will be implemented within the proposed development:

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

4.5 Transit

4.5.1 Transit Priority

The impacts of the development traffic on the Transit Level of Service (TLOS) have been reviewed. OC Transpo routes 62, 261, 263, and 266 serve the study area. All the four routes perform southbound left turn and westbound right turn movements at the study area intersection.

All the transit movements within the study area occur in mixed traffic conditions. Therefore, the delays that the transit buses experience will be the same as vehicles. Section 3.3.2 contains background 2028 intersection operating conditions and section 4.6.2 contains total 2028 intersection operating conditions. Based on these two sections, the TLOS are anticipated to be within acceptable conditions. No transit priority measures have been identified.

4.6 Intersection Design

4.6.1 Existing Intersection MMLOS Review

The study area intersection is a roundabout. Roundabouts are not included within the scope of the city's *2025 MMLOS Guidelines*. Therefore, the study area intersection has not been evaluated for intersection MMLOS.

4.6.2 Total 2028 Traffic Operations

Intersection capacity analysis has been completed for the total 2028 traffic volumes (see **Figure 12**) and is summarized in **Table 16**. Detailed Rodel analysis reports for total conditions are included in **Appendix M**.

Table 16: Total 2028 Traffic Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Max. Delay	LOS	Mvmt	Max. Delay	LOS	Mvmt
Palladium Drive/Robert Grant Avenue/Derreene Avenue	4 sec.	A	NB entry	5 sec.	A	NB entry
	5 sec.		SB entry	5 sec.		SB entry
	5 sec.		EB entry	6 sec.		EB entry
	7 sec.		WB entry	8 sec.		WB entry
	0 sec.		WBR bypass	0 sec.		WBR bypass

Based on the foregoing, all the movements at the study area intersection are operating within acceptable LOS under total 2028 conditions.

4.6.3 Total 2033 Traffic Operations (Representative of Total 2040 Conditions)

Intersection capacity analysis has been completed for the total 2033 traffic volumes (see **Figure 14**) and is summarized in **Table 17**. Detailed Roden analysis reports for total conditions are included in **Appendix M**.

Table 17: Total 2033 Traffic Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Delay	LOS	Mvmt	Delay	LOS	Mvmt
Palladium Drive/Robert Grant Avenue/Derreene Avenue	5 sec.	A	NB entry	8 sec.	A	NB entry
	7 sec.	A	SB entry	37 sec.	E	SB entry
	7 sec.	A	EB entry	16 sec.	C	EB entry
	12 sec.	B	WB entry	13 sec.	B	WB entry
	0 sec.	A	WBR bypass	0 sec.	A	WBR bypass

Based on the foregoing, all the movements at the study area intersection are operating within acceptable LOS under total 2033 conditions which are actually representative of the total 2040 conditions.

The 95th percentile queue length for the southbound movement is anticipated to be approximately 300 m during the PM peak hour; however, this queue length does not block the HWY417 eastbound off-ramp.

5.0 CONCLUSIONS AND RECOMMENDATIONS

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

Trip Generation

- The proposed development is anticipated to generate 192 person trips (including 102 vehicle trips) during the AM peak hour and 198 person trips (including 105 vehicle trips) during the PM peak hour.

Access Design

- The proposed development includes one two-way access to Derreen Avenue, approximately 75m east of Culdaff Road. Curbs will be depressed and continuous across the proposed access. The design of the proposed access meets all the relevant provisions

of the city's *Access By-Law (ABL)*, *Zoning By-Law (ZBL)*, and the *Transportation Association of Canada (TAC)'s Geometric Design Guide for Canadian Roads (GDG)*.

Existing and Background Traffic Operations

- All the movements at the study area intersection are operating within acceptable LOS under existing and background conditions.

Development Design

- Walkways will be provided at each entrance between the proposed Building C and the existing sidewalk along Derreen Avenue. On-site walkways will be provided on the inner side of the proposed buildings, and will provide connectivity to the garbage collection area, community garden, dog run, and pergola.
- OC Transpo's service design guideline for peak period service is to provide service within a five-minute (400m) walk of home, work, or school for 95% of urban residents. The proposed development is within 400m walking distance of the existing bus stops at Palladium Drive/Robert Grant Avenue/Derreen Avenue (#0445 and #0446), and the future transit stops at the Derreen Avenue/Culdaff Road intersection.
- A review of the *Transportation Demand Management (TDM) – Supportive Development Design and Infrastructure Checklist* has been conducted. All required TDM-supportive design and infrastructure measures in the TDM checklist for residential developments will be met.

Circulation

- A fire route is provided along the periphery of the main drive aisle and meets the minimum requirements of Section 3.2.5.7 of the *Ontario Building Code (OBC)*.
- Two waste enclosures are provided along the north main drive aisle. Garbage collection will occur at these enclosures.

Parking

- A total of 326 vehicle parking spaces and 258 bicycle parking spaces are proposed.
- Under the city's ZBL 2008-250:
 - The proposed number of tenant vehicle parking spaces do not meet the minimum requirements of the ZBL and a variance is required. The proposed bicycle and visitor vehicle parking supply meets the minimum requirements of the ZBL. 10 vehicle parking spaces will be designated as accessible parking spaces meeting the city's *Accessibility Design Standards*.
 - Section 111(12) of the ZBL identifies that, where the number of bicycle parking spaces required for a single residential building exceeds 50 spaces, a minimum of 25% of the required total must be located within a building or structure, a secure area, or bicycle lockers. This requirement is met, as 242 spaces of the total 258 spaces are located within the proposed buildings.
- Under the city's ZBL 2026-050:
 - All the minimum parking requirements for visitor, electric vehicle, and bicycle parking spaces are met.

Boundary Streets

- Derreen Avenue meets all the segment MMLOS targets as it has recently been designed and constructed as a complete street.
- Palladium Drive does not meet the target PLOS as there are no sidewalks on both sides of the roadway under the existing conditions. It also does not meet the target BLOS as it currently operates under mixed traffic conditions. To meet the target PLOS C, a sidewalk with offset from vehicle travel lane is required on both sides of the roadway. To meet the target BLOS C, a bike lane is required in both directions of the roadway. This is identified for city's consideration as funding becomes available.

Transportation Demand Management

- The list of TDM Measures to be considered by the proponent are summarized as follows:
 - Display local area maps with walking/cycling access routes and key destinations at major entrances.
 - Display relevant transit schedules and route maps at entrances.
 - Unbundle parking price cost from monthly rent.
 - Provide a multimodal travel option information package to new residents.

Transit Priority

- OC Transpo routes 62, 261, 263, and 266 serve the study area. All the four routes perform southbound left turn and westbound right turn movements at the study area intersection and occur in mixed traffic conditions. The impacts of the development on TLOS at these movements are negligible and the TLOS is anticipated to be within acceptable conditions.

Total Traffic Operations

- All the movements at the study area intersection are operating within acceptable LOS under total 2028 and 2033 conditions.

The proposed development is recommended from transportation perspective.

NOVATECH

Prepared by:



Mohammed Talha, M. Eng.
Engineering Intern | Transportation

Reviewed by:



Brad Byvelds, P. Eng.
Senior Project Manager | Transportation

Appendix A: Proposed Site Plan

SITE INFORMATION			
PROJECT DESCRIPTION	3-MULTIFAMILY RESIDENTIAL APARTMENT (6 STOREY)		
TOTAL UNITS	304 UNITS		
ROOF TYPE	GABLE ROOF		
CIVIC ADDRESS	2765 PALLADIUM DRIVE		
MUNICIPALITY	CITY OF OTTAWA		
ZONING	CM2: MINOR CORRIDOR ZONE 2		
LEGAL DESCRIPTION	Part Block 242, Plan 4M1687, Part 3 on 4R35406		
LOT AREA	15,940 m ²	3.94 ACRES	1.59 HECTARES
DENSITY	77.2 DU/ACRE		
FLOOR SPACE INDEX (FSI)	1.74 (2.0 MAX)		

ZONING SUMMARY				
	REQUIRED		PROPOSED	
MAX. BUILDING HEIGHT	18 m		18 m	
MIN. FRONT YARD S.B.	3.0	m	3.0	m
MIN. REAR YARD S.B.	7.5	m	7.5	m
MIN. INTERIOR SIDE YARD S.B.	3.0	m	3.0	m
MIN. CORNER SIDE YARD S.B.	3.0	m	3.0	m
MIN. LOT AREA	No minimum	m ²	15,940	m ²
MIN. LOT WIDTH	No minimum	m	144.63	m

VEHICULAR PARKING				
	REQUIRED	UNITS/AREA	REQUIRED	PROPOSED
APARTMENT - REGULAR	1.2 / UNIT	304	365	274
VISITORS	0.2 / UNIT	304	61	61
TOTAL PARKING STALLS			426	*326
OTHER PARKING PROVISIONS				
SMALL CAR	MAX 50%		MAX 158	77
ACCESSIBLE TYPE A			5	5
ACCESSIBLE TYPE B			5	5
EV INSTALLED			-	-
EV CAPABLE	25%	304	64	64

* PARKING VARIANCE REQUIRED 269/304 = 0.9

BICYCLE PARKING				
	RATE	UNITS/AREA	REQUIRED	PROPOSED
APARTMENT BUILDING	.75	304	228	230
TOTAL BICYCLE			256	258
OTHER BICYCLE PROVISIONS				
INCLUSIVE	5% ALL SPACES	-	12	12
SHORT TERM	1 PER 20 DU	304	16	16

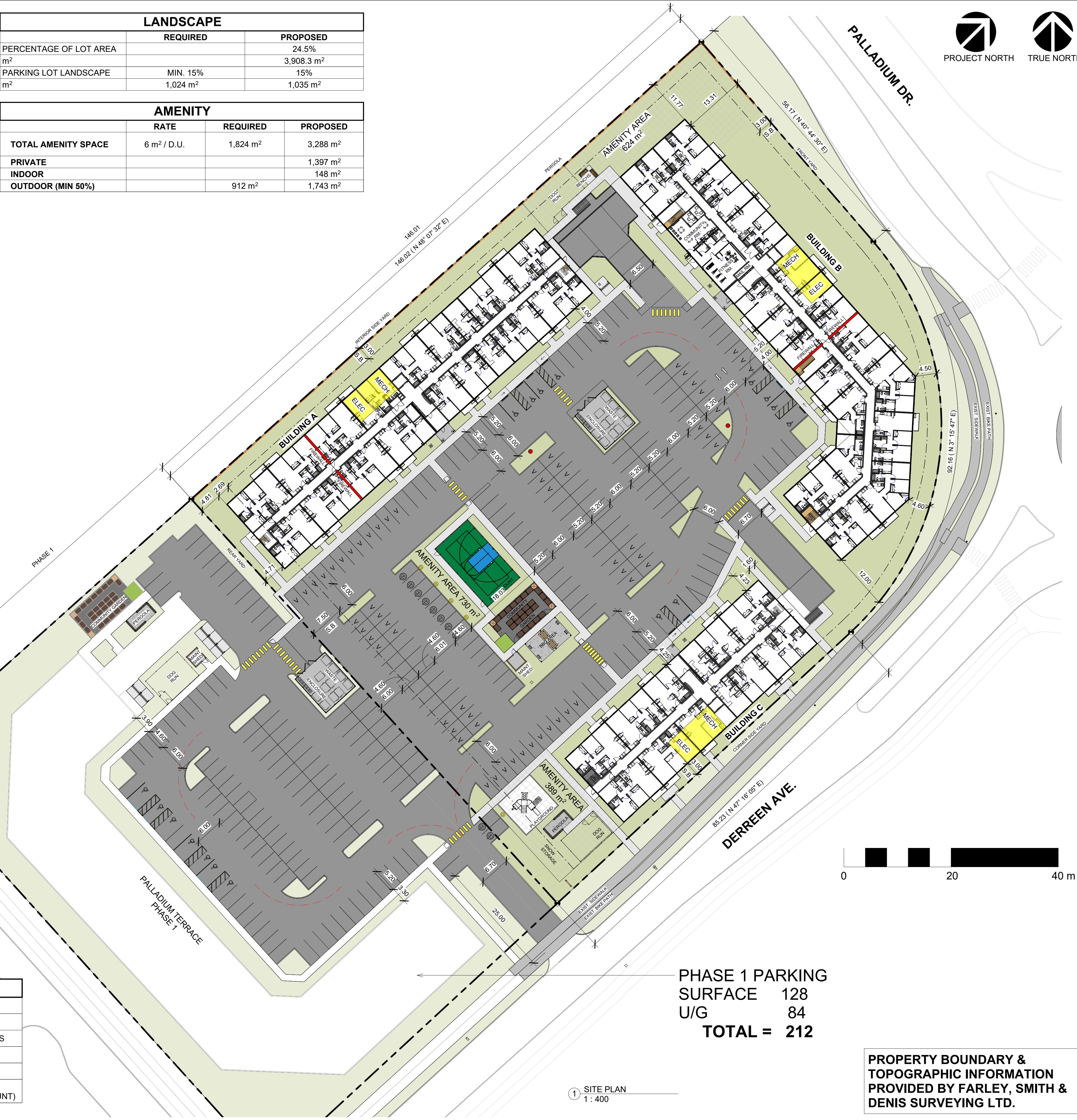
BUILDING INFORMATION				
BUILDING	STORIES	UNIT #	FOOTPRINT	GROSS BLDG AREA
A	6	108	1,640.62 m ²	9,843.72 m ²
B	6	126	1,913.83 m ²	11,482.98 m ²
C	6	72	1,045.58 m ²	6,341.58 m ²
TOTAL			4,600.03 m ²	27,668.28 m ²

UNIT BREAKDOWN				
	BUILDING A	BUILDING B	BUILDING C	
STUDIO	12	12	12	%
1 BED / 1 BATH	13	31	13	17%
2 BED / 1 BATH	7	6	6	8%
2 BED / 2 BATH	64	45	29	40%
3 BED / 2 BATH	12	30	12	17%
TOTAL	108	124	72	
	304 UNITS			

LEGEND			
	PROPERTY LINE		CHAINLINK FENCE
	SETBACK LINE		LANDSCAPE AREA
	BUILDING OUTLINE		CROSSWALK 1.5 X .45 STRIPS
	FIRE HYDRANT		SIDEWALK LETDOWN
	EV CAPABLE CHARGER		ACCESSIBLE PARKING
	WOODEN FENCE		BIKE PARKING (NUMBER REPRESENTS COUNT)

LANDSCAPE		
	REQUIRED	PROPOSED
PERCENTAGE OF LOT AREA		24.5%
m ²		3,908.3 m ²
PARKING LOT LANDSCAPE	MIN. 15%	15%
m ²	1,024 m ²	1,035 m ²

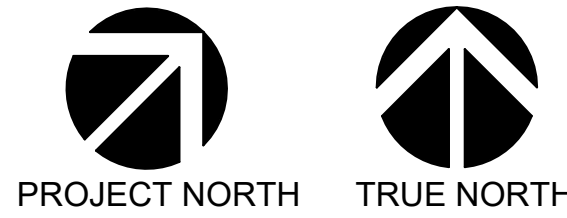
AMENITY			
	RATE	REQUIRED	PROPOSED
TOTAL AMENITY SPACE	6 m ² / D.U.	1,824 m ²	3,288 m ²
PRIVATE			1,397 m ²
INDOOR			148 m ²
OUTDOOR (MIN 50%)		912 m ²	1,743 m ²



PHASE 1 PARKING
SURFACE 128
U/G 84
TOTAL = 212

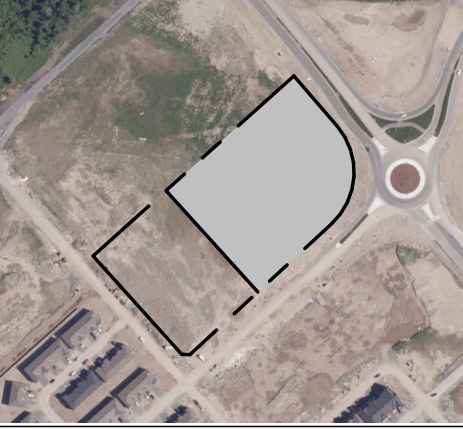
1 SITE PLAN
1: 400

PROPERTY BOUNDARY &
TOPOGRAPHIC INFORMATION
PROVIDED BY FARLEY, SMITH &
DENIS SURVEYING LTD.



100 St Anns, Campbell River, B.C.
(T)250.286.8045 (F)250.286.8046
www.broadstreet.ca

SITE MAP:



PROJECT STATUS:

CONCEPT

Revision Schedule

No.	Description	Revision Date
A	CONCEPT APPROVED	APR 29, 2025
B	AMENITY REVIEW	JUNE 4, 2025
C	SITE PLAN REVISION	JULY 4, 2025
D	SITE PLAN REVISION - 2	AUG 11, 2025
E	SITE PLAN REVISION - 3	NOV 10, 2025
F	SITE PLAN REVISION - 4	NOV 21, 2025
G	SITE PLAN REVISION - 5	DEC 15, 2025
H	SITE PLAN REVISION - 6	DEC 15, 2025
I	SITE PLAN REVISION - 7	JAN 26, 2026
J	SITE PLAN REVISION - 8	MAR 9, 2026
K	ISSUED FOR DEVELOPMENT PERMIT	APR 22, 2026
L	ISSUED FOR REVIEW	MAY/26/2026

SEAL: ABELEARCHITECTURE
THOMAS C. ABLE, ARCHITECT OAA, T: 604-662-6818

TRADE CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND REPORT ANY DISCREPANCIES OR INCONSISTENCIES TO SEYMOUR PACIFIC DEVELOPMENTS LTD., WITHOUT DELAY, FOR CLARIFICATION AND/OR CONFIRMATION. DO NOT SCALE DRAWINGS. DESIGNS REPRESENTED AND DRAWINGS USED AS INSTRUMENTS OF SERVICE SHALL REMAIN THE COPYRIGHT AND PROPERTY OF SEYMOUR PACIFIC DEVELOPMENTS LTD. ANY REPRODUCTION OR USE FOR ANY PURPOSE OTHER THAN THAT AUTHORIZED BY SEYMOUR PACIFIC DEVELOPMENTS LTD. IS PROHIBITED.

CONTRACTORS SHALL REMAIN FAMILIAR WITH, SHALL REFER TO, AND SHALL PERFORM IN ACCORDANCE WITH LOCAL LAWS, REGULATIONS AND BUILDING CODES. CONTRACTORS SHALL MAINTAIN GOOD INDUSTRY BUILDING AND SAFETY PRACTICES CONSISTENT WITH THE CONTRACT INTENT AND THE REQUIREMENTS OF JURISDICTIONAL AUTHORITIES.

ADDITIONAL CLAIMS AND COSTS RELATED TO NON-MATERIAL CHANGES WILL NOT BE ACCEPTED BY SEYMOUR PACIFIC DEVELOPMENTS LTD. NON-MATERIAL CHANGES ARE DEEMED TO BE PLAN CHANGES OR SPECIFICATION ADJUSTMENTS THAT DO NOT SUBSTANTIALLY AFFECT THE VALUE, TIME, COST AND QUALITY OF CONSTRUCTION.

CONTRACTORS SHALL MAKE EVERY REASONABLE EFFORT TO MAINTAIN SCHEDULE TARGETS AND PROVIDE GOOD EFFICIENCY, PROGRESS, WORKMANSHIP AND QUALITY TOWARD DEFICIENCY-FREE RESULTS.

PROJECT NAME:

PALLADIUM TERRACE - PHASE 2

PROJECT NUMBER:

VP 2508

ADDRESS:

2765 PALLADIUM DRIVE
OTTAWA, ON

DRAWING TITLE:

SITE PLAN

DRAWN BY: LM

CHECKED BY: BM

DATE: MAR 9, 2026

SCALE: As indicated

DRAWING #:

A1.00

REV #:

L

Appendix B: TIA Screening Form

City of Ottawa 2017 TIA Guidelines TIA Screening

1. Description of Proposed Development

Municipal Address	2765 Palladium Dr.
Description of Location	North west corner of Derreen Ave & Robert Grant Ave Roundabout
Land Use Classification	Multifamily Residential
Development Size (units)	Phase 1 = 177; Phase 2 = 304; Total = 481
Development Size square metre (m ²)	
Number of Accesses and Locations	One to Derreen Avenue
Phase of Development	One
Buildout Year	

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

2. Trip Generation Trigger

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

Table notes:

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

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

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

3. Location Triggers

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

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

4. Safety Triggers

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

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

Transportation Impact Assessment Guidelines

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

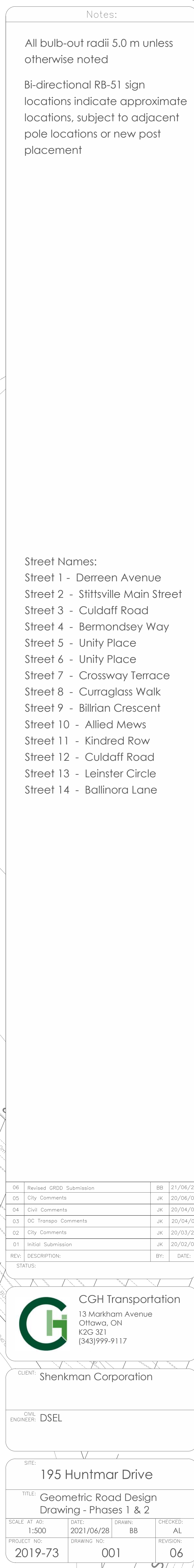
If any of the above questions were answered with 'Yes,' the Safety Trigger is satisfied.

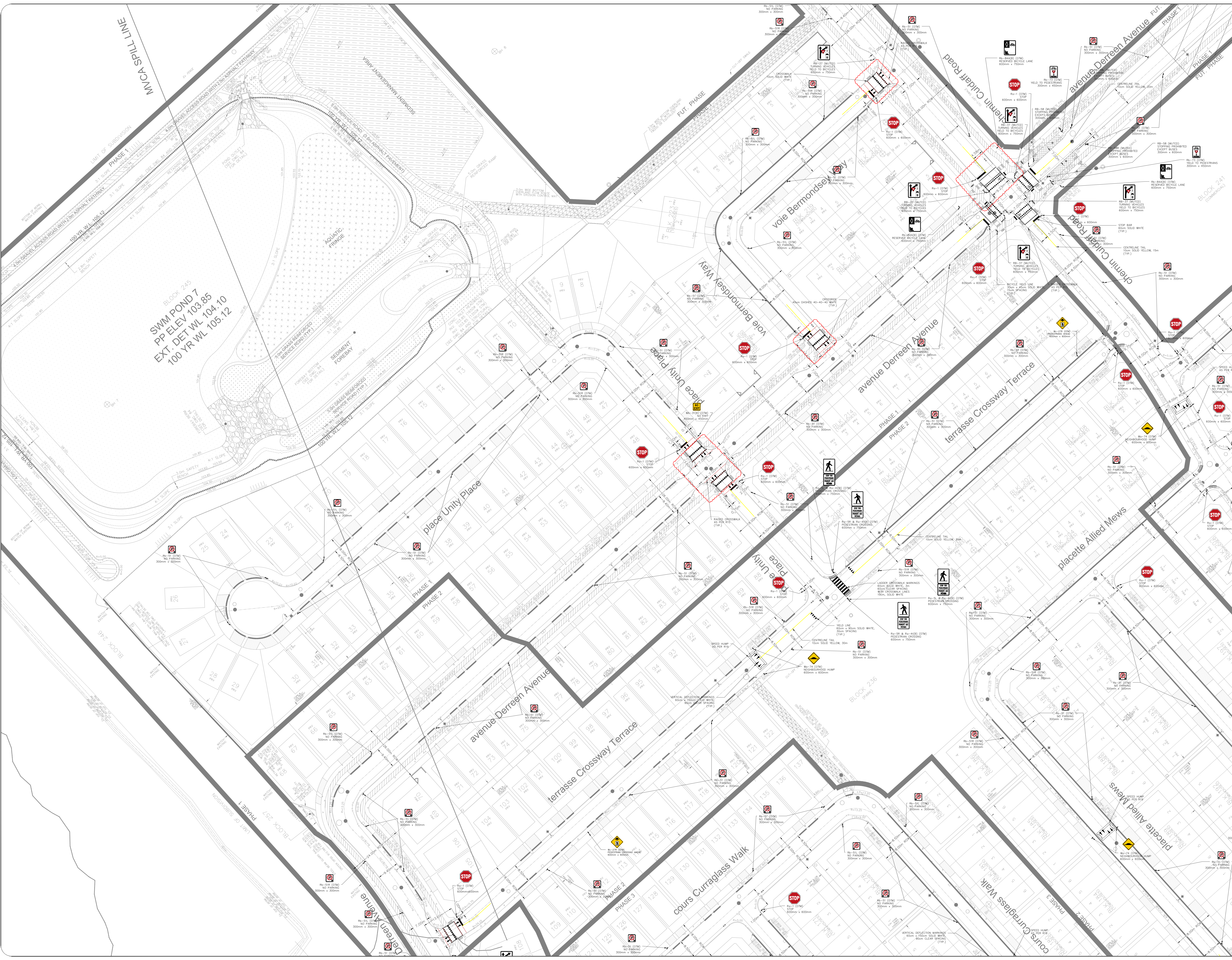
5. Summary

Results of Screening	Yes	No
Does the development satisfy the Trip Generation Trigger?	☒	☐
Does the development satisfy the Location Trigger?	☐	☒
Does the development satisfy the Safety Trigger?	☒	☐

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

Appendix C: 195 Huntmar Drive GRDD Excerpts





Notes:

All bulb-out radii 5.0 m unless otherwise noted

Bi-directional RB-51 sign locations indicate approximate locations, subject to adjacent pole locations or new post placement

Street Names:

Street 1 - Derreen Avenue

Street 2 - Stittsville Main Street

Street 3 - Cudaff Road

Street 4 - Bernondsey Way

Street 5 - Unity Place

Street 6 - Unity Place

Street 7 - Crossway Terrace

Street 8 - Curraglass Walk

Street 9 - Billian Crescent

Street 10 - Allied Mews

Street 11 - Kindred Row

Street 12 - Cudaff Road

Street 13 - Leinster Circle

Street 14 - Ballinora Lane

06	Revised GDD Submission	BB	21/06/28
05	City Comments	JK	20/06/02
04	City Comments	JK	20/04/09
03	OC Transpo Comments	JK	20/04/01
02	City Comments	JK	20/03/21
01	Initial Submission	JK	20/02/01

REV: DESCRIPTION: BY: DATE:

STATUS:

CGH Transportation
13 Markham Avenue
Ottawa, ON
K2G 3Z1
(343) 999-9117

Shenkan Corporation

CIVIL ENGINEER: DSEL

SITE: 195 Huntmar Drive

TITLE: Geometric Road Design
Drawing - Phases 1 & 2

SCALE AT: 1:500	DATE: 2021/04/28	DRAWN: AL	CHECKED: BB
PROJECT NO: 2019-73	DRAWING NO: 002	REVISION: 06	

Appendix D: OC Transpo System Maps



62

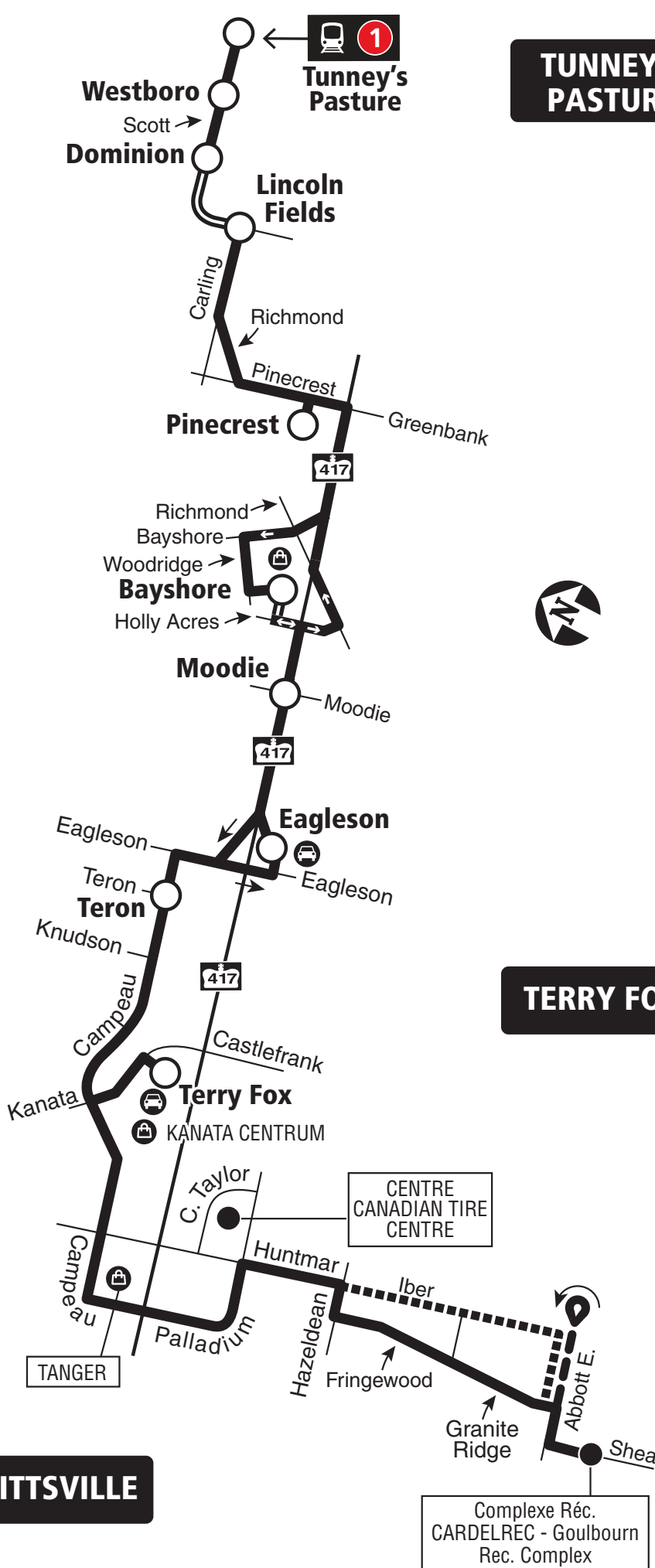
STITTSVILLE TUNNEY'S PASTURE

Fréquent

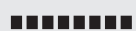
7 days a week / 7 jours par semaine

All day service

Service toute la journée

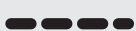


Transitway & Station



Weekday southbound trips before noon and weekday northbound trips between noon and 8 p.m. travel via Iber and Abbott E.

Trajets en semaine vers le sud en avant midi et trajets en semaine vers le nord entre midi et 20 h via Iber et Abbott E.



Saturday and Sunday / Samedi et dimanche



Shopping Centre / Centre commercial



Park & Ride / Parc relais

04/2025

2025.04

This route starts on April 27, 2025 when the New Ways to Bus network comes into effect.

Ce circuit sera mis en service le 27 avril 2025, lorsque le réseau L'autobus réinventé entrera en vigueur.

Customer Service /
Service à la clientèle **613-560-5000**

Security / Sécurité **613-741-2478**

Transpo

octranspo.com





261

KITTIWAKE

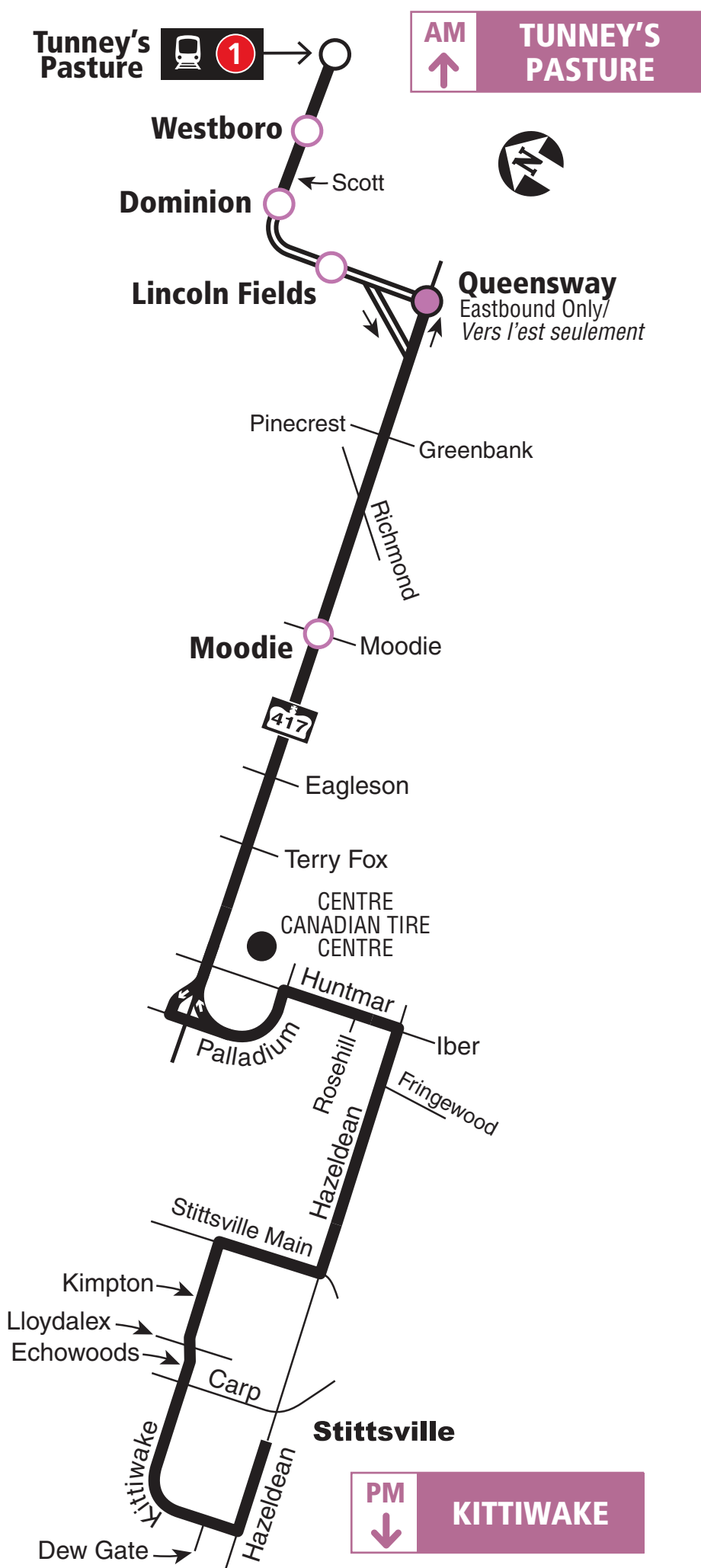
TUNNEY'S PASTURE

Connexion

Monday to Friday / Lundi au vendredi

Peak periods only

Périodes de pointe seulement



Transitway & Station

12.2025



AM Peak Only / Pointe seulement



Limited stops: Off only in AM / No stop in PM
Arrêts limités : débarquement en AM seul. / aucun arrêt en PM



AM: Off only - PM: Full Service
AM : débarquement seul. - PM : service complet

2025.12



Schedule / Horaire 613-560-1000

Text / Texto* 560560

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

*Standard message rates may apply / Les tarifs réguliers de messagerie texte peuvent s'appliquer

Special Constable Unit /

Unité des constables spéciaux..... **613-741-2478**

Customer Service / Service à la clientèle.... **613-560-5000**

Lost & Found..... octranspo.com/lostandfound

Objets perdus..... octranspo.com/objetsperdus



octranspo.com

Effective Dec. 21, 2025

En vigueur 21 déc. 2025



263

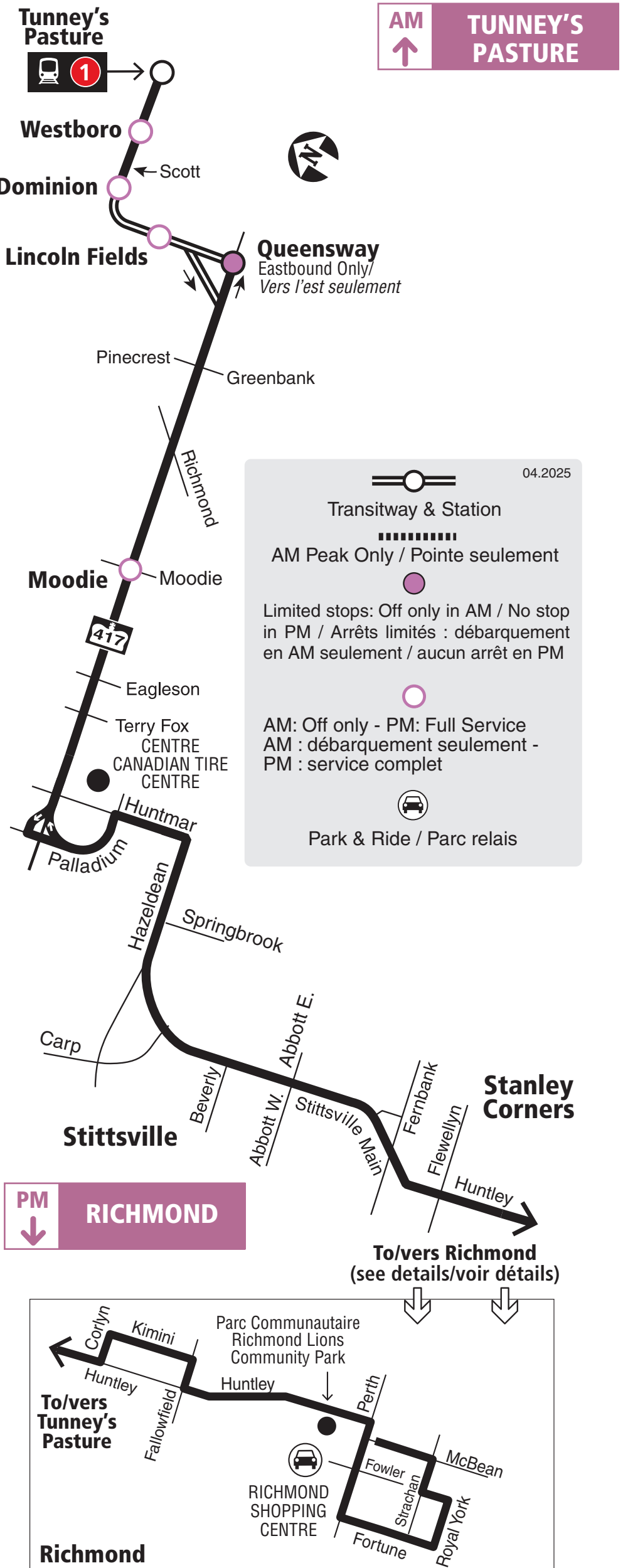
TUNNEY'S PASTURE RICHMOND

Connexion

Monday to Friday / Lundi au vendredi

Peak periods only

Périodes de pointe seulement



2025.04

This route starts on April 27, 2025 when the New Ways to Bus network comes into effect.

Ce circuit sera mis en service le 27 avril 2025, lorsque le réseau L'autobus réinventé entrera en vigueur.



Customer Service /
Service à la clientèle **613-560-5000**

Security / Sécurité **613-741-2478**

Transpo

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266

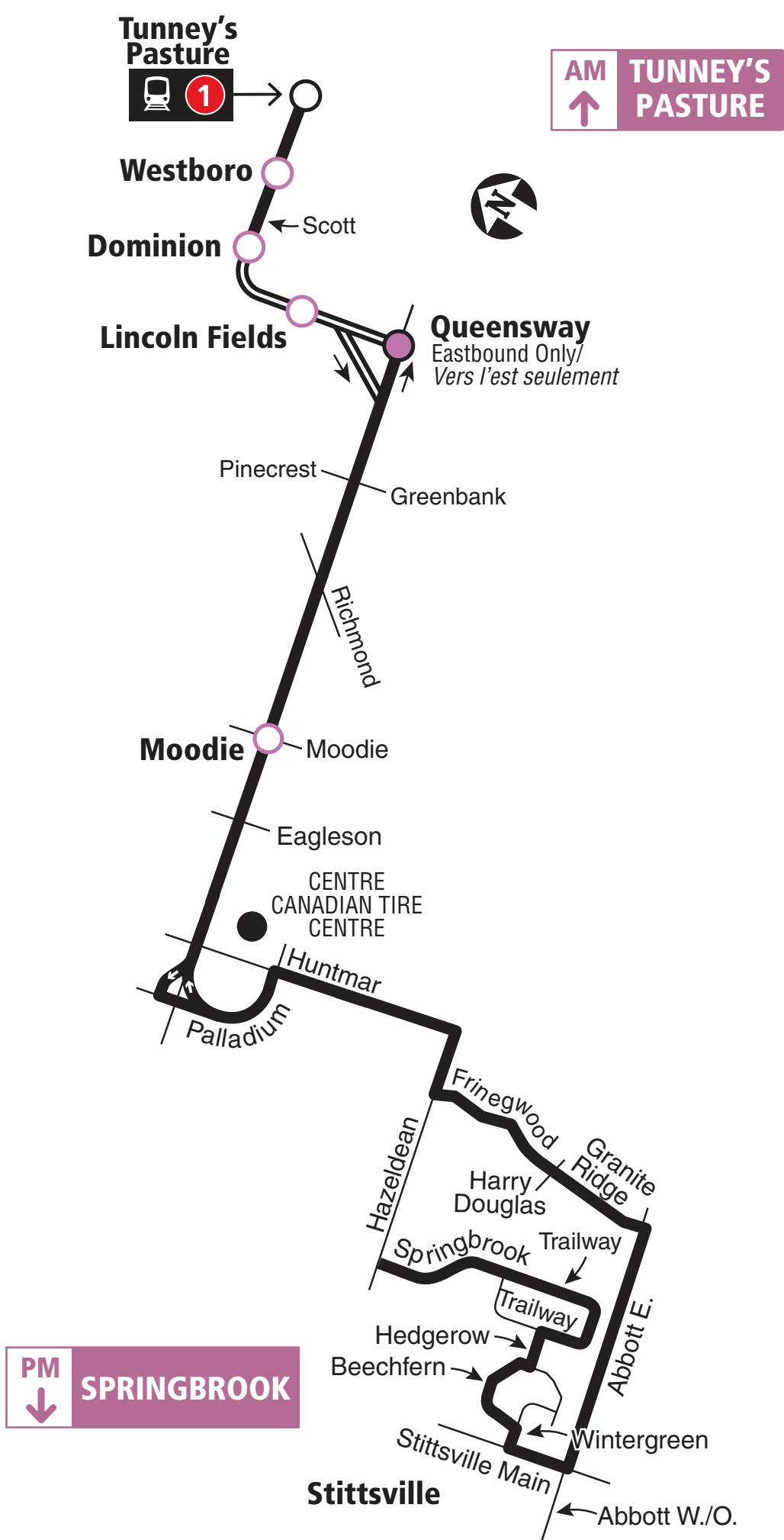
SPRINGBROOK TUNNEY'S PASTURE

Connexion

Monday to Friday / Lundi au vendredi

Peak periods only

Périodes de pointe seulement



Transitway & Station

04.2025



AM Peak Only / Pointe seulement



Limited stops: Off only in AM / No stop in PM
Arrêts limités : débarquement en AM seul. /
aucun arrêt en PM



AM: Off only - PM: Full Service
AM : débarquement seul. - PM : service complet



Shopping Centre / Centre commercial

2024

This route starts on April 27, 2025 when the New Ways to Bus network comes into effect.

Ce circuit sera mis en service le 27 avril 2025, lorsque le réseau L'autobus réinventé entrera en vigueur.



Customer Service /
Service à la clientèle **613-560-5000**

Security / Sécurité **613-741-2478**

Transpo

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Appendix E: Traffic Count Data

Turning Movement Count - Peak Hour Diagram

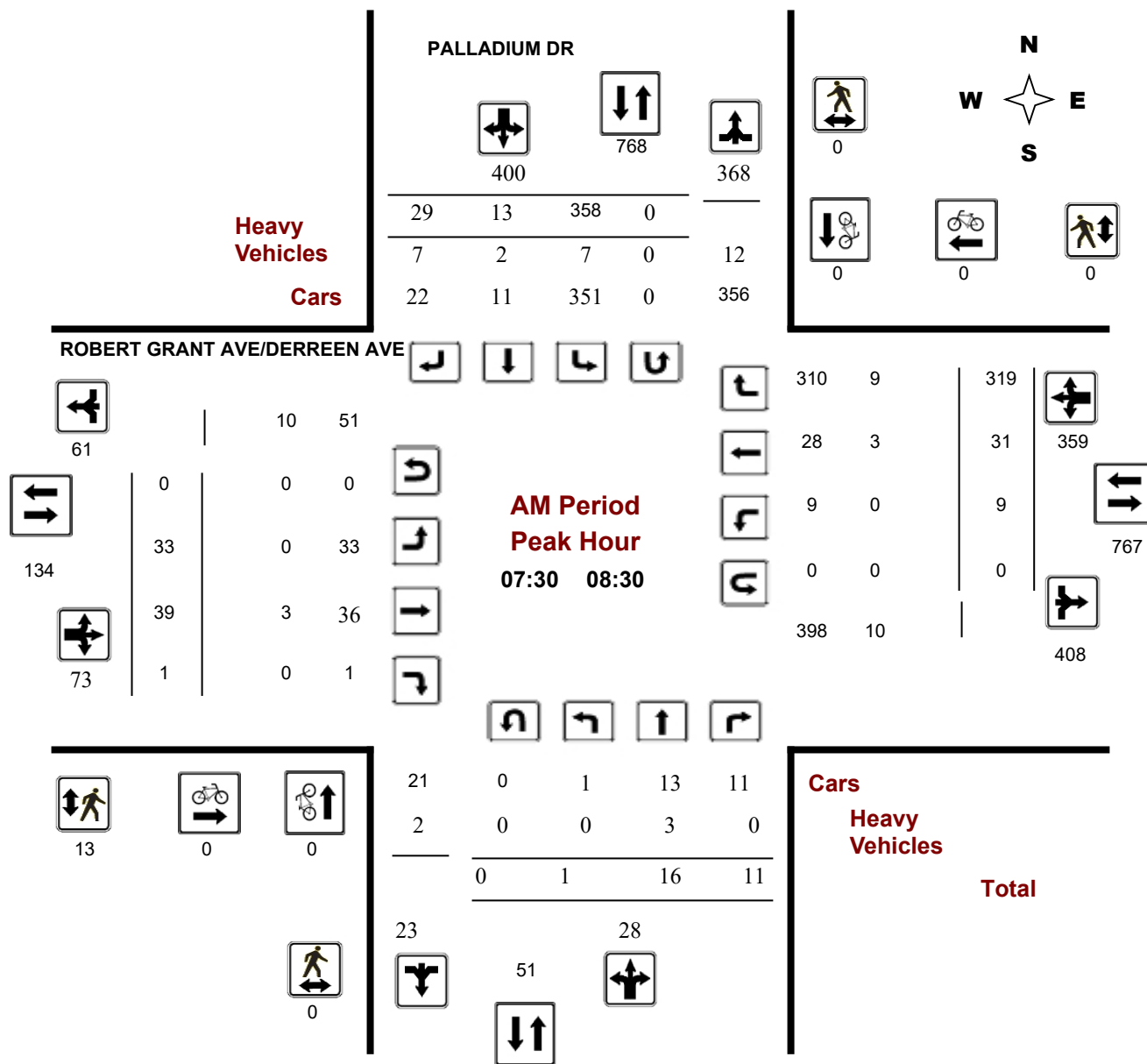
PALLADIUM DR @ ROBERT GRANT AVE/DERREEN AVE

Survey Date: Thursday, September 22, 2022

Start Time: 07:00

WO No: 40585

Device: Miovision



Turning Movement Count - Peak Hour Diagram

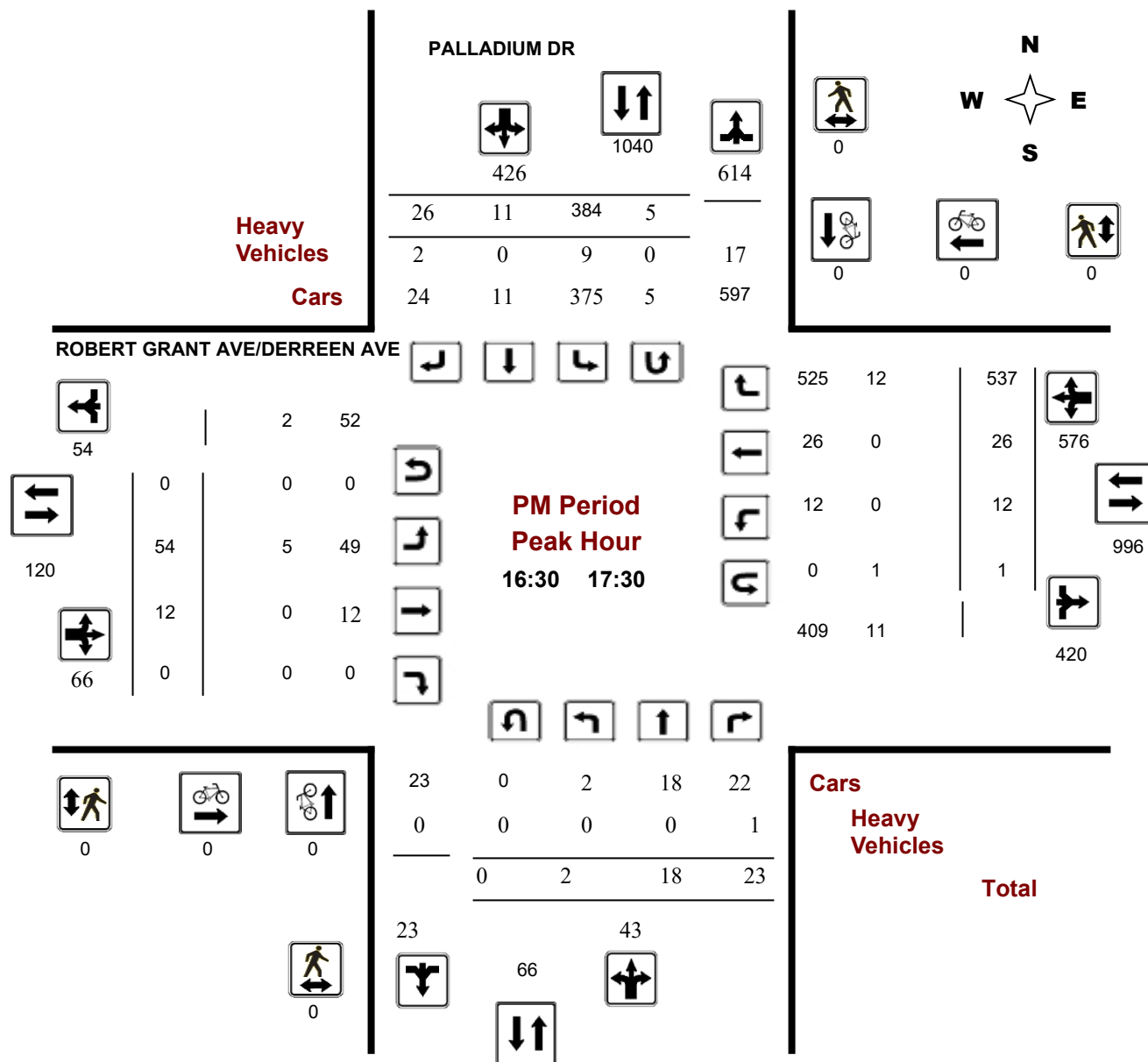
PALLADIUM DR @ ROBERT GRANT AVE/DERREEN AVE

Survey Date: Thursday, September 22, 2022

Start Time: 07:00

WO No: 40585

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Study Results

PALLADIUM DR @ ROBERT GRANT AVE/DERREEN AVE

Survey Date: Thursday, September 22, 2022

WO No: 40585

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Thursday, September 22, 2022

Total Observed U-Turns

Northbound: 0 Southbound: 17
Eastbound: 2 Westbound: 6

AADT Factor

1.00

PALLADIUM DR

ROBERT GRANT AVE/DERREEN AVE

Period	Northbound				Southbound				STR TOT	Eastbound				Westbound				STR TOT	Grand Total
	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT		LT	ST	RT	EB TOT	LT	ST	RT	WB TOT		
07:00 08:00	3	13	11	27	349	13	34	396	423	37	17	0	54	11	23	314	348	402	825
08:00 09:00	0	18	12	30	361	9	29	399	429	33	42	3	78	7	26	316	349	427	856
09:00 10:00	3	6	12	21	328	6	37	371	392	41	17	2	60	7	22	266	295	355	747
11:30 12:30	2	17	12	31	296	24	27	347	378	35	12	12	59	10	26	341	377	436	814
12:30 13:30	1	7	10	18	340	4	32	376	394	38	17	3	58	10	20	348	378	436	830
15:00 16:00	2	17	18	37	353	8	17	378	415	50	13	3	66	17	21	499	537	603	1018
16:00 17:00	2	22	20	44	375	16	32	423	467	40	19	1	60	13	22	523	558	618	1085
17:00 18:00	2	7	20	29	400	18	27	445	474	50	13	1	64	10	26	462	498	562	1036
Sub Total	15	107	115	237	2802	98	235	3135	3372	324	150	25	499	85	186	3069	3340	3839	7211
U Turns				0				17	17				2				6	8	25
Total	15	107	115	237	2802	98	235	3152	3389	324	150	25	501	85	186	3069	3346	3847	7236
EQ 12Hr	21	149	160	329	3895	136	327	4381	4711	450	208	35	696	118	259	4266	4651	5347	10058

Note: These values are calculated by multiplying the totals by the appropriate expansion factor.

1.39

AVG 12Hr	21	149	160	329	3895	178	428	4381	4711	450	208	35	696	118	259	4266	4651	5347	10058
-----------------	----	-----	-----	-----	------	-----	-----	------	------	-----	-----	----	-----	-----	-----	------	------	------	-------

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.

1.00

AVG 24Hr	28	195	210	431	5102	233	561	5739	6171	590	272	46	912	155	339	5588	6093	7005	13176
-----------------	----	-----	-----	-----	------	-----	-----	------	------	-----	-----	----	-----	-----	-----	------	------	------	-------

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.

1.31

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

Appendix F: Collision Data



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2017 **To:** December 31, 2022

Location: DERREEN AVE/PALLADIUM DR EXT @ PALLADIUM DR/ROBERT GRANT AVE

Traffic Control: Roundabout

Total Collisions: 5

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2022-Feb-04, Fri,02:30	Snow	SMV other	P.D. only	Slush	West	Merging	Pick-up truck	Skidding/sliding	0
2022-May-16, Mon,12:10	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2022-Jun-10, Fri,09:58	Clear	Sideswipe	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2022-Jul-31, Sun,19:50	Clear	Sideswipe	P.D. only	Dry	South	Other	Automobile, station wagon	Other motor vehicle	0
					South	Other	Automobile, station wagon	Other motor vehicle	
2022-Aug-05, Fri,14:32	Clear	Sideswipe	P.D. only	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Appendix G: Relevant Excerpts from Huntmar & Stittsville Main ESR

Table 2-11: Forecast Project Screenline Performance

Scenario No.	Scenario Description	Peak Directional Demand (veh/h)		Directional Capacity ² (veh/h)		v/c	
		AM(PM)		AM(PM)		AM(PM)	
		PS-1	PS-2	PS-1	PS-2	PS-1	PS-2
S0	Base-2011	584	298	3200	1600	0.18	0.19
S1-1	Base-2031	1655	350	6100	2400	0.27	0.15
S1-2	Revised-2031	1524	366	3850	2200	0.40	0.17
S1-3	Without Stittsville Main St. 2031	1224	291	3200	2200	0.38	0.13
S2-1	Base-2046	2659	863	6100	2400	0.44	0.36
S2-2	Revised-2046	2370	768	3850	2200	0.62	0.35
S2-3	Without Stittsville Main St. 2046	1892	608	3200	2200	0.59	0.28

Notes:

Directional capacities were obtained from the TRANS model;

Arterials: 800 veh/h, Major Collectors: 650 veh/h.

2.3.3.2 Project Forecasts – 20-Year Forecast (2040)

The Kanata West area is anticipated to fully develop over the next 15-to-20-years, based on a review of on-going development applications and City of Ottawa TRANS model projections. Therefore, a 20-year (2040) design traffic forecast has been developed to evaluate the needs of the Huntmar widening and Stittsville Main Street Extension.

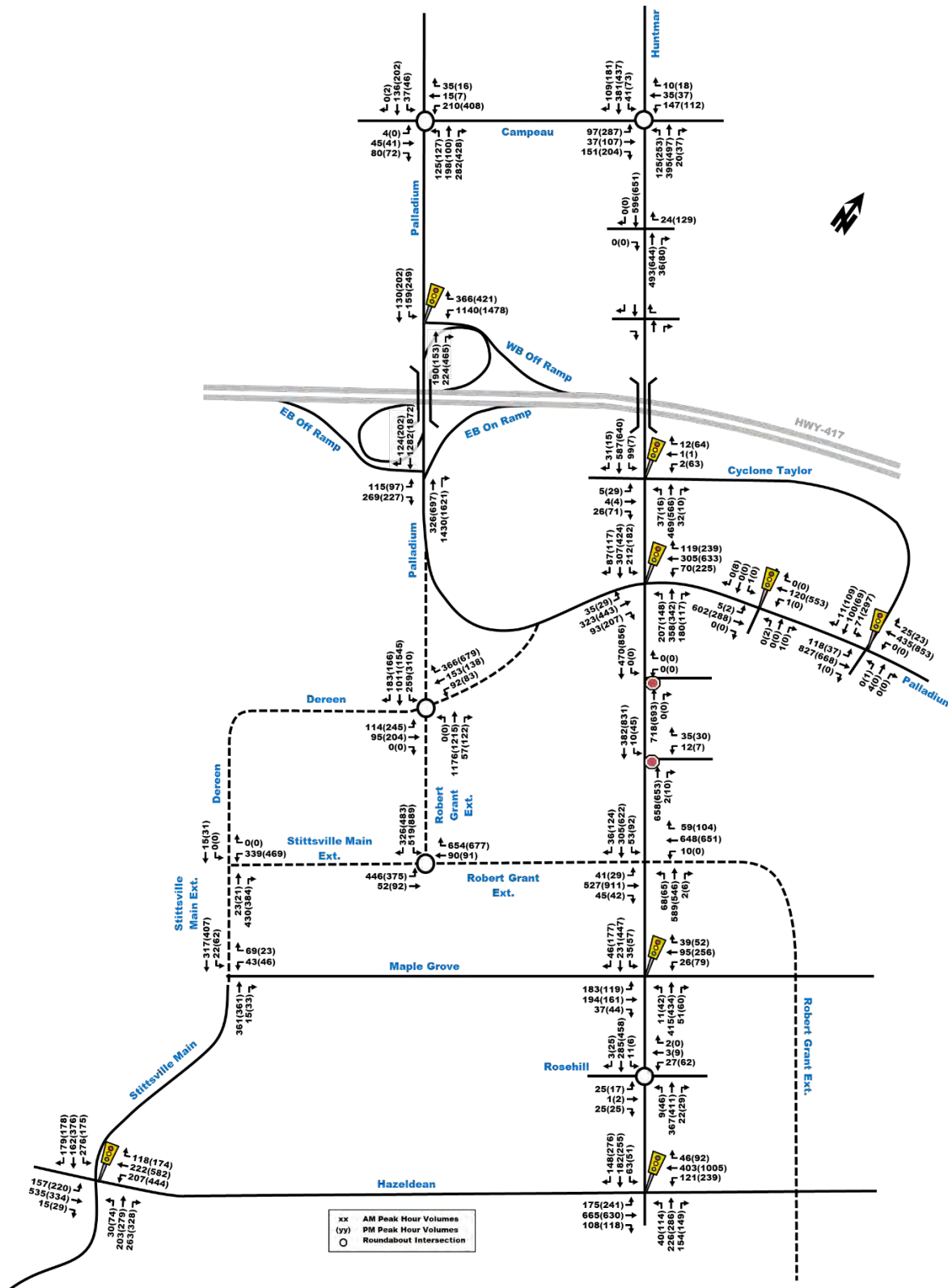
The 20-year (2040) traffic forecast has considered the following:

- The TIA's as described within **Section 2.2.4.3** that support the variety of development applications within the Study Area. Traffic volumes were incorporated into the existing base network before being re-assigned to new infrastructure components.
- A re-assignment of the existing and future auto demands identified with the TIA's to account for the Stittsville Main Street Extension, the extension of Robert Grant Avenue, the widening of Carp Road and the widening of Huntmar Drive. The re-assignment of the existing and future development generated traffic has considered results from the TRANS model, the 2011 OD Study and Streetlight™ data when establishing origin-destination patterns within and surrounding the Study Area.
- A sizeable assignment of thru-traffic from the Fernbank growth areas south of Hazeldean that is envisioned to utilize the future Robert Grant Avenue to access the Highway 417 corridor. This amount of through-traffic is anticipated to grow over time as the lands south of Hazeldean to south of Fernbank Road develop in the coming decades. The thru traffic was estimated from the KWCP Study (2003) and the Kizell Land (5618 Hazeldean Road) Community Transportation Study (Novatech, May 2020).
- The Kanata West LRT Extension and the re-development of the Canadian Tire Center lands are beyond the 20-year design timeframe for the purposes of this assessment.

Figure 2-30 illustrates the morning and afternoon peak hour volumes assuming the 20-year forecast scenario.

In addition to 20-year (2040) peak hour forecasts, a 20-year AADT estimate was determined for planning purposes. To estimate a conversion factor from the peak hour to average annual daily traffic (AADT), the existing 8-hr turning movement count information was reviewed at the intersections of Huntmar/Palladium and Huntmar/Maple Grove. Furthermore, the impacts of approximately 75 Canadian Tire Centre events were considered as an AADT surcharge.

Figure 2-30: 20-Year (2040) Traffic Forecast – Morning (Afternoon) Peak Hours



The Huntmar corridor is anticipated to experience the following two-way AADT values in the 20-year horizon:

- From Campeau to Palladium Drive, approximately 13,500 veh/day
- From Palladium Drive to the future Robert Grant Extension, approximately 13,500 veh/day
- From the future Robert Grant Extension to Maple Grove, approximately 12,000 veh/day

A comparison between the 20-year forecast traffic volumes and the existing traffic counts south of Palladium Drive, there is a nominal increase in north-south traffic along Huntmar despite the additional Kanata West development anticipated to occur in the coming decades. It is expected that a significant amount of the new auto traffic, as well as existing north-south traffic, will divert to the future 4-lane Robert Grant corridor between Palladium Drive and Hazeldean Road.

2.3.3.3 Project Forecasts – Transit-Oriented Demand Scenario (2046)

As development proceeds within the Kanata West area, and density targets increase through the adoption of the new Official Plan, re-development of the Palladium lands into a new, vibrant community increases as a possibility. While it is unlikely that these lands would achieve significant development in advance of the westerly extension of the Kanata LRT to Palladium Station, the following analysis presents a summary of a high-level trip generation process adopted to provide one possible scenario for travel demand within this area in accordance with the new Official Plan directions.

The trip generation presented adopts the latest TRANS 2020 trip generation manual, the ITE Trip Generation Manual (10th edition) and the NCHRP 684 Internal Trip Reduction methodologies to develop peak hour forecast vehicle trips.

The following development was adopted for the purpose of this evaluation:

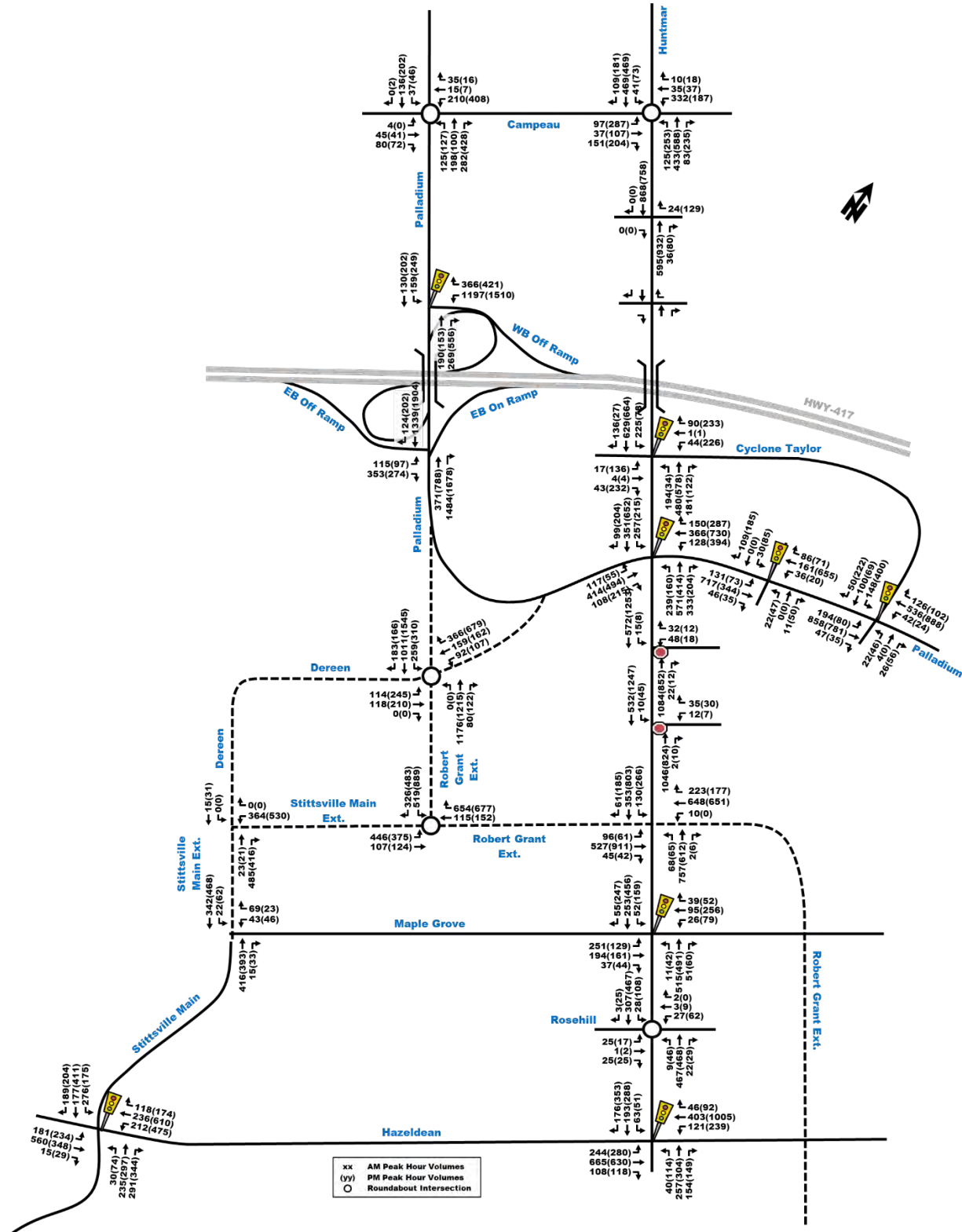
- 3,000 high-rise apartment dwelling units;
- Approximately 346,500 sq. ft. of retail-related development, some of which is envisioned to be a grocery store; and
- Approximately 750,000 sq. ft of office development.

2.3.3.3.1 Residential

Considering that the development will be located immediately adjacent to the future Palladium LRT station, the transit mode share is expected to be significantly higher than existing Kanata-Stittsville mode shares. As such the TRANS mode share assumptions were adjusted to reflect the opportune location of the site with respect to the future LRT West Extension.

Table 2-12 summarizes the proposed mode shares and the forecast peak hour person trips for both the morning and afternoon hours of travel demand. It is recognized that a 50% auto-mode share is reasonably conservative, given that targets for auto share in other TOD areas are as

Figure 2-31: Palladium TOD Beyond 20-Year Forecast (2046) – Morning (Afternoon) Peak Hours



Appendix H: Background Developments – Relevant TIA Excerpts

Figure 18: Trip Assignment

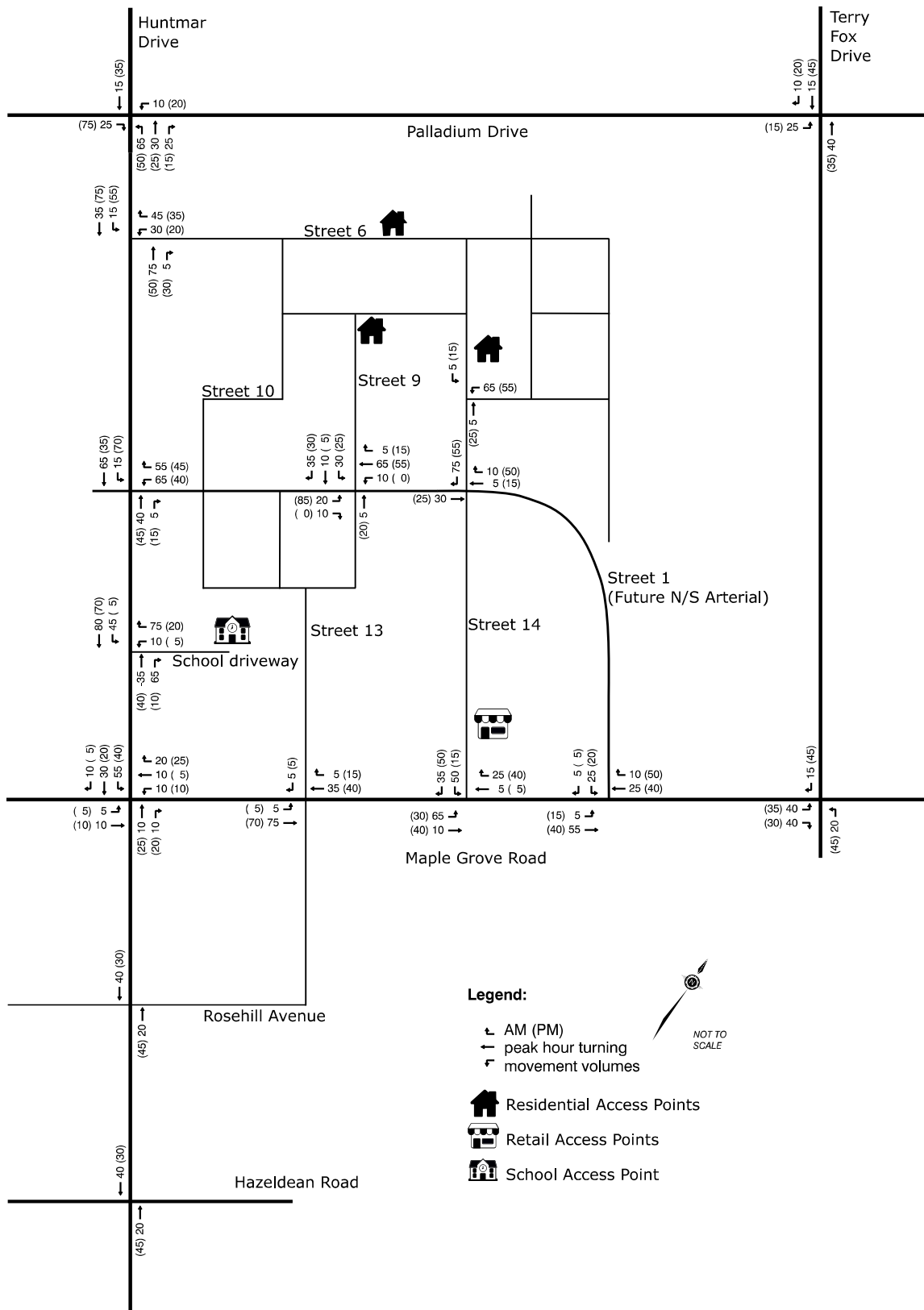


Table 4: Trip Generation Person Trip Rates

Dwelling Type	ITE LUC	Peak Hour	Vehicle Trip Rate	Person Trip Rates
Single Detached	210	AM	0.70	1.27
		PM	0.90	1.41
		Sat	0.96	1.19
Townhouse	220	AM	0.54	0.98
		PM	0.71	1.16
		Sat	0.70	0.90
Shopping Center	820	AM	0.94	1.20
		PM	3.81	4.88
		Sat	4.50	5.76
General Office Building	710	AM	1.00	1.28
		PM	1.06	1.35
		Sat	0.53	0.68
Automobile Sales (New)	840	AM	1.87	2.39
		PM	2.43	3.11
		Sat	4.02	5.15

LUC – Land Use Code

Using the above Person Trip rates, the total person trip generation has been estimated. Table 5 below summarizes the total person trip generation by land use type.

Table 5: Total Person Trip Generation

Land Use	Units / GFA (s.m.)	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
		In	Out	Total	In	Out	Total	In	Out	Total
Single Detached	155 units	57	140	197	134	85	219	99	85	184
Townhouse	418 units	152	258	410	257	228	485	188	188	376
Shopping Center	13,747	81	51	132	260	281	541	332	308	639
General Office Building	41,948	497	81	578	98	512	610	166	141	307
Automobile Sales (New) 1	4,000	75	28	103	51	76	127	111	111	222
Automobile Sales (New) 2	4,000	75	28	103	51	76	127	111	111	222
Total Person Trips		937	586	1523	851	1258	2109	1007	944	1950

Using the most recent National Capital Region Origin-Destination survey (OD Survey), the existing mode shares for Kanata/Stittsville have been determined.

Table 6: OD Survey Existing Mode Share – Kanata/Stittsville

Travel Mode	Existing Mode Share
Auto Driver	65%
Auto Passenger	15%
Transit	10%
Non-Auto	10%
Total	100%

The City of Ottawa 2013 Transportation Master Plan, Map 3 Rapid Transit and Transit Priority Network – Ultimate Network, includes a Light Rail Transit Station near the Canadian Tire Centre area, near the proposed development. However, as this is not within the 2031 Affordable Network, or the 2031 Network Concept the existing mode shares will be carried forward for the purposes of this TIA.

Using the above mode shares and person trip generation, the person trip generation by mode has been projected. Additionally, as the retail uses will serve the other uses (in particular the residential and office uses) a synergy reduction of 25% has been applied to the retail trip generation to account for this. Table 7 summarizes the trip generation by mode for all land uses combined.

Table 7: Trip Generation by Mode

Travel Mode	Mode Share	AM Peak Hour Person Trips			PM Peak Hour Person Trips			SAT Peak Hour Person Trips		
		In	Out	Total	In	Out	Total	In	Out	Total
Auto Driver	65%	610	381	991	553	817	1372	654	613	1267
Auto Passenger	15%	141	88	229	129	188	317	152	142	292
Transit	10%	95	59	152	85	127	212	101	95	195
Non-Auto Modes	10%	95	59	152	85	127	212	101	95	195
Total	100%	937	586	1523	851	1258	2109	1007	944	1950

As shown above, 1523 AM, 2109 PM, and 1950 Saturday peak hour two-way trips are projected as a result of the proposed development.

3.1.2 Trip Distribution

To understand the travel patterns of the subject development the OD Survey has been reviewed to determine the existing travel patterns. Table 8 below summarizes the distribution.

Table 8: OD Survey Existing Mode Share – Kanata/Stittsville

To/From	Percent of Trips
North	15%
South	30%
East	50%
West	5%
Total	100%

3.1.3 Trip Assignment

Using the distribution outlined above, turning movement splits, and access to major transportation infrastructure, the trips generated by the site have been assigned to the Study Area road network. Figure 12 illustrates the percent traffic assignment. Figure 13 illustrates the site generated traffic volumes.

Figure 12: Traffic Assignment (Percent)

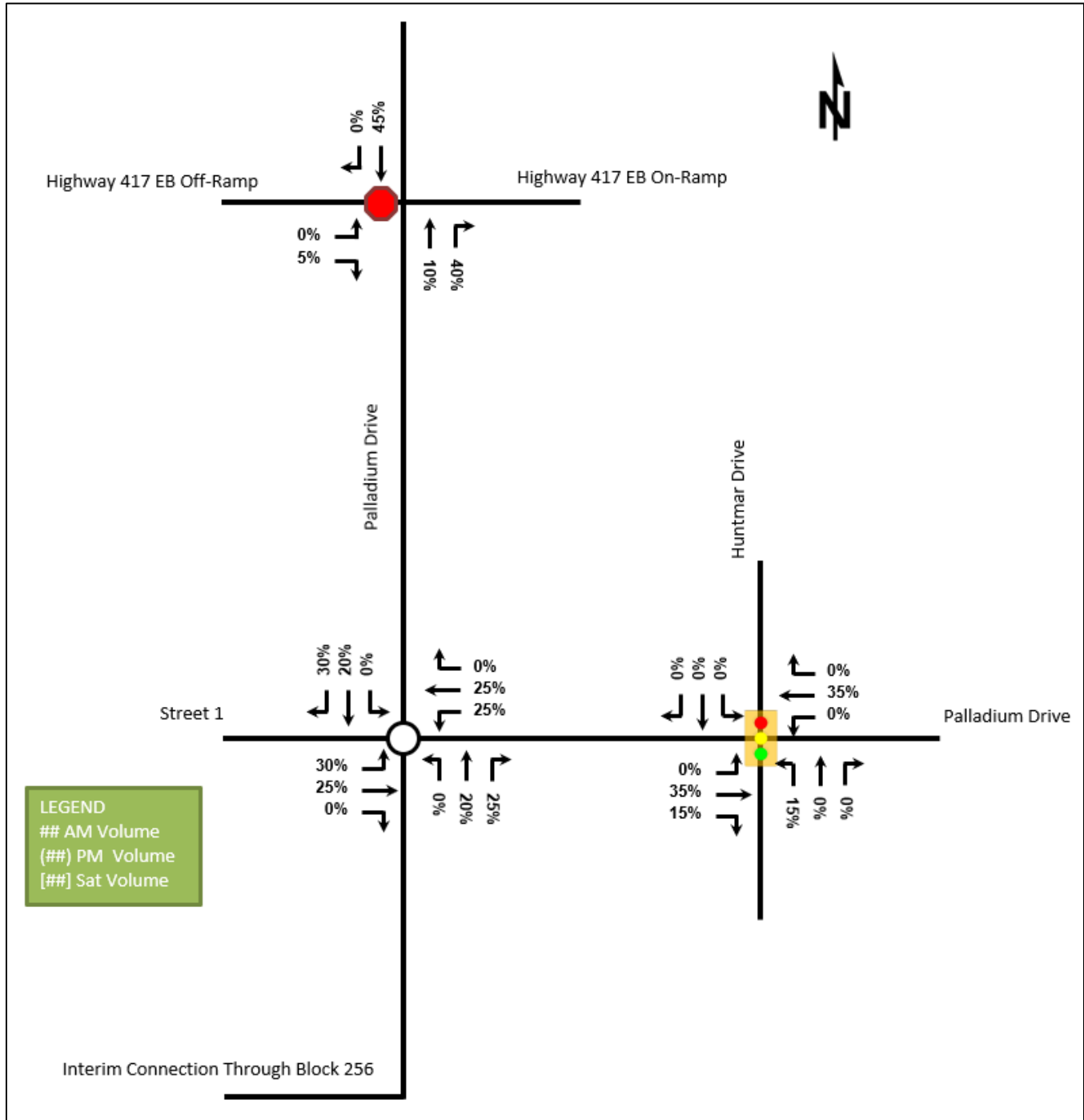
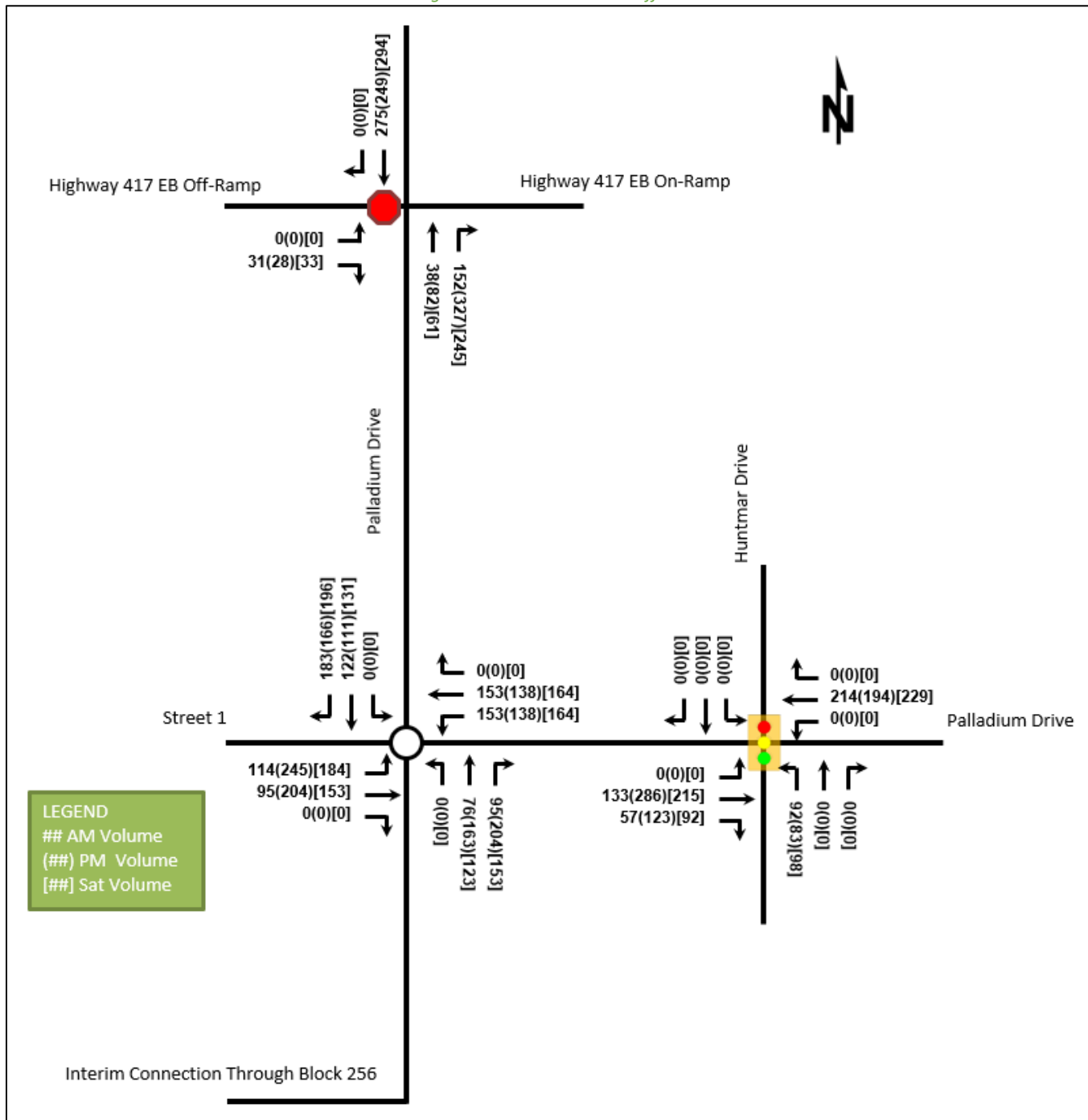
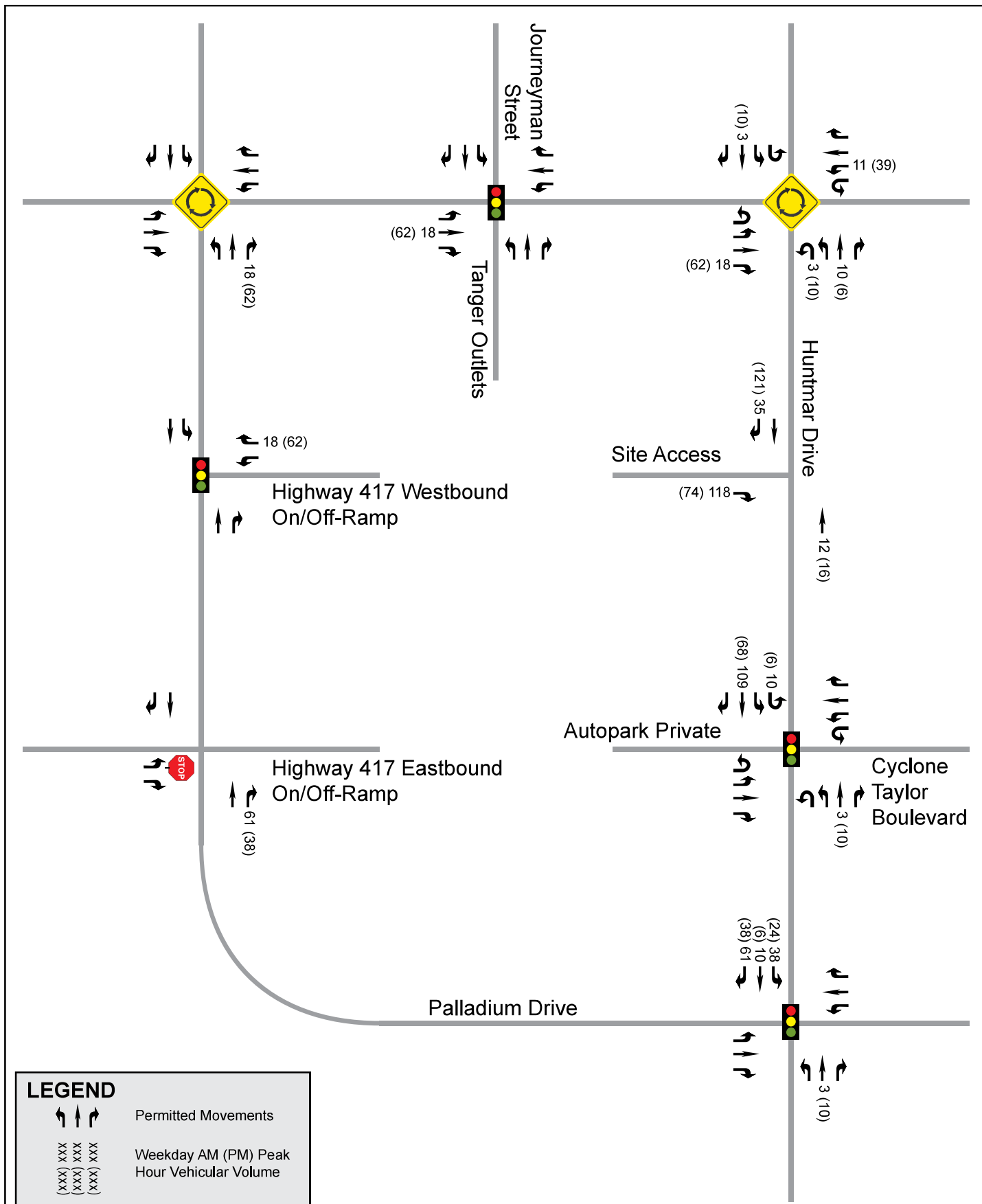


Figure 13: Site Generated Traffic



3.2 Background Network Travel Demands

The background traffic generated by nearby developments has been combined with the traffic counts. Figure 14 illustrates the 2024 future background traffic volumes. All of the background developments are anticipated to be built-out by 2024. As no background growth rate is being applied the, 2024 traffic volumes are anticipated to be similar to the 2029 traffic volumes, therefore no additional figure has been created for 2029 traffic volumes.



The Burroughs Kanata
Transportation Impact Assessment

Exhibit 6:
Site-Generated
Traffic Volumes

PROJECT No. 127255
DATE: May 2021
SCALE: N.T.S.

As the extension of Campeau Drive between Winterset Road and Terry Fox Drive was completed in 2021, traffic volumes shown in 2019 count data are anticipated to have changed. To account for changes in background traffic, traffic volumes at the Huntmar Drive/Campeau Drive intersection were balanced and redistributed based on recent counts at the Huntmar Drive/Paine Avenue and Campeau Drive/Country Glen Way intersections.

3.3 Future Traffic Conditions

The figures listed below present the following future traffic conditions:

- Proposed site-generated traffic volumes in 2024 are shown in **Figure 5**;
- Background traffic volumes in 2024 are shown in **Figure 6**;
- Background traffic volumes in 2029 are shown in **Figure 7**;
- Total traffic volumes in 2024 are shown in **Figure 8**;
- Total traffic volumes in 2029 are shown in **Figure 9**.

Figure 5: Site-Generated Volumes

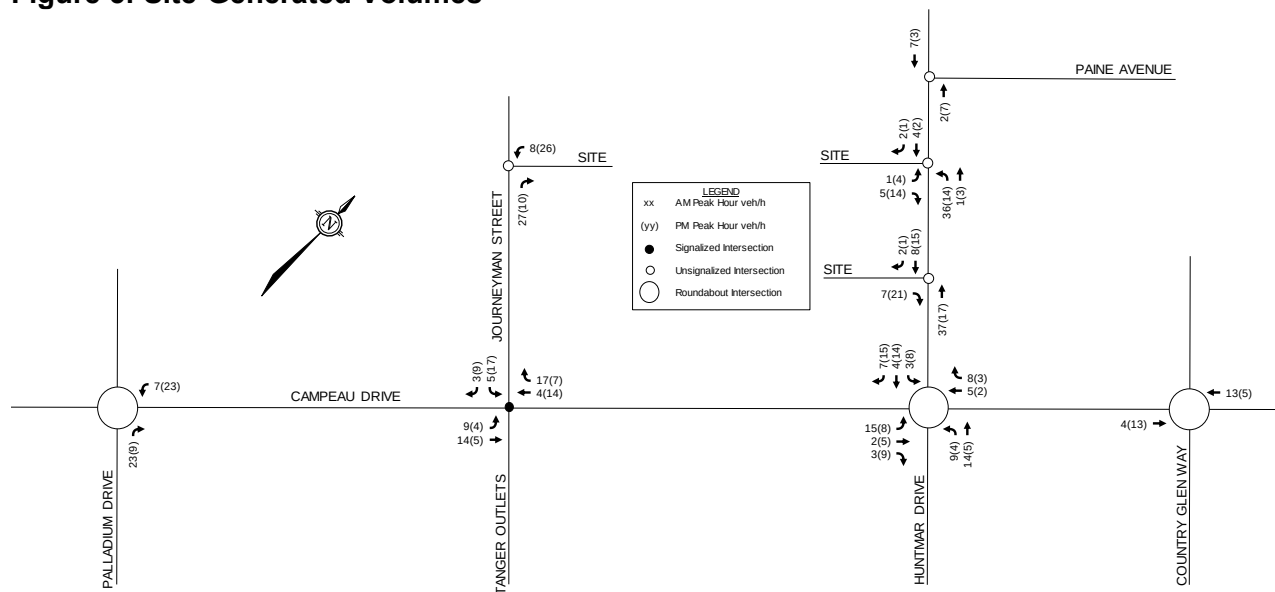


Table 6: Site-Generated Trips by Travel Mode, Horizon Year 2023

Travel Mode	Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Auto Driver	65%	26	8	34	10	26	36
Auto Passenger	15%	6	2	8	2	6	8
Transit	15%	6	2	8	2	6	8
Walk	2%	0	0	0	0	1	1
Bike	3%	1	0	1	0	1	1
Total Person Trips	100%	39	12	51	14	40	54
Total Auto Trips		26	8	34	10	26	36

As shown in Table 6, the anticipated number of total auto trips generated by proposed development is approximately 34 to 36 veh/h at horizon year 2023, during the morning and afternoon peak hours.

3.1.2. Trip Distribution and Assignment

Based on the 2011 OD Survey (Kanata – Stittsville district) and the location of adjacent arterial roadways and neighbourhoods, the distribution of site-generated traffic volumes was estimated as follows:

- 25% to/from the north;
- 5% to/from the south;
- 60% to/from the east; and,
- 10% to/from the west.

The anticipated site-generated auto trips for the proposed development from Table 6 were then assigned to the road network as shown in Figure 10.

Figure 10: Site-Generated Traffic

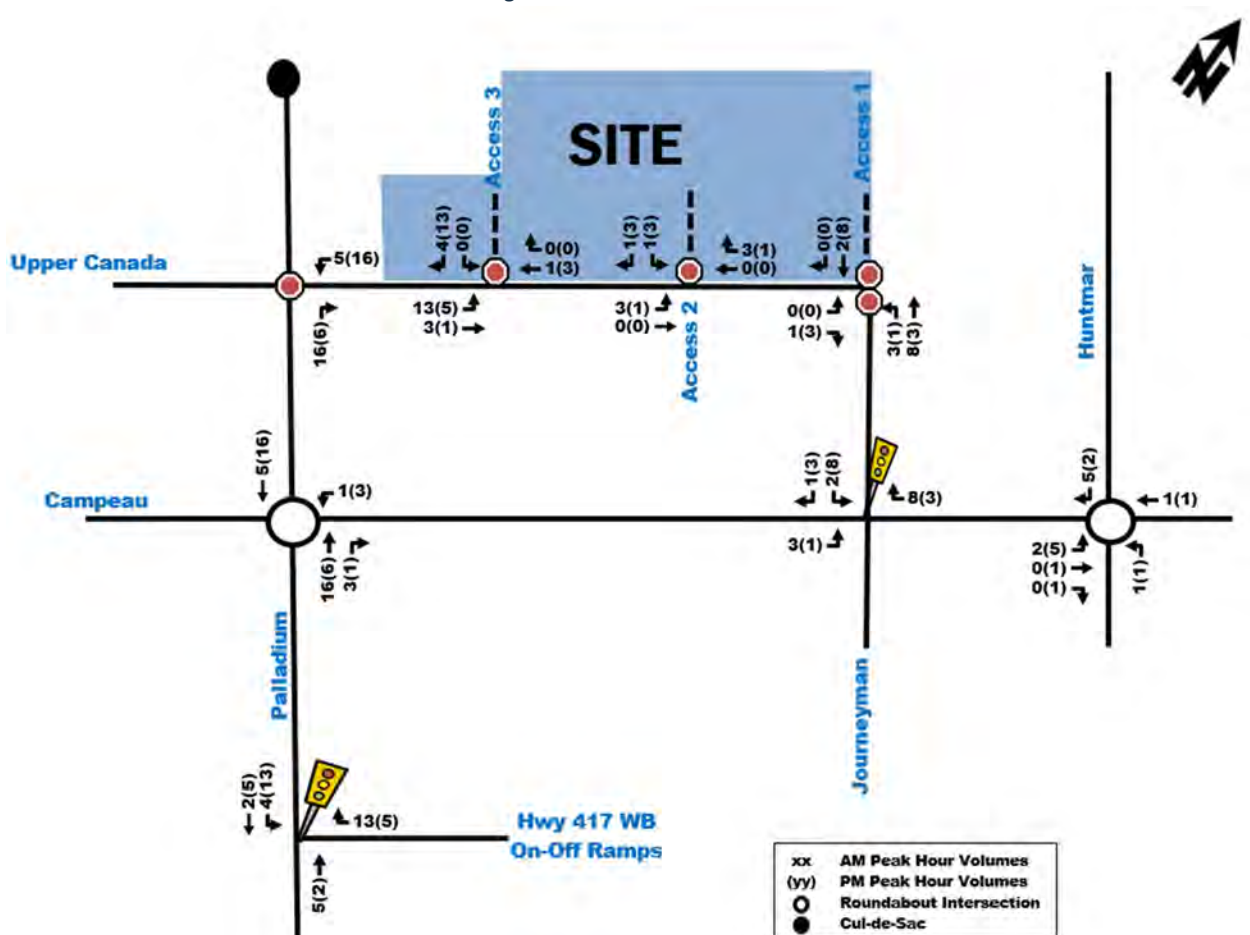
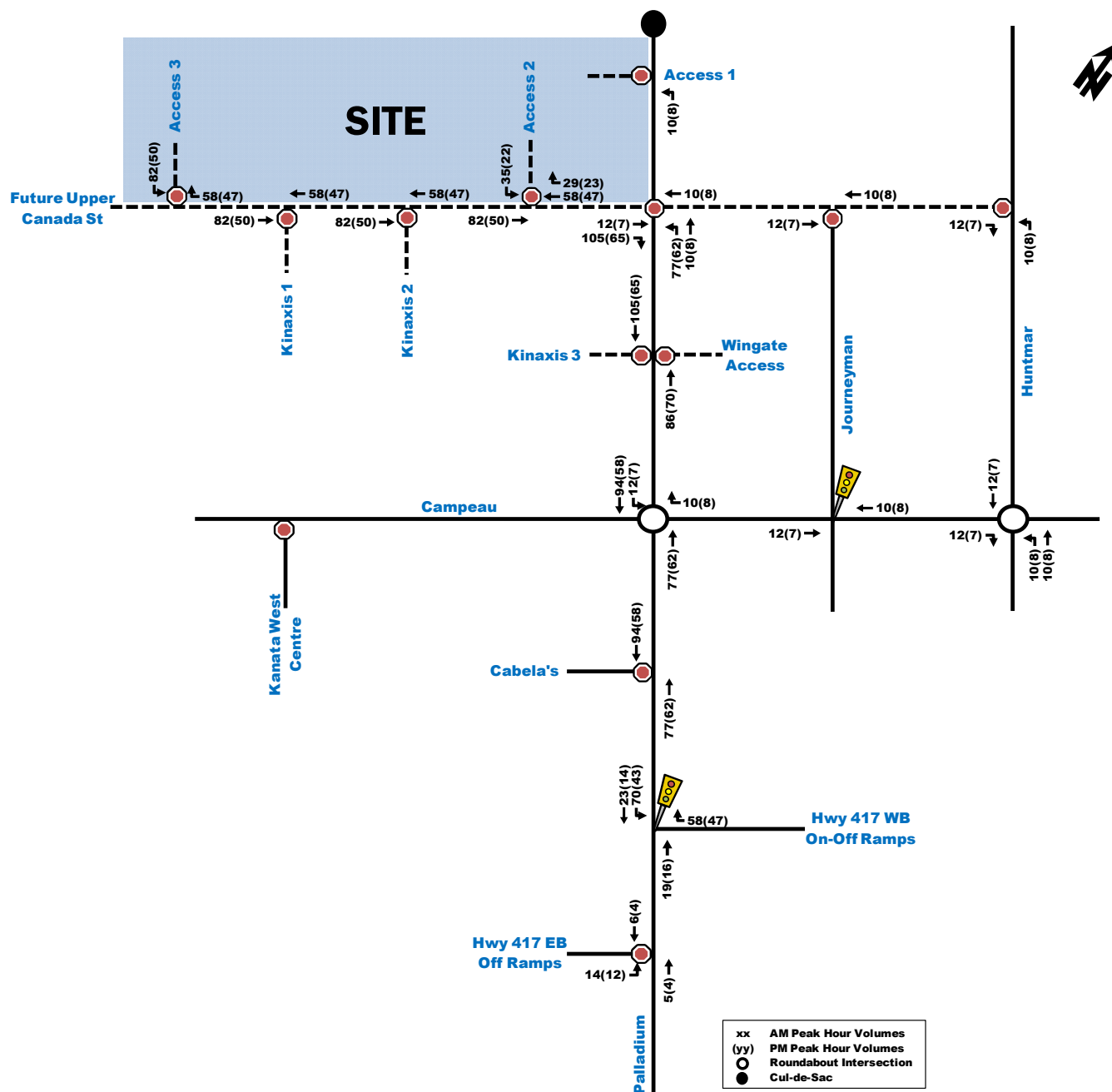
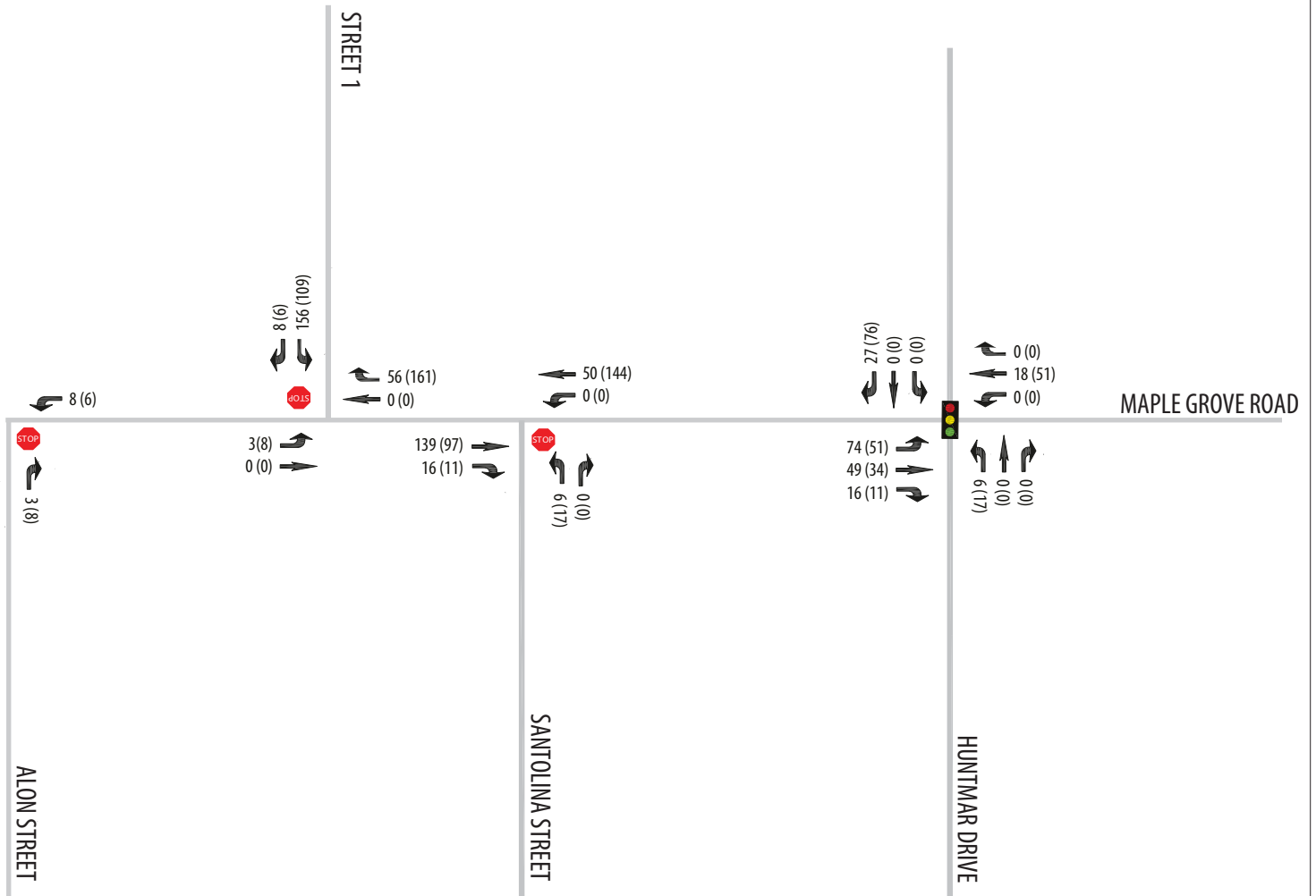
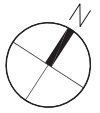


Figure 13: Purolator Facility Site-Generated Traffic (Phase 2)



It was assumed that 25% of site traffic would travel to/from Huntmar Rd, while 75% would use Hwy 417. The majority of employees and customers were anticipated to use Site Access 3, along the future Upper Canada Street, to enter and exit the development site. The remainder would use accesses 1 and 2, with access 1 being used mainly by inbound delivery and transport trucks.



LEGEND



STOP CONTROL



TRAFFIC CONTROL SIGNAL



PERMITTED MOVEMENTS



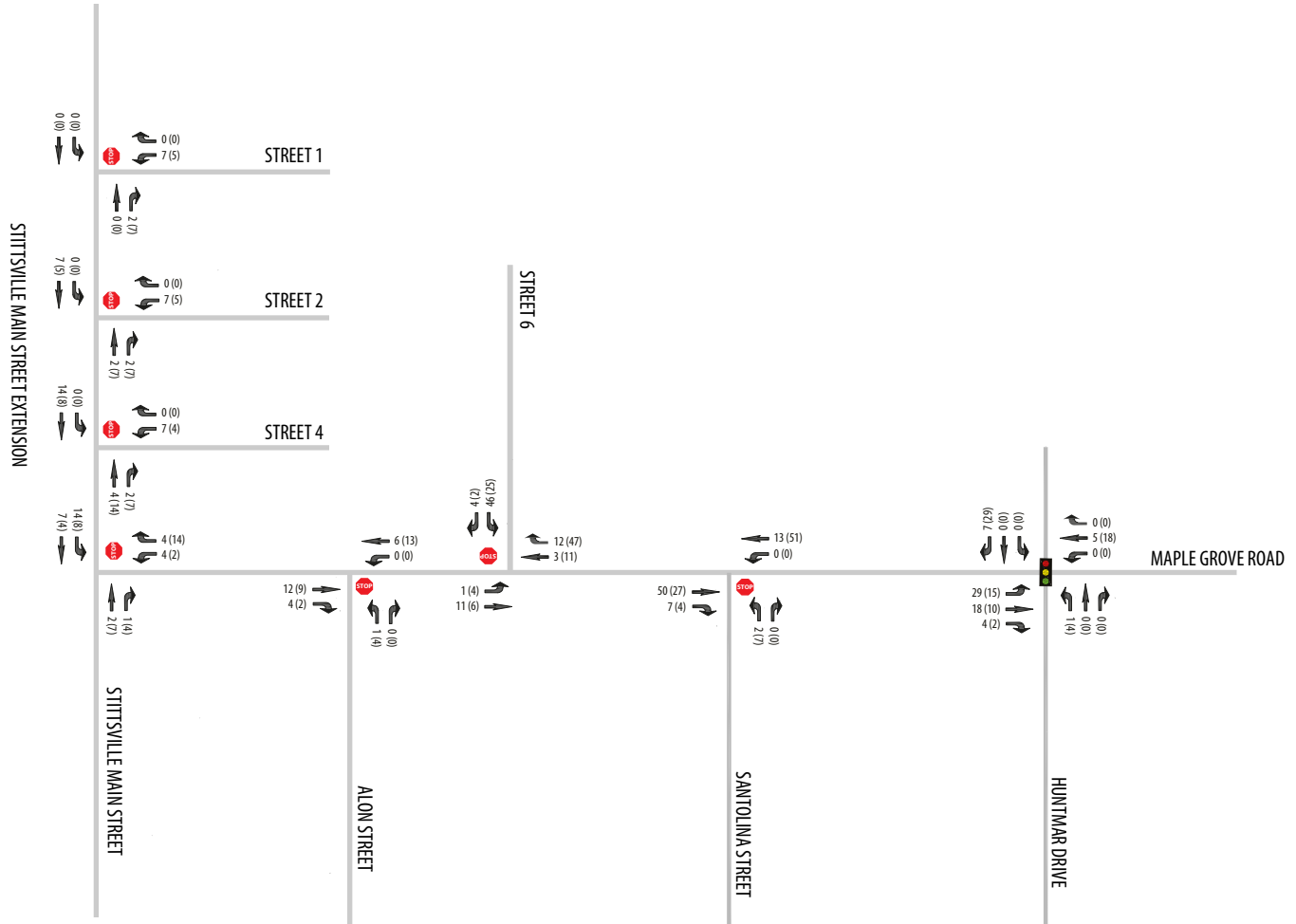
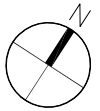
AM & PM PEAK HOUR VEHICULAR VOLUMES



1919 Maple Grove Road
Transportation Impact Assessment

EXHIBIT 13
Future (2026) Site Generated AM & PM
Peak Hour Traffic Volumes

PROJECT No.: 39124
DATE: APRIL 2019
SCALE: NTS



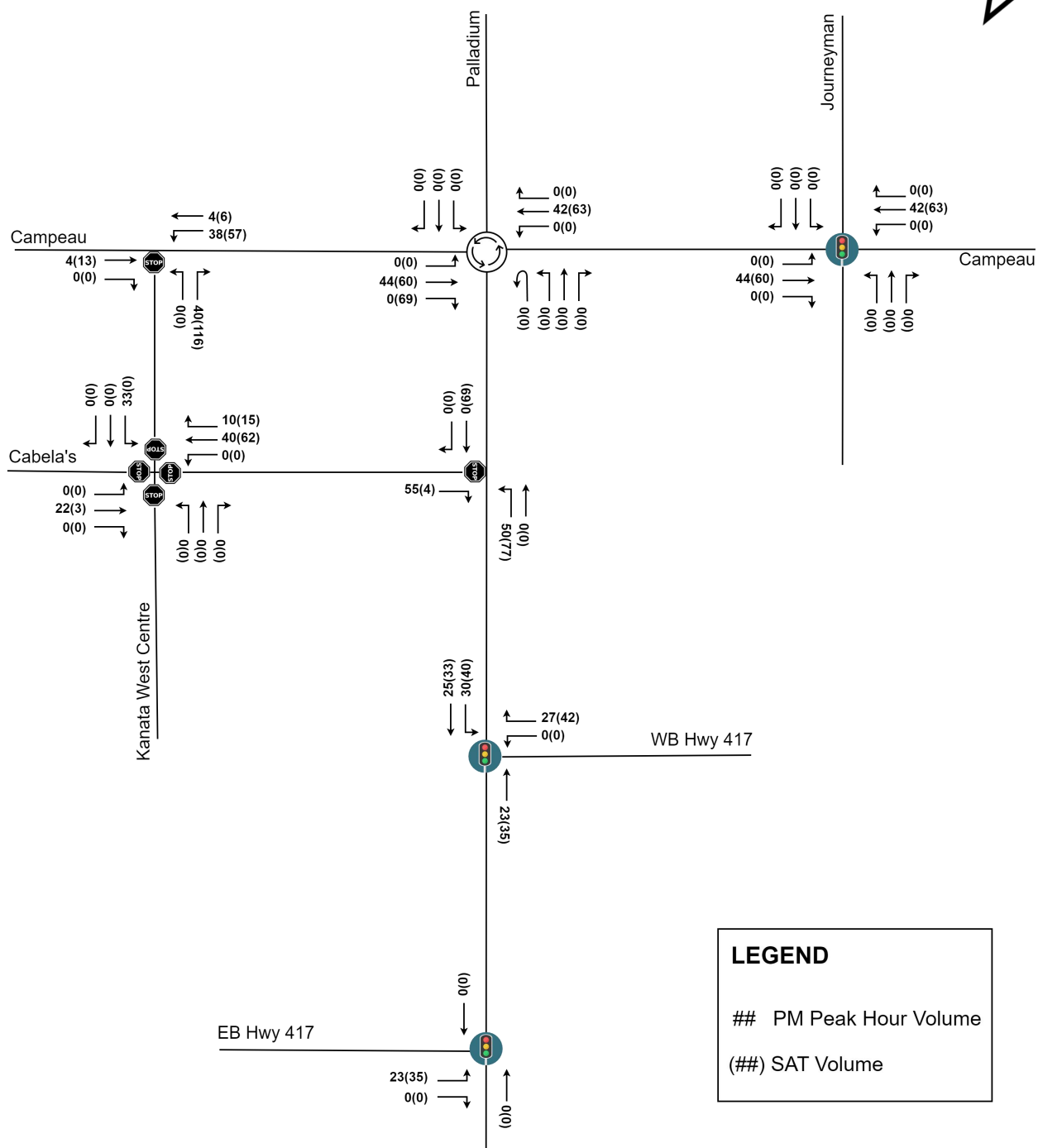


FIGURE 18: SITE GENERATED TRAFFIC

As shown in **Table 4.1**, the proposed development is anticipated to generate 110 two-way trips (61 inbound and 49 outbound) during the AM peak hours and 119 two-way trips (60 inbound and 59 outbound) during the PM peak hours.

The assumptions for the trip distribution rates are based on the existing traffic patterns at the Campeau Drive and Palladium Drive intersection, and routes that drivers would likely take to access the subject site and engineering judgement based on ease of site access. As a result, site trip distribution is summarized for the inbound and outbound site traffic movements during the morning and afternoon peak hours in **Table 4.2**.

Table 4.2 – Site Traffic Trip Distribution

Direction	Via	AM Peak Hour		PM Peak Hour	
		Inbound	Outbound	Inbound	Outbound
North	Palladium Drive	8%	8%	2%	2%
South	Palladium Drive	42%	42%	55%	55%
East	Campeau Drive	36%	36%	32%	32%
West	Campeau Drive	14%	14%	11%	11%
Total		100%	100%	100%	100%

Figure 4-1 - Site Generated Traffic Volumes

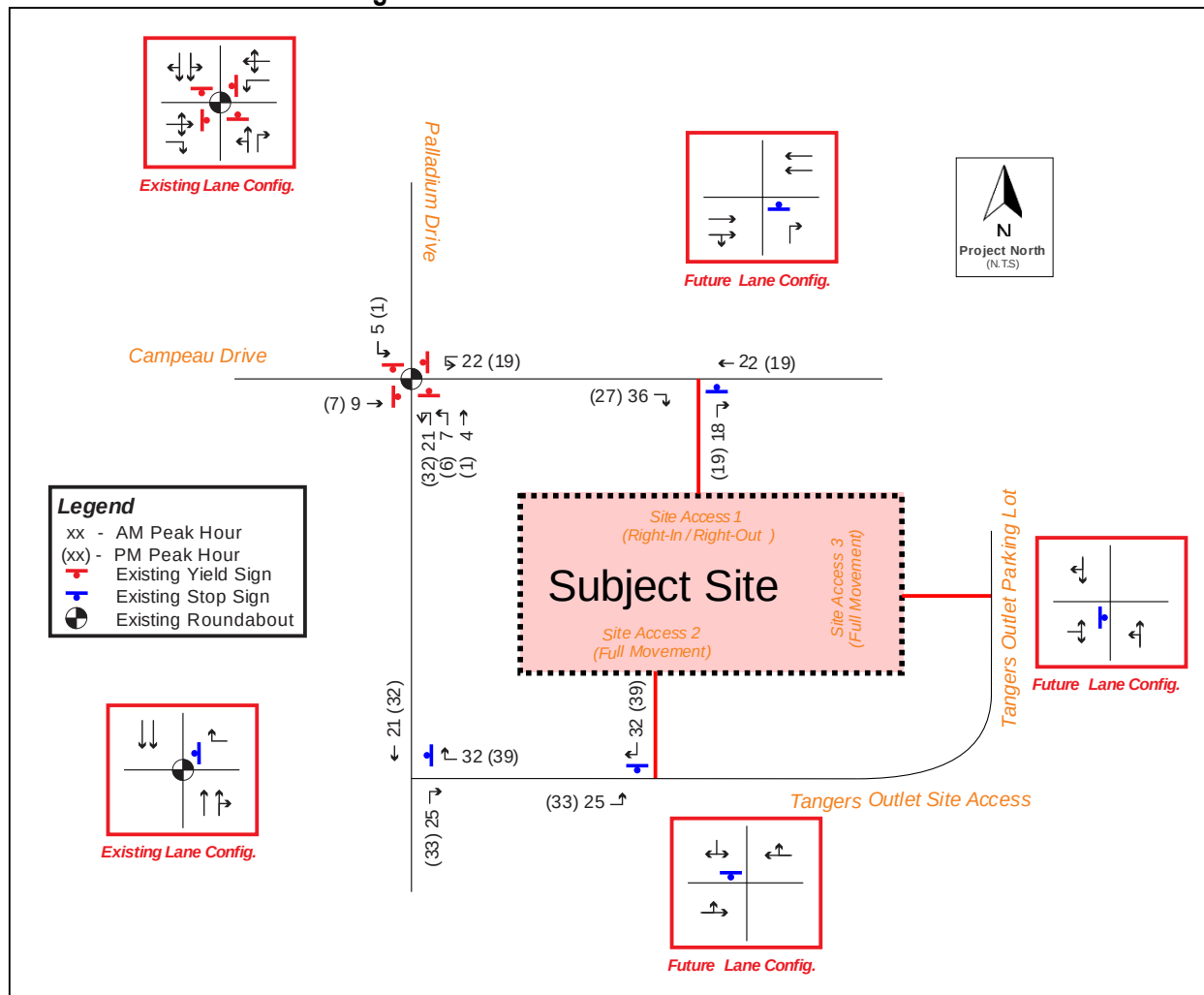


Figure 12: Maritime Ontario Facility Site-Generated Traffic (Phase 1)

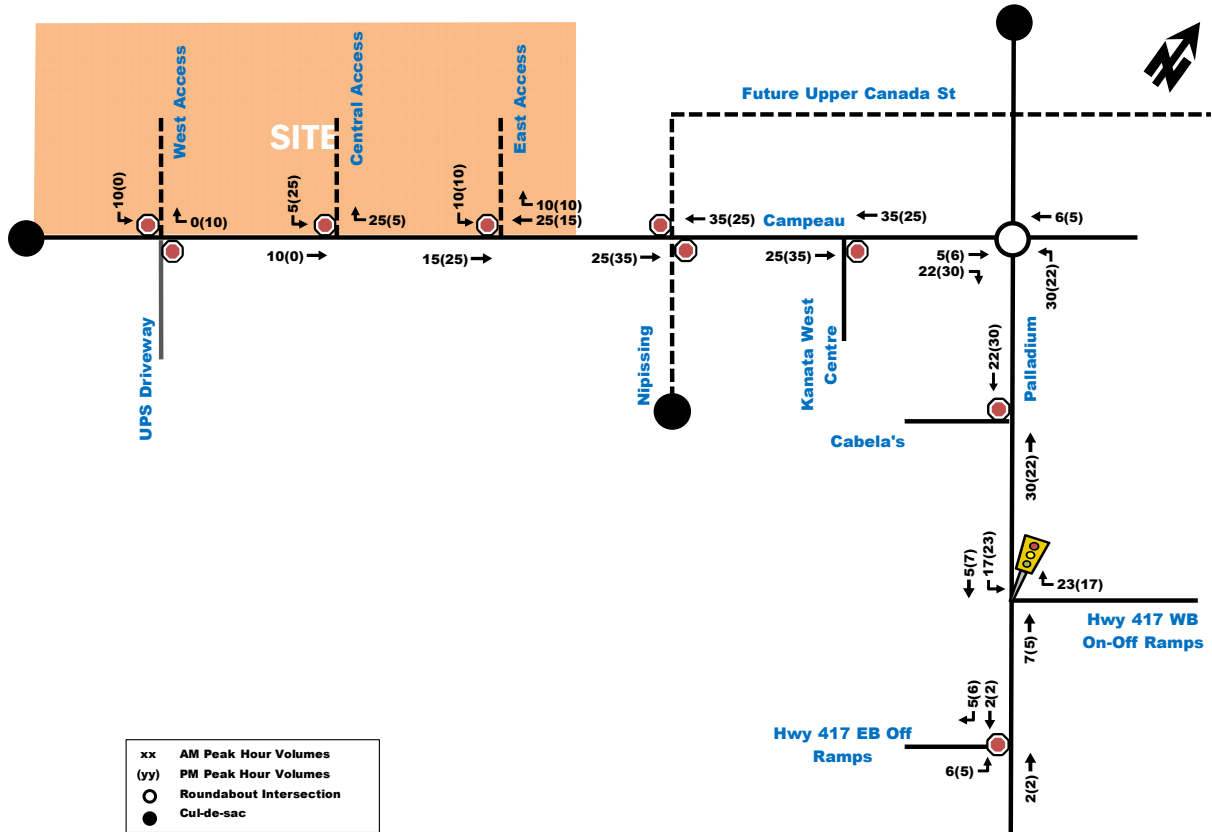
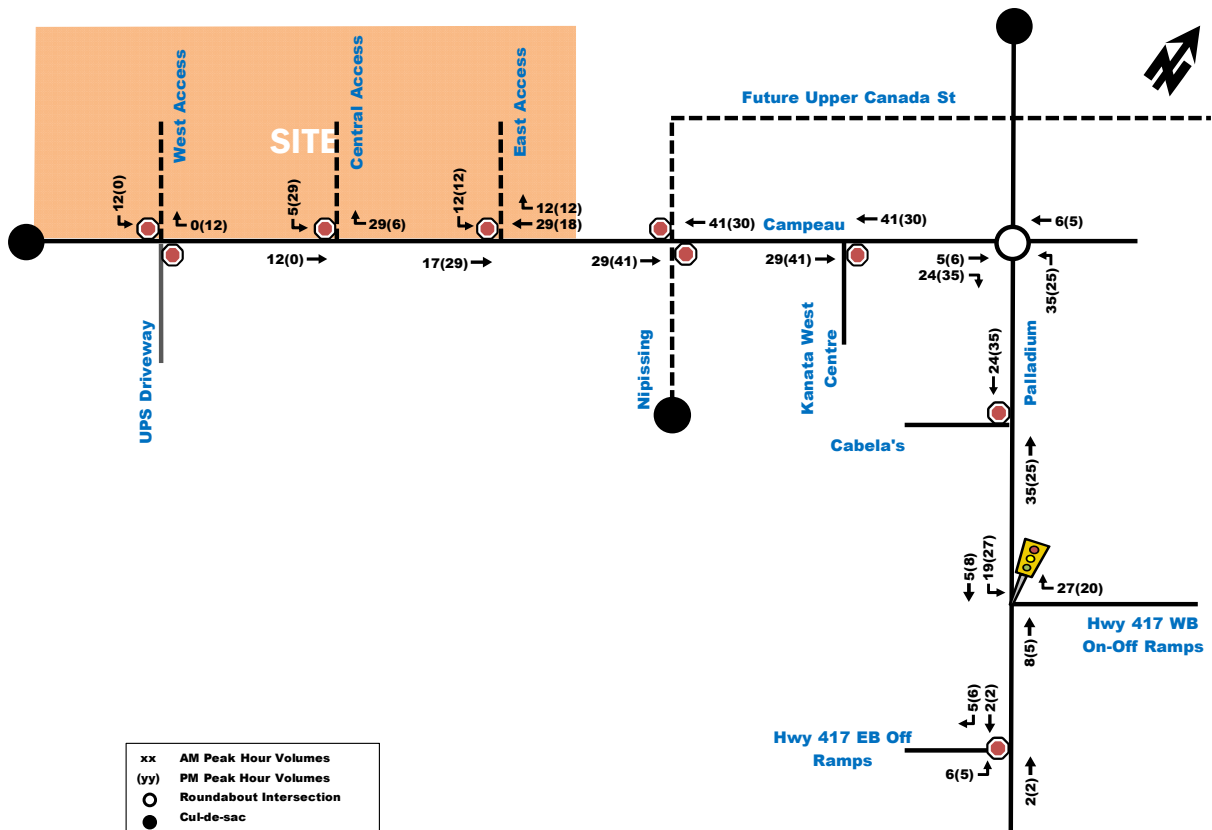


Figure 13: Maritime Ontario Facility Site-Generated Traffic (Phase 2)



Appendix I: Rodel Analysis Reports – Existing Conditions

Operational Data

Main Geometry (m)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	SB - Palladium Drive	0	0	7.25	2	7.25	2	0.00	45.00	15.00
2	EB - Derreen Avenue	90	0	4.00	1	7.80	2	82.00	30.00	18.00
3	NB - Robert Grant Avenue	180	0	7.00	2	7.50	2	40.00	65.00	10.00
4	WB - Palladium Drive	295	0	3.50	1	5.50	1	28.00	5.50	20.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	SB - Palladium Drive	57.00	10.00	2	9.75	2	7.25	2
2	EB - Derreen Avenue	57.00	10.00	2	5.75	1	4.00	1
3	NB - Robert Grant Avenue	57.00	10.00	2	9.85	2	7.00	2
4	WB - Palladium Drive	57.00	10.00	2	9.25	2	7.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (m)	Default Capacity	Calib Capacity	V (m)	Default Capacity	Calib Capacity
1	SB - Palladium Drive	0	1.000	0	1.000	6.00	3553	0	7.25	3553	0
2	EB - Derreen Avenue	0	1.000	0	1.000	6.00	1960	0	4.00	1960	0
3	NB - Robert Grant Avenue	0	1.000	0	1.000	6.00	3430	0	7.00	3430	0
4	WB - Palladium Drive	0	1.000	0	1.000	7.00	3430	0	7.00	3430	0

Bypass Geometry

Bypass Approach Geometry (m)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
4	WB - Palladium Drive	Free	319	3.5	1	3.5	1	7	2

Bypass Entry and Exit Geometry (m)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
4	WB - Palladium Drive	4.25	1	0	1	37	30	1	SB - Palladium Drive	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Calibration	
		Capacity + or -	Cross Walk Factor	Intercept + or -	Slope Factor
4	WB - Palladium Drive	0	1.000	0	1.000

Traffic Flow Data (veh/hr)

2026 AM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	SB - Palladium Drive	0	358	13	29	0	4.0	1.00	0.900
2	EB - Derreen Avenue	0	33	39	1	0	4.0	1.00	0.900
3	NB - Robert Grant Avenue	0	1	16	11	0	2.0	1.00	0.900
4	WB - Palladium Drive	0	9	31	0	319	3.0	1.00	0.900

Operational Results

2026 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	400		41		368	2164		0.1848	
2	EB - Derreen Avenue	None	73		380		61	1909		0.0382	
3	NB - Robert Grant Avenue	None	28		430		23	2084		0.0134	
4	WB - Palladium Drive	Free	40	319	50	0	408	1304	1273	0.0307	0.2506

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	2.15		2.15	0.72		A		A
2	EB - Derreen Avenue	None	3.44		3.44	0.21		A		A
3	NB - Robert Grant Avenue	None	2.80		2.80	0.07		A		A
4	WB - Palladium Drive	Free	4.68	0.00	0.52	0.15	0.00	A	A	A

2026 AM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	444		46		409	2161		0.2057	
2	EB - Derreen Avenue	None	81		422		68	1881		0.0431	
3	NB - Robert Grant Avenue	None	31		478		26	2048		0.0152	
4	WB - Palladium Drive	Free	44	354	56	0	453	1302	1273	0.0341	0.2785

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	2.13		2.13	0.72		A		A
2	EB - Derreen Avenue	None	3.39		3.39	0.21		A		A
3	NB - Robert Grant Avenue	None	2.76		2.76	0.07		A		A
4	WB - Palladium Drive	Free	4.55	0.00	0.51	0.15	0.00	A	A	A

Operational Data

Main Geometry (m)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	SB - Palladium Drive	0	0	7.25	2	7.25	2	0.00	45.00	15.00
2	EB - Derreen Avenue	90	0	4.00	1	7.80	2	82.00	30.00	18.00
3	NB - Robert Grant Avenue	180	0	7.00	2	7.50	2	40.00	65.00	10.00
4	WB - Palladium Drive	295	0	3.50	1	5.50	1	28.00	5.50	20.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	SB - Palladium Drive	57.00	10.00	2	9.75	2	7.25	2
2	EB - Derreen Avenue	57.00	10.00	2	5.75	1	4.00	1
3	NB - Robert Grant Avenue	57.00	10.00	2	9.85	2	7.00	2
4	WB - Palladium Drive	57.00	10.00	2	9.25	2	7.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (m)	Default Capacity	Calib Capacity	V (m)	Default Capacity	Calib Capacity
1	SB - Palladium Drive	0	1.000	0	1.000	6.00	3553	0	7.25	3553	0
2	EB - Derreen Avenue	0	1.000	0	1.000	6.00	1960	0	4.00	1960	0
3	NB - Robert Grant Avenue	0	1.000	0	1.000	6.00	3430	0	7.00	3430	0
4	WB - Palladium Drive	0	1.000	0	1.000	7.00	3430	0	7.00	3430	0

Bypass Geometry

Bypass Approach Geometry (m)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
4	WB - Palladium Drive	Free	537	3.5	1	3.5	1	7	2

Bypass Entry and Exit Geometry (m)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
4	WB - Palladium Drive	4.25	1	0	1	37	30	1	SB - Palladium Drive	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Calibration	
		Capacity + or -	Cross Walk Factor	Intercept + or -	Slope Factor
4	WB - Palladium Drive	0	1.000	0	1.000

Traffic Flow Data (veh/hr)

2026 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	SB - Palladium Drive	0	389	11	26	0	3.0	1.00	0.900
2	EB - Derreen Avenue	0	54	12	0	0	8.0	1.00	0.900
3	NB - Robert Grant Avenue	0	2	18	23	0	2.0	1.00	0.900
4	WB - Palladium Drive	0	13	26	0	537	2.0	1.00	0.900

Operational Results

2026 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	426		41		609	2207		0.1931	
2	EB - Derreen Avenue	None	66		413		54	1752		0.0377	
3	NB - Robert Grant Avenue	None	43		455		24	2066		0.0208	
4	WB - Palladium Drive	Free	39	537	74	0	424	1318	1285	0.0296	0.4178

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	2.11		2.11	0.76		A		A
2	EB - Derreen Avenue	None	2.39		2.39	0.13		A		A
3	NB - Robert Grant Avenue	None	3.30		3.30	0.12		A		A
4	WB - Palladium Drive	Free	4.67	0.00	0.32	0.15	0.00	A	A	A

2026 PM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	473		46		677	2203		0.2148	
2	EB - Derreen Avenue	None	73		459		60	1724		0.0425	
3	NB - Robert Grant Avenue	None	48		505		27	2028		0.0236	
4	WB - Palladium Drive	Free	43	597	82	0	471	1314	1285	0.0330	0.4642

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	2.10		2.10	0.76		A		A
2	EB - Derreen Avenue	None	2.35		2.35	0.13		A		A
3	NB - Robert Grant Avenue	None	3.25		3.25	0.12		A		A
4	WB - Palladium Drive	Free	4.55	0.00	0.31	0.15	0.00	A	A	A

Appendix J: Rodel Analysis Reports – Background Conditions

Operational Data

Main Geometry (m)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	SB - Palladium Drive	0	0	7.25	2	7.25	2	0.00	45.00	15.00
2	EB - Derreen Avenue	90	0	4.00	1	7.80	2	82.00	30.00	18.00
3	NB - Robert Grant Avenue	180	0	7.00	2	7.50	2	40.00	65.00	10.00
4	WB - Palladium Drive	295	0	3.50	1	5.50	1	28.00	5.50	20.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	SB - Palladium Drive	57.00	10.00	2	9.75	2	7.25	2
2	EB - Derreen Avenue	57.00	10.00	2	5.75	1	4.00	1
3	NB - Robert Grant Avenue	57.00	10.00	2	9.85	2	7.00	2
4	WB - Palladium Drive	57.00	10.00	2	9.25	2	7.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (m)	Default Capacity	Calib Capacity	V (m)	Default Capacity	Calib Capacity
1	SB - Palladium Drive	0	1.000	0	1.000	6.00	3553	0	7.25	3553	0
2	EB - Derreen Avenue	0	1.000	0	1.000	6.00	1960	0	4.00	1960	0
3	NB - Robert Grant Avenue	0	1.000	0	1.000	6.00	3430	0	7.00	3430	0
4	WB - Palladium Drive	0	1.000	0	1.000	7.00	3430	0	7.00	3430	0

Bypass Geometry

Bypass Approach Geometry (m)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
4	WB - Palladium Drive	Free	505	3.5	1	3.5	1	7	2

Bypass Entry and Exit Geometry (m)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
4	WB - Palladium Drive	4.25	1	0	1	37	30	1	SB - Palladium Drive	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Calibration	
		Capacity + or -	Cross Walk Factor	Intercept + or -	Slope Factor
4	WB - Palladium Drive	0	1.000	0	1.000

Traffic Flow Data (veh/hr)

2028 AM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	SB - Palladium Drive	0	421	135	226	0	4.0	1.00	1.000
2	EB - Derreen Avenue	0	184	134	1	0	4.0	1.00	1.000
3	NB - Robert Grant Avenue	0	1	92	106	0	2.0	1.00	1.000
4	WB - Palladium Drive	0	162	184	0	505	3.0	1.00	1.000

Operational Results

2028 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	782		347		781	1956		0.3998	
2	EB - Derreen Avenue	None	319		718		411	1681		0.1897	
3	NB - Robert Grant Avenue	None	199		739		298	1854		0.1074	
4	WB - Palladium Drive	Free	346	505	277	0	661	1202	1273	0.2878	0.3968

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	5.32		5.32	2.96		A		A
2	EB - Derreen Avenue	None	4.34		4.34	1.01		A		A
3	NB - Robert Grant Avenue	None	4.01		4.01	0.58		A		A
4	WB - Palladium Drive	Free	6.87	0.00	2.79	1.72	0.00	A	A	A

2028 AM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	782		347		781	1956		0.3998	
2	EB - Derreen Avenue	None	319		718		411	1681		0.1897	
3	NB - Robert Grant Avenue	None	199		739		298	1854		0.1074	
4	WB - Palladium Drive	Free	346	505	277	0	661	1202	1273	0.2878	0.3968

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	5.33		5.33	2.96		A		A
2	EB - Derreen Avenue	None	4.35		4.35	1.01		A		A
3	NB - Robert Grant Avenue	None	4.01		4.01	0.58		A		A
4	WB - Palladium Drive	Free	6.89	0.00	2.80	1.72	0.00	A	A	A

Operational Data

Main Geometry (m)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	SB - Palladium Drive	0	0	7.25	2	7.25	2	0.00	45.00	15.00
2	EB - Derreen Avenue	90	0	4.00	1	7.80	2	82.00	30.00	18.00
3	NB - Robert Grant Avenue	180	0	7.00	2	7.50	2	40.00	65.00	10.00
4	WB - Palladium Drive	295	0	3.50	1	5.50	1	28.00	5.50	20.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	SB - Palladium Drive	57.00	10.00	2	9.75	2	7.25	2
2	EB - Derreen Avenue	57.00	10.00	2	5.75	1	4.00	1
3	NB - Robert Grant Avenue	57.00	10.00	2	9.85	2	7.00	2
4	WB - Palladium Drive	57.00	10.00	2	9.25	2	7.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (m)	Default Capacity	Calib Capacity	V (m)	Default Capacity	Calib Capacity
1	SB - Palladium Drive	0	1.000	0	1.000	6.00	3553	0	7.25	3553	0
2	EB - Derreen Avenue	0	1.000	0	1.000	6.00	1960	0	4.00	1960	0
3	NB - Robert Grant Avenue	0	1.000	0	1.000	6.00	3430	0	7.00	3430	0
4	WB - Palladium Drive	0	1.000	0	1.000	7.00	3430	0	7.00	3430	0

Bypass Geometry

Bypass Approach Geometry (m)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
4	WB - Palladium Drive	Free	675	3.5	1	3.5	1	7	2

Bypass Entry and Exit Geometry (m)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
4	WB - Palladium Drive	4.25	1	0	1	37	30	1	SB - Palladium Drive	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity				Calibration	
		Capacity + or -		Cross Walk Factor		Intercept + or -	Slope Factor
4	WB - Palladium Drive	0		1.000		0	1.000

Traffic Flow Data (veh/hr)

2028 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	SB - Palladium Drive	0	530	122	230	0	3.0	1.00	1.000
2	EB - Derreen Avenue	0	325	216	0	0	8.0	1.00	1.000
3	NB - Robert Grant Avenue	0	2	181	227	0	2.0	1.00	1.000
4	WB - Palladium Drive	0	151	164	0	675	2.0	1.00	1.000

Operational Results

2028 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	882		317		1181	2017		0.4373	
2	EB - Derreen Avenue	None	541		803		396	1510		0.3582	
3	NB - Robert Grant Avenue	None	410		1071		273	1595		0.2571	
4	WB - Palladium Drive	Free	315	675	508	0	973	1115	1285	0.2826	0.5252

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	4.99		4.99	3.13		A		A
2	EB - Derreen Avenue	None	5.47		5.47	2.13		A		A
3	NB - Robert Grant Avenue	None	5.32		5.32	1.58		A		A
4	WB - Palladium Drive	Free	7.46	0.00	2.37	1.70	0.00	A	A	A

2028 PM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	882		317		1181	2017		0.4373	
2	EB - Derreen Avenue	None	541		803		396	1510		0.3582	
3	NB - Robert Grant Avenue	None	410		1071		273	1595		0.2571	
4	WB - Palladium Drive	Free	315	675	508	0	973	1115	1285	0.2826	0.5252

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	5.00		5.00	3.13		A		A
2	EB - Derreen Avenue	None	5.48		5.48	2.13		A		A
3	NB - Robert Grant Avenue	None	5.33		5.33	1.58		A		A
4	WB - Palladium Drive	Free	7.47	0.00	2.38	1.70	0.00	A	A	A

Operational Data

Main Geometry (m)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	SB - Palladium Drive	0	0	7.25	2	7.25	2	0.00	45.00	15.00
2	EB - Derreen Avenue	90	0	4.00	1	7.80	2	82.00	30.00	18.00
3	NB - Robert Grant Avenue	180	0	7.00	2	7.50	2	40.00	65.00	10.00
4	WB - Palladium Drive	295	0	3.50	1	5.50	1	28.00	5.50	20.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	SB - Palladium Drive	57.00	10.00	2	9.75	2	7.25	2
2	EB - Derreen Avenue	57.00	10.00	2	5.75	1	4.00	1
3	NB - Robert Grant Avenue	57.00	10.00	2	9.85	2	7.00	2
4	WB - Palladium Drive	57.00	10.00	2	9.25	2	7.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (m)	Default Capacity	Calib Capacity	V (m)	Default Capacity	Calib Capacity
1	SB - Palladium Drive	0	1.000	0	1.000	6.00	3553	0	7.25	3553	0
2	EB - Derreen Avenue	0	1.000	0	1.000	6.00	1960	0	4.00	1960	0
3	NB - Robert Grant Avenue	0	1.000	0	1.000	6.00	3430	0	7.00	3430	0
4	WB - Palladium Drive	0	1.000	0	1.000	7.00	3430	0	7.00	3430	0

Bypass Geometry

Bypass Approach Geometry (m)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
4	WB - Palladium Drive	Free	366	3.5	1	3.5	1	7	2

Bypass Entry and Exit Geometry (m)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
4	WB - Palladium Drive	4.25	1	0	1	37	30	1	SB - Palladium Drive	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Calibration	
		Capacity + or -	Cross Walk Factor	Intercept + or -	Slope Factor
4	WB - Palladium Drive	0	1.000	0	1.000

Traffic Flow Data (veh/hr)

2033 AM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	SB - Palladium Drive	0	259	1011	162	0	4.0	1.00	1.000
2	EB - Derreen Avenue	0	106	87	0	0	4.0	1.00	1.000
3	NB - Robert Grant Avenue	0	0	1176	57	0	2.0	1.00	1.000
4	WB - Palladium Drive	0	92	132	0	366	3.0	1.00	1.000

Operational Results

2033 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	1432		224		1648	2039		0.7022	
2	EB - Derreen Avenue	None	193		1362		294	1245		0.1550	
3	NB - Robert Grant Avenue	None	1233		452		1103	2067		0.5964	
4	WB - Palladium Drive	Free	224	366	1282	0	403	758	1273	0.2955	0.2876

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	6.32		6.32	6.22		A		A
2	EB - Derreen Avenue	None	5.90		5.90	0.83		A		A
3	NB - Robert Grant Avenue	None	4.29		4.29	3.73		A		A
4	WB - Palladium Drive	Free	10.98	0.00	4.17	1.78	0.00	B	A	A

2033 AM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	1432		224		1648	2039		0.7022	
2	EB - Derreen Avenue	None	193		1362		294	1245		0.1550	
3	NB - Robert Grant Avenue	None	1233		452		1103	2067		0.5964	
4	WB - Palladium Drive	Free	224	366	1282	0	403	758	1273	0.2955	0.2876

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	6.35		6.35	6.22		A		A
2	EB - Derreen Avenue	None	5.91		5.91	0.83		A		A
3	NB - Robert Grant Avenue	None	4.30		4.30	3.73		A		A
4	WB - Palladium Drive	Free	11.02	0.00	4.18	1.78	0.00	B	A	A

Operational Data

Main Geometry (m)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	SB - Palladium Drive	0	0	7.25	2	7.25	2	0.00	45.00	15.00
2	EB - Derreen Avenue	90	0	4.00	1	7.80	2	82.00	30.00	18.00
3	NB - Robert Grant Avenue	180	0	7.00	2	7.50	2	40.00	65.00	10.00
4	WB - Palladium Drive	295	0	3.50	1	5.50	1	28.00	5.50	20.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	SB - Palladium Drive	57.00	10.00	2	9.75	2	7.25	2
2	EB - Derreen Avenue	57.00	10.00	2	5.75	1	4.00	1
3	NB - Robert Grant Avenue	57.00	10.00	2	9.85	2	7.00	2
4	WB - Palladium Drive	57.00	10.00	2	9.25	2	7.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (m)	Default Capacity	Calib Capacity	V (m)	Default Capacity	Calib Capacity
1	SB - Palladium Drive	0	1.000	0	1.000	6.00	3553	0	7.25	3553	0
2	EB - Derreen Avenue	0	1.000	0	1.000	6.00	1960	0	4.00	1960	0
3	NB - Robert Grant Avenue	0	1.000	0	1.000	6.00	3430	0	7.00	3430	0
4	WB - Palladium Drive	0	1.000	0	1.000	7.00	3430	0	7.00	3430	0

Bypass Geometry

Bypass Approach Geometry (m)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
4	WB - Palladium Drive	Free	679	3.5	1	3.5	1	7	2

Bypass Entry and Exit Geometry (m)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
4	WB - Palladium Drive	4.25	1	0	1	37	30	1	SB - Palladium Drive	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Calibration	
		Capacity + or -	Cross Walk Factor	Intercept + or -	Slope Factor
4	WB - Palladium Drive	0	1.000	0	1.000

Traffic Flow Data (veh/hr)

2033 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	SB - Palladium Drive	0	310	1545	152	0	3.0	1.00	1.000
2	EB - Derreen Avenue	0	224	183	0	0	8.0	1.00	1.000
3	NB - Robert Grant Avenue	0	0	1215	122	0	2.0	1.00	1.000
4	WB - Palladium Drive	0	83	124	0	679	2.0	1.00	1.000

Operational Results

2033 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	2007		207		2118	2092		0.9592	
2	EB - Derreen Avenue	None	407		1936		276	806		0.5053	
3	NB - Robert Grant Avenue	None	1337		717		1626	1861		0.7185	
4	WB - Palladium Drive	Free	207	679	1439	0	615	697	1285	0.2970	0.5283

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	24.81		24.81	30.39		C		C
2	EB - Derreen Avenue	None	13.85		13.85	4.00		B		B
3	NB - Robert Grant Avenue	None	6.97		6.97	6.40		A		A
4	WB - Palladium Drive	Free	12.12	0.00	2.83	1.81	0.00	B	A	A

2033 PM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	2007		207		2118	2092		0.9592	
2	EB - Derreen Avenue	None	407		1938		276	805		0.5058	
3	NB - Robert Grant Avenue	None	1337		717		1628	1861		0.7185	
4	WB - Palladium Drive	Free	207	679	1439	0	615	697	1285	0.2970	0.5283

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	26.22		26.22	30.39		D		D
2	EB - Derreen Avenue	None	14.01		14.01	4.00		B		B
3	NB - Robert Grant Avenue	None	7.01		7.01	6.40		A		A
4	WB - Palladium Drive	Free	12.17	0.00	2.84	1.81	0.00	B	A	A

Appendix K: TDM Checklists

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

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

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

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

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
2. WALKING & CYCLING: END-OF-TRIP FACILITIES		
2.1 Bicycle parking		
REQUIRED	2.1.1 Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible (see <i>Official Plan policy 4.3.6</i>)	☒
REQUIRED	2.1.2 Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas (see <i>Zoning By-law Section 111</i>)	☒
REQUIRED	2.1.3 Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored (see <i>Zoning By-law Section 111</i>)	☒
BASIC	2.1.4 Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists	☐
2.2 Secure bicycle parking		
REQUIRED	2.2.1 Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers (see <i>Zoning By-law Section 111</i>)	☒
BETTER	2.2.2 Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	☐
2.3 Bicycle repair station		
BETTER	2.3.1 Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☐
3. TRANSIT		
3.1 Customer amenities		
BASIC	3.1.1 Provide shelters, lighting and benches at any on-site transit stops	☐
BASIC	3.1.2 Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☐
BETTER	3.1.3 Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐

TDM-supportive design & infrastructure measures: <i>Residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
4. RIDESHARING		
4.1 Pick-up & drop-off facilities		
BASIC	4.1.1 Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☐
5. CARSHARING & BIKESHARING		
5.1 Carshare parking spaces		
BETTER	5.1.1 Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses (see <i>Zoning By-law Section 94</i>)	☐
5.2 Bikeshare station location		
BETTER	5.2.1 Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☐
6. PARKING		
6.1 Number of parking spaces		
REQUIRED	6.1.1 Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☒
BASIC	6.1.2 Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☐
BASIC	6.1.3 Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly (see <i>Zoning By-law Section 104</i>)	☐
BETTER	6.1.4 Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking (see <i>Zoning By-law Section 111</i>)	☐
6.2 Separate long-term & short-term parking areas		
BETTER	6.2.1 Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa)	☐

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

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

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

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

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

Appendix L: MMLOS Analysis Spreadsheet Copy

Multi-Modal Level of Service - Segments Form

Project: 2765 Palladium Drive Ph2 (125091)
Consultant: Novatech Engineering Consultants Ltd.
Date: Mar 12, 2026
Scenario: Existing Conditions

Segment Name		Derreen Avenue b/w Palladium Drive and Culdaff Road				Palladium Drive b/w Derreen Avenue and HWY417 EB Off-Ramp			
OP Transect / Policy Area		Outer Urban or Suburban				Outer Urban or Suburban			
Segment Component		Majority (>50%)		Critical		Majority (>50%)		Critical	
Side of Street		North	South	North	South	West	East	West	East
Pedestrian	PLOS Inputs								
	Posted Speed (km/h)	50 km/h		50 km/h		70 km/h		70 km/h	
	Two-Way ADT	912		912		5,739		5,739	
	Pedestrian Facility	Sidewalk	Sidewalk	Sidewalk	Sidewalk	None	None	None	None
	Does the facility meet the TMP Sidewalk or MUP Policy? If not, for MUPs, does the location have a low volume of peak daily users AND are pedestrian volumes likely less than 20% of total users?	Yes	Yes	Yes	Yes	No	No	No	No
	Facility Width (m)	1.80m	1.80m	1.80m	1.80m	-	-	-	-
	Offset from Motor Vehicle Travel Lanes (m)	≥ 3.0m	≥ 3.0m	≥ 3.0m	≥ 3.0m	-	-	-	-
	Presence of Adjacent Parking?	No	No	No	No	-	-	-	-
	General Purpose Curb Lane ADT	-	-	-	-	-	-	-	-
	Max. Distance between Controlled Crossings (m)	-	-	-	-	-	-	-	-
Score		5.00	5.00	5.00	5.00	0.00	0.00	0.00	0.00
PLOS		A	A	A	A	F	F	F	F
Target PLOS		C				C			
Bicycle	BLOS Inputs								
	Cycling Route Classification	Elsewhere				Elsewhere			
	Cycling Facility	Cycle Track	Cycle Track	Cycle Track	Cycle Track	Shared Operating Space	Shared Operating Space	Shared Operating Space	Shared Operating Space
	Is the minimum level of separation provided according to OTM Book 18 Pre-Selection Nomograph - Rural Context (Figure 5.6)? (for paved shoulders)	-	-	-	-	-	-	-	-
	Facility Operation	Unidirectional	Unidirectional	Unidirectional	Unidirectional	-	-	-	-
	Pedestrian/Cyclist Volume	-	-	-	-	-	-	-	-
	Facility Width	1.5m-1.79m	1.5m-1.79m	1.5m-1.79m	1.5m-1.79m	-	-	-	-
	Boulevard/Buffer Width (excluding curb)	≥ 1.0m	≥ 1.0m	≥ 1.0m	≥ 1.0m	-	-	-	-
	Unsignalized Roadway Crossing Type (where cyclists are required to yield)	Roundabout	Roundabout	Roundabout	Roundabout	Roundabout	Roundabout	Roundabout	Roundabout
	Number of Travel Lanes at Crossing	4-5	4-5	4-5	4-5	3	3	3	3
	Crossing includes Median Refuge (≥ 2.7m)	-	-	-	-	-	-	-	-
	Cross-street Posted Speed (km/h)	-	-	-	-	-	-	-	-
	Cycling Path Blockages (e.g. bus stops and/or loading zones)	-	-	-	-	Rare	Frequent, Short Duration	Rare	Frequent, Short Duration
	Score		3.55	3.55	3.55	3.55	0.90	0.60	0.90
BLOS		B	B	B	B	E	E	E	E
Target BLOS		C				C			
Transit	TLOS Inputs								
	Transit Facility	Mixed Traffic				Mixed Traffic			
	Facility Type	Mixed Traffic	Mixed Traffic			Mixed Traffic	Mixed Traffic		
	Expected Transit Running Time	Unimpeded	Unimpeded			Slightly Impeded	Slightly Impeded		
	Transit Travel Speed (if available)	Enter Speed (if available)	Enter Speed (if available)			Enter Speed (if available)	Enter Speed (if available)		
	TLOS		B	B	C	C			
Target TLOS		E (D for frequent transit routes)		E (D for frequent transit routes)					
Public Realm	PRLOS Inputs								
	Context	Other Streets	Other Streets			Other Streets	Other Streets		
	Inner Boulevard Width	2.0-3.99m	2.0-3.99m			≥ 4.0m	≥ 4.0m		
	Middle Boulevard Width	≤ 0.5m	≤ 0.5m			≤ 0.5m	≤ 0.5m		
	Outer Boulevard (Frontage) Width	2.0-2.99m	2.0-2.99m			≤ 0.5m	≤ 0.5m		
	Transit Route on Segment?	Yes	Yes			Yes	Yes		
	Bus Stop Elements	Curbside platform with no shelter	Curbside platform with no shelter			No platform, landing zone or shelter	Curbside platform with no shelter		
	Number of Midblock Traffic Lanes (both travel directions)	≤ 2				5			
	Score		24.00	24.00	5.70	6.90			
PRLOS		B	B	E	E				
		B		E					

Appendix M: Rodel Analysis Reports – Total Conditions

Operational Data

Main Geometry (m)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	SB - Palladium Drive	0	0	7.25	2	7.25	2	0.00	45.00	15.00
2	EB - Derreen Avenue	90	0	4.00	1	7.80	2	82.00	30.00	18.00
3	NB - Robert Grant Avenue	180	0	7.00	2	7.50	2	40.00	65.00	10.00
4	WB - Palladium Drive	295	0	3.50	1	5.50	1	28.00	5.50	20.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	SB - Palladium Drive	57.00	10.00	2	9.75	2	7.25	2
2	EB - Derreen Avenue	57.00	10.00	2	5.75	1	4.00	1
3	NB - Robert Grant Avenue	57.00	10.00	2	9.85	2	7.00	2
4	WB - Palladium Drive	57.00	10.00	2	9.25	2	7.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (m)	Default Capacity	Calib Capacity	V (m)	Default Capacity	Calib Capacity
1	SB - Palladium Drive	0	1.000	0	1.000	6.00	3553	0	7.25	3553	0
2	EB - Derreen Avenue	0	1.000	0	1.000	6.00	1960	0	4.00	1960	0
3	NB - Robert Grant Avenue	0	1.000	0	1.000	6.00	3430	0	7.00	3430	0
4	WB - Palladium Drive	0	1.000	0	1.000	7.00	3430	0	7.00	3430	0

Bypass Geometry

Bypass Approach Geometry (m)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
4	WB - Palladium Drive	Free	505	3.5	1	3.5	1	7	2

Bypass Entry and Exit Geometry (m)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
4	WB - Palladium Drive	4.25	1	0	1	37	30	1	SB - Palladium Drive	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Calibration	
		Capacity + or -	Cross Walk Factor	Intercept + or -	Slope Factor
4	WB - Palladium Drive	0	1.000	0	1.000

Traffic Flow Data (veh/hr)

2028 AM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	SB - Palladium Drive	0	421	135	219	0	4.0	1.00	1.000
2	EB - Derreen Avenue	0	208	165	1	0	4.0	1.00	1.000
3	NB - Robert Grant Avenue	0	1	92	106	0	2.0	1.00	1.000
4	WB - Palladium Drive	0	162	181	0	505	3.0	1.00	1.000

Operational Results

2028 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	775		344		805	1958		0.3959	
2	EB - Derreen Avenue	None	374		718		401	1681		0.2225	
3	NB - Robert Grant Avenue	None	199		794		298	1813		0.1098	
4	WB - Palladium Drive	Free	343	505	301	0	692	1191	1273	0.2879	0.3968

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	5.23		5.23	2.88		A		A
2	EB - Derreen Avenue	None	4.70		4.70	1.27		A		A
3	NB - Robert Grant Avenue	None	4.11		4.11	0.60		A		A
4	WB - Palladium Drive	Free	6.94	0.00	2.81	1.72	0.00	A	A	A

2028 AM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	775		344		805	1958		0.3959	
2	EB - Derreen Avenue	None	374		718		401	1681		0.2225	
3	NB - Robert Grant Avenue	None	199		794		298	1813		0.1098	
4	WB - Palladium Drive	Free	343	505	301	0	692	1191	1273	0.2879	0.3968

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	5.24		5.24	2.88		A		A
2	EB - Derreen Avenue	None	4.70		4.70	1.27		A		A
3	NB - Robert Grant Avenue	None	4.11		4.11	0.60		A		A
4	WB - Palladium Drive	Free	6.95	0.00	2.81	1.72	0.00	A	A	A

Operational Data

Main Geometry (m)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	SB - Palladium Drive	0	0	7.25	2	7.25	2	0.00	45.00	15.00
2	EB - Derreen Avenue	90	0	4.00	1	7.80	2	82.00	30.00	18.00
3	NB - Robert Grant Avenue	180	0	7.00	2	7.50	2	40.00	65.00	10.00
4	WB - Palladium Drive	295	0	3.50	1	5.50	1	28.00	5.50	20.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	SB - Palladium Drive	57.00	10.00	2	9.75	2	7.25	2
2	EB - Derreen Avenue	57.00	10.00	2	5.75	1	4.00	1
3	NB - Robert Grant Avenue	57.00	10.00	2	9.85	2	7.00	2
4	WB - Palladium Drive	57.00	10.00	2	9.25	2	7.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (m)	Default Capacity	Calib Capacity	V (m)	Default Capacity	Calib Capacity
1	SB - Palladium Drive	0	1.000	0	1.000	6.00	3553	0	7.25	3553	0
2	EB - Derreen Avenue	0	1.000	0	1.000	6.00	1960	0	4.00	1960	0
3	NB - Robert Grant Avenue	0	1.000	0	1.000	6.00	3430	0	7.00	3430	0
4	WB - Palladium Drive	0	1.000	0	1.000	7.00	3430	0	7.00	3430	0

Bypass Geometry

Bypass Approach Geometry (m)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
4	WB - Palladium Drive	Free	675	3.5	1	3.5	1	7	2

Bypass Entry and Exit Geometry (m)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
4	WB - Palladium Drive	4.25	1	0	1	37	30	1	SB - Palladium Drive	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity				Calibration	
		Capacity + or -		Cross Walk Factor		Intercept + or -	Slope Factor
4	WB - Palladium Drive	0		1.000		0	1.000

Traffic Flow Data (veh/hr)

2028 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	SB - Palladium Drive	0	530	122	243	0	3.0	1.00	1.000
2	EB - Derreen Avenue	0	324	219	0	0	8.0	1.00	1.000
3	NB - Robert Grant Avenue	0	2	181	227	0	2.0	1.00	1.000
4	WB - Palladium Drive	0	151	184	0	675	2.0	1.00	1.000

Operational Results

2028 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	895		337		1180	2003		0.4468	
2	EB - Derreen Avenue	None	543		803		429	1510		0.3595	
3	NB - Robert Grant Avenue	None	410		1073		273	1593		0.2573	
4	WB - Palladium Drive	Free	335	675	507	0	976	1115	1285	0.3004	0.5252

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	5.18		5.18	3.28		A		A
2	EB - Derreen Avenue	None	5.51		5.51	2.15		A		A
3	NB - Robert Grant Avenue	None	5.33		5.33	1.58		A		A
4	WB - Palladium Drive	Free	7.64	0.00	2.53	1.85	0.00	A	A	A

2028 PM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	895		337		1180	2003		0.4468	
2	EB - Derreen Avenue	None	543		803		429	1510		0.3595	
3	NB - Robert Grant Avenue	None	410		1073		273	1593		0.2573	
4	WB - Palladium Drive	Free	335	675	507	0	976	1115	1285	0.3004	0.5252

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	5.19		5.19	3.28		A		A
2	EB - Derreen Avenue	None	5.52		5.52	2.15		A		A
3	NB - Robert Grant Avenue	None	5.34		5.34	1.58		A		A
4	WB - Palladium Drive	Free	7.65	0.00	2.54	1.85	0.00	A	A	A

Operational Data

Main Geometry (m)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	SB - Palladium Drive	0	0	7.25	2	7.25	2	0.00	45.00	15.00
2	EB - Derreen Avenue	90	0	4.00	1	7.80	2	82.00	30.00	18.00
3	NB - Robert Grant Avenue	180	0	7.00	2	7.50	2	40.00	65.00	10.00
4	WB - Palladium Drive	295	0	3.50	1	5.50	1	28.00	5.50	20.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	SB - Palladium Drive	57.00	10.00	2	9.75	2	7.25	2
2	EB - Derreen Avenue	57.00	10.00	2	5.75	1	4.00	1
3	NB - Robert Grant Avenue	57.00	10.00	2	9.85	2	7.00	2
4	WB - Palladium Drive	57.00	10.00	2	9.25	2	7.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (m)	Default Capacity	Calib Capacity	V (m)	Default Capacity	Calib Capacity
1	SB - Palladium Drive	0	1.000	0	1.000	6.00	3553	0	7.25	3553	0
2	EB - Derreen Avenue	0	1.000	0	1.000	6.00	1960	0	4.00	1960	0
3	NB - Robert Grant Avenue	0	1.000	0	1.000	6.00	3430	0	7.00	3430	0
4	WB - Palladium Drive	0	1.000	0	1.000	7.00	3430	0	7.00	3430	0

Bypass Geometry

Bypass Approach Geometry (m)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
4	WB - Palladium Drive	Free	366	3.5	1	3.5	1	7	2

Bypass Entry and Exit Geometry (m)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
4	WB - Palladium Drive	4.25	1	0	1	37	30	1	SB - Palladium Drive	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Calibration	
		Capacity + or -	Cross Walk Factor	Intercept + or -	Slope Factor
4	WB - Palladium Drive	0	1.000	0	1.000

Traffic Flow Data (veh/hr)

2033 AM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	SB - Palladium Drive	0	259	1011	178	0	4.0	1.00	1.000
2	EB - Derreen Avenue	0	141	115	9	0	4.0	1.00	1.000
3	NB - Robert Grant Avenue	0	0	1176	57	0	2.0	1.00	1.000
4	WB - Palladium Drive	0	92	150	0	366	3.0	1.00	1.000

Operational Results

2033 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	1448		242		1683	2027		0.7143	
2	EB - Derreen Avenue	None	265		1362		328	1245		0.2129	
3	NB - Robert Grant Avenue	None	1233		515		1112	2020		0.6103	
4	WB - Palladium Drive	Free	242	366	1317	0	431	742	1273	0.3261	0.2876

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	6.58		6.58	6.52		A		A
2	EB - Derreen Avenue	None	6.52		6.52	1.26		A		A
3	NB - Robert Grant Avenue	None	4.53		4.53	3.93		A		A
4	WB - Palladium Drive	Free	11.69	0.00	4.65	2.04	0.00	B	A	A

2033 AM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	1448		242		1683	2027		0.7143	
2	EB - Derreen Avenue	None	265		1362		328	1245		0.2129	
3	NB - Robert Grant Avenue	None	1233		515		1112	2020		0.6103	
4	WB - Palladium Drive	Free	242	366	1317	0	431	742	1273	0.3261	0.2876

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	6.60		6.60	6.52		A		A
2	EB - Derreen Avenue	None	6.53		6.53	1.26		A		A
3	NB - Robert Grant Avenue	None	4.54		4.54	3.93		A		A
4	WB - Palladium Drive	Free	11.74	0.00	4.67	2.04	0.00	B	A	A

Operational Data

Main Geometry (m)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	SB - Palladium Drive	0	0	7.25	2	7.25	2	0.00	45.00	15.00
2	EB - Derreen Avenue	90	0	4.00	1	7.80	2	82.00	30.00	18.00
3	NB - Robert Grant Avenue	180	0	7.00	2	7.50	2	40.00	65.00	10.00
4	WB - Palladium Drive	295	0	3.50	1	5.50	1	28.00	5.50	20.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	SB - Palladium Drive	57.00	10.00	2	9.75	2	7.25	2
2	EB - Derreen Avenue	57.00	10.00	2	5.75	1	4.00	1
3	NB - Robert Grant Avenue	57.00	10.00	2	9.85	2	7.00	2
4	WB - Palladium Drive	57.00	10.00	2	9.25	2	7.00	2

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWalk Factor	Intercept + or -	Slope Factor	V (m)	Default Capacity	Calib Capacity	V (m)	Default Capacity	Calib Capacity
1	SB - Palladium Drive	0	1.000	0	1.000	6.00	3553	0	7.25	3553	0
2	EB - Derreen Avenue	0	1.000	0	1.000	6.00	1960	0	4.00	1960	0
3	NB - Robert Grant Avenue	0	1.000	0	1.000	6.00	3430	0	7.00	3430	0
4	WB - Palladium Drive	0	1.000	0	1.000	7.00	3430	0	7.00	3430	0

Bypass Geometry

Bypass Approach Geometry (m)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
4	WB - Palladium Drive	Free	679	3.5	1	3.5	1	7	2

Bypass Entry and Exit Geometry (m)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
4	WB - Palladium Drive	4.25	1	0	1	37	30	1	SB - Palladium Drive	2	2

Bypass Entry Capacity Modifiers and Calibration (veh/hr)

Leg	Leg Names	Entry Capacity				Calibration	
		Capacity + or -		Cross Walk Factor		Intercept + or -	Slope Factor
4	WB - Palladium Drive	0		1.000		0	1.000

Traffic Flow Data (veh/hr)

2033 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	SB - Palladium Drive	0	310	1545	183	0	3.0	1.00	1.000
2	EB - Derreen Avenue	0	246	204	1	0	8.0	1.00	1.000
3	NB - Robert Grant Avenue	0	5	1215	122	0	2.0	1.00	1.000
4	WB - Palladium Drive	0	83	149	0	679	2.0	1.00	1.000

Operational Results

2033 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	2038		237		2140	2072		0.9837	
2	EB - Derreen Avenue	None	451		1933		337	807		0.5587	
3	NB - Robert Grant Avenue	None	1342		759		1625	1828		0.7341	
4	WB - Palladium Drive	Free	232	679	1466	0	635	684	1285	0.3390	0.5283

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	33.54		33.54	42.21		D		D
2	EB - Derreen Avenue	None	15.29		15.29	4.88		C		C
3	NB - Robert Grant Avenue	None	7.47		7.47	6.86		A		A
4	WB - Palladium Drive	Free	13.09	0.00	3.33	2.19	0.00	B	A	A

2033 PM Peak - 15 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	SB - Palladium Drive	None	2038		237		2140	2072		0.9837	
2	EB - Derreen Avenue	None	451		1937		337	805		0.5601	
3	NB - Robert Grant Avenue	None	1342		760		1628	1828		0.7343	
4	WB - Palladium Drive	Free	232	679	1466	0	636	684	1285	0.3391	0.5283

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	SB - Palladium Drive	None	36.70		36.70	42.21		E		E
2	EB - Derreen Avenue	None	15.55		15.55	4.88		C		C
3	NB - Robert Grant Avenue	None	7.53		7.53	6.86		A		A
4	WB - Palladium Drive	Free	13.15	0.00	3.35	2.19	0.00	B	A	A