PROPOSED MIXED USE RESIDENTIAL-COMMERCIAL DEVELOPMENT

3996 INNES ROAD, OTTAWA

FINAL REPORT

Presented to:

Ms. Neeti Paudel
Project Manager,
City of Ottawa
110 Laurier Avenue West
Ottawa, Ontario K1P 1J1

Castleglenn Consultants
Engineers, Project Managers & Planners

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Project 7286

CASTLEGLENN CONSULTANTS LTD.

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1.0 EXISTING AND PLANNED CONDITIONS

1.1 PROPOSED DEVELOPMENT

Exhibit 1-1 illustrates the location of the proposed 3996 Innes Road mixed-use residential and commercial development, located on the south side of Innes Road west of Mer Bleue Road in Ottawa, Ontario. This Traffic Impact Study is in support of an application for Site Plan Control Approval.

Exhibit 1-1: Site Location Context

Exhibit 1-2 illustrates the proposed site plan (November, 2021) for the proposed 5 storey mixed-use building, providing for:

- 20 residential apartment units;
- 175 m^2 of pharmacy and 200 m^2 of medical area; and
- 37 parking spaces.

The parcel is zoned "*AM – Arterial Mainstreet*", which is an acceptable zoning for the abovementioned uses.

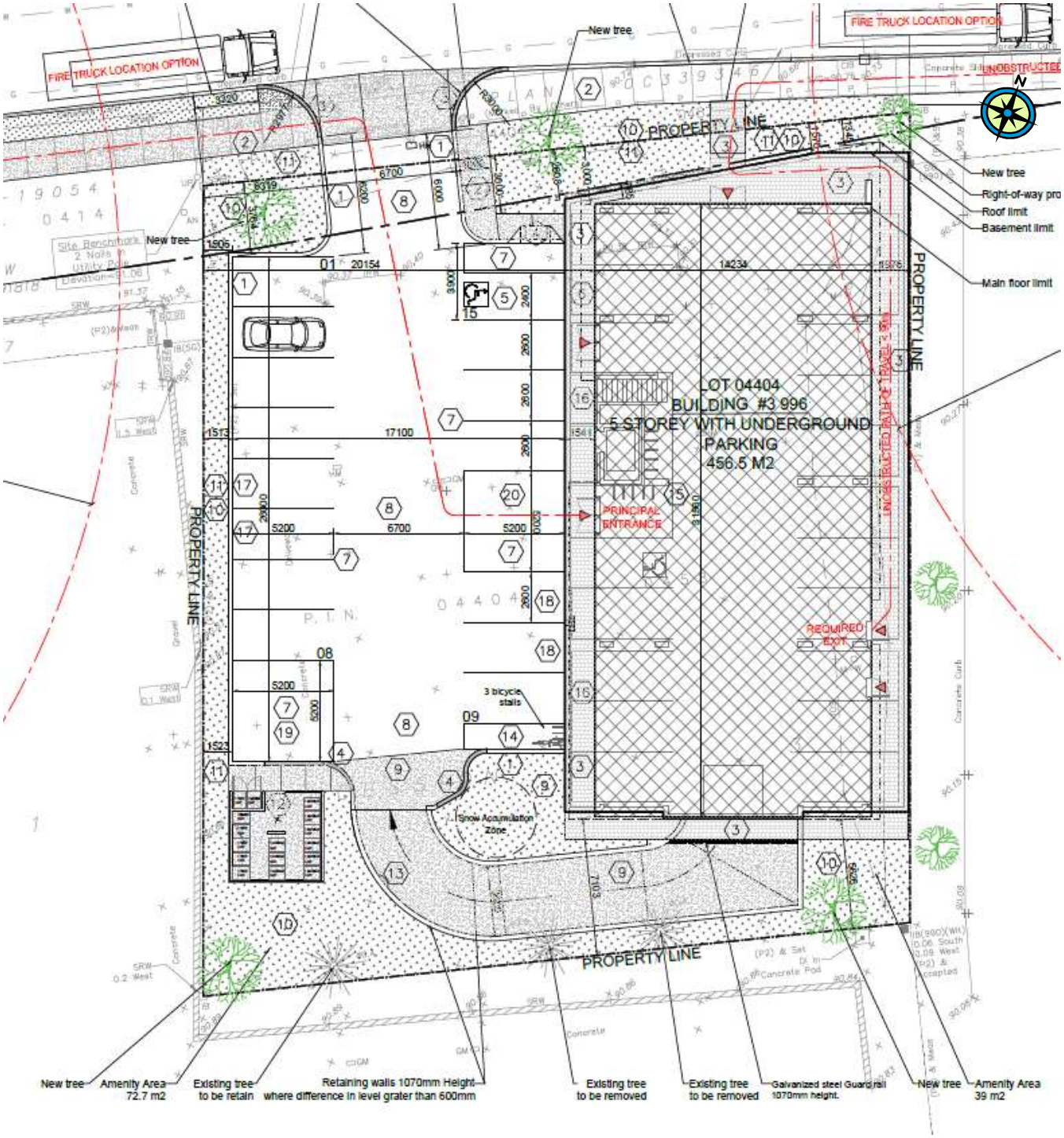


Exhibit 1-2: Draft Site Plan (November, 2021)

A review of Exhibit 1-2 illustrates that the site is to be accessed using a single right-in right-out eastbound access from Innes Road. The site currently contains a single semi-detached residential dwelling with two existing accesses. The existing dwelling is to be demolished, the east access is to be closed and the depressed curb is to be reinstated.

The site access from the Innes Road corridor provides for approximately 6 meters of throat length capable of accommodating a single passenger vehicle and 6.7 meters in width to permit the entry and exit movements of motor-vehicles.

1.2 EXISTING CONDITIONS

Study Area Roadways

The City of Ottawa TMP (Map 8) was referenced along with a desktop review of aerial photography to document the existing roadways that would serve the proposed development and surrounding area. The roadways in the vicinity of the proposed development include:

- *Innes Road:* This corridor is an existing 4-lane east-west divided two-lane arterial roadway (with a posted speed of 60 km/hr) fronting the site. The road also serves as a designated "full loads" truck route1. Pedestrian sidewalks are present on both sides of the road and on-street cycling lanes are provided in both directions.
- *Mer Bleue Road - Jeanne D'Arc Boulevard:* This corridor is an existing 4-lane north-south divided two-lane arterial roadway located east of the proposed development. The road serves as a "half load" truck route. Pedestrian sidewalks are present on both sides of the roadway while on-street cycling facilities are provided in each direction nearest the site.
- *Frank Bender Street:* This is an existing 2-lane north-south collector roadway connecting Innes Road and Jeanne D'Arc Boulevard. The roadway provides for 4 travel lanes and is designated as a major collector south of Innes Road, where its future connection will take place into the East Urban Community Phase III lands. Pedestrian sidewalks are present on both sides of the roadway. Cycling facilities are not provided on the existing cross section.

Area Traffic Management

No Area Traffic Management strategies have been identified for the boundary roads within the study area.

1 "*Rural Truck Routes*" exhibit, Traffic Services, City of Ottawa, March 1st 2021

Study Area Intersections

Innes Road/Mer Bleue (Jeanne D'Arc S): This intersection is a 4-leg signal-controlled intersection.

- The northbound approach provides for two auxiliary NB-LT bays, two NB-Th lanes, and one auxiliary NB-RT bay with YIELD condition.
- The southbound approach provides for two auxiliary SB-LT lanes, two SB-Th lanes, and one auxiliary SB-RT lane with YIELD condition.
- The westbound approach provides for two WB-Th lanes, one auxiliary WB-LT lane, and one auxiliary WB-RT lane with YIELD condition.
- The eastbound approach provides for two EB-Th lanes, one auxiliary EB-LT bay and one auxiliary EB-RT lane with YIELD condition.
- Sidewalks are provided in each quadrant of the intersection. Bike lanes are also provided on all 4 approaches

Exhibit 1-3 Innes Rd/ Mer Bleue (Jeanne D'Arc S) intersection

Exhibit 1-4 Innes Rd/ Walmart Entrance intersection

Innes Rd/ Walmart Entrance (260 m. East of Frank Bender St.): This existing intersection is a 3-leg signal-controlled intersection.

- The northbound approach of the intersection provides for one NB-LT lane, and one NB-RT lane.
- The eastbound approach provides for one EB-TH lane and one shared EB-Th/RT lane.
- The westbound approach provides for an auxiliary WB-LT bay and two EB-TH lanes.
- Sidewalks are provided in each quadrant of the intersection. Bike lanes are also provided on major road approaches

Innes Road / Frank Bender Street: This intersection is a 4-leg traffic signal-controlled intersection.

- The northbound approach provides for one auxiliary NB-LT bay, one NB-Th lane, and one NB-RT lane.
- The southbound approach provides for one auxiliary SB-LT bay, and one shared SB-Th/RT lane.
- The westbound approach provides for one WB-Th lane, one shared WB-Th/RT lane, and one auxiliary WB-LT bay.
- The eastbound approach provides for two EB-Th lanes, one auxiliary EB-LT bay and one auxiliary EB-RT lane.
- Sidewalks are provided in each quadrant of the intersection. Bike lanes are provided on the east-west approaches only.

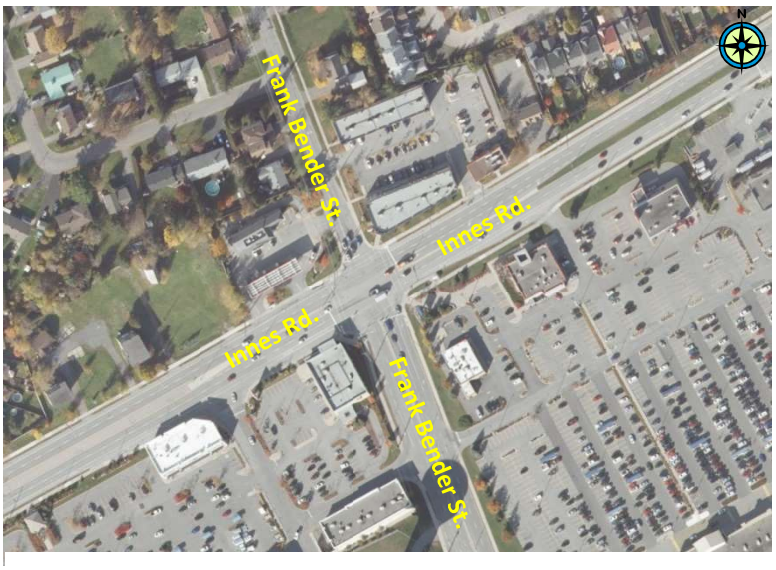


Exhibit 1-5 Innes Rd/ Frank Bender St Intersection

Existing Surrounding Driveways

The proposed Innes Road development is anticipated to remove the existing accesses to 3998 Innes Road, and modify the existing access to 3996 Innes Road.

The following active existing driveways and accesses are adjacent to the development:

- 4030 Innes Road (Kingdom Hall of Jehovah's Witnesses) is accessed by a right-in right-out access just east of the site and a right-in right-out access from Mer Bleue Road;
- 4042 Innes Road (Mr. Gas Service Station) is accessed by two right-in right-out entrances off Innes Road and one right-in right-out entrance off Mer Bleue Road
- SmartCentres "Walmart" Commercial Plaza (3940 Innes Road, 3910 Innes Road, 3880 Innes Road, 2002 Mer Bleue Road, 2010 Mer Bleue Road) is accessed from:
- a signalized intersection on Innes Road 260 meters east of Belcourt Blvd;
- a right-in right-out entrance from Innes Road; and
- a signalized intersection of Mer Bleue Road / Roger Pharand Street.

Existing Transit Provisions

Exhibit 1-6 illustrates the existing transit (July 2021) operations provided by OC Transpo buses along Innes Road and Mer Bleue Road/Jeanne D'Arc Boulevard South corridors. The proposed development would likely utilize the following bus routes along Innes Road corridor:

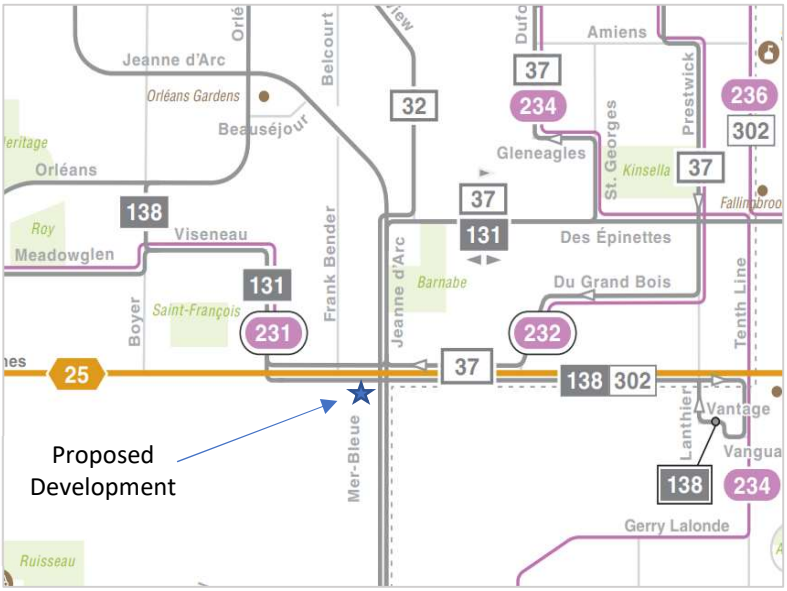


Exhibit 1-6: Transit Service in Vicinity of the Development

- **Route 25:** Connects the proposed development to Millennium station in the east and Blair LRT station and La Cite College via Blackburn Hamlet in the west. The buses have 10-minute headways during peak times and 15-to-30-minute headways outside of peak times.
- **Route 131:** Local route that connects the development to the neighbourhoods of Chapel Hill and Fallingbrook, as well as Place D'Orleans shopping centre and future LRT station. Buses run with 30-minute headways without an increase in frequency during peak periods
- **Route 138:** Local route that connects the proposed development to the neighbouthood of Covent Glen and Place D'Orleans shopping centre. Buses run with 1-hour headways during regular hours and 30-minute headways during peak periods.
- **Route 302:** Rural "shopper" bus connecting the development to rural communities of Cumberland, Sarsfield and Navan. The route then runs along Innes Road and Tenth Line Road to Place D'Orleans, Blair and St. Laurent stations. A review of route's schedule indicated that the route runs once a week on Tuesdays.

Alternatively, the proposed development could utilize the Jeanne D'Arc / Innes Road bus stop to access the following transit routes along the Mer Bleue-Jeanne D'Arc corridor:

- **Route 30:** Connects the proposed development to Blair LRT station in the west via Jeanne D'Arc Boulevard corridor. The route connects to Millennium station via Brian Coburn Boulevard corridor in the east. Buses run with 30-minute headways during regular hours and 15-minute headways in the peak direction during peak periods.
- **Route 32:** Connects the proposed development to Blair LRT station in the west via Sunview Drive and St. Joseph Boulevard corridors. The route connects to Chapel Hill South neighbourhood via Fern Casey Street and Renaud Road corridors. The route's schedule indicated weekday 30-minute peak hour Chapel Hill South service in the Westbound direction during in the morning and eastbound during the afternoon peak periods.
- **Route 37:** Local route that connects the proposed development to Place d'Orleans Shopping Centre via Queenswood Heights neighbourhood. The route offers a 30-minute weekday headway.

Existing Multi-Modal Facilities

A review of the City of Ottawa's "*Map 1: Cycling Network – Primary Urban"* from the Transportation Master Plan indicated Innes Road as designated spine route and cross-town bikeway route. Mer Bleue Road and Jeanne D'Arc Boulevard are designated as spine routes. The study area provides for 4-lane roadways with bike lane shoulders on Innes Road, Jeanne D'Arc Boulevard and Mer Bleue Road. Pedestrian sidewalks are provided at all nearby roadways.

A review of the January, 9th 2020 traffic count conducted at the Innes Road / Mer Bleue Road-Jeanne D'Arc Boulevard intersection indicated the following pedestrian and cyclist activity during the 8-hour turning movement count:

- 84 pedestrians crossing the north leg of the intersection;
- 40 pedestrians crossing the east leg of the intersection;
- 34 pedestrians crossing the south leg of the intersection;
- 40 pedestrians crossing the west leg of the intersection;
- 2 cyclists travelling in the westbound direction;
- 1 cyclist travelling in the northbound direction;
- 7 cyclists travelling in the eastbound direction.

A review of the February 20, 2020 traffic count conducted at the Innes Road /"Walmart Entrance" intersection, count results indicated the following pedestrian and cyclist activity:

- 36 pedestrians crossing the east leg of the intersection;
- 16 pedestrians crossing the south leg of the intersection;
- 15 pedestrians crossing the west leg of the intersection;
- 1 cyclist traveling in the eastbound direction;
- 1 cyclist travelling in the westbound direction

A review of the January 9, 2020 traffic count conducted at the Innes Road / Frank Bender St/Belcourt Blvd intersection indicated the following pedestrian and cyclist activity:

- 36 pedestrians crossing the north leg of the intersection;
- 56 pedestrians crossing the east leg of the intersection;
- 53 pedestrians crossing the south leg of the intersection;
- 51 pedestrians crossing the west leg of the intersection;
- 1 cyclist travelling in the eastbound direction;
- 1 cyclist travelling in the northbound direction;
- 1 cyclist travelling in the southbound direction.

It's noted that each of the City's traffic counts were undertaken during the Winter of 2020 season. Spring, Summer and Fall pedestrian and cyclist activity would be expected to be higher than the results indicated.

Existing (2021) Traffic Volumes

Exhibit 1-7 illustrates the existing morning and afternoon peak hour traffic volume collected from City of Ottawa available information at the following intersections.

- Innes Road / Mer Bleue Road – Jeanne D'Arc Boulevard South (January, 2020);
- Innes Road / Walmart Entrance, (February, 2020); and
- Innes Road / Frank Bender Road (February, 2020).

The Effects of Covid-19

It was March 16th, 2020 when the Ontario Government recommended the closure of all recreation programs, libraries, private schools, daycares, and churches and other faith settings, as well as bars and restaurants, except those that offer takeout or delivery and on March 17th, 2020 the Province declared a state of emergency and ordered some business to be closed, including daycares, bars and restaurants, theatres and private schools. The effect of Covid on the above traffic counts was determined to be negligible.

In general, the review of the traffic volumes indicated:

- During the morning peak hour, westbound Innes Road traffic represents the peak direction as vehicles travel towards downtown Ottawa;
- During the afternoon peak hour, the peak direction reversed to eastbound on Innes Road, as vehicles travel back into Orleans
- Heavy vehicle volumes were found to be greatest during the morning peak hour, where approximately 15% of both the eastbound Innes Road and southbound Mer Bleue Road traffic volume were found to be heavy vehicles;
- For the remainder of the approaches during the morning and afternoon peak hours, the heavy vehicle portion of traffic ranged from 1%-to-5%.

Existing Road Safety Information

Five (5) year (January 1st, 2015 to December 31st, 2019) historical collision information was reviewed for the study area intersections and segments. The collision information provides:

- the date and time of each collision;
- the type of collision (i.e. angle collision, rear-end);
- the level of damage involved (property damage only, injuries, fatalities);
- vehicle details (truck, passenger vehicle, etc.);
- vehicle path/maneuver characteristics; and
- the number of pedestrians involved (in the collision).

A standard collision rate based on the number of collisions- per-million-entering-vehicles (MEV) was calculated where a rate greater than 1.0 collisions/MEV was considered to indicate a potential concern.

Morning (Afternoon)

Exhibit 1-7: Existing (2021) Morning and Afternoon Peak Hour Traffic Volumes

Intersection Collisions

The following provides a summary of the collision intersection information:

- *Innes Road / Mer Bleue Road (Jeanne D'Arc Boulevard S):* A total of 110 collisions occurred at this intersection in the past 5 years.
  - 53% (58) of the collisions were rear-end collisions;
  - 7% (8) of the collisions were angle collisions;
  - 80% (88) of the collisions resulted in property damage only;
  - 20% (22) of the collisions resulted in a non-fatal injury;
  - This resulted in a collision rate of 1.28 collisions/MEV which is considered above an acceptable range of collision frequency and may merit further evaluation.
- *Innes Road / Walmart Entrance (E of Frank Bender St.):* A total of 14 collisions occurred at this intersection in the past 5 years:
  - 57% (8) of the collisions were rear-end collisions;
  - 7% (1) of the collisions were angle collisions;
  - 86% (12) of the collisions were found to result in property damage only (PDO);
  - 14% (2) of the collisions were found to result in non-fatal injury;
  - This resulted in an overall collision rate of 0.26 collisions/MEV which is considered within an acceptable range.
- *Innes Road / Frank Bender St.*: A total of 34 collisions were found to occur:
  - 53% (18) of the collisions were rear end collisions;
  - 6% (2) of the collisions were angle collisions;
  - 71% (24) collisions were found to result in property damage only (PDO);
  - 29% (10) of the collisions were found to result in non-fatal injury;
  - The collision rate for this segment was found to be 0.57/MEV which is considered within an acceptable range.

Mid-Block Collisions

The following provides a summary of the mid-block collisions:

- *Innes Road between Frank bender St. and Walmart Entrance:* A total of 12 collisions occurred at this intersection in the past 5 years:
  - 42% (5) of the collisions were rear end collisions;
  - 8% (1) of the collisions were angle collisions;
  - All 12 collisions were found to result in property damage only (PDO);
  - The collision rate for this segment was found to be 0.24/MEV which is considered within an acceptable range.
- Innes Road between Walmart Entrance and Mer Bleue Road – Jeanne D'Arc Boulevard: A total of 21 collisions occurred at this intersection in the past 5 years:
  - 62% (13) of the collisions were rear end collisions;

- 10% (2) of the collisions were angle collisions;
- 57% (12) collisions were found to result in property damage only (PDO);
- 43% (9) of the collisions were found to result in non-fatal injury;
- The collision rate for this segment was found to be 0.44/MEV which is considered within an acceptable range.

A review of the mid-block collisions did not indicate any significant patterns of poor safety operations along the Innes Road corridor.

1.3 PLANNED CONDITIONS

Planned Transportation Network Changes

A review of the City of Ottawa's planning documents[2] indicated that Innes Road could receive transit signal priority measures (queue jumps and transit signal priority) in the vicinity of the development which could potentially serve to improve transit ridership subsequent to the opening of the proposed development. However, it is thought unlikely that significant changes to the Innes Road corridor would be undertaken prior to build-out of the proposed site.

Outside the immediate vicinity of the proposed development, a review of the City of Ottawa's documents indicated that:

- The Blackburn Hamlet Bypass Extension between Navan Road and Orleans Boulevard is scheduled to occur prior to 2024;
- For the purposes of this TIA, the following facilities have been assumed to occur sometime within the 2031 horizon
  - Brian Coburn Boulevard is anticipated to be upgraded with transit signal priority ("Isolated") measures between Blackburn Hamlet Bypass and Tenth Line Road[3]; and
  - The northern extension of Fern Cassey Street between Brian Coburn Blvd and Innes Road.
- The Brian Coburn extension (from Navan Road to Blair Road) is anticipated to occur sometime after 2031, with potentially an interim phase taking place within the 2031 horizon.
- For the purposes of this TIA, the following facilities have been assumed to occur well beyond the current Transportation Master Plan horizon of 2031:
  - The Cumberland Transitway / Blackburn Hamlet By-Pass Extension would be located south of the proposed development, adjacent to the Hydro corridor[4] driven by the Trailsedge Phase 5 development and the long-term planning horizons for the entire east urban community; and
  - The future widenings of Brian Coburn Boulevard and Mer Bleue Road[5].

2. Ottawa Transportation Master Plan (Nov. 2013) Map 11 (Road Network Affordable Transportation Network), Map 5 (Rapid Transit and Transit Priority Network – 2031 Affordable Network), Appendix "E" of the 2019 DC Background Study and other planning documents
3. The "Rapid Transit and Transit Priority Map" for the 2031 Affordable Network (Map 5) within the City of Ottawa Transportation Master Plan indicated that Brian Coburn Boulevard is a designated "Transit Priority Corridor (Isolated Measures)" corridor
4. City of Ottawa's Transportation Master Plan Map 4 (Rapid Transit and Transit Priority Network – 2031 Conceptual Network)
5. City of Ottawa Transportation Master Plan (Nov. 2013) Map 10 "*Road Network – 2031 Network Concept"*

Other Adjacent Development Initiatives

A review of adjacent developments that are planned, or recently completed, within the immediate study area identified the following developments that are anticipated to impact the Innes Road corridor by the time of the anticipated 2022 build-out of the proposed development:

- ***3636 Innes Road**:* This proposed development is to construct a three-storey self-storage warehouse building at an existing U-Haul storage site.
- ***3604 Innes Road - Glenview Residential Development (EUC Phase III Lands)[6]:*** The Glenview development is located on the west side of the EUC Phase 3 lands adjacent to the Caivan development. Glenview proposes 457 dwellings which would consist of 180 singles, 109 townhouses and 168 stacked townhouses.

The following residential developments are located outside the study area, and were considered to be completed well outside the proposed anticipated buildout (2022) of the proposed development.

Table 1-1: Adjacent Developments Forecast to Occur Beyond 2022

Development	Description
3817, 3835 and 3843 Innes Road:	Planned as a residential complex consisting of 3 low-rise rental apartment structures with a total of 97 units on the north side of Innes Road with a centre 5-storey building flanked by two 3-storey buildings. A combination of surface and underground parking will be constructed along with two right in/right out accesses to Innes Road WB. Anticipated full build-out of the development is 2024.
Caivan and Lepine: 3490 Innes Road	The Caivan subdivision is currently in development of a mixed-use high-rise (534 residential units) development west of the proposed Trailsedge North site. The mixed-used Lepine High Rise Development anticipates 1,320 apartment dwellings and 28,000 ft^2 of commercial retail.
Richcraft Trailsedge East: Stage 3:	The Stage 3 development is bounded by Fern Casey in the west, Mer Bleue in the east, Renaud Road in the south and the Couloir Road-Copperhead Street corridor in the north and located immediately south of the proposed Stage 4 development. Stage 3 of the development is currently proceeding from west-to-east and would involve approximately 753 residential units by 2029;
6429 Renaud & 2284 Mer Bleue Roads (Trailsedge Phase 4):	The proposed Trailsedge Phase 4 development is a subdivision consisting of residential and mixed-use lots, a park and public streets. The development is due to accommodate up to 675 dwellings and commercial lots. The development will consist of 142 single detached lots, several blocks for 167 townhouse and 116 back-to-back townhouse dwellings fronting along a network of rectilinear public streets. Up to 250 future residential units are planned for the two proposed mixed-use blocks.
Mer Bleue Expansion Area[7]:	This area is located to the south and east of the proposed site. It proposes approximately 3,600 residential units, 175,000 SF of institutional development and approximately 4 hectares of commercial development by the time of ultimate build-out. This development will largely affect background traffic growth along existing corridors such as Navan Road, Mer Bleue Drive and Renaud Road corridors[8].

6. Proposed Subdivision, Innes Road TIA, Novatech, October 2019
7. (IBI MTS, April 2017)
8. The Summerside West Phase 4-6 TIA (Parsons, 2018) was referenced for the adjacent background traffic.

2.0 SCREENING RESULTS, THE STUDY AREA AND TIME PERIODS

2.1 SCREENING RESULTS

A review of the Screening Form and the triggers within the City of Ottawa's Traffic Impact Assessment Guidelines (2017) indicated that the proposed development at 3996 Innes Road does not meet the "trip generation" trigger; however, the review did indicate that the "location" trigger and the "safety" trigger were satisfied, thereby necessitating completion of the "Design Review" component which requires the following tasks to be completed.

- Evaluate the alignment of the development proposal with the City's policy objectives;
- Confirm that the site includes appropriate network elements for all modes of travel on site and on the boundary streets to connect the development into the City-wide networks;
- Confirm that the layout of the development and the proposed network facilities encourage use of sustainable modes;
- Confirm that basic access and circulation for motorized vehicles can be achieved;
- Identify any network modifications required to accommodate new accesses; and
- Provide RMA and functional design drawings to support required approvals

2.2 STUDY AREA

The study area is to include the section of Innes Road fronting the site and the following key intersections:

- Innes Road / Mer Bleue Road / Jeanne D'Arc Boulevard (Traffic Signal Controlled);
- Innes Road / Walmart Entrance (E of Frank Bender St.) (Traffic Signal Controlled); and
- Innes Road / Frank Bender Street (Traffic Signal Controlled);

2.3 TIME PERIODS

The study will analyze the morning and afternoon peak hours of travel demand as they were envisioned to represent the "worst-case" scenario in terms of traffic volumes generated by the development.

2.4 HORIZON YEARS

To meet the expectations of a Design Review component, the analysis considered the first year of build-out and occupancy of the development which for the purposes of this transportation analysis was assumed to be 2022.

3.0 EXEMPTION REVIEW

Table 3.1 represents the exemptions that were requested as part of the Scoping stage of this development's submission on July 9th, 2021. The scoping document was reviewed and approved by way of e-mail on July 27th, 2021. Approval of the scoping document by the City has resulted in the reduction in scope of work to the following tasks associated with this traffic study.

Network Impact Components:

- Module 3.1 Development Generated Travel Demand component;
- Elements 4.1.3 & 4.2.2; and
- Modules 4.5, 4.6 and 4.8.

Table 3-1: Exemptions as per TIA Guidelines

Module	Element	Exemption Considerations	Include Module in TIA
Design Review Component			
3.1 Development Generated Travel Demand	**3.1.1 Trip Generation and Mode Shares**	"Design Review TIA" does not require this.	**No**
	3.1.2 Trip Distribution	"Design Review TIA" does not require this.	**No**
	3.1.3 Trip Assignment	"Design Review TIA" does not require this.	**No**
4.1 Development Design	**4.1.3 New Street Networks**	Only required for plans of subdivision	No
4.2 Parking	**4.2.2 Spillover Parking**	The parking supply is not anticipated to be deficient	No
Network Impact Component			
4.5 Transportation Demand Management	**All elements**	The proposed development is not expected to have more than 60 employees/students on-site.	No
4.6 Neighborhood Traffic Management	**4.6.1 Adjacent Neighbourhoods**	The proposed development relies exclusively on the arterial network for access	No
4.8 Network Concept		The development is not expected to generate more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by established zoning.	No

4.0 BACKGROUND NETWORK TRAFFIC

The proposed development is located in an urban area outside the greenbelt. The parcel is zoned "AM – Arterial Mainstreet" and is fronting the Innes Road corridor. The surrounding area is characterized by commercial developments along Innes Road and low-to-medium density residential developments along adjacent streets.

A review of City of Ottawa Transportation Master Plan (TMP) indicated the following upcoming changes to the surrounding road network, as outlined in section 1.3:

- Extension of Brian Coburn Boulevard from Navan Road to Innes Road (Planned)
- Extension of Brian Coburn Boulevard from Navan Road to Blair Road (Ultimate)
- Extension of Blackburn Hamlet bypass to Orleans Boulevard

These changes are expected to have an impact on the adjacent road network well beyond the 2022 development build-out horizon year.

4.1 HISTORICAL BACKGROUND GROWTH RATE

The 2011 and 2031 Long-Range Transportation Model was reviewed to determine an appropriate background growth rate to be applied for the study area, given the long-term planning horizons. The average 20-year growth rate was found to be approximately 1% across the Innes Road- Brian Coburn Boulevard-Renaud Road screenline within the model horizons.

To develop a 2022 traffic forecast, a 1% background growth rate was applied to the existing traffic movements in all directions.

4.2 ADJACENT DEVELOPMENT TRAFFIC

Adjacent developments in the study area were identified in Section 1.3. Many of the identified developments are anticipated to be completed well beyond the forecast horizon year of this proposed development of 2022. Since the developments are not anticipated to impact the adjacent road traffic in the build-out year, they have been excluded from this traffic analyses.

5.0 DEMAND RATIONALIZATION

This section provides a rationalization of forecast travel demands for the study area to assess the presence of auto capacity limitations upon the transportation network in the absence of the future 3996 Innes Road development. The following sections present an intersection capacity analysis used to identify existing and future transportation network constraints associated with:

- Existing (2021) Traffic Conditions; and
- Background (2022) Traffic Conditions

The analysis was undertaken with Synchro™ 10 traffic software for signal control intersections. The level of service for the traffic signal control intersections are based on Section 6.1 of the City of Ottawa MMLOS Guidelines. Appendix "E" provides the relevant Synchro output for both existing and background 2022 conditions.

5.1 REVIEW OF EXISTING (2021) NETWORK CONSTRAINTS

Table 5-1 indicates congested conditions at the:

- Innes Road and Mer Bleue Road-Jeanne D'Arc Boulevard traffic signal-controlled intersection. This intersection was found to operate at an overall LOS "D" during the afternoon peak hour. The SB-LT was found to operate with an unacceptable volume-to-capacity ratio of 1.09, resulting in LOS "F" during the afternoon peak hour of travel demand.
- Innes Road and Frank Bender Street intersection was found to operate with an overall LOS "D", while the NB-LT was found to operate with a volume-to-capacity ratio of 0.90, resulting in LOS "E".

Table 5-1: Existing (2021) Intersection Capacity Analysis

Intersection: ***Innes Road and***	***Control Type***	***Weekday Morning Peak Hour (Afternoon Peak Hour)***							
		Critical Movement					***Overall Intersection***		
		Approach / Movement	95th Percentile Queue (m)	Delay (seconds)	LOS	v/c	Delay (seconds)	LOS	v/c
Mer Bleue Rd-Jeanne D'Ard Boulevard	Traffic Signal	*WB-Th (WB-Th)*	163 (101)	29.0 (31.6)	C (A)	0.78 (0.57)	27.5 (54.3)	C **(D)**	0.72 (0.89)
		SB-LT ***(SB-LT)***	29 **(104)**	63.7 **(120)**	B **(F)**	0.62 **(1.09)**			
"Walmart Access" (E of Frank Bender Street)	Traffic Signal	*WB-Th (WB-Th)*	56 (46)	2.8 (4.4)	A (A)	0.49 (0.39)	3.0 (17.8)	A (C)	0.52 (0.74)
		EB-Th (EB-Th)	14 (205)	1.6 (22.4)	A (D)	0.19 (0.82)			
Frank Bender Street	Traffic Signal	*WB-Th (WB-Th)*	69 (60)	4.9 (6.6)	A (A)	0.52 (0.38)	8.0 (23.9)	A (D)	0.58 (0.82)
		NB-LT ***(NB-LT)***	10 **(50)**	44.4 **(106)**	A **(E)**	0.15 **(0.90)**			

5.2 REVIEW OF 2022 BACKGROUND NETWORK CONSTRAINTS

As this document is intended to address the "design review" component of the TIA, an assessment of the "*impact of the addition of development trips and infrastructure on the performance of the transportation network*" (TIA guidelines page 8) is unnecessary. The following tables and exhibits exclude the proposed development and consider the impact of existing traffic combined with network changes anticipated to be in place during background 2022 (build-out) horizon year.

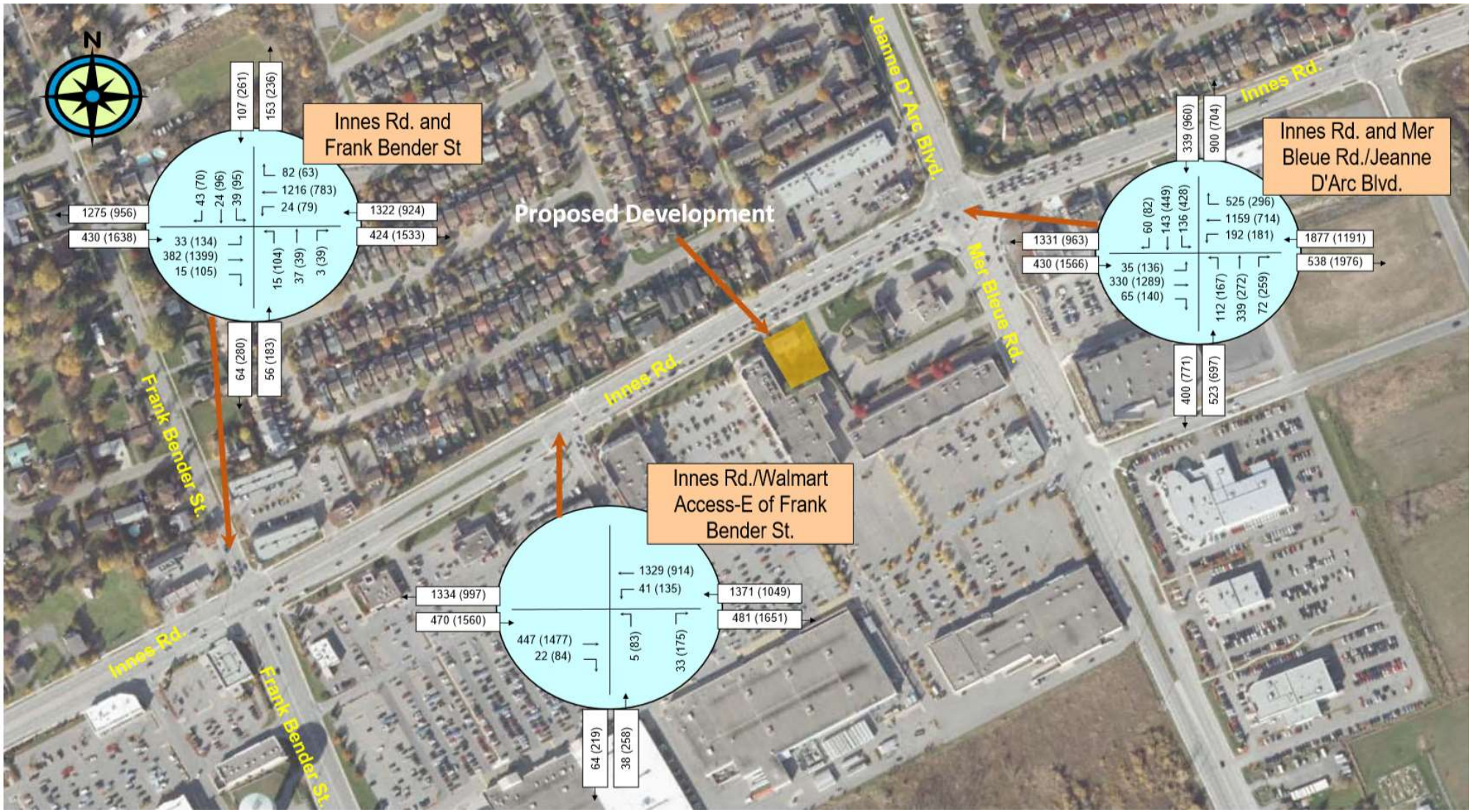
Exhibit 5-1 illustrates the 2022 background morning and afternoon peak hour traffic volumes within the study area. Table 5-2 indicates similar issues found in the existing conditions analysis. Adoption of 1.00 peak hour factor (PHF) for future conditions as per City of Ottawa TIA guidelines resulted in marginal improvement of delays and volume-to-capacity ratios in the study area. This resulted in slight improvement to the levels of service at:

- the Innes Road and Mer Bleue Rd.-Jeanne D'Arc Blvd. intersection from "F" to "E"; and
- Innes Road and Frank Bender St. from "E" to "C".

Despite the improvement offered by the 1.00 peak hour factor assumption, Innes Road continues to exhibit operational characteristics that are close to, or at capacity during the afternoon peak hour of travel demand.

Table 5-2: Background (2022) Intersection Capacity Analysis

Intersection: ***Innes Road and***	***Control Type***	***Weekday Morning Peak Hour (Afternoon Peak Hour)***							
		Critical Movement					***Overall Intersection***		
		Approach / Movement	95th Percentile Queue (m)	Delay (seconds)	LOS	v/c	Delay (seconds)	LOS	v/c
Mer Bleue Rd-Jeanne D'Ard Blvd	Traffic Signal	*WB-Th (WB-Th)*	141 (90)	25.7 (30.1)	C (A)	0.70 (0.51)	25.4 (44.4)	C (D)	0.72 (0.89)
		SB-LT ***(SB-LT)***	27 **(91)**	60.8 **(93.8)**	A **(E)**	0.56 **(0.98)**			
"Walmart Access" (260 m E of Frank Bender St.)	Traffic Signal	*WB-Th (WB-Th)*	46 (39)	2.5 (4.0)	A (A)	0.44 (0.35)	2.7 (15.2)	A (C)	0.53 (0.74)
		EB-Th (EB-Th)	13 (167)	1.6 (18.8)	A (C)	0.17 (0.75)			
Frank Bender St.	Traffic Signal	*WB-Th (WB-Th)*	57 (54)	4.4 (6.5)	A (A)	0.48 (0.35)	8.0 (23.9)	A (D)	0.58 (0.82)
		NB-LT (NB-LT)	9 (43)	44.3 (76)	A (C)	0.13 (0.73)			



Morning (Afternoon)

Exhibit 5-1: Background (2022) Morning and Afternoon Peak Hour Traffic Volumes

6.0 ANALYSIS

6.1 DEVELOPMENT DESIGN

6.1.1 Design for Sustainable Modes

Appendix "F" provides two City of Ottawa's TDM-Supportive Design and Infrastructure Checklists for the proposed 3996 Innes Road mixed-use development for residential and commercial components of the development.

The proposed development demonstrates good pedestrian connectivity, and does not provide excess vehicle parking spots, thus encouraging other modes of transportation. It is recommended that the development proponent consider:

- securing part of outdoor bicycle stalls for use by residents;
- provide for additional bicycle storage facilities within the interior of the building;
- assure the appointment of a designated TDM coordinator (to encourage such advents as ride sharing); and/or
- include information concerning nearby transit options for employees and visitors to the site.

6.1.2 Circulation and Access

Appendix "G" provides turning movement diagrams from a "Light Single Unit" (LSU) design vehicle, as well as heavy vehicles which are dimensioned at 22.5-feet and 20-feet lengths. The sample of design vehicles were selected to represent the turning movements for moving trucks, municipal and emergency service vehicles.

The turning movement diagrams illustrate that the design vehicles can enter the site through the right-in entrance from Innes Road, complete their turning movements on-site and exit the site through the right-out egress back onto Innes Road. The following considerations are recommended to be reviewed/ considered by the development proponent:

- The parking spaces provided on the site plan have been designed to accommodate passenger cars and may not be sufficient to accommodate larger loading/moving vehicles which might require bigger dimensions (approx. 3.5m x 6m) with wider aisles to accommodate the vehicle maneuvers;
- A layup area with a width of 5.2m (equivalent to 2 parking stalls) as derived from the provided vehicles turning capabilities, which take into account the limitation in the length of parking stalls and the aisle width for backing up is suggested. This can be achieved by designating two adjacent parking spots as the loading move-in/move-out area;
- Installation of a traffic mirror for blind corners to alert the drivers coming from the underground parking area when a garbage truck could potentially block their line of sight. Approximate proposed location of a traffic mirror is indicated on the site plan (Appendix "A"). The exact location is to be determined at the construction stage based on site characteristics.

6.2 PARKING

6.2.1 Motor Vehicle Parking

The proposed 3996 Innes Road mixed-use development is expected to provide a total of 37 parking spaces, of which 18 are surface stalls and 19 are underground stalls.

Table 6-1 indicates that the required minimum amount of parking stalls to be provided is 34 stalls based on the site being located in Area "C' of Schedule 1A (Zoning By-law No.2008-250). Therefore, the on-site parking supply was found to satisfy the parking provisions outlined in the City's zoning by-law.

Table 6-1: Parking Requirements for the 3996 Innes Road Development

Parking Type	*Rate*	*Unit*	*Parking Required*	*Provided Parking**
Dwelling units in a mixed-use building (Table 101 – R15)	1 stall / dwelling unit	20 units	20 Stalls	18 Surface stalls + 19 underground stalls
Visitor parking (Table 102)	0.2 stalls / dwelling unit	20 units	4 stalls	
Medical Facility (Table 101 – N51)	4 Stalls / 100 m^2 of GFA	200 m^2	8 Stalls	
Retail Store (pharmacy) (Table 101 – N79)	3.4 Stalls / 100 m^2	175 m^2	6 Stalls	
10 % reduction as per Sec. 101 6(c)	-10%	20 units	-2 Stalls	
Shared parking reduction – weekday afternoon (Table 104)	-25% of visitor parking -15% of retail store	N/A	-2 stalls	
Total Parking Stalls			**34 Stalls**	**37 Stalls Provided**

6.2.2 Bicycle Parking

The proposed 3996 Innes Road mixed-use development is expected to provide a total of 12 bicycle parking spaces, of which 3 are above ground and 9 are underground. Table 6-2 indicates that the required minimum amount of bicycle parking spaces to be provided is 12 spaces based on the site being located in Area "C' of Schedule 1A (Zoning By-law No.2008-250). Therefore, the on-site bicycle parking supply was found to satisfy the parking provisions outlined in the zoning by-law.

Table 6-2: Bicycle Parking Requirements for the 3996 Innes Road Development

Parking Type	*Rate*	*Unit*	*Parking Required*	*Provided Parking**
Dwelling units in a mixed-use building (Table 101 – R15)	0.5 / dwelling unit	20 units	10 Spaces	12 Spaces
Medical Facility	1 / 1000 m^2 of GFA	200 m^2	1 Space	
Retail Store (Pharmacy)	1 / 250 m^2 of GFA	175 m^2	1 Space	
Total Bicycle Parking Spaces			**12 Spaces**	**12 Spaces Provided**

6.3 BOUNDARY STREET DESIGN

6.3.1 Mobility – Segment MMLOS Analysis

City of Ottawa Multi-Modal Level-of-Service (MMLOS) guidelines were used to evaluate the segment level of service for all modes of transportation along Innes Road eastbound that fronts the proposed development site. Table 6-3 summarizes the segment MMLOS analysis fronting the proposed development.

Table 6-3: Roadway Segment MMLOS Analysis

Performance Measure	***Roadway Segment Adjacent to the Development***
	Eastbound Innes Road
Pedestrian LOS (PLOS)	
Sidewalk Width (m)	2.0
Boulevard Width (m)	1.2
Average Daily Curb Lane Traffic Volume	~6,400
Presence of On-Street Parking	No
Operating Speed (km/h) Posted +10 km/hr	70
Segment PLOS	**E**
Target PLOS	C
Bicycle LOS (BLOS)	
Bikeway Type	Bike Lane, not adjacent to street parking
Number of Lanes per direction	2 (marked centreline)
Bike Lane Width (m)	1.8 m
Operating Speed (km/h) Posted +10 km/hr	70
Bike Lane Blockage	N/A
Segment BLOS	**E**
Target BLOS Cross-Town Bikeway	B
Transit LOS (TLOS)	
Facility Type	Mixed Traffic
Level/Exposure to Parking/Driveway Friction	Low
Average Transit Travel Speed (km/h)	N/A
Posted Speed Limit (km/h)	60
Segment TLOS	D
Target TLOS	D
Truck LOS (TkLOS)	
Number of lanes (in each direction)	2
Curb Lane Width (m)	>3.7
Segment TkLOS	A
Target TkLOS	D

For the purpose of determining the MMLOS targets:

- the Innes Road corridor was assumed to be an "Arterial Main Street" corridor, as shown on Schedule B, City of Ottawa official plan.
- The City of Ottawa's official cycling plan[9] indicates the Innes Road corridor as a "cross-town" bikeway.
- For the pedestrian and bike LOS analysis, the analysis has adopted the assumption that the operating speed is 10 km/hr greater than the roadway posted speed[10].

Table 6-3 indicates a pedestrian (PLOS) and bicycle (BLOS) levels of service "E" along the segment.

- The target pedestrian PLOS for an arterial main street policy area is "C". Achieving the target PLOS along eastbound Innes Road would require a reduction of posted speed limit to 50 km/h and an increase of the boulevard width to 2 m. These measures cannot be justified on the basis of this proposed development alone in recognition of the limited size of the development and given the high traffic volumes and width constraints along the Innes Road corridor;
- Achieving target BLOS of "B" for a cross-town bikeway requires a reduction of posted speed limit to 40 km/h, which is also not currently justified.

The eastbound Innes Road segment satisfies the set target TLOS of "D" for transit level of service; and

The truck level of service (TkLOS) was found to be "A" which exceeds the target level of service.

6.4 INTERSECTION DESIGN

6.4.1 Intersection MMLOS Analysis

Table 6-4 provides a summary of the intersection MMLOS (providing PLOS, BLOS, TLOS and TkLOS) results for the two traffic-signal controlled intersections within the study area.

- The pedestrian levels of service (PLOS) was determined through a Pedestrian Exposure to Traffic at Signalized Intersection (PETSI) points analyses. The PETSI analyses involved measuring the required crossing distance and dividing by a typical lane width of 3.7m to derive an equivalent number of lanes that a pedestrian would be required to cross. The PETSI analysis considered a channelized right turn as a single lane;
- the bicycle level of service (BLOS) was based on left turn bicycle maneuvers, operating speed and road geometry;
- the transit level of service (TLOS) was based on forecast 2022 delay results presented in Table 5-2
- the truck level of service (TkLOS) was based on existing intersection curve radii and the number of receiving lanes.

9. Section 5.3.2.1, *"City of Ottawa Cycling Plan"*, City of Ottawa, November 2013, Exhibit 5-10.
10. Section 2.5, "*Addendum to MMLOS Guidelines"*, City of Ottawa, May 2017.

Appendix "H" provides detail calculations for the MMLOS analysis for each of the study area intersection. The following sections provide a summary review of the critical intersections by mode. Level of service targets are based on "Arterial Mainstreet" policy area targets.

Table 6-4: Intersection MMLOS Analysis

MMLOS Measures	*Intersection*		
	Innes Road / Mer Bleue Rd-Jeanne D'Arc Blvd	**Innes Road / "Walmart Entrance"**	**Innes Road / Frank Bender Street**
Pedestrian Level of Service (PLOS)	**F**	**E**	**F**
Target PLOS	D		
Bicycle Level of Service (BLOS)	**E**	**E**	**E**
Target BLOS	B		
Transit Level of Service (TLOS)	**F**	B	C
Target TLOS	D		
Truck Level of Service (TkLOS)	A	A	C
Target TkLOS	C		

The following sections provide a summary review of the critical intersections by mode. Level of service targets are based on "Arterial Mainstreet" policy area targets.

Pedestrian Level of Service (PLOS)

None of the three intersections in the study area meet the target PLOS "D", which can be primarily attributed to the width of Innes Road resulting in a long time for pedestrians to cross.

Bicycle Level of Service (BLOS)

Despite the provision of bike lanes on Innes Road, none of the study area intersections meet the desired level BLOS "B" for a cross-town bike route. This is attributed to a 70 km/h operating speed on Innes Road, which yields a BLOS "E".

Transit Level of Service (TLOS)

The Innes Road / Mer Bleue Road – Jeanne D'Arc Boulevard intersection has an overall unacceptable TLOS "F". This is attributed to long delays (see Table 5-2) on minor leg approaches of the intersection. The other two study area intersections exceed the target TLOS "D".

Truck Level of Service (TkLOS)

All study area intersections meet or exceed the target TkLOS of "C".

6.4.2 Location and Design of Site Access

The Innes Road access to the site is located approximately 160 meters west of the Innes Road / Mer Bleue Rd.- Jeanne D'Arc Boulevard intersection. There are no existing, nor planned, median opening along Innes Road at the proposed location of the access to the site. The planned access to the site will be a right-in right-out configuration from the eastbound direction of Innes Road.

- The planned access provides for about 6 metres of clear throat length measured from the curb edge. However, the suggested minimal throat length for an access connecting with an arterial road is 15 metres[11]; However, considering the access is a right-in right-out configuration and driveway traffic volumes are sufficiently low, the clear throat length of 6 metres from a technical standpoint is sufficient to meet estimated queue requirements and considered acceptable.
- The curb edge of the proposed access is located about 6.3 metres east of the property line. The minimum desired distance from the property line is identified as 3.0 metres as per section 25.1 of the Private Approach By-Law[12]. Therefore, the proposed development's access meets the by-law requirements.
- The proposed access location offers acceptable sight distance in both east and west directions along Innes Road.

Given the above, the development proponent is encouraged to monitor traffic conditions at the entrance to the site.

11. TAC 2017, Chapter 8 Table 8.9.3 Suggested Minimum Clear Throat Lengths for Major Driveways, Transportation Association of Canada, July 2017
12. By-law No. 2003-447, City of Ottawa, September 2003

7.0 STRATEGY

7.1 RECOMMENDED IMPROVEMENTS

The development proponent is encouraged to review and implement the following:

- Implement the following TDM measures:
  - assure the appointment of a designated TDM coordinator (to encourage such advents as ride sharing); and/or
  - include information concerning nearby transit options for employees and visitors to the site.
- Designate 2 outdoor vehicle parking spaces as lay-up area for moving/delivery/loading/unloading trucks;
- Monitor traffic conditions at the entrance to the site for any circulation issues related to access width.

7.2 CONCLUSION

The proposed 3996 Innes Road development is expected to generate 22 and 28 two-way vehicle trips in the morning peak hour of travel demand and afternoon peak hour of travel demand, respectively. This translates to less than a single vehicle every 2 minutes, which is anticipated to have a negligible impact on the adjacent road network.

The City of Ottawa is encouraged to monitor traffic volumes along the Innes Road corridor, particularly at the Innes Road and Mer Bleue Road-Jeanne D'Arc Boulevard intersection.

From a traffic and transportation standpoint, it is recommended that the City of Ottawa assemble the required conditions for the Site Plan Control Approval to permit the development application to proceed.

Yours truly,

Mr. Arthur Gordon B.A. P.Eng
Principal Engineer
Castleglenn Consultants Inc.

Mr. Andrey Kirillov B. Eng.
Transportation Planner
Castleglenn Consultants Inc.

APPENDIX A: SITE PLAN

BUILDING CODE ANALYSIS

- 5 STOREYS MIXED USE BUILDING WITH BASEMENT FACING 1 STREET
- PARTS 3 OF OBC 2017. USE: GROUP "E"□"D"□"C" □ F3
- CLASSIFICATION:

3.2.2.43. Group C□up to 4 Storeys□Sprin□lered
3.2.2.51. Group D□up to 4 Storeys□Sprin□lered
3.2.2.57. Group E□up to 4 Storeys□Sprin□lered
3.2.2.74. Group F□Division 3□up to 4 Storeys

- NONCOMBUSTIBLE CONSTRUCTION.
- OCCUPANCY:
  BASEMENT -CAR PARK.
  1ST FLOOR -PHARMACY AND MEDICAL FACILITY.
  UPPER FLOORS -RESIDENTIAL.
- BUILDING AREA : 556.5m² / 4 913.7 sq.ft..
- GROSS FLOOR AREA :
  BASEMENT 586.9 m² ; 1ST FLOOR 456.5 m²; TYPICAL FLOORS 2066.4 m²; (516.6 m² * 4 FLOORS), FIFTH FLOOR 400 m².
- TOTAL GROSS FLOOR AREA 3 509.8 m² / 37 779.2 sq.ft.
- FIRST FLOOR FIRE SEPARATION: 2HR FIRE-RESISTANCE REQUIRED C/W VERTICAL STRUCTURAL COMPONENTS.
- SECOND FLOOR FIRE SEPARATION : 2H FIRE -RESISTANCE RATING REQUIRED BETWEEN GROPE "E" AND GROUP "C" C/W VERTICAL STRUCTURAL COMPONENTS.
- FIRE SEPARATION RATING FOR TYPICAL FLOORS : 1 HR F.R.R. REQUIRED C/W VERTICAL STRUCTURAL COMPONENTS.
- 3/4 HR F.R.R. 50 STC REQUIRED BETWEEN PUBLIC CORRIDOR AND THE RESIDENTIAL UNITS. 1 HR FIRE-RESISTANCE AND 55 STC REQUIRED REQUIRED BETWEEN ELEVATOR AND THE RESIDENTIAL UNITS.
- FIRE RESISTANCE FOR ROOF: NOT RE□UIRED FOR NONCOMBUSTIBLE CONST.
- PLUMBING EQUIPMENTS:
  1 WASHROOM MIN. PER RESIDENTIAL UNIT REQUIRED AND ONE PUBLIC HANDICAP
  2 WASHROOM PROPOSED FOR FIRST FLOOR RETAIL AND MEDICAL FACILITY THAT INCLUDE 1 FOR HANDICAPS.
  2 STANDARD WASHROOM ARE PROPOSED FOR EMPLOYEES ONLY.
- BARRIER FREE PATH OF TRAVEL PROVIDED FOR ALL FLOORS ACCORDING TO SECTION 3.8.

"Boundary information derived from plan of survey prepared by *FARLEY, SMITH & DENIS SURVEYING LTD.* OLS□dated 21st day of December, 2020"

BASEMENT GROSS FLOOR AREA : 586.9 M2
COMMERCIAL GROSS FLOOR AREA : 456.5M2
(CLINIC NET AREA: 200 M2) (PHARMACY NET AREA : 169.2 M2)
RESIDENTIAL GROSS FLOOR AREA : 2 066.4 M2

GROSS FLOOR AREA OF RESIDENTIAL SUITES

SUITE 201, 301, 401 76.3M2	SUITE 203, 303, 403 77.6M2	SUITE 205, 305,405 69.0M2	SUITE 501 187.1M2
SUITE 202, 302,402 76.3M2	SUITE 204, 304,404 64.15M2	SUITE 206, 306,406 80.7M2	SUITE 502 173.5M2

AREA (C) OF SCHEDULE A1 ZONING BY-LAW NO.2008-250

PARKING TYPE	RATE	UNIT	PARKING REQUIRED
DWELLING UNITS IN MIXED-USE BUILDING (TABLE 101-R15)	1 Stall /dwelling unit	20 units	20 Stalls
VISITOR PARKING (TABLE 102)	0.2 Stalls / dwelling unit	20 units	4 Stalls
MEDICAL FACILITY (table 101-N51)	4 Stalls / 100m2 of GFA	200 m2	8 Stalls
RETAIL USE (PHARMACY)	3.4 Stalls/ 100m2	175 m2	6 Stalls
10% REDUCTION AS PER SEC. 101 6 (C)	-10%	20 units	-2 Stalls
SHARED PARKING REDUCTION WEEKDAY AFTERNOON (TABLE 104)	-25% of visitor parking -15% of retail store	-	-2 Stalls
34 PARKING STALLS PROVIDED IN THE BASE BUILDING INCLUDE 2 ACCESSIBLE			

ZONING MECHANISMS : AM ZONE

DESCRIPTION	REQUIREMENTS	PROVIDED
MINIMUM LOT AREA	NO MINIMUM	1 524.64m2
MINIMUM LOT WIDTH	NO MINIMUM	
FRONT YARD AND CORNER SIDE YARD	NO MINIMUM	1st. FLOOR: 3m Others Floors : 1.3m
MINIMUM INTERIOR SIDE YARD	NO MINIMUM	1.975m
MINIMUM REAR YARD	NO MINIMUM	5.6m
MAXIMUM BUILDING HEIGHT	25M	18.6m
MAXIMUM FLOOR SPACE INDEX	2 or 3.5	
MINIMUM WIDTH OF LANDSCAPED AREA AROUND A PARKING LOT ABUTTING A STREET	3m	3m
MINIMUM WIDTH OF LANDSCAPED AREA AROUND A PARKING LOT NOT ABUTTING A STREET	1.5m	1.5m

BYCILCLE PARKING SPACE TABLE

PARKING TYPE	RATE	UNIT	PARKING REQUIRED
MEDICAL FACILITY	1 per 1000m2 of GFA	200 m2	1 Space
RETAIL STORE (PHARMACY)	1 per 250m of GFA	175 m2	1 Space
DWELLING UNITS IN A MIXED-USE BUILDING (TABLE 101-R15)	0.5 / dwelling unit	20 units	10 Space
TOTAL			12 Spaces

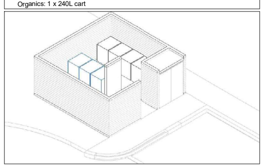
COLLECTION CONTAINER FOR LOW-RISE MULTI-UNIT RESIDENTIAL BUILDING:

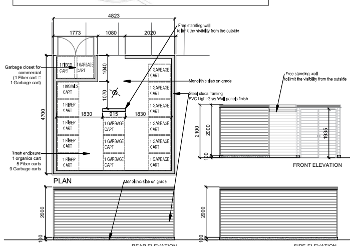
GARBAGE: 0.231 CUBIC YARD PER UNIT
0.231 x 20 units = 4.62 yd³
1 x 4-yard container (H:48" W84" L 54")

RECYCLING: 0.018 CUBIC YARDS PER UNIT FOR FEL GLASS-METAL-PLASTIC (GMP) CONTAINER
0.018 x 20 units = 0.36 yd³ = 1 cart of 360L
(W26.38□D 33.62□H46.5□)
0.062 CUBIC YARD PER UNIT FOR FEL FIBRE CONTAINERS.
0.062 x 20 units = 1.24 yd³ = 3 cart of 360L
(W26.38□D 33.62□H46.5□)

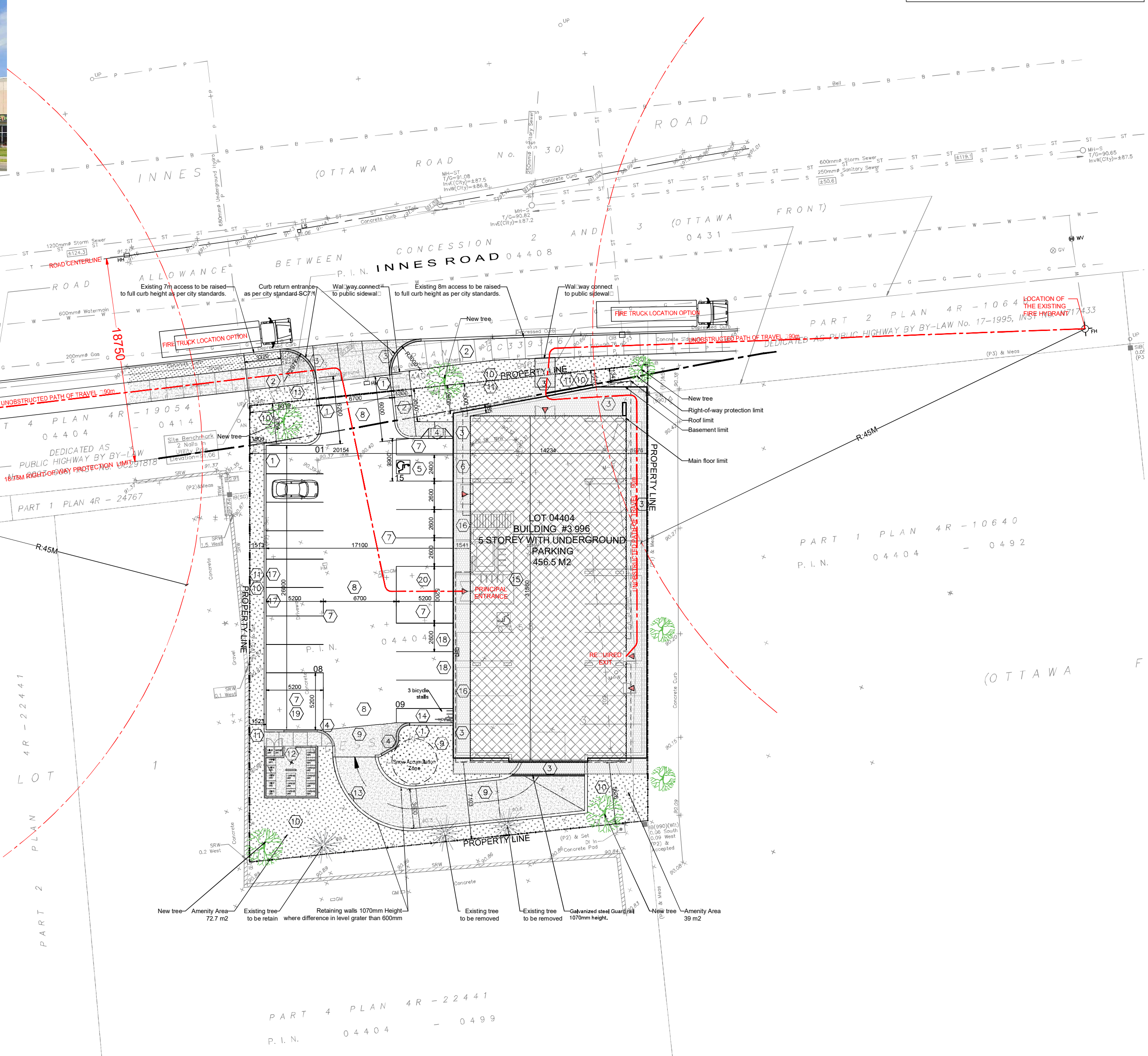
ORGANICS: 47L GREEN BIN FOR EACH DWELLING
240L GREEN CONTAINER PER 50 UNITS
□ 1 X 240L cart (W24□D 27□H41.5□)
10 s□m. AREA FOR BULK ITEMS

20-UNIT: Garbage: 1 x 4 yard bin or 10 CARTS OF 360L
Fiber: 3x 360L carts□Glass metal plastic: 1 x 360L cart
Organics: 1 x 240L cart





TRASH ENCLOSURE DETAIL
SCALE 1:100



LEGEND

1. CONCRETE CURB.
2. CONCRETE WALKWAY.
3. INTERLOCK SIDEWALK.
4. DEPRESSED SIDEWALK.
5. PARKING SPACE FOR DISABLED.
6. MUNICIPAL SIGN FOR DISABLED PARKING .
7. PAINT MARKS.
8. ASPHALT.
9. CONCRETE SLAB / OR RAMP.
10. GRASS.
11. LANDSCAPED AREA.
12. 2m HEIGHT TRASH ENCLOSURE FOR CARTS.
13. WALL MOUNTED TRAFFIC MIRROR.
14. 3 OUTDOOR BICYCLE STALLS.
15. 9 INDOOR BICYCLE STALLS.
16. **WALL MOUNTED LIGHTING ON BUILDING.**
17. **VISITOR PARKING SIGN.**
18. **ELECTRICAL CHARGING STATION.**
19. **GARBAGE TRUCK LOADING AREA.**
20. **DELIVERY TRUCK: LOADING/UNLOADING.**

ISSUED FOR			
No	DATE	DESCRIPTION	App.
	2021.11.23	SITE PLAN CONTROL APPLICATION	P.T.

REVISION			
No	DATE	DESCRIPTION	App.

Stamps

ONTARIO ASSOCIATION OF ARCHITECTS
PIERRE J. TABET
LICENCE
5047

PTabet architecte
2232 rue Saint-Louis, Gatineau QC J8T 5L6
t.: 819.568.3994
c.: 613.797.5375
pierretabetarchitecte.com

Project: ORLEANS RESIDENTIAL □ MEDICAL FACILITY
3996 INNES RD□OTTAWA ON.

Title: PROPOSED SITE PLAN

Scale: Scale: 1:200
Sheet:
Date: 2021/11/22
Drawn /: A. Aldu.
Revision: 0
Verify /: P.Tabet
Drawing No. A-100

APPENDIX B: CERTIFICATION FORM FOR TIA STUDY PROJECT MANAGER

TIA Plan Reports

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

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

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

CERTIFICATION

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

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

City Of Ottawa
Infrastructure Services and Community Sustainability
Planning and Growth Management
110 Laurier Avenue West, 4th fl.
Ottawa, ON K1P 1J1
Tel. : 613-580-2424
Fax: 613-560-6006

Ville d'Ottawa
Services d 'infrastructure et Viabilité des collectivités
Urbanisme et Gestion de la croissance
110, avenue Laurier Ouest
Ottawa (Ontario) K1P 1J1
Tél. : 613-580-2424
Télécopieur: 613-560-6006

Dated at Ottawa (City) this 9 day of July, 2021.

Name: Arthur Gordon
(Please Print)

Professional Title: Principal Engineer

Signature of Individual certifier that s/he meets the above four criteria

Office Contact Information (Please Print)
Address: Sutie 200 - 2460 Lancaster Road
City / Postal Code: Ottawa / K1B 4S5
Telephone / Extension: 613 - 731 - 4052
E-Mail Address: agordon@castleglenn.ca

Stamp

LICENSED PROFESSIONAL ENGINEER
A.E. GORDON
PROVINCE OF ONTARIO

APPENDIX C: SCREENING FORM

Castleglenn Consultants
Engineers, Project Managers & Planners

2460 Lancaster Road, Suite 200,
Ottawa, Ontario, K1B 4S5
Tel: 613-731-4052

City of Ottawa 2017 TIA Guidelines Screening Form

Ms. Neeti Paudel July 09, 2021
Project Manager, City of Ottawa
110 Laurier Avenue West,
Ottawa, ON, K1G 6J9

Please see below the completed screening form for the proposed mixed-use, residential and medical office development proposed for 3996 Innes Road. The development is located east of Mer Bleue Road and proposed to re-development the existing residential homes into a mixed-use offering.

In summary, the combined proposed residential units and medical space does not satisfy the trip generation trigger, but does meet both the Location and Safety triggers, therefore it is recommended that a "Design Review" TIA be carried forward.

1. Description of Proposed Development

Municipal Address	3996 Innes Road, Orleans, Ottawa
Description of Location	Located immediately west of Mer Bleue Road, lot is currently occupied by a single dwelling unit
Land Use Classification	Mixed-Use Residential and Commercial
Development Size (units)	20 Apartment Units
Development Size (m^2)	200 m^2 of Medical Office 175 m^2 of Pharmacy Space
Number of Accesses and Locations	A single right-in right-out access Removal of the two existing residential drivways
Phase of Development	Submission of Site Plan Control Application
Buildout Year	2022 (Anticipated)

2. Trip Generation Trigger

The development proposes the following uses:

- **20 mid-rise apartment units; and**
- **A total of 375 m2 (4,050 sq.ft.) of combined medical office and pharmacy space.**

Table 1 summarizes the proposed auto trip generation rates for the residential and medical spaces proposed by the application. The medical-dental office building (Land use 720) is believed to best represent the trip generation potential for the upper floors of the development.

Table 2 summarizes the trip generation associated with the development. It is anticipated that the development would generate less than 30 two-way vehicles during the morning and afternoon peak hours of travel demand.

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Adopting mode shares consistent with developments within the vicinity of Innes Road, it would be expected that, during the peak hours of travel demand:

- **The residential portion would result in 18-to-20 two-way persons trips; and**
- **The medical office areas would result in 15-to-19 two-way person-trips.**

Therefore, the development is anticipated to generate up to 40 person trips in a single peak hour which is below the threshold to meet the trip generation trigger.

Table 1: Summary of Proposed Auto Trip Generation Rates

Land Use	*Source*	*Independent Variable*	*Morning Peak Hour*			*Afternoon Peak Hour*		
			Rate	*In*	*Out*	*Rate*	*In*	*Out*
Mid-Rise Apartments	TRANS	Units	0.6	30%	70%	0.66	56%	44%
Medical-Dental Office Building	ITE - Land Use 720	Gross Floor Area (1000 ft2)	2.78	78%	22%	3.46	28%	72%

Table 1: Summary of Proposed Auto Trip Generation Rates

Land Use	*Source*	*Size*	*Morning Peak Hour (veh/hr)*			*Afternoon Peak Hour (veh/hr)*		
			In	*Out*	*Total*	*In*	*Out*	*Total*
Mid-Rise Apartments	TRANS	274 Units	4	6	10	7	6	13
Medical-Dental Office Building	ITE - Land Use 720	4.05 thousands of sq. ft.	9	3	12	4	11	15
Total			**13**	**9**	**22**	**11**	**17**	**28**

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3. Location Triggers

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

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

The development proposes a relocated driveway to Innes Road which is considered a City Transit Priority and Spine Bicycle Network Route.

Innes Road is not considered a DPA or TOD zone.

4. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 km/hr or greater?		X
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?		X
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 m of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?	X	
Is the proposed driveway within auxiliary lanes of an intersection?	X	
Does the proposed driveway make use of an existing median break that serves an existing site?		X
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?	X	
Does the development include a drive-thru facility?		X

The proposed right-in right-out access is approximately 140m from the Innes Road/ Mer Bleue Road intersection. The proposed access is located within the EB-RT taper.

Innes Road is considered near capacity in the peak directions of the peak hours of travel demand, particularly due to afternoon retail activity nearest the site.

Therefore, the Safety Trigger is satisfied.

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5. Summary

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

Yours truly,

Mr. Arthur Gordon B.A. P.Eng
Principal Engineer
Castleglenn Consultants Inc.

APPENDIX D: EXISTING TRAFFIC VOLUMES AND COLLISIONS

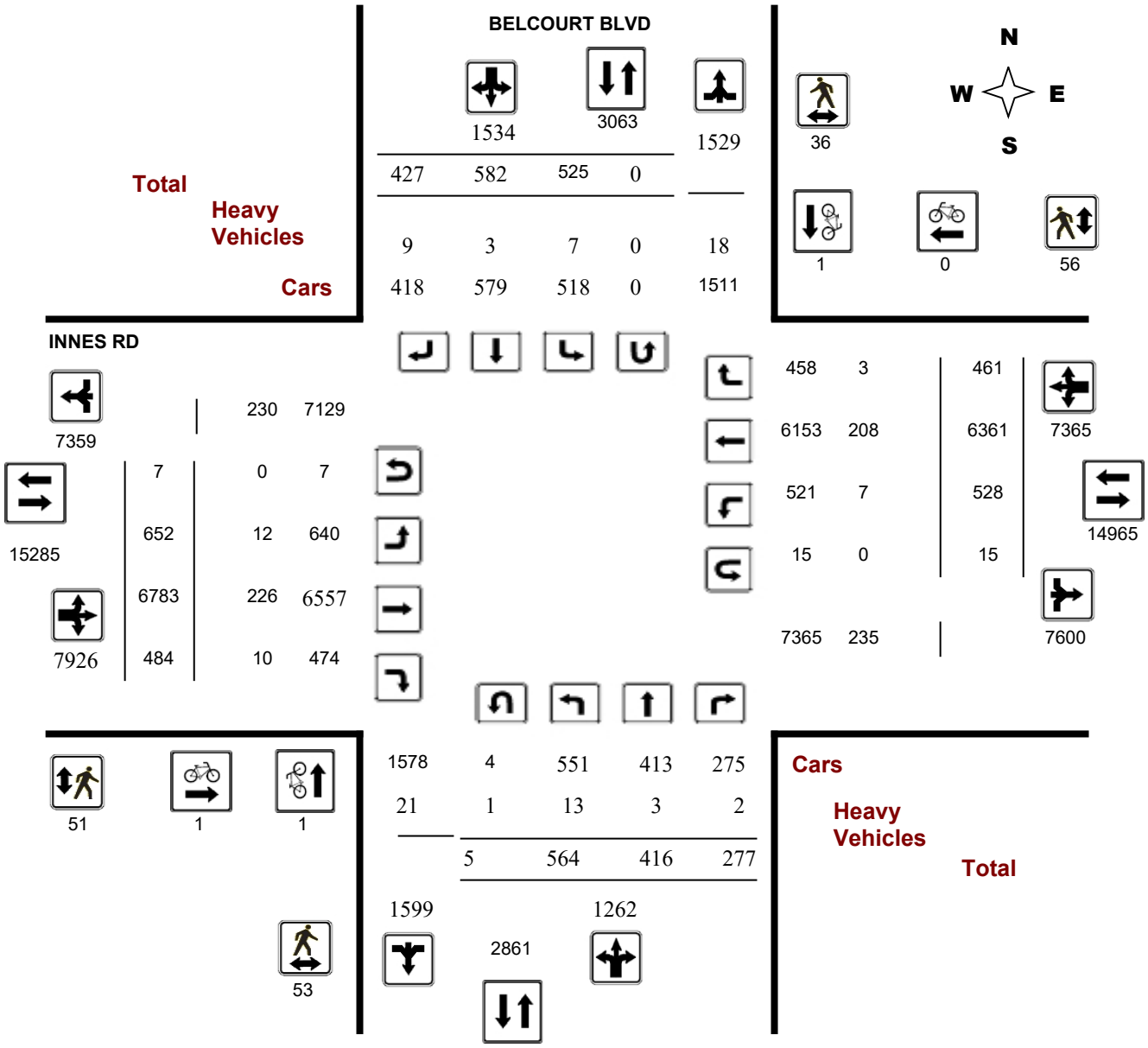
Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELCOURT BLVD @ INNES RD

Survey Date: Thursday, January 09, 2020
Start Time: 07:00
WO No: 39283
Device: Miovision

Full Study Diagram



5469224 - THU JAN 09, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

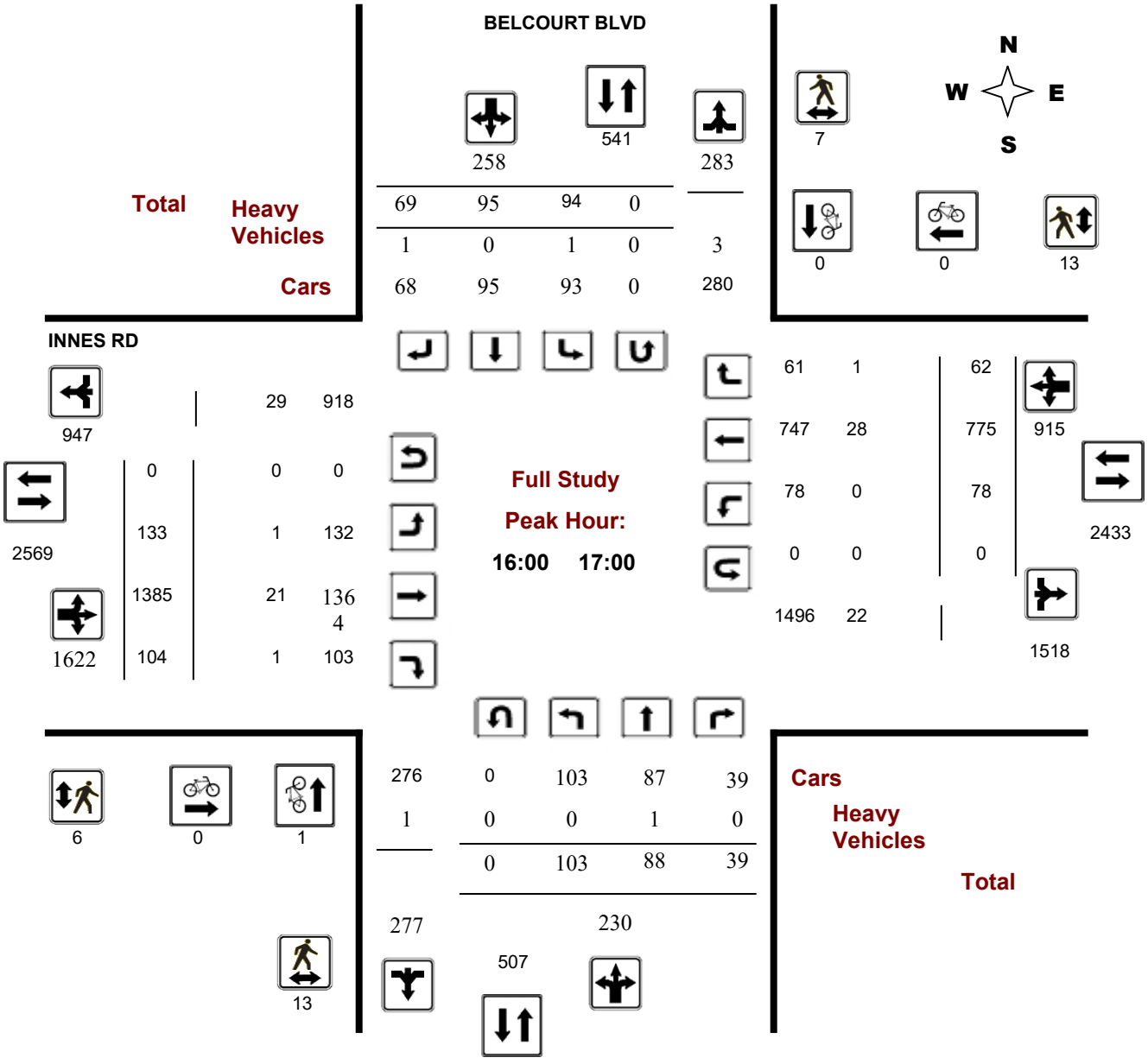
Turning Movement Count - Study Results

BELCOURT BLVD @ INNES RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39283

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

Full Study Peak Hour Diagram



5469224 - THU JAN 09, 2020 - 8HRS - LORETTA

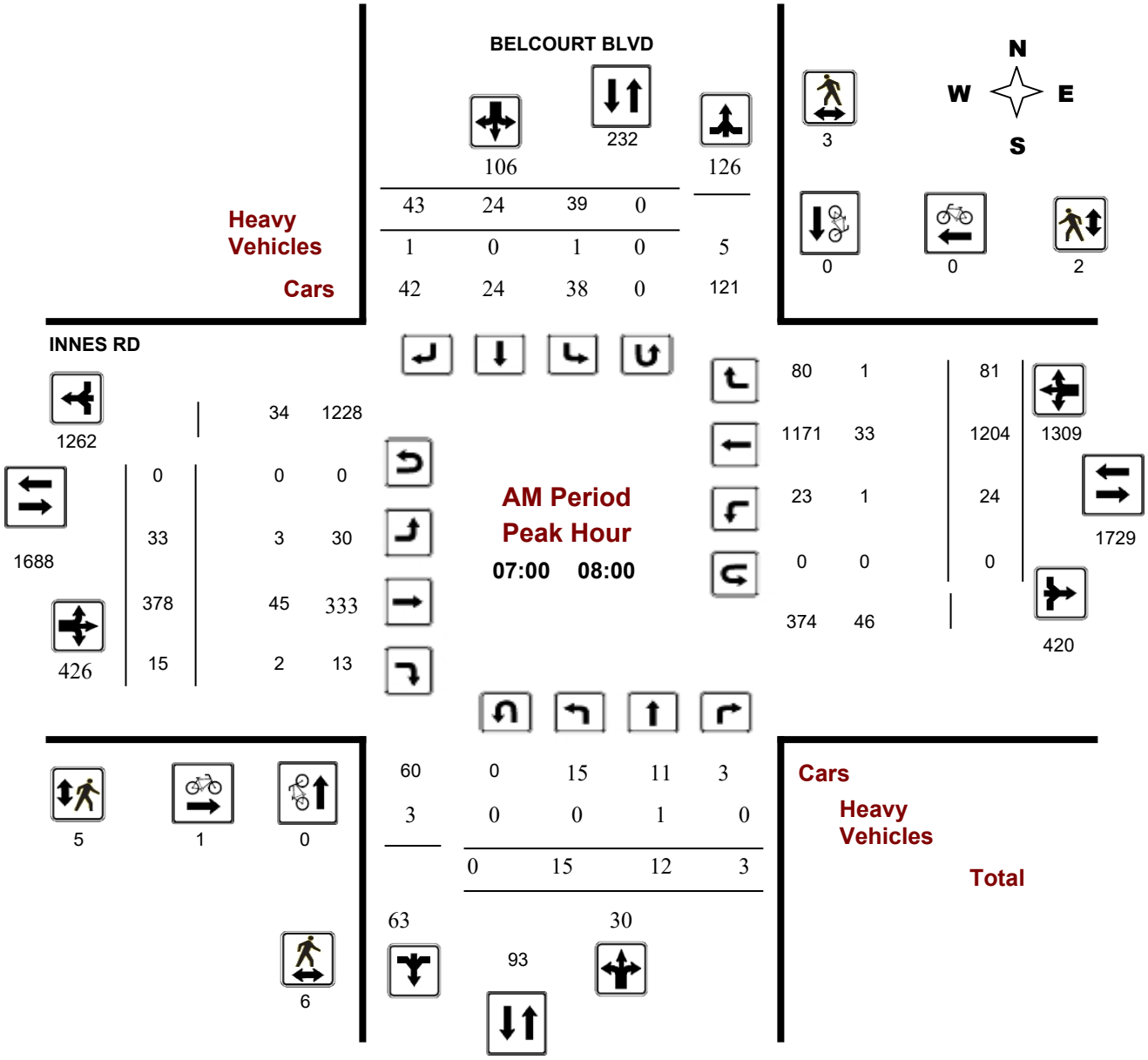
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BELCOURT BLVD @ INNES RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39283

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



Comments 5469224 - THU JAN 09, 2020 - 8HRS - LORETTA

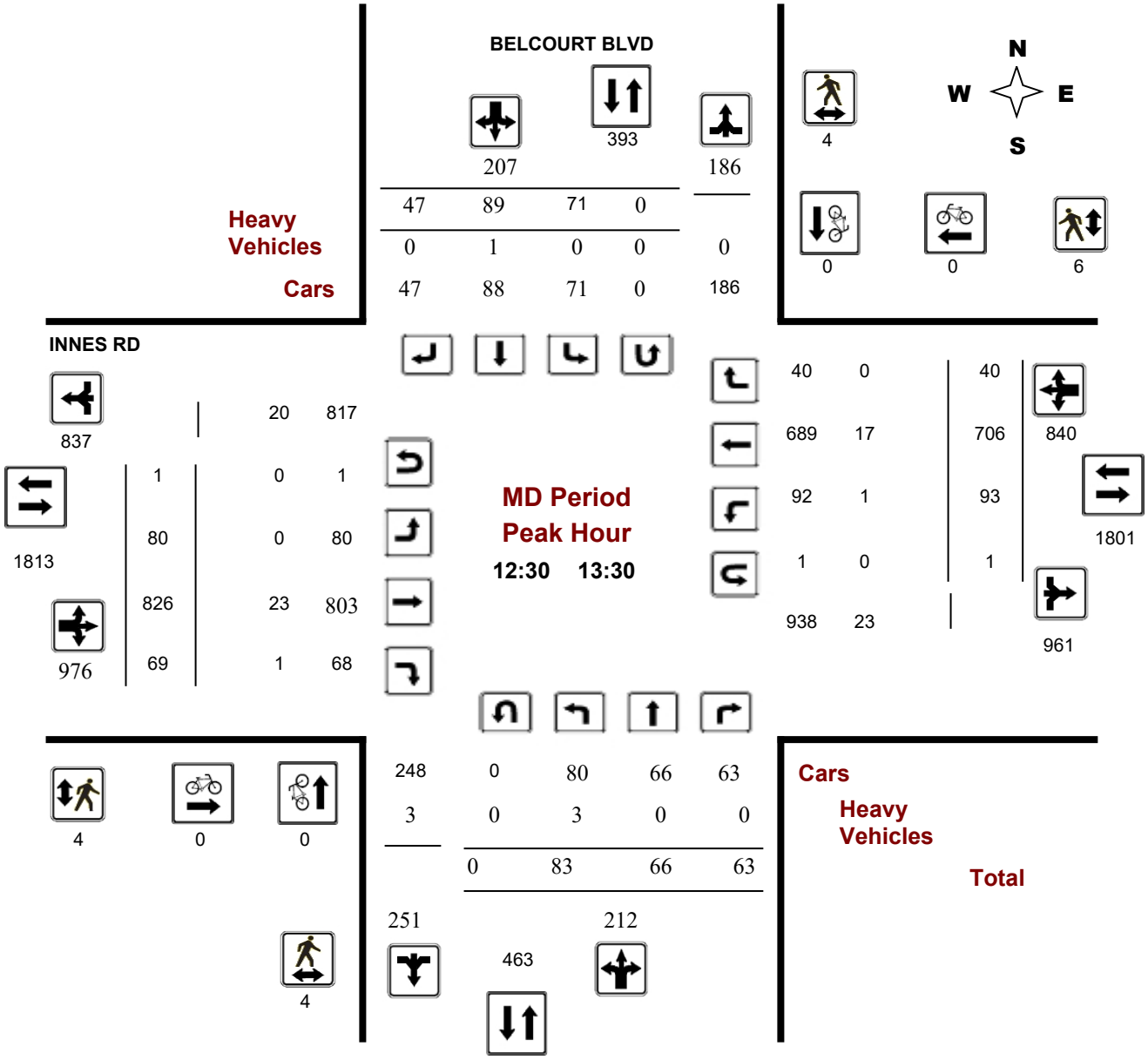
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BELCOURT BLVD @ INNES RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39283

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



Comments 5469224 - THU JAN 09, 2020 - 8HRS - LORETTA

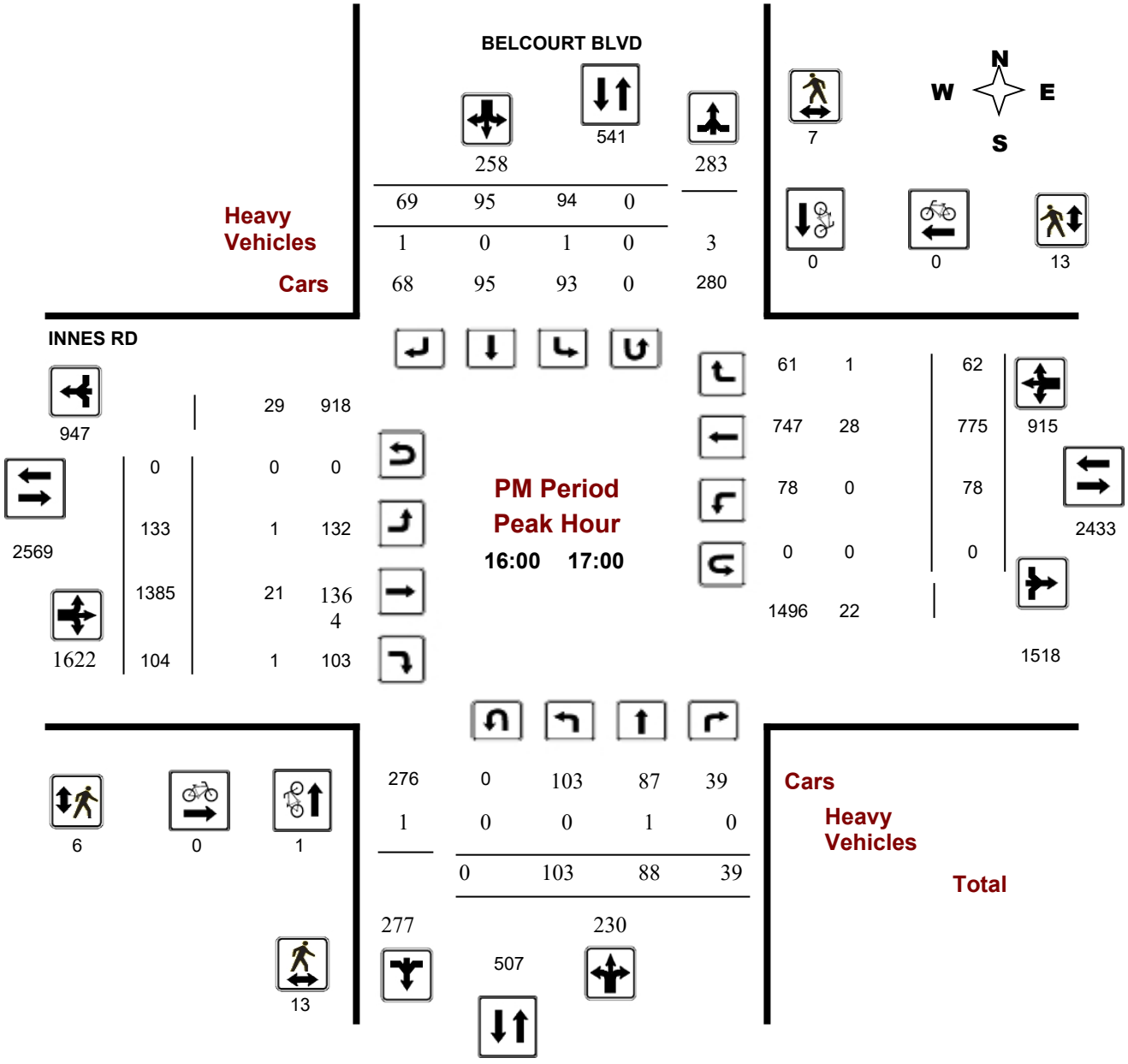
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BELCOURT BLVD @ INNES RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39283

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



Comments 5469224 - THU JAN 09, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELCOURT BLVD @ INNES RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39283

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

Full Study Summary (8 HR Standard)

Survey Date: Thursday, January 09, 2020

Total Observed U-Turns

Northbound: 5 Southbound: 0

Eastbound: 7 Westbound: 15

AADT Factor

1.00

	BELCOURT BLVD									INNES RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	15	12	3	**30**	39	24	43	**106**	**136**	33	378	15	**426**	24	1204	81	**1309**	**1735**	**1871**
08:00 09:00	43	15	8	**66**	42	35	58	**135**	**201**	52	416	23	**491**	39	906	71	**1016**	**1507**	**1708**
09:00 10:00	51	34	16	**101**	51	64	38	**153**	**254**	67	537	47	**651**	53	646	61	**760**	**1411**	**1665**
11:30 12:30	78	62	50	**190**	69	90	50	**209**	**399**	98	761	78	**937**	84	655	50	**789**	**1726**	**2125**
12:30 13:30	83	66	63	**212**	71	89	47	**207**	**419**	80	826	69	**975**	93	706	40	**839**	**1814**	**2233**
15:00 16:00	90	71	49	**210**	77	100	62	**239**	**449**	94	1189	76	**1359**	89	709	58	**856**	**2215**	**2664**
16:00 17:00	103	88	39	**230**	94	95	69	**258**	**488**	133	1385	104	**1622**	78	775	62	**915**	**2537**	**3025**
17:00 18:00	101	68	49	**218**	82	85	60	**227**	**445**	95	1291	72	**1458**	68	760	38	**866**	**2324**	**2769**
Sub Total	564	416	277	**1257**	525	582	427	**1534**	**2791**	652	6783	484	**7919**	528	6361	461	**7350**	**15269**	**18060**
U Turns	5			**5**	0			**0**	**5**	**7**			**7**	15			**15**	**22**	**27**
Total	569	416	277	**1262**	525	582	427	**1534**	**2796**	659	6783	484	**7926**	543	6361	461	**7365**	**15291**	**18087**
EQ 12Hr	791	578	385	**1754**	730	809	594	**2133**	**3887**	916	9428	673	**11017**	755	8842	641	**10238**	**21255**	**25142**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	791	578	385	**1754**	730	809	594	**2133**	**3887**	916	9428	673	**11017**	755	8842	641	**10238**	**21255**	**25142**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1.00**					
AVG 24Hr	1036	757	504	**2297**	956	1060	778	**2794**	**5091**	1200	12351	882	**14433**	989	11583	840	**13412**	**27845**	**32936**
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.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELCOURT BLVD @ INNES RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39283

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

Full Study 15 Minute Increments

		BELCOURT BLVD									INNES RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	3	1	0	4	7	2	12	21	**25**	6	74	4	84	9	310	19	338	**422**	**447**
07:15	07:30	2	3	2	7	9	9	15	33	**40**	8	95	4	107	5	347	18	370	**477**	**517**
07:30	07:45	5	6	0	11	9	3	7	19	**30**	8	119	3	130	6	285	28	319	**449**	**479**
07:45	08:00	5	2	1	8	14	10	9	33	**41**	11	90	4	105	4	262	16	282	**387**	**428**
08:00	08:15	6	3	0	9	11	4	19	34	**43**	10	80	3	93	6	227	19	252	**345**	**388**
08:15	08:30	9	3	1	13	10	10	15	35	**48**	16	109	4	129	10	249	12	271	**400**	**448**
08:30	08:45	10	2	4	16	6	9	13	28	**44**	10	105	10	125	12	235	26	273	**398**	**442**
08:45	09:00	18	7	3	28	15	12	11	38	**66**	17	122	6	145	13	195	14	222	**367**	**433**
09:00	09:15	6	12	3	21	12	6	11	29	**50**	17	118	10	145	16	163	22	201	**346**	**396**
09:15	09:30	20	5	4	29	7	21	9	37	**66**	15	152	15	182	15	162	14	191	**373**	**439**
09:30	09:45	13	7	6	26	17	17	13	47	**73**	18	123	7	148	14	155	14	183	**331**	**404**
09:45	10:00	13	10	3	26	15	20	5	40	**66**	18	144	15	177	11	166	11	188	**365**	**431**
11:30	11:45	20	22	8	50	13	19	16	48	**98**	21	208	25	254	23	162	9	194	**448**	**546**
11:45	12:00	17	11	14	42	13	18	11	42	**84**	22	171	18	211	27	197	16	240	**451**	**535**
12:00	12:15	20	13	13	46	18	26	11	55	**101**	28	197	19	244	18	141	14	173	**417**	**518**
12:15	12:30	22	16	15	53	25	27	12	64	**117**	27	185	16	228	19	155	11	185	**413**	**530**
12:30	12:45	12	17	18	47	15	14	11	40	**87**	22	197	21	240	15	194	10	219	**459**	**546**
12:45	13:00	23	19	17	59	22	19	16	57	**116**	14	214	16	244	32	163	4	199	**443**	**559**
13:00	13:15	28	21	11	60	17	22	12	51	**111**	17	212	18	247	27	164	16	207	**454**	**565**
13:15	13:30	20	9	17	46	17	34	8	59	**105**	28	203	14	245	20	185	10	215	**460**	**565**
15:00	15:15	21	16	17	54	13	22	16	51	**105**	15	273	20	308	20	172	10	202	**510**	**615**
15:15	15:30	24	15	17	56	19	27	18	64	**120**	15	302	20	337	28	184	19	231	**568**	**688**
15:30	15:45	23	16	11	50	19	21	14	54	**104**	29	314	20	363	17	174	17	208	**571**	**675**
15:45	16:00	23	24	4	51	26	30	14	70	**121**	35	300	16	351	26	179	12	217	**568**	**689**
16:00	16:15	23	23	7	53	22	27	15	64	**117**	34	317	35	386	24	225	19	268	**654**	**771**
16:15	16:30	29	22	7	58	19	24	14	57	**115**	35	381	23	439	20	170	18	208	**647**	**762**
16:30	16:45	22	22	8	52	22	23	17	62	**114**	39	352	18	409	22	196	13	231	**640**	**754**
16:45	17:00	29	21	17	67	31	21	23	75	**142**	25	335	28	388	12	184	12	208	**596**	**738**
17:00	17:15	18	17	13	48	17	20	20	57	**105**	23	343	17	383	18	210	5	233	**616**	**721**
17:15	17:30	32	19	13	64	20	24	15	59	**123**	27	332	18	377	24	184	9	217	**594**	**717**
17:30	17:45	29	19	12	60	18	22	15	55	**115**	23	335	21	379	14	182	10	206	**585**	**700**
17:45	18:00	24	13	11	48	27	19	10	56	**104**	26	281	16	323	16	184	14	214	**537**	**641**
Total:		569	416	277	1262	525	582	427	1534	**2796**	659	6783	484	7926	543	6361	461	7365	**2796**	**18,087**

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELCOURT BLVD @ INNES RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39283

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

Full Study Cyclist Volume

Time Period		BELCOURT BLVD			INNES RD			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	**0**	0	0	**0**	**0**
07:15	07:30	0	0	**0**	0	0	**0**	**0**
07:30	07:45	0	0	**0**	0	0	**0**	**0**
07:45	08:00	0	0	**0**	1	0	**1**	**1**
08:00	08:15	0	0	**0**	0	0	**0**	**0**
08:15	08:30	0	0	**0**	0	0	**0**	**0**
08:30	08:45	0	0	**0**	0	0	**0**	**0**
08:45	09:00	0	0	**0**	0	0	**0**	**0**
09:00	09:15	0	0	**0**	0	0	**0**	**0**
09:15	09:30	0	0	**0**	0	0	**0**	**0**
09:30	09:45	0	0	**0**	0	0	**0**	**0**
09:45	10:00	0	0	**0**	0	0	**0**	**0**
11:30	11:45	0	0	**0**	0	0	**0**	**0**
11:45	12:00	0	0	**0**	0	0	**0**	**0**
12:00	12:15	0	0	**0**	0	0	**0**	**0**
12:15	12:30	0	0	**0**	0	0	**0**	**0**
12:30	12:45	0	0	**0**	0	0	**0**	**0**
12:45	13:00	0	0	**0**	0	0	**0**	**0**
13:00	13:15	0	0	**0**	0	0	**0**	**0**
13:15	13:30	0	0	**0**	0	0	**0**	**0**
15:00	15:15	0	0	**0**	0	0	**0**	**0**
15:15	15:30	0	0	**0**	0	0	**0**	**0**
15:30	15:45	0	1	**1**	0	0	**0**	**1**
15:45	16:00	0	0	**0**	0	0	**0**	**0**
16:00	16:15	1	0	**1**	0	0	**0**	**1**
16:15	16:30	0	0	**0**	0	0	**0**	**0**
16:30	16:45	0	0	**0**	0	0	**0**	**0**
16:45	17:00	0	0	**0**	0	0	**0**	**0**
17:00	17:15	0	0	**0**	0	0	**0**	**0**
17:15	17:30	0	0	**0**	0	0	**0**	**0**
17:30	17:45	0	0	**0**	0	0	**0**	**0**
17:45	18:00	0	0	**0**	0	0	**0**	**0**
Total		1	1	**2**	1	0	**1**	**3**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELCOURT BLVD @ INNES RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39283

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

Full Study Pedestrian Volume

	BELCOURT BLVD			INNES RD			
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	**Total**	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	**Total**	**Grand Total**
07:00 07:15	4	2	**6**	3	2	**5**	**11**
07:15 07:30	0	0	**0**	1	0	**1**	**1**
07:30 07:45	2	0	**2**	1	0	**1**	**3**
07:45 08:00	0	1	**1**	0	0	**0**	**1**
08:00 08:15	0	0	**0**	0	0	**0**	**0**
08:15 08:30	0	1	**1**	2	0	**2**	**3**
08:30 08:45	3	0	**3**	3	0	**3**	**6**
08:45 09:00	0	1	**1**	0	0	**0**	**1**
09:00 09:15	1	1	**2**	1	1	**2**	**4**
09:15 09:30	0	0	**0**	2	0	**2**	**2**
09:30 09:45	1	0	**1**	0	0	**0**	**1**
09:45 10:00	2	0	**2**	3	0	**3**	**5**
11:30 11:45	0	3	**3**	1	2	**3**	**6**
11:45 12:00	1	1	**2**	3	1	**4**	**6**
12:00 12:15	2	1	**3**	2	2	**4**	**7**
12:15 12:30	3	0	**3**	1	1	**2**	**5**
12:30 12:45	0	1	**1**	1	2	**3**	**4**
12:45 13:00	2	2	**4**	1	2	**3**	**7**
13:00 13:15	1	0	**1**	0	0	**0**	**1**
13:15 13:30	1	1	**2**	2	2	**4**	**6**
15:00 15:15	4	6	**10**	4	2	**6**	**16**
15:15 15:30	2	2	**4**	3	6	**9**	**13**
15:30 15:45	0	1	**1**	1	1	**2**	**3**
15:45 16:00	1	1	**2**	1	5	**6**	**8**
16:00 16:15	3	3	**6**	2	5	**7**	**13**
16:15 16:30	3	1	**4**	1	3	**4**	**8**
16:30 16:45	5	1	**6**	3	1	**4**	**10**
16:45 17:00	2	2	**4**	0	4	**4**	**8**
17:00 17:15	2	2	**4**	2	4	**6**	**10**
17:15 17:30	3	1	**4**	4	3	**7**	**11**
17:30 17:45	1	1	**2**	0	5	**5**	**7**
17:45 18:00	4	0	**4**	3	2	**5**	**9**
Total	53	36	**89**	51	56	**107**	**196**

5469224 - THU JAN 09, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELCOURT BLVD @ INNES RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39283

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

Full Study Heavy Vehicles

		BELCOURT BLVD									INNES RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	1	0	**1**	1	0	0	**1**	**2**	0	13	0	**13**	0	5	0	**5**	**18**	**20**
07:15	07:30	0	0	0	**0**	0	0	1	**1**	**1**	1	12	1	**14**	1	8	0	**9**	**23**	**24**
07:30	07:45	0	0	0	**0**	0	0	0	**0**	**0**	0	14	0	**14**	0	7	0	**7**	**21**	**21**
07:45	08:00	0	0	0	**0**	0	0	0	**0**	**0**	2	6	1	**9**	0	13	1	**14**	**23**	**23**
08:00	08:15	1	0	0	**1**	1	0	0	**1**	**2**	1	6	0	**7**	0	9	0	**9**	**16**	**18**
08:15	08:30	1	0	0	**1**	1	0	0	**1**	**2**	1	8	1	**10**	1	11	0	**12**	**22**	**24**
08:30	08:45	0	0	2	**2**	0	0	0	**0**	**2**	1	12	0	**13**	1	12	1	**14**	**27**	**29**
08:45	09:00	1	0	0	**1**	0	0	2	**2**	**3**	1	7	0	**8**	0	11	0	**11**	**19**	**22**
09:00	09:15	0	0	0	**0**	0	0	1	**1**	**1**	0	12	0	**12**	0	8	0	**8**	**20**	**21**
09:15	09:30	0	0	0	**0**	0	1	0	**1**	**1**	0	12	1	**13**	0	7	0	**7**	**20**	**21**
09:30	09:45	2	1	0	**3**	0	0	1	**1**	**4**	0	9	0	**9**	0	2	0	**2**	**11**	**16**
09:45	10:00	1	0	0	**1**	1	1	0	**2**	**3**	0	9	1	**10**	1	5	0	**6**	**16**	**19**
11:30	11:45	1	0	0	**1**	0	0	0	**0**	**1**	1	7	1	**9**	0	4	0	**4**	**13**	**14**
11:45	12:00	0	0	0	**0**	0	0	0	**0**	**0**	0	5	1	**6**	1	7	0	**8**	**14**	**14**
12:00	12:15	0	0	0	**0**	0	0	0	**0**	**0**	1	4	0	**5**	1	3	0	**4**	**9**	**9**
12:15	12:30	2	0	0	**2**	2	0	0	**2**	**4**	1	5	0	**6**	0	4	0	**4**	**10**	**14**
12:30	12:45	1	0	0	**1**	0	1	0	**1**	**2**	0	4	0	**4**	0	4	0	**4**	**8**	**10**
12:45	13:00	0	0	0	**0**	0	0	0	**0**	**0**	0	3	0	**3**	0	5	0	**5**	**8**	**8**
13:00	13:15	2	0	0	**2**	0	0	0	**0**	**2**	0	10	1	**11**	0	5	0	**5**	**16**	**18**
13:15	13:30	0	0	0	**0**	0	0	0	**0**	**0**	0	6	0	**6**	1	3	0	**4**	**10**	**10**
15:00	15:15	0	0	0	**0**	0	0	0	**0**	**0**	0	2	1	**3**	0	4	0	**4**	**7**	**7**
15:15	15:30	1	0	0	**1**	0	0	1	**1**	**2**	0	7	0	**7**	0	9	0	**9**	**16**	**18**
15:30	15:45	0	0	0	**0**	0	0	0	**0**	**0**	0	3	0	**3**	0	6	0	**6**	**9**	**9**
15:45	16:00	0	0	0	**0**	0	0	1	**1**	**1**	1	10	0	**11**	0	10	0	**10**	**21**	**22**
16:00	16:15	0	0	0	**0**	0	0	0	**0**	**0**	0	8	0	**8**	0	8	0	**8**	**16**	**16**
16:15	16:30	0	0	0	**0**	0	0	1	**1**	**1**	1	4	0	**5**	0	10	1	**11**	**16**	**17**
16:30	16:45	0	1	0	**1**	1	0	0	**1**	**2**	0	3	0	**3**	0	6	0	**6**	**9**	**11**
16:45	17:00	0	0	0	**0**	0	0	0	**0**	**0**	0	6	1	**7**	0	4	0	**4**	**11**	**11**
17:00	17:15	0	0	0	**0**	0	0	0	**0**	**0**	0	6	0	**6**	0	5	0	**5**	**11**	**11**
17:15	17:30	0	0	0	**0**	0	0	0	**0**	**0**	0	3	0	**3**	0	6	0	**6**	**9**	**9**
17:30	17:45	0	0	0	**0**	0	0	1	**1**	**1**	0	7	0	**7**	0	3	0	**3**	**10**	**11**
17:45	18:00	0	0	0	**0**	0	0	0	**0**	**0**	0	3	0	**3**	0	4	0	**4**	**7**	**7**
Total:	None	13	3	2	**18**	7	3	9	**19**	**37**	12	226	10	**248**	7	208	3	**218**	**466**	**504**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

BELCOURT BLVD @ INNES RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39283

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

Full Study 15 Minute U-Turn Total

		BELCOURT BLVD		INNES RD		
Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	**0**
07:15	07:30	0	0	0	0	**0**
07:30	07:45	0	0	0	0	**0**
07:45	08:00	0	0	0	0	**0**
08:00	08:15	0	0	0	0	**0**
08:15	08:30	0	0	0	0	**0**
08:30	08:45	0	0	0	1	**1**
08:45	09:00	0	0	1	1	**2**
09:00	09:15	0	0	0	2	**2**
09:15	09:30	0	0	0	0	**0**
09:30	09:45	1	0	1	1	**3**
09:45	10:00	0	0	0	0	**0**
11:30	11:45	0	0	0	1	**1**
11:45	12:00	0	0	0	0	**0**
12:00	12:15	1	0	0	2	**3**
12:15	12:30	0	0	0	0	**0**
12:30	12:45	0	0	0	0	**0**
12:45	13:00	0	0	0	1	**1**
13:00	13:15	0	0	0	0	**0**
13:15	13:30	0	0	1	0	**1**
15:00	15:15	0	0	0	0	**0**
15:15	15:30	0	0	0	2	**2**
15:30	15:45	1	0	0	0	**1**
15:45	16:00	0	0	0	0	**0**
16:00	16:15	0	0	0	0	**0**
16:15	16:30	0	0	0	0	**0**
16:30	16:45	0	0	0	0	**0**
16:45	17:00	0	0	0	0	**0**
17:00	17:15	0	0	3	0	**3**
17:15	17:30	1	0	1	1	**3**
17:30	17:45	0	0	0	2	**2**
17:45	18:00	1	0	0	1	**2**
Total		5	0	7	15	**27**

Transportation Services - Traffic Services

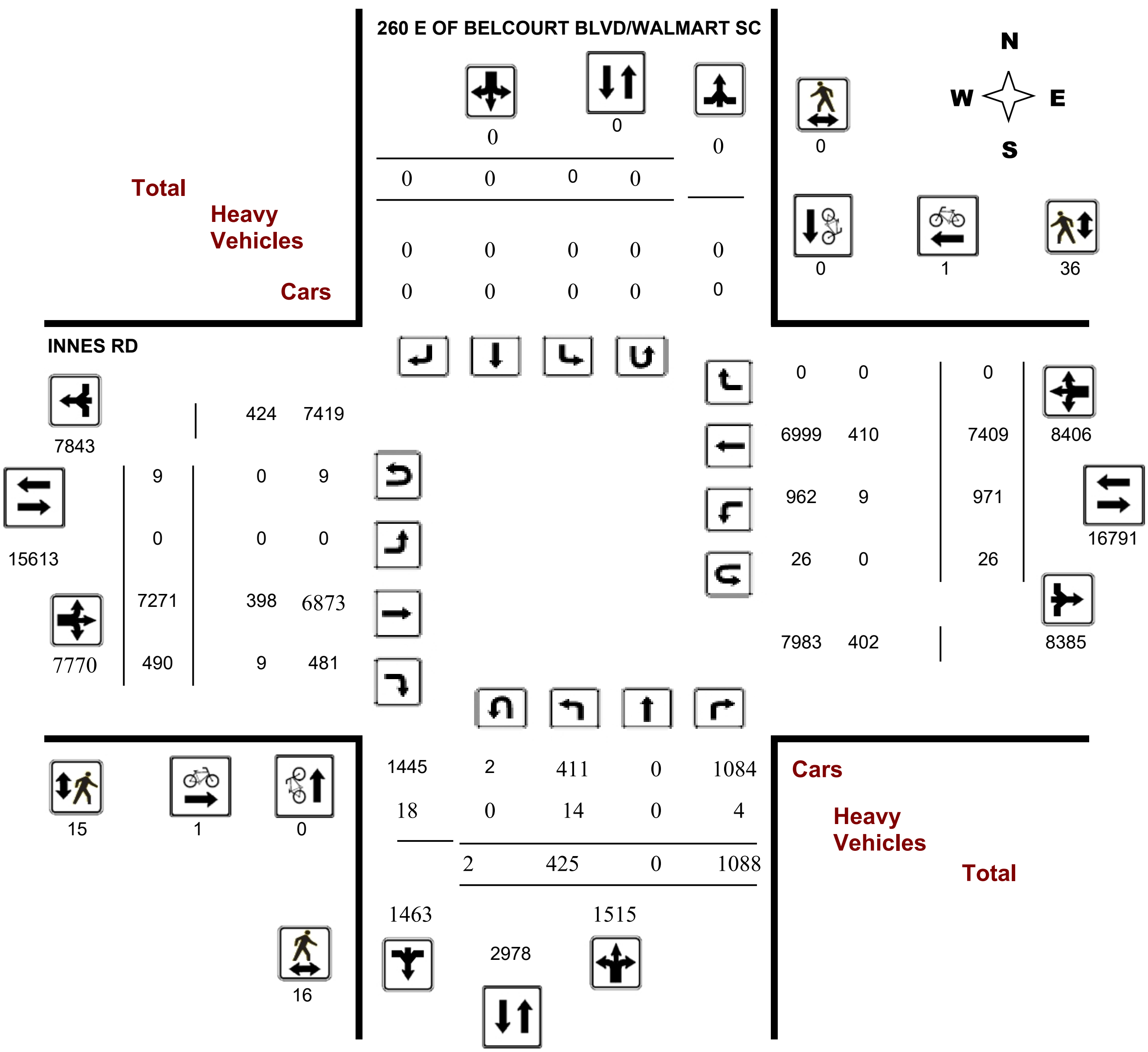
Turning Movement Count - Study Results

INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Survey Date: Thursday, February 20, 2020 **WO No:** 39520

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

Full Study Diagram



5474762 - FEB 20, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

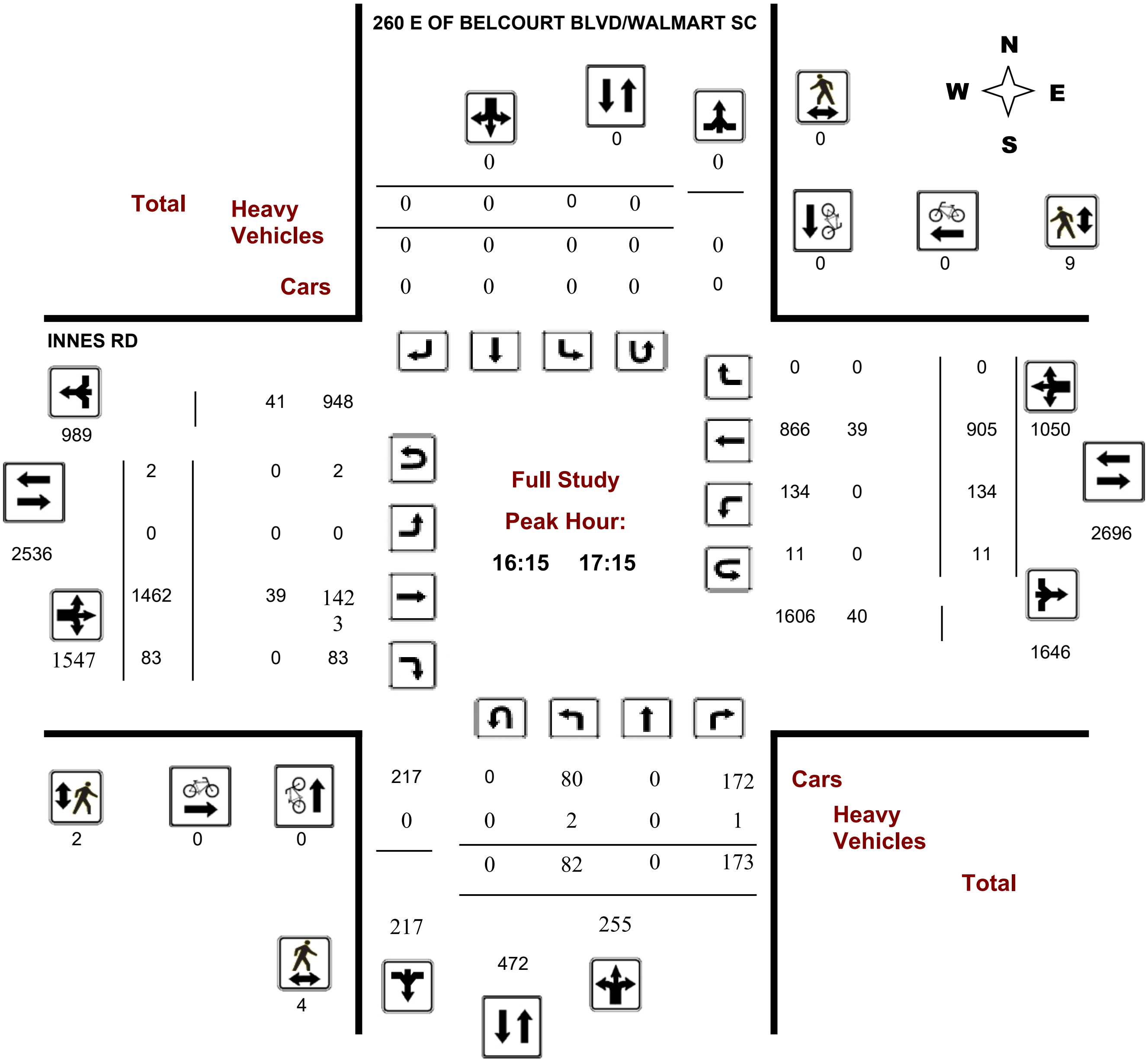
Turning Movement Count - Study Results

INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Survey Date: Thursday, February 20, 2020 **WO No:** 39520

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

Full Study Peak Hour Diagram



5474762 - FEB 20, 2020 - 8HRS - LORETTA

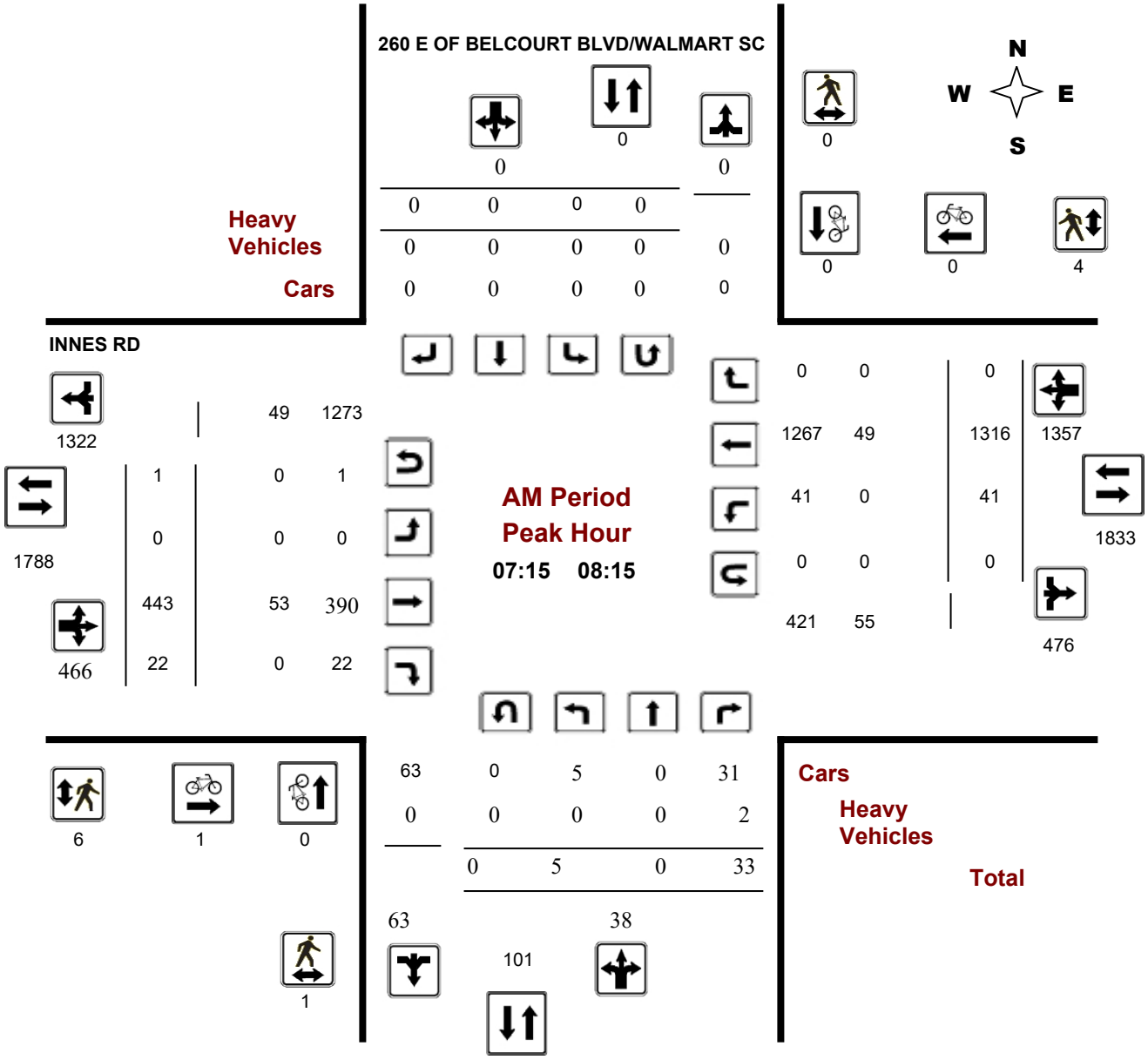
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Survey Date: Thursday, February 20, 2020 **WO No:** 39520

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



Comments 5474762 - FEB 20, 2020 - 8HRS - LORETTA

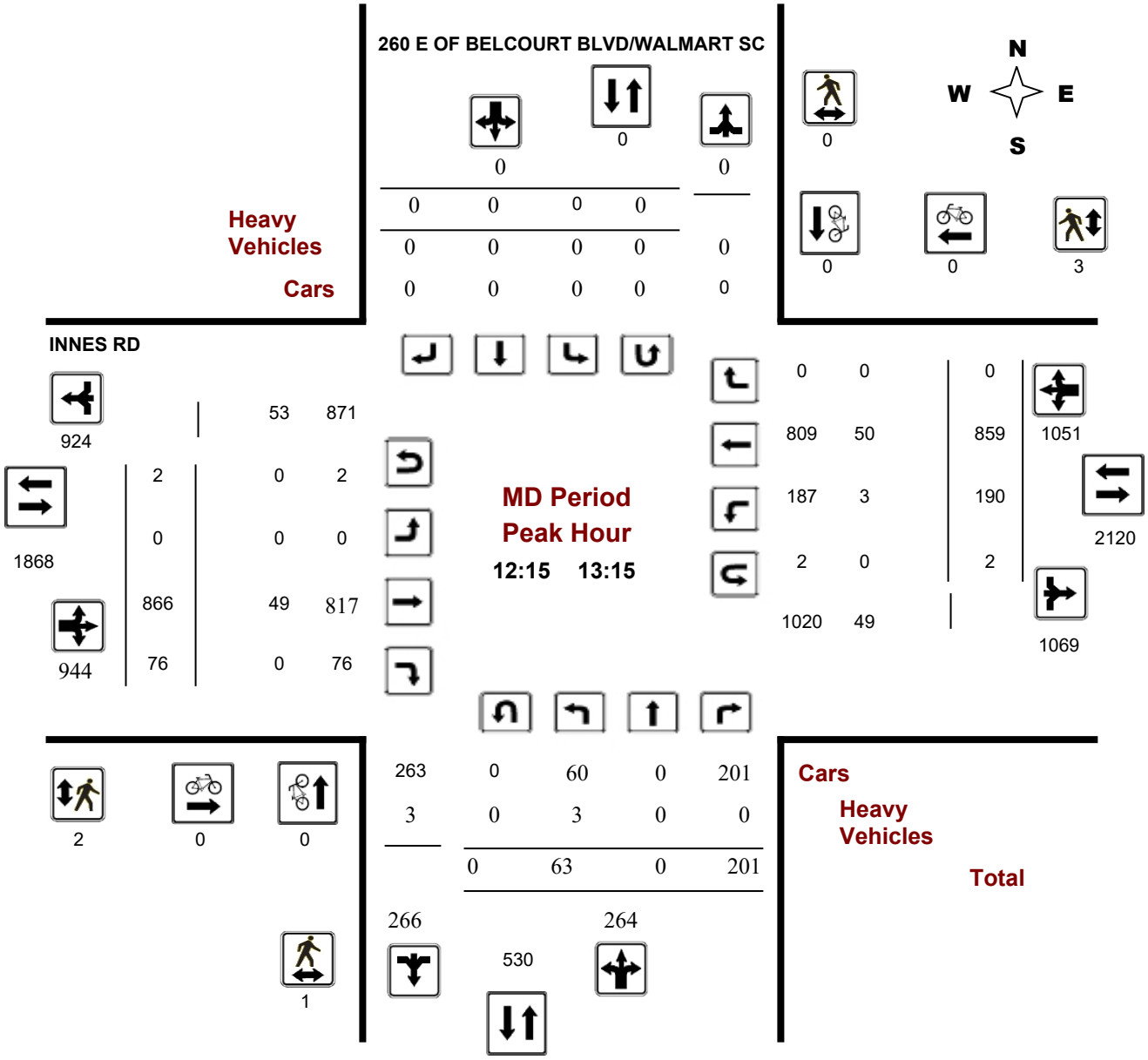
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Survey Date: Thursday, February 20, 2020 **WO No:** 39520

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



Comments 5474762 - FEB 20, 2020 - 8HRS - LORETTA

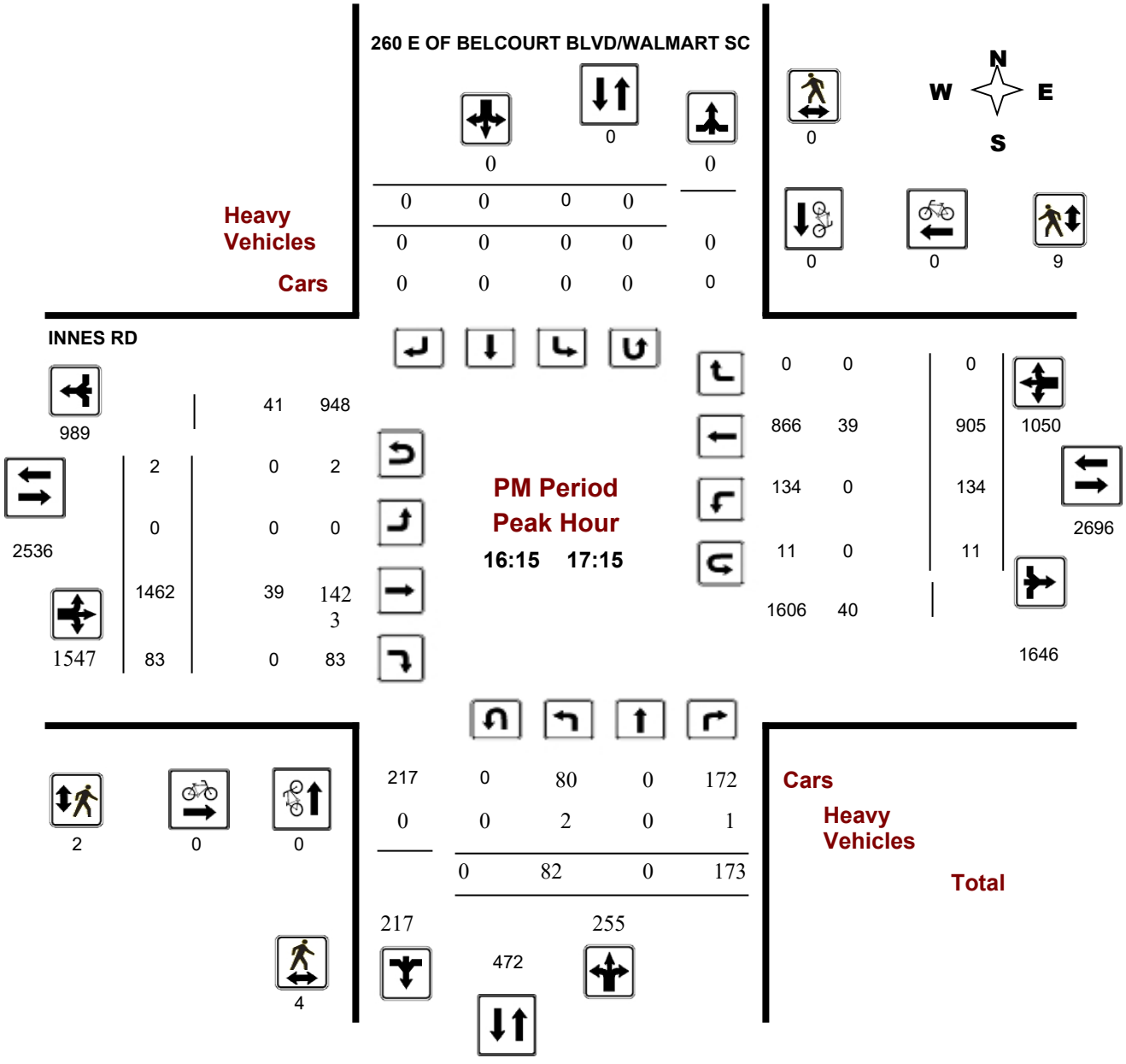
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Survey Date: Thursday, February 20, 2020 **WO No:** 39520

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



Comments 5474762 - FEB 20, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Survey Date: Thursday, February 20, 2020 **WO No:** 39520

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

Full Study Summary (8 HR Standard)

Survey Date: Thursday, February 20, 2020

Total Observed U-Turns

Northbound: 2 Southbound: 0

Eastbound: 9 Westbound: 26

AADT Factor

.90

	260 E OF BELCOURT BLVD/WALMART SC									INNES RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	2	0	29	**31**	0	0	0	**0**	**31**	0	450	16	**466**	30	1277	0	**1307**	**1773**	**1804**
08:00 09:00	17	0	38	**55**	0	0	0	**0**	**55**	0	500	24	**524**	70	1091	0	**1161**	**1685**	**1740**
09:00 10:00	45	0	93	**138**	0	0	0	**0**	**138**	0	583	63	**646**	116	787	0	**903**	**1549**	**1687**
11:30 12:30	79	0	189	**268**	0	0	0	**0**	**268**	0	839	72	**911**	168	867	0	**1035**	**1946**	**2214**
12:30 13:30	59	0	207	**266**	0	0	0	**0**	**266**	0	875	76	**951**	178	818	0	**996**	**1947**	**2213**
15:00 16:00	75	0	194	**269**	0	0	0	**0**	**269**	0	1224	81	**1305**	142	828	0	**970**	**2275**	**2544**
16:00 17:00	75	0	166	**241**	0	0	0	**0**	**241**	0	1443	79	**1522**	132	896	0	**1028**	**2550**	**2791**
17:00 18:00	73	0	172	**245**	0	0	0	**0**	**245**	0	1357	79	**1436**	135	845	0	**980**	**2416**	**2661**
Sub Total	425	0	1088	**1513**	0	0	0	**0**	**1513**	0	7271	490	**7761**	971	7409	0	**8380**	**16141**	**17654**
U Turns	2			**2**	0			**0**	**2**	**9**			**9**	26			**26**	**35**	**37**
Total	427	0	1088	**1515**	0	0	0	**0**	**1515**	9	7271	490	**7770**	997	7409	0	**8406**	**16176**	**17691**
EQ 12Hr	594	0	1512	**2106**	0	0	0	**0**	**2106**	13	10107	681	**10801**	1386	10299	0	**11685**	**22486**	**24592**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	535	0	1361	**1896**	0	0	0	**0**	**1896**	12	9096	613	**9721**	1247	9269	0	**10516**	**20237**	**22133**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**.90**					
AVG 24Hr	701	0	1783	**2484**	0	0	0	**0**	**2484**	16	11916	803	**12735**	1634	12142	0	**13776**	**26511**	**28995**
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.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Survey Date: Thursday, February 20, 2020 **WO No:** 39520

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

Full Study 15 Minute Increments

260 E OF BELCOURT BLVD/WALMART SC — Northbound / Southbound

INNES RD — Eastbound / Westbound

Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	0	5	5	0	0	0	0	**5**	3	110	0	113	6	284	0	290	**403**	**408**
07:15	07:30	1	0	1	2	0	0	0	0	**2**	0	116	4	120	10	349	0	359	**479**	**481**
07:30	07:45	0	0	10	10	0	0	0	0	**10**	0	112	5	117	6	327	0	333	**450**	**460**
07:45	08:00	1	0	13	14	0	0	0	0	**14**	0	112	7	119	8	317	0	325	**444**	**458**
08:00	08:15	3	0	9	12	0	0	0	0	**12**	1	103	6	110	17	323	0	340	**450**	**462**
08:15	08:30	2	0	8	10	0	0	0	0	**10**	0	124	4	128	16	272	0	288	**416**	**426**
08:30	08:45	3	0	8	11	0	0	0	0	**11**	0	133	8	141	20	275	0	295	**436**	**447**
08:45	09:00	9	0	13	22	0	0	0	0	**22**	1	140	6	147	20	221	0	241	**388**	**410**
09:00	09:15	8	0	19	27	0	0	0	0	**27**	0	128	13	141	36	228	0	264	**405**	**432**
09:15	09:30	12	0	17	29	0	0	0	0	**29**	0	151	14	165	22	201	0	223	**388**	**417**
09:30	09:45	11	0	25	36	0	0	0	0	**36**	0	156	19	175	25	160	0	185	**360**	**396**
09:45	10:00	14	0	32	46	0	0	0	0	**46**	0	148	17	165	33	198	0	231	**396**	**442**
11:30	11:45	18	0	47	65	0	0	0	0	**65**	0	193	21	214	45	216	0	261	**475**	**540**
11:45	12:00	27	0	58	85	0	0	0	0	**85**	0	192	19	211	37	205	0	242	**453**	**538**
12:00	12:15	14	0	38	52	0	0	0	0	**52**	0	231	15	246	47	221	0	268	**514**	**566**
12:15	12:30	20	0	46	66	0	0	0	0	**66**	0	223	17	240	42	225	0	267	**507**	**573**
12:30	12:45	17	0	42	59	0	0	0	0	**59**	1	215	15	231	47	198	0	245	**476**	**535**
12:45	13:00	15	0	62	77	0	0	0	0	**77**	0	218	27	245	49	207	0	256	**501**	**578**
13:00	13:15	11	0	51	62	0	0	0	0	**62**	1	210	17	228	54	229	0	283	**511**	**573**
13:15	13:30	17	0	52	69	0	0	0	0	**69**	0	232	17	249	30	184	0	214	**463**	**532**
15:00	15:15	18	0	50	68	0	0	0	0	**68**	0	277	19	296	36	188	0	224	**520**	**588**
15:15	15:30	20	0	50	70	0	0	0	0	**70**	0	304	22	326	41	215	0	256	**582**	**652**
15:30	15:45	17	0	50	67	0	0	0	0	**67**	0	294	20	314	34	191	0	225	**539**	**606**
15:45	16:00	20	0	44	64	0	0	0	0	**64**	0	349	20	369	35	234	0	269	**638**	**702**
16:00	16:15	12	0	46	58	0	0	0	0	**58**	0	356	16	372	35	207	0	242	**614**	**672**
16:15	16:30	29	0	37	66	0	0	0	0	**66**	0	344	25	369	31	211	0	242	**611**	**677**
16:30	16:45	16	0	48	64	0	0	0	0	**64**	0	369	21	390	38	242	0	280	**670**	**734**
16:45	17:00	18	0	35	53	0	0	0	0	**53**	1	374	17	392	35	236	0	271	**663**	**716**
17:00	17:15	19	0	53	72	0	0	0	0	**72**	1	375	20	396	41	216	0	257	**653**	**725**
17:15	17:30	15	0	52	67	0	0	0	0	**67**	0	323	20	343	29	215	0	244	**587**	**654**
17:30	17:45	18	0	35	53	0	0	0	0	**53**	0	318	18	336	39	213	0	252	**588**	**641**
17:45	18:00	22	0	32	54	0	0	0	0	**54**	0	341	21	362	33	201	0	234	**596**	**650**
Total:		427	0	1088	1515	0	0	0	0	**1515**	9	7271	490	7770	997	7409	0	8406	**1515**	**17,691**

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Survey Date: Thursday, February 20, 2020 **WO No:** 39520

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

Full Study Cyclist Volume

Time Period		260 E OF BELCOURT BLVD/WALMART SC			INNES RD			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	**0**	0	0	**0**	**0**
07:15	07:30	0	0	**0**	0	0	**0**	**0**
07:30	07:45	0	0	**0**	0	0	**0**	**0**
07:45	08:00	0	0	**0**	0	0	**0**	**0**
08:00	08:15	0	0	**0**	1	0	**1**	**1**
08:15	08:30	0	0	**0**	0	0	**0**	**0**
08:30	08:45	0	0	**0**	0	0	**0**	**0**
08:45	09:00	0	0	**0**	0	0	**0**	**0**
09:00	09:15	0	0	**0**	0	0	**0**	**0**
09:15	09:30	0	0	**0**	0	0	**0**	**0**
09:30	09:45	0	0	**0**	0	0	**0**	**0**
09:45	10:00	0	0	**0**	0	0	**0**	**0**
11:30	11:45	0	0	**0**	0	1	**1**	**1**
11:45	12:00	0	0	**0**	0	0	**0**	**0**
12:00	12:15	0	0	**0**	0	0	**0**	**0**
12:15	12:30	0	0	**0**	0	0	**0**	**0**
12:30	12:45	0	0	**0**	0	0	**0**	**0**
12:45	13:00	0	0	**0**	0	0	**0**	**0**
13:00	13:15	0	0	**0**	0	0	**0**	**0**
13:15	13:30	0	0	**0**	0	0	**0**	**0**
15:00	15:15	0	0	**0**	0	0	**0**	**0**
15:15	15:30	0	0	**0**	0	0	**0**	**0**
15:30	15:45	0	0	**0**	0	0	**0**	**0**
15:45	16:00	0	0	**0**	0	0	**0**	**0**
16:00	16:15	0	0	**0**	0	0	**0**	**0**
16:15	16:30	0	0	**0**	0	0	**0**	**0**
16:30	16:45	0	0	**0**	0	0	**0**	**0**
16:45	17:00	0	0	**0**	0	0	**0**	**0**
17:00	17:15	0	0	**0**	0	0	**0**	**0**
17:15	17:30	0	0	**0**	0	0	**0**	**0**
17:30	17:45	0	0	**0**	0	0	**0**	**0**
17:45	18:00	0	0	**0**	0	0	**0**	**0**
Total		0	0	**0**	1	1	**2**	**2**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Survey Date: Thursday, February 20, 2020 **WO No:** 39520

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

Full Study Pedestrian Volume

	260 E OF BELCOURT BLVD/WALMART SC			INNES RD			
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	**Total**	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	**Total**	**Grand Total**
07:00 07:15	0	0	**0**	0	0	**0**	**0**
07:15 07:30	1	0	**1**	3	0	**3**	**4**
07:30 07:45	0	0	**0**	1	1	**2**	**2**
07:45 08:00	0	0	**0**	0	2	**2**	**2**
08:00 08:15	0	0	**0**	2	1	**3**	**3**
08:15 08:30	0	0	**0**	0	0	**0**	**0**
08:30 08:45	0	0	**0**	0	0	**0**	**0**
08:45 09:00	0	0	**0**	1	0	**1**	**1**
09:00 09:15	0	0	**0**	0	1	**1**	**1**
09:15 09:30	0	0	**0**	0	0	**0**	**0**
09:30 09:45	0	0	**0**	0	1	**1**	**1**
09:45 10:00	0	0	**0**	0	0	**0**	**0**
11:30 11:45	1	0	**1**	0	2	**2**	**3**
11:45 12:00	0	0	**0**	0	0	**0**	**0**
12:00 12:15	1	0	**1**	0	1	**1**	**2**
12:15 12:30	1	0	**1**	2	0	**2**	**3**
12:30 12:45	0	0	**0**	0	2	**2**	**2**
12:45 13:00	0	0	**0**	0	0	**0**	**0**
13:00 13:15	0	0	**0**	0	1	**1**	**1**
13:15 13:30	1	0	**1**	0	0	**0**	**1**
15:00 15:15	2	0	**2**	3	0	**3**	**5**
15:15 15:30	1	0	**1**	0	1	**1**	**2**
15:30 15:45	1	0	**1**	0	0	**0**	**1**
15:45 16:00	0	0	**0**	0	3	**3**	**3**
16:00 16:15	0	0	**0**	0	7	**7**	**7**
16:15 16:30	1	0	**1**	1	5	**6**	**7**
16:30 16:45	2	0	**2**	1	1	**2**	**4**
16:45 17:00	0	0	**0**	0	1	**1**	**1**
17:00 17:15	1	0	**1**	0	2	**2**	**3**
17:15 17:30	2	0	**2**	1	1	**2**	**4**
17:30 17:45	1	0	**1**	0	0	**0**	**1**
17:45 18:00	0	0	**0**	0	3	**3**	**3**
Total	16	0	**16**	15	36	**51**	**67**

5474762 - FEB 20, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Survey Date: Thursday, February 20, 2020 **WO No:** 39520

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

Full Study Heavy Vehicles

260 E OF BELCOURT BLVD/WALMART SC **INNES RD**

		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	**N TOT**	LT	ST	RT	**S TOT**	**STR TOT**	LT	ST	RT	**E TOT**	LT	ST	RT	**W TOT**	**STR TOT**	**Grand Total**
07:00	07:15	0	0	0	**0**	0	0	0	**0**	**0**	0	18	0	**18**	0	6	0	**6**	**24**	**24**
07:15	07:30	0	0	0	**0**	0	0	0	**0**	**0**	0	19	0	**19**	0	5	0	**5**	**24**	**24**
07:30	07:45	0	0	0	**0**	0	0	0	**0**	**0**	0	16	0	**16**	0	14	0	**14**	**30**	**30**
07:45	08:00	0	0	1	**1**	0	0	0	**0**	**1**	0	6	0	**6**	0	18	0	**18**	**24**	**25**
08:00	08:15	0	0	1	**1**	0	0	0	**0**	**1**	0	12	0	**12**	0	12	0	**12**	**24**	**25**
08:15	08:30	0	0	0	**0**	0	0	0	**0**	**0**	0	18	2	**20**	0	13	0	**13**	**33**	**33**
08:30	08:45	0	0	0	**0**	0	0	0	**0**	**0**	0	12	0	**12**	1	20	0	**21**	**33**	**33**
08:45	09:00	1	0	0	**1**	0	0	0	**0**	**1**	0	14	0	**14**	0	15	0	**15**	**29**	**30**
09:00	09:15	1	0	0	**1**	0	0	0	**0**	**1**	0	14	0	**14**	0	18	0	**18**	**32**	**33**
09:15	09:30	0	0	0	**0**	0	0	0	**0**	**0**	0	16	0	**16**	0	16	0	**16**	**32**	**32**
09:30	09:45	1	0	0	**1**	0	0	0	**0**	**1**	0	19	3	**22**	1	9	0	**10**	**32**	**33**
09:45	10:00	2	0	1	**3**	0	0	0	**0**	**3**	0	11	1	**12**	1	20	0	**21**	**33**	**36**
11:30	11:45	0	0	0	**0**	0	0	0	**0**	**0**	0	11	2	**13**	0	14	0	**14**	**27**	**27**
11:45	12:00	1	0	0	**1**	0	0	0	**0**	**1**	0	10	0	**10**	1	15	0	**16**	**26**	**27**
12:00	12:15	2	0	0	**2**	0	0	0	**0**	**2**	0	13	0	**13**	0	10	0	**10**	**23**	**25**
12:15	12:30	2	0	0	**2**	0	0	0	**0**	**2**	0	7	0	**7**	0	10	0	**10**	**17**	**19**
12:30	12:45	0	0	0	**0**	0	0	0	**0**	**0**	0	11	0	**11**	1	11	0	**12**	**23**	**23**
12:45	13:00	0	0	0	**0**	0	0	0	**0**	**0**	0	13	0	**13**	2	14	0	**16**	**29**	**29**
13:00	13:15	1	0	0	**1**	0	0	0	**0**	**1**	0	18	0	**18**	0	15	0	**15**	**33**	**34**
13:15	13:30	0	0	0	**0**	0	0	0	**0**	**0**	0	19	0	**19**	1	15	0	**16**	**35**	**35**
15:00	15:15	0	0	0	**0**	0	0	0	**0**	**0**	0	20	0	**20**	0	17	0	**17**	**37**	**37**
15:15	15:30	1	0	0	**1**	0	0	0	**0**	**1**	0	14	1	**15**	1	16	0	**17**	**32**	**33**
15:30	15:45	0	0	0	**0**	0	0	0	**0**	**0**	0	7	0	**7**	0	14	0	**14**	**21**	**21**
15:45	16:00	0	0	0	**0**	0	0	0	**0**	**0**	0	13	0	**13**	0	21	0	**21**	**34**	**34**
16:00	16:15	0	0	0	**0**	0	0	0	**0**	**0**	0	15	0	**15**	0	16	0	**16**	**31**	**31**
16:15	16:30	1	0	1	**2**	0	0	0	**0**	**2**	0	10	0	**10**	0	10	0	**10**	**20**	**22**
16:30	16:45	0	0	0	**0**	0	0	0	**0**	**0**	0	10	0	**10**	0	13	0	**13**	**23**	**23**
16:45	17:00	0	0	0	**0**	0	0	0	**0**	**0**	0	10	0	**10**	0	6	0	**6**	**16**	**16**
17:00	17:15	1	0	0	**1**	0	0	0	**0**	**1**	0	9	0	**9**	0	10	0	**10**	**19**	**20**
17:15	17:30	0	0	0	**0**	0	0	0	**0**	**0**	0	5	0	**5**	0	4	0	**4**	**9**	**9**
17:30	17:45	0	0	0	**0**	0	0	0	**0**	**0**	0	4	0	**4**	0	5	0	**5**	**9**	**9**
17:45	18:00	0	0	0	**0**	0	0	0	**0**	**0**	0	4	0	**4**	0	8	0	**8**	**12**	**12**
Total:	None	14	0	4	**18**	0	0	0	**0**	**18**	0	398	9	**407**	9	410	0	**419**	**826**	**844**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Survey Date: Thursday, February 20, 2020 **WO No:** 39520

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

Full Study 15 Minute U-Turn Total

Time Period		260 E OF BELCOURT BLVD/WALMART SC		INNES RD		
		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	3	0	**3**
07:15	07:30	0	0	0	0	**0**
07:30	07:45	0	0	0	0	**0**
07:45	08:00	0	0	0	0	**0**
08:00	08:15	0	0	1	0	**1**
08:15	08:30	0	0	0	3	**3**
08:30	08:45	0	0	0	0	**0**
08:45	09:00	0	0	1	0	**1**
09:00	09:15	0	0	0	0	**0**
09:15	09:30	0	0	0	0	**0**
09:30	09:45	0	0	0	0	**0**
09:45	10:00	0	0	0	0	**0**
11:30	11:45	0	0	0	2	**2**
11:45	12:00	0	0	0	0	**0**
12:00	12:15	0	0	0	0	**0**
12:15	12:30	0	0	0	1	**1**
12:30	12:45	0	0	1	0	**1**
12:45	13:00	0	0	0	0	**0**
13:00	13:15	0	0	1	1	**2**
13:15	13:30	1	0	0	1	**2**
15:00	15:15	0	0	0	2	**2**
15:15	15:30	0	0	0	0	**0**
15:30	15:45	0	0	0	1	**1**
15:45	16:00	0	0	0	1	**1**
16:00	16:15	0	0	0	0	**0**
16:15	16:30	0	0	0	3	**3**
16:30	16:45	0	0	0	3	**3**
16:45	17:00	0	0	1	1	**2**
17:00	17:15	0	0	1	4	**5**
17:15	17:30	0	0	0	2	**2**
17:30	17:45	0	0	0	1	**1**
17:45	18:00	1	0	0	0	**1**
Total		2	0	9	26	**37**

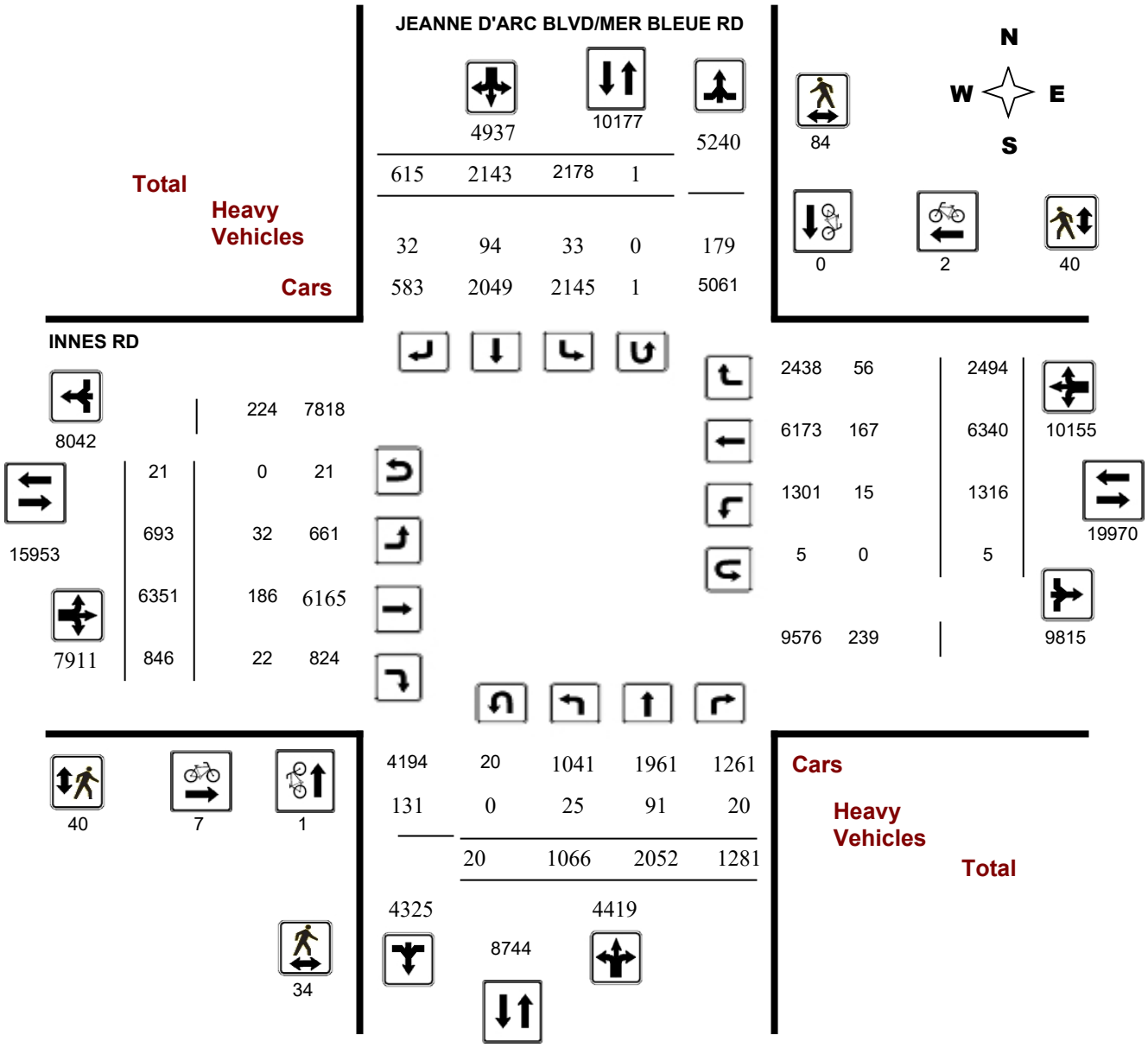
Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Survey Date: Thursday, January 09, 2020
Start Time: 07:00
WO No: 39284
Device: Miovision

Full Study Diagram



5469225 - THU JAN 09, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

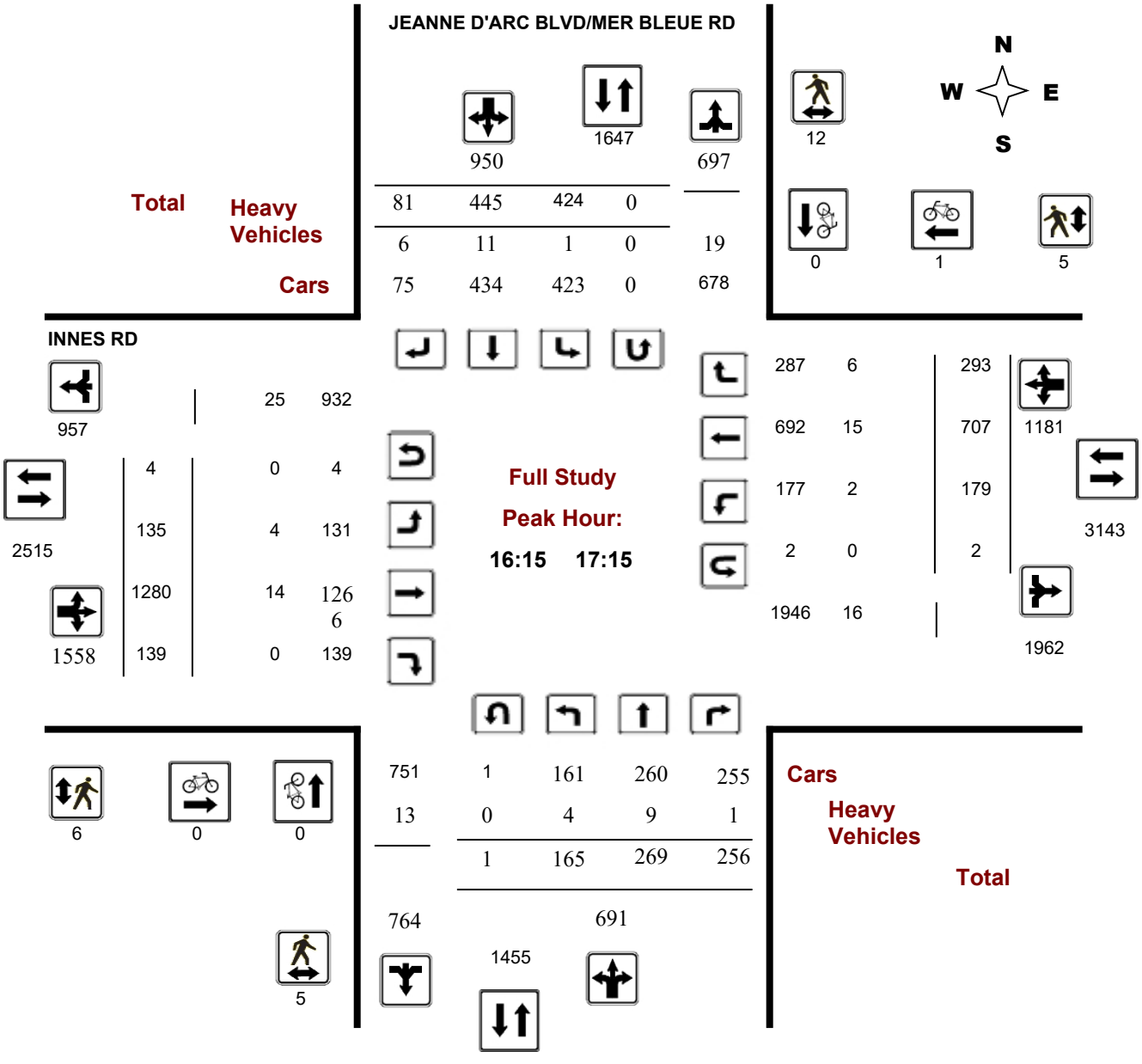
Turning Movement Count - Study Results

INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39284

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

Full Study Peak Hour Diagram



5469225 - THU JAN 09, 2020 - 8HRS - LORETTA

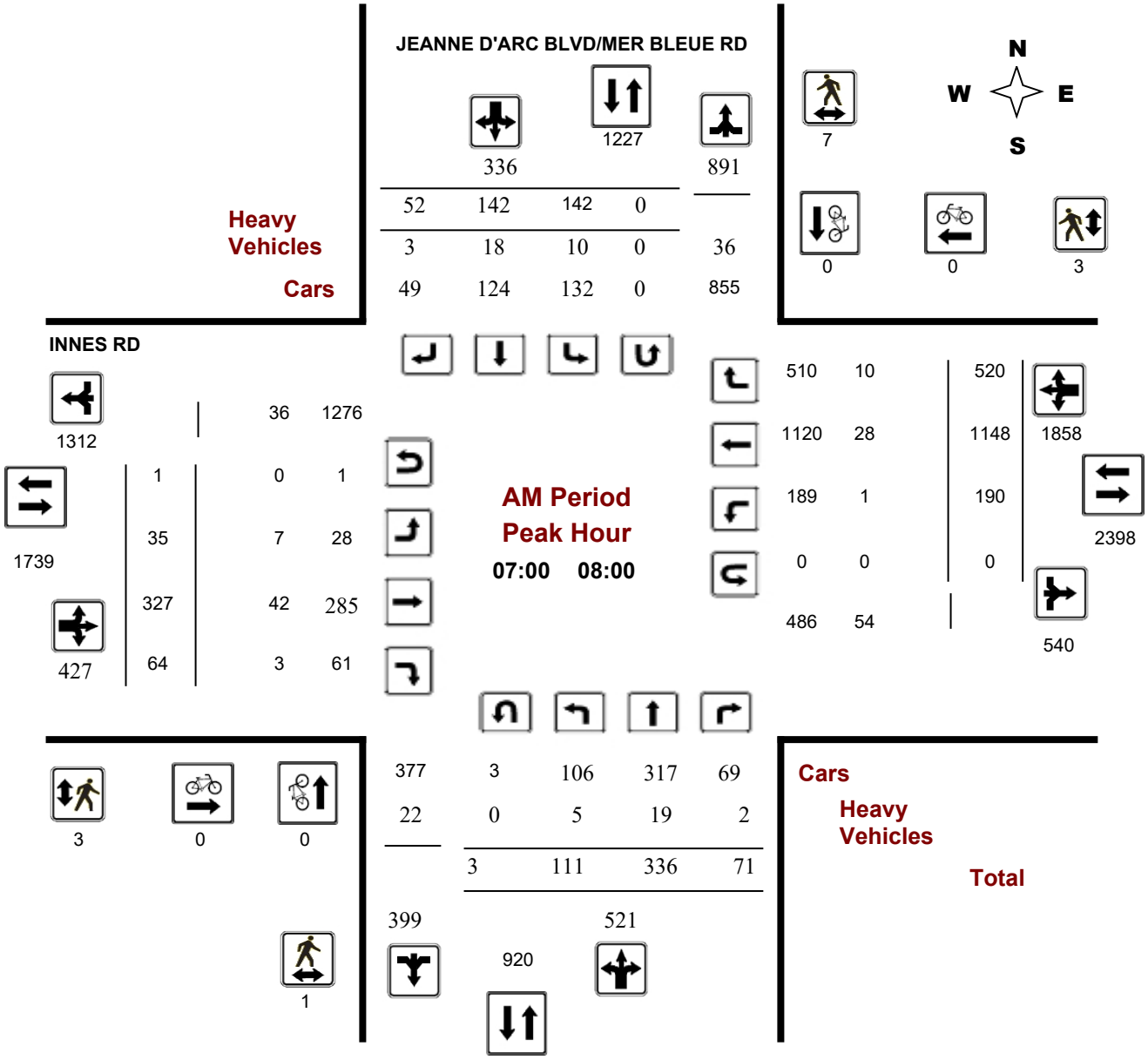
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39284

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



Comments 5469225 - THU JAN 09, 2020 - 8HRS - LORETTA

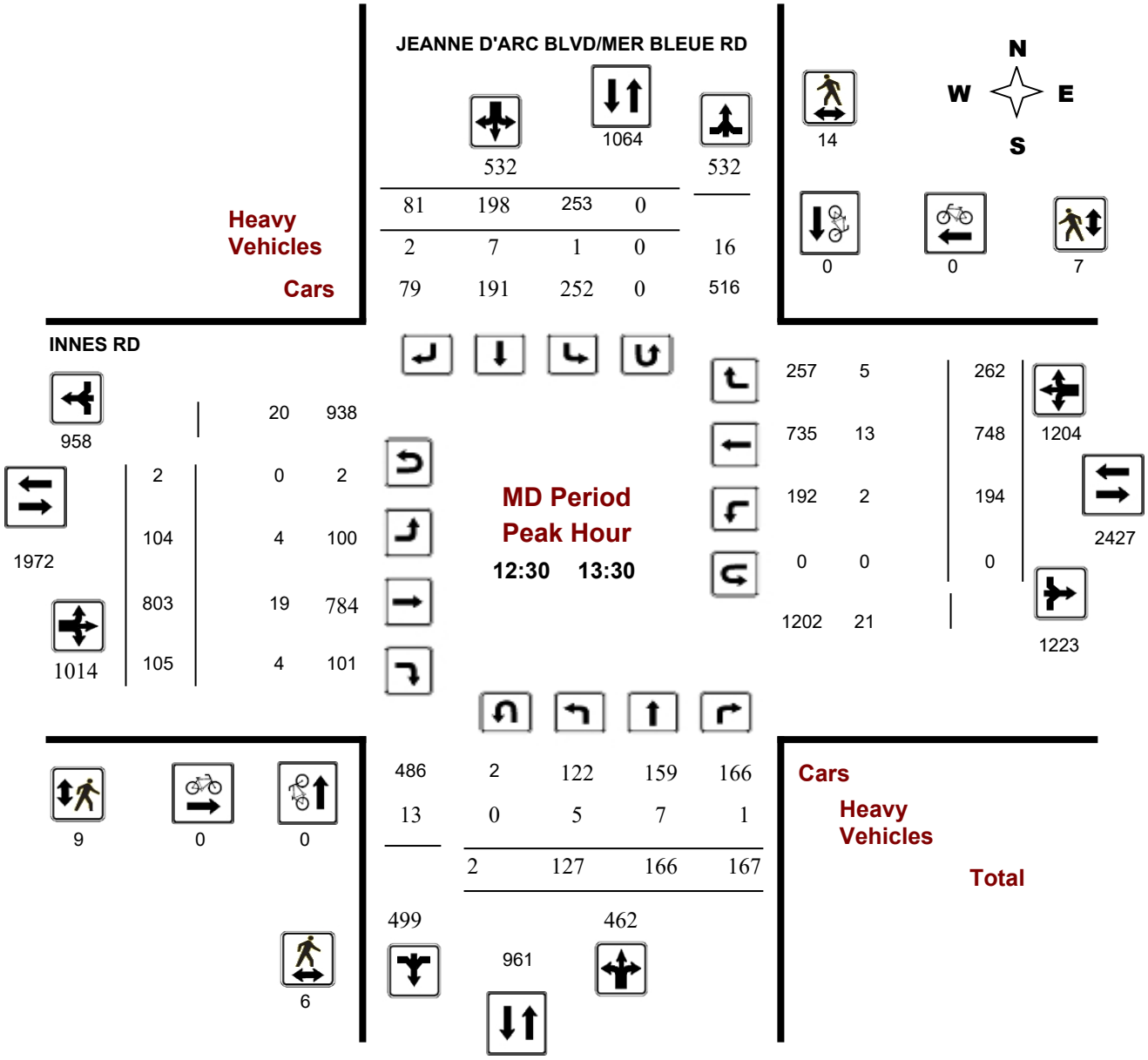
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39284

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



Comments 5469225 - THU JAN 09, 2020 - 8HRS - LORETTA

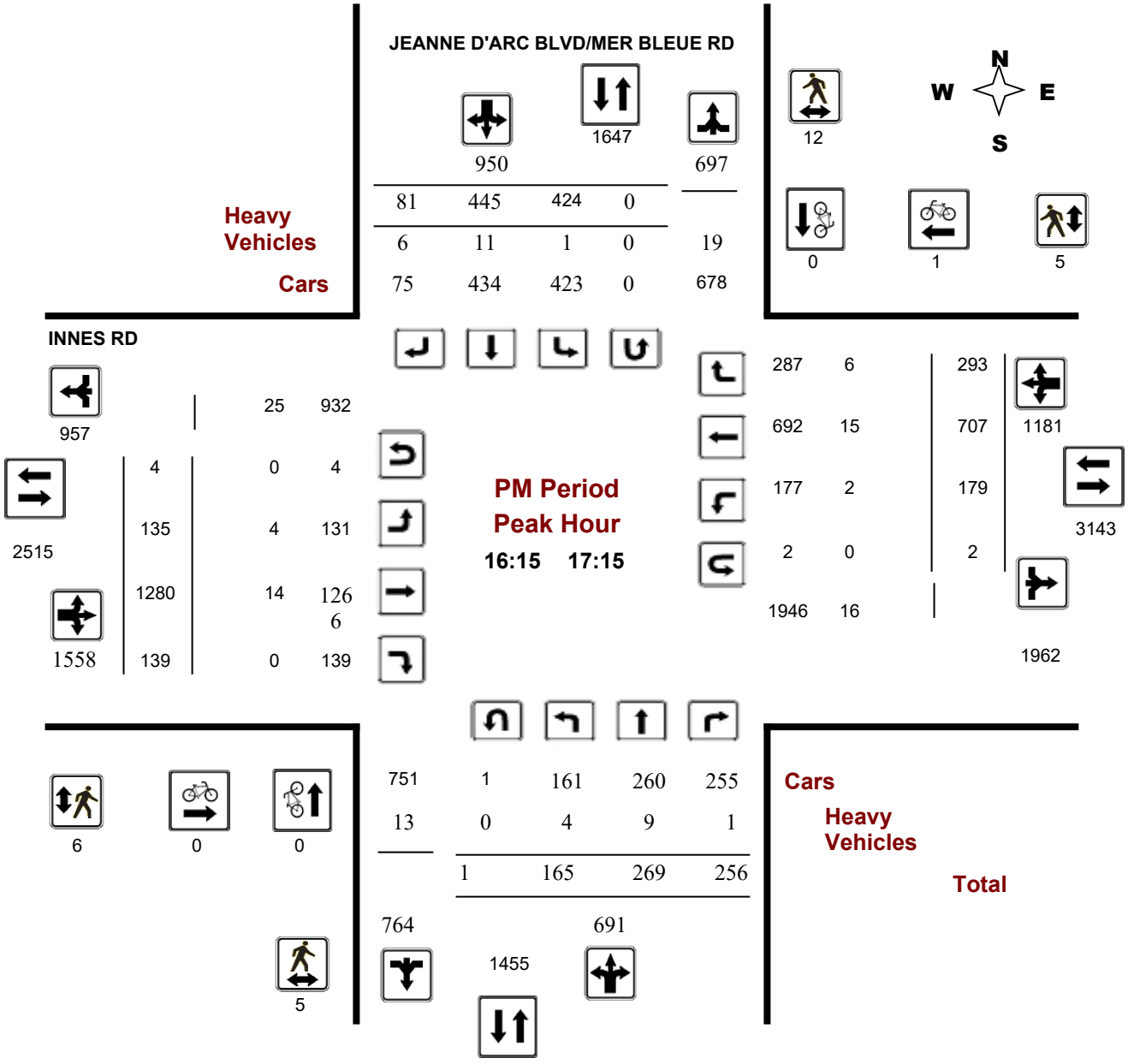
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39284

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



Comments 5469225 - THU JAN 09, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39284

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

Full Study Summary (8 HR Standard)

Survey Date: Thursday, January 09, 2020

Total Observed U-Turns

Northbound: 20 Southbound: 1

Eastbound: 21 Westbound: 5

AADT Factor

1.00

	JEANNE D'ARC BLVD/MER BLEUE RD									INNES RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	111	336	71	**518**	142	142	52	**336**	**854**	35	327	64	**426**	190	1148	520	**1858**	**2284**	**3138**
08:00 09:00	121	361	63	**545**	173	168	57	**398**	**943**	45	355	64	**464**	117	911	388	**1416**	**1880**	**2823**
09:00 10:00	94	230	110	**434**	153	147	63	**363**	**797**	53	459	80	**592**	125	657	236	**1018**	**1610**	**2407**
11:30 12:30	127	171	182	**480**	244	226	92	**562**	**1042**	94	791	109	**994**	164	737	243	**1144**	**2138**	**3180**
12:30 13:30	127	166	167	**460**	253	198	81	**532**	**992**	104	803	105	**1012**	194	748	262	**1204**	**2216**	**3208**
15:00 16:00	152	270	231	**653**	412	398	92	**902**	**1555**	107	1156	129	**1392**	175	730	278	**1183**	**2575**	**4130**
16:00 17:00	163	259	245	**667**	427	435	94	**956**	**1623**	135	1255	137	**1527**	168	713	308	**1189**	**2716**	**4339**
17:00 18:00	171	259	212	**642**	374	429	84	**887**	**1529**	120	1205	158	**1483**	183	696	259	**1138**	**2621**	**4150**
Sub Total	1066	2052	1281	**4399**	2178	2143	615	**4936**	**9335**	693	6351	846	**7890**	1316	6340	2494	**10150**	**18040**	**27375**
U Turns				**20**				**1**	**21**				**21**				**5**	**26**	**47**
Total	1066	2052	1281	**4419**	2178	2143	615	**4937**	**9356**	693	6351	846	**7911**	1316	6340	2494	**10155**	**18066**	**27422**
EQ 12Hr	1482	2852	1781	**6142**	3027	2979	855	**6862**	**13005**	963	8828	1176	**10996**	1829	8813	3467	**14115**	**25112**	**38117**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	1396	2688	1678	**5789**	2853	2807	806	**6467**	**13005**	908	8320	1108	**10363**	1724	8305	3267	**13303**	**25112**	**38117**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1**					
AVG 24Hr	1829	3521	2198	**7583**	3738	3678	1055	**8472**	**16055**	1189	10899	1452	**13576**	2258	10880	4280	**17427**	**31003**	**47058**
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.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39284

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

Full Study 15 Minute Increments

		JEANNE D'ARC BLVD/MER BLEUE RD									INNES RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	29	84	6	119	21	29	14	64	5	14	53	16	83	34	295	129	458	5	724
07:15	07:30	24	82	16	123	28	37	16	81	14	8	91	15	114	37	348	155	540	14	858
07:30	07:45	30	92	20	142	39	48	11	98	20	4	94	21	120	65	245	123	433	20	793
07:45	08:00	28	78	29	137	54	28	11	93	18	9	89	12	110	54	260	113	427	18	767
08:00	08:15	20	90	17	128	33	42	12	87	12	8	71	21	100	32	218	109	360	12	675
08:15	08:30	29	79	13	121	49	44	12	105	14	12	90	18	120	32	265	105	402	14	748
08:30	08:45	36	104	14	154	40	50	14	104	9	9	80	13	102	24	219	98	341	9	701
08:45	09:00	36	88	19	143	51	32	19	102	11	16	114	12	142	29	209	76	314	11	701
09:00	09:15	27	61	29	121	37	48	15	100	16	13	92	13	118	28	154	60	242	16	581
09:15	09:30	24	69	33	126	50	33	19	102	10	14	122	20	156	31	171	67	269	10	653
09:30	09:45	26	40	26	92	31	34	16	81	11	11	115	24	150	31	178	63	272	11	595
09:45	10:00	17	60	22	100	35	32	13	80	6	15	130	23	168	35	154	46	235	6	583
11:30	11:45	26	43	51	123	60	62	22	144	9	19	194	32	247	42	189	55	288	9	802
11:45	12:00	38	52	27	117	61	56	26	143	14	28	171	20	219	39	198	58	295	14	774
12:00	12:15	34	42	50	127	65	55	22	142	6	26	194	33	254	34	171	63	268	6	791
12:15	12:30	29	34	54	117	58	53	22	133	7	21	232	24	277	49	179	67	295	7	822
12:30	12:45	27	51	39	117	73	43	23	139	5	28	197	25	251	48	177	62	287	5	794
12:45	13:00	34	45	39	118	61	57	22	140	5	32	203	24	259	38	172	65	275	5	792
13:00	13:15	33	32	45	112	60	49	16	125	8	18	203	27	249	58	188	62	308	8	794
13:15	13:30	33	38	44	115	59	49	20	128	5	26	200	29	255	50	211	73	334	5	832
15:00	15:15	30	75	59	164	99	89	22	210	8	23	268	40	331	46	164	67	277	8	982
15:15	15:30	41	69	58	168	113	103	31	247	13	26	303	30	360	41	196	69	306	13	1081
15:30	15:45	42	54	53	149	95	89	17	201	6	32	297	36	366	38	176	74	288	6	1004
15:45	16:00	39	72	61	173	105	117	22	244	10	26	288	23	338	50	194	68	312	10	1067
16:00	16:15	50	52	57	159	106	94	36	236	8	30	276	40	350	37	186	77	300	8	1045
16:15	16:30	38	59	56	153	110	120	15	245	12	36	337	32	406	49	173	71	294	12	1098
16:30	16:45	35	74	62	171	95	107	19	221	9	30	312	28	370	38	187	84	309	9	1071
16:45	17:00	40	74	70	184	116	114	24	254	7	39	330	37	407	44	167	76	288	7	1133
17:00	17:15	52	62	68	183	103	104	23	230	4	30	301	42	375	48	180	62	290	4	1078
17:15	17:30	38	60	49	147	84	123	18	225	4	35	313	37	386	45	180	80	305	4	1063
17:30	17:45	40	63	44	148	103	115	20	238	4	27	321	43	392	41	171	54	266	4	1044
17:45	18:00	41	74	51	168	84	87	23	195	5	28	270	36	336	49	165	63	277	5	976
Total:		1066	2052	1281	4419	2178	2143	615	4937	295	693	6351	846	7911	1316	6340	2494	10155	295	27,422

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39284

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

Full Study Cyclist Volume

Time Period		JEANNE D'ARC BLVD/MER BLEUE RD			INNES RD			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	07:15	0	0	0	0	0	0	0
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	0	0	0	0	0	0	0
07:45	08:00	0	0	0	0	0	0	0
08:00	08:15	0	0	0	1	0	1	1
08:15	08:30	0	0	0	0	1	1	1
08:30	08:45	0	0	0	0	0	0	0
08:45	09:00	0	0	0	0	0	0	0
09:00	09:15	0	0	0	2	0	2	2
09:15	09:30	1	0	1	1	0	1	2
09:30	09:45	0	0	0	1	0	1	1
09:45	10:00	0	0	0	2	0	2	2
11:30	11:45	0	0	0	0	0	0	0
11:45	12:00	0	0	0	0	0	0	0
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	0	0	0	0	0	0	0
12:45	13:00	0	0	0	0	0	0	0
13:00	13:15	0	0	0	0	0	0	0
13:15	13:30	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	1	1	1
16:30	16:45	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0
Total		1	0	**1**	7	2	9	10

Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39284

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

Full Study Pedestrian Volume

	JEANNE D'ARC BLVD/MER BLEUE RD			INNES RD			
Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	**Total**	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	**Total**	**Grand Total**
07:00 07:15	0	0	**0**	1	0	**1**	**1**
07:15 07:30	0	4	**4**	0	1	**1**	**5**
07:30 07:45	0	1	**1**	0	1	**1**	**2**
07:45 08:00	1	2	**3**	2	1	**3**	**6**
08:00 08:15	0	0	**0**	0	0	**0**	**0**
08:15 08:30	0	1	**1**	1	0	**1**	**2**
08:30 08:45	1	8	**9**	1	7	**8**	**17**
08:45 09:00	0	0	**0**	1	0	**1**	**1**
09:00 09:15	1	3	**4**	2	0	**2**	**6**
09:15 09:30	0	1	**1**	0	0	**0**	**1**
09:30 09:45	1	2	**3**	1	0	**1**	**4**
09:45 10:00	0	3	**3**	3	1	**4**	**7**
11:30 11:45	1	4	**5**	1	2	**3**	**8**
11:45 12:00	1	0	**1**	1	2	**3**	**4**
12:00 12:15	2	1	**3**	1	0	**1**	**4**
12:15 12:30	1	1	**2**	1	0	**1**	**3**
12:30 12:45	1	2	**3**	1	1	**2**	**5**
12:45 13:00	1	2	**3**	2	2	**4**	**7**
13:00 13:15	3	8	**11**	4	3	**7**	**18**
13:15 13:30	1	2	**3**	2	1	**3**	**6**
15:00 15:15	2	1	**3**	0	4	**4**	**7**
15:15 15:30	1	4	**5**	0	1	**1**	**6**
15:30 15:45	1	3	**4**	2	2	**4**	**8**
15:45 16:00	2	12	**14**	1	0	**1**	**15**
16:00 16:15	2	1	**3**	0	3	**3**	**6**
16:15 16:30	2	6	**8**	4	3	**7**	**15**
16:30 16:45	2	3	**5**	0	1	**1**	**6**
16:45 17:00	1	2	**3**	0	1	**1**	**4**
17:00 17:15	0	1	**1**	2	0	**2**	**3**
17:15 17:30	2	3	**5**	3	2	**5**	**10**
17:30 17:45	3	2	**5**	3	1	**4**	**9**
17:45 18:00	1	1	**2**	0	0	**0**	**2**
Total	34	84	**118**	40	40	**80**	**198**

5469225 - THU JAN 09, 2020 - 8HRS - LORETTA

Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39284

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

Full Study Heavy Vehicles

		JEANNE D'ARC BLVD/MER BLEUE RD									INNES RD									
		Northbound				Southbound					Eastbound				Westbound					
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00	07:15	0	3	0	**3**	0	2	0	**2**	**5**	2	8	1	**11**	0	7	6	**13**	**24**	**29**
07:15	07:30	1	4	0	**5**	2	5	2	**9**	**14**	2	16	1	**19**	0	6	0	**6**	**25**	**39**
07:30	07:45	2	7	2	**11**	2	7	0	**9**	**20**	1	12	1	**14**	1	5	1	**7**	**21**	**41**
07:45	08:00	2	5	0	**7**	6	4	1	**11**	**18**	2	6	0	**8**	0	10	3	**13**	**21**	**39**
08:00	08:15	1	5	2	**8**	1	3	0	**4**	**12**	1	7	0	**8**	0	9	2	**11**	**19**	**31**
08:15	08:30	0	6	0	**6**	1	4	3	**8**	**14**	1	7	1	**9**	2	11	1	**14**	**23**	**37**
08:30	08:45	0	3	0	**3**	2	3	1	**6**	**9**	1	12	0	**13**	0	9	4	**13**	**26**	**35**
08:45	09:00	1	3	0	**4**	1	5	1	**7**	**11**	1	7	0	**8**	0	10	1	**11**	**19**	**30**
09:00	09:15	0	7	0	**7**	3	3	3	**9**	**16**	0	8	1	**9**	0	6	5	**11**	**20**	**36**
09:15	09:30	0	3	0	**3**	1	3	3	**7**	**10**	1	12	0	**13**	0	4	1	**5**	**18**	**28**
09:30	09:45	1	3	2	**6**	3	2	0	**5**	**11**	0	7	2	**9**	0	2	4	**6**	**15**	**26**
09:45	10:00	0	2	1	**3**	1	0	2	**3**	**6**	3	3	2	**8**	2	4	0	**6**	**14**	**20**
11:30	11:45	0	1	1	**2**	2	5	0	**7**	**9**	0	5	2	**7**	0	4	0	**4**	**11**	**20**
11:45	12:00	2	7	2	**11**	1	1	1	**3**	**14**	1	3	0	**4**	1	8	0	**9**	**13**	**27**
12:00	12:15	0	1	0	**1**	2	3	0	**5**	**6**	0	4	0	**4**	0	4	3	**7**	**11**	**17**
12:15	12:30	0	0	2	**2**	2	2	1	**5**	**7**	1	7	3	**11**	2	4	0	**6**	**17**	**24**
12:30	12:45	1	3	0	**4**	0	1	0	**1**	**5**	0	3	2	**5**	0	3	1	**4**	**9**	**14**
12:45	13:00	1	0	0	**1**	1	2	1	**4**	**5**	1	4	0	**5**	1	3	2	**6**	**11**	**16**
13:00	13:15	2	3	0	**5**	0	3	0	**3**	**8**	1	7	0	**8**	0	4	2	**6**	**14**	**22**
13:15	13:30	1	1	1	**3**	0	1	1	**2**	**5**	2	5	2	**9**	1	3	0	**4**	**13**	**18**
15:00	15:15	0	1	3	**4**	0	4	0	**4**	**8**	0	2	1	**3**	2	5	3	**10**	**13**	**21**
15:15	15:30	1	5	2	**8**	0	3	2	**5**	**13**	1	4	1	**6**	0	6	2	**8**	**14**	**27**
15:30	15:45	1	2	0	**3**	0	2	1	**3**	**6**	0	3	0	**3**	1	4	3	**8**	**11**	**17**
15:45	16:00	0	3	0	**3**	0	7	0	**7**	**10**	3	7	0	**10**	0	6	1	**7**	**17**	**27**
16:00	16:15	3	1	0	**4**	0	3	1	**4**	**8**	1	5	2	**8**	0	6	1	**7**	**15**	**23**
16:15	16:30	1	3	0	**4**	1	4	3	**8**	**12**	1	3	0	**4**	1	5	2	**8**	**12**	**24**
16:30	16:45	2	2	1	**5**	0	3	1	**4**	**9**	0	3	0	**3**	0	4	2	**6**	**9**	**18**
16:45	17:00	0	3	0	**3**	0	2	2	**4**	**7**	2	2	0	**4**	1	3	0	**4**	**8**	**15**
17:00	17:15	1	1	0	**2**	0	2	0	**2**	**4**	1	6	0	**7**	0	3	2	**5**	**12**	**16**
17:15	17:30	0	0	0	**0**	1	2	1	**4**	**4**	1	1	0	**2**	0	4	1	**5**	**7**	**11**
17:30	17:45	1	2	0	**3**	0	1	0	**1**	**4**	0	5	0	**5**	0	2	0	**2**	**7**	**11**
17:45	18:00	0	1	1	**2**	0	2	1	**3**	**5**	1	2	0	**3**	0	3	3	**6**	**9**	**14**
Total:	None	25	91	20	**136**	33	94	32	**159**	**295**	32	186	22	**240**	15	167	56	**238**	**478**	**773**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Survey Date: Thursday, January 09, 2020 **WO No:** 39284

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

Full Study 15 Minute U-Turn Total

Time Period		JEANNE D'ARC BLVD/MER BLEUE RD		INNES RD		
		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	1	0	0	0	1
07:30	07:45	0	0	1	0	1
07:45	08:00	2	0	0	0	2
08:00	08:15	1	0	0	1	2
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	4	0	0	0	4
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	0	0
09:45	10:00	1	0	0	0	1
11:30	11:45	3	0	2	2	7
11:45	12:00	0	0	0	0	0
12:00	12:15	1	0	1	0	2
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	1	0	1
12:45	13:00	0	0	0	0	0
13:00	13:15	2	0	1	0	3
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	1	0	1
15:30	15:45	0	0	1	0	1
15:45	16:00	1	0	1	0	2
16:00	16:15	0	0	4	0	4
16:15	16:30	0	0	1	1	2
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	1	1	2
17:00	17:15	1	0	2	0	3
17:15	17:30	0	0	1	0	1
17:30	17:45	1	0	1	0	2
17:45	18:00	2	1	2	0	5
Total		20	1	21	5	47

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Traffic Control: Traffic signal **Total Collisions:** 14

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Sep-13, Sun,15:20	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2015-Nov-13, Fri,17:26	Rain	Rear end	P.D. only	Wet	East	Going ahead	Passenger van	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Pick-up truck	Other motor vehicle	
					East	Stopped	Pick-up truck	Other motor vehicle	
2015-Dec-11, Fri,18:00	Rain	Angle	P.D. only	Wet	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Dec-18, Fri,12:10	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Pick-up truck	Other motor vehicle	
2016-Jun-17, Fri,14:21	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Dec-23, Fri,12:23	Clear	Rear end	Non-fatal injury	Loose snow	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Mar-24, Fri,20:26	Snow	SMV other	P.D. only	Wet	East	Turning right	Truck and trailer	Pole (utility, power)	0
2017-May-01, Mon,12:10	Rain	Rear end	P.D. only	Wet	West	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jul-15, Sat,21:09	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Mar-18, Sun,10:54	Clear	SMV other	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Pedestrian	1

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: INNES RD @ 260 E OF BELCOURT BLVD/WALMART SC

Traffic Control: Traffic signal **Total Collisions:** 14

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Jul-08, Sun,12:10	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Truck - closed	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Dec-12, Wed,16:50	Clear	Rear end	P.D. only	Dry	East	Unknown	Unknown	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Feb-21, Thu,20:20	Snow	Rear end	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Pick-up truck	Other motor vehicle	
2019-May-28, Tue,15:00	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Traffic Control: Traffic signal **Total Collisions:** 110

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-20, Tue,13:41	Clear	Rear end	P.D. only	Dry	North	Turning right	Unknown	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2015-Jan-31, Sat,18:30	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2015-Feb-02, Mon,09:54	Snow	SMV other	P.D. only	Loose snow	North	Slowing or stopping	Pick-up truck	Skidding/sliding	0
2015-Feb-02, Mon,11:05	Snow	SMV other	P.D. only	Loose snow	East	Slowing or stopping	Pick-up truck	Curb	0
2015-Mar-16, Mon,17:47	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Pick-up truck	Other motor vehicle	
2015-May-06, Wed,08:40	Clear	Rear end	Non-fatal injury	Dry	North	Unknown	Pick-up truck	Other motor vehicle	0
					North	Unknown	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Traffic Control: Traffic signal **Total Collisions:** 110

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jun-07, Sun,13:18	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Jul-31, Fri,14:50	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Pick-up truck	Other motor vehicle	
2015-Aug-10, Mon,12:00	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Aug-14, Fri,17:15	Clear	Rear end	P.D. only	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					West	Turning left	Pick-up truck	Other motor vehicle	
2015-Aug-28, Fri,20:44	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Pick-up truck	Other motor vehicle	
2015-Sep-02, Wed,13:49	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2015-Sep-21, Mon,18:24	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2015-Oct-02, Fri,10:17	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Nov-10, Tue,16:25	Clear	Rear end	P.D. only	Dry	East	Unknown	Unknown	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Nov-12, Thu,15:22	Rain	Rear end	P.D. only	Wet	South	Slowing or stopping	Passenger van	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Traffic Control: Traffic signal **Total Collisions:** 110

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Jan-28, Thu,13:14	Clear	Angle	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jan-29, Fri,07:20	Rain	Sideswipe	P.D. only	Wet	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Passenger van	Other motor vehicle	
2016-Feb-10, Wed,23:53	Drifting Snow	SMV other	P.D. only	Loose snow	West	Going ahead	Automobile, station wagon	Pole (sign, parking meter)	0
2016-Feb-17, Wed,08:29	Clear	Turning movement	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Mar-05, Sat,15:15	Clear	Rear end	P.D. only	Dry	South	Changing lanes	Passenger van	Other motor vehicle	0
					South	Slowing or stopping	Pick-up truck	Other motor vehicle	
2016-Mar-21, Mon,09:16	Clear	Turning movement	P.D. only	Dry	East	Turning left	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-May-22, Sun,17:20	Clear	Rear end	P.D. only	Dry	North	Turning right	Pick-up truck	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2016-May-31, Tue,18:38	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Pick-up truck	Other motor vehicle	
2016-Jul-05, Tue,13:36	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Aug-03, Wed,21:20	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Aug-21, Sun,15:50	Clear	Rear end	P.D. only	Dry	West	Stopped	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	

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Collision Details Report - Public Version

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

Location: INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Traffic Control: Traffic signal

Total Collisions: 110

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Aug-22, Mon,20:31	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Aug-28, Sun,12:20	Clear	Rear end	Non-fatal injury	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Aug-28, Sun,17:41	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Aug-28, Sun,23:10	Clear	Turning movement	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Unknown	Other motor vehicle	
2016-Sep-09, Fri,11:37	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Sep-11, Sun,19:30	Clear	Turning movement	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Dec-15, Thu,12:06	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Dec-16, Fri,17:22	Clear	Rear end	P.D. only	Ice	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jan-02, Mon,14:41	Clear	Rear end	P.D. only	Wet	South	Turning right	Passenger van	Other motor vehicle	0
					South	Turning right	Passenger van	Other motor vehicle	
2017-Jan-06, Fri,20:35	Clear	Turning movement	P.D. only	Ice	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
					North	Stopped	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Traffic Control: Traffic signal **Total Collisions:** 110

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Jan-14, Sat,01:02	Clear	Angle	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Jan-24, Tue,16:27	Clear	Turning movement	Non-fatal injury	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Jan-29, Sun,13:02	Snow	Rear end	P.D. only	Wet	West	Going ahead	Passenger van	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Pick-up truck	Other motor vehicle	
2017-Feb-01, Wed,14:30	Clear	Rear end	P.D. only	Wet	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Feb-07, Tue,18:09	Freezing Rain	Turning movement	P.D. only	Ice	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Feb-08, Wed,16:26	Clear	Angle	P.D. only	Wet	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Municipal transit bus	Other motor vehicle	
2017-Mar-08, Wed,19:45	Clear	Rear end	P.D. only	Dry	North	Turning right	Pick-up truck	Other motor vehicle	0
					North	Turning right	Pick-up truck	Other motor vehicle	
2017-Mar-21, Tue,18:06	Clear	Turning movement	P.D. only	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2017-Mar-22, Wed,08:12	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2017-Apr-13, Thu,12:30	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2017-May-06, Sat,20:08	Rain	Turning movement	Non-fatal injury	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

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

Location: INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Traffic Control: Traffic signal **Total Collisions:** 110

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Jul-17, Mon,15:56	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Aug-19, Sat,15:06	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Sep-22, Fri,16:35	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Pick-up truck	Other motor vehicle	
2017-Oct-08, Sun,09:50	Clear	Rear end	Non-fatal injury	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Passenger van	Other motor vehicle	
2017-Oct-12, Thu,08:06	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Oct-13, Fri,18:32	Clear	Sideswipe	P.D. only	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					North	Turning left	Pick-up truck	Other motor vehicle	
2017-Oct-18, Wed,01:47	Clear	SMV other	P.D. only	Dry	North	Turning left	Pick-up truck	Pole (utility, power)	0
2017-Nov-06, Mon,11:20	Clear	Sideswipe	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Nov-20, Mon,15:01	Clear	Turning movement	P.D. only	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2017-Dec-19, Tue,08:26	Clear	Angle	P.D. only	Loose snow	West	Slowing or stopping	Automobile, station wagon	Skidding/sliding	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-20, Wed,17:45	Clear	Rear end	P.D. only	Wet	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

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

Location: INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Traffic Control: Traffic signal **Total Collisions:** 110

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Dec-23, Sat,16:30	Snow	Turning movement	P.D. only	Loose snow	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-26, Tue,08:58	Drifting Snow	Rear end	P.D. only	Packed snow	South	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Dec-26, Tue,13:37	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Dec-26, Tue,15:17	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jan-11, Thu,19:56	Rain	Turning movement	P.D. only	Wet	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jan-25, Thu,16:00	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Feb-05, Mon,13:10	Clear	Rear end	P.D. only	Wet	North	Merging	Automobile, station wagon	Other motor vehicle	0
					North	Merging	Automobile, station wagon	Other motor vehicle	
2018-Mar-11, Sun,18:00	Clear	Sideswipe	P.D. only	Dry	East	Unknown	Unknown	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Apr-03, Tue,15:48	Clear	Rear end	Non-fatal injury	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2018-May-21, Mon,16:35	Clear	Angle	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-May-25, Fri,20:55	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

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

Location: INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Traffic Control: Traffic signal **Total Collisions:** 110

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Jun-13, Wed,16:27	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jun-21, Thu,11:00	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jul-18, Wed,16:35	Clear	Rear end	P.D. only	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Aug-16, Thu,13:19	Clear	Turning movement	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Aug-18, Sat,18:37	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Aug-28, Tue,20:10	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Aug-31, Fri,09:01	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Sep-24, Mon,10:41	Clear	Turning movement	P.D. only	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Nov-06, Tue,09:44	Rain	Rear end	P.D. only	Wet	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-14, Wed,19:15	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

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

Location: INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Traffic Control: Traffic signal **Total Collisions:** 110

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Nov-22, Thu,09:41	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Nov-22, Thu,18:08	Clear	Turning movement	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-29, Thu,14:45	Clear	Sideswipe	P.D. only	Wet	East	Unknown	Unknown	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Dec-02, Sun,11:19	Freezing Rain	Rear end	P.D. only	Ice	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Dec-16, Sun,18:05	Clear	Rear end	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-03, Thu,17:40	Snow	Turning movement	P.D. only	Loose snow	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jan-14, Mon,20:16	Clear	Turning movement	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-19, Sat,15:27	Clear	Rear end	Non-fatal injury	Wet	West	Slowing or stopping	Unknown	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Feb-08, Fri,18:31	Freezing Rain	Rear end	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Mar-11, Mon,18:06	Clear	Rear end	P.D. only	Wet	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Mar-14, Thu,13:12	Clear	Turning movement	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

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

Location: INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Traffic Control: Traffic signal **Total Collisions:** 110

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Apr-28, Sun,18:06	Clear	Rear end	P.D. only	Dry	North	Unknown	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-May-08, Wed,12:15	Clear	Turning movement	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-May-18, Sat,13:30	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Pick-up truck	Other motor vehicle	0
					West	Turning left	Pick-up truck	Other motor vehicle	
2019-Jun-03, Mon,13:00	Clear	Rear end	Non-fatal injury	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-06, Sat,20:16	Clear	Turning movement	P.D. only	Dry	East	Turning left	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-17, Wed,06:56	Clear	Rear end	P.D. only	Dry	South	Turning right	Pick-up truck	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Aug-08, Thu,13:47	Clear	Angle	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Aug-09, Fri,11:30	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Aug-17, Sat,16:30	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Aug-19, Mon,18:55	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

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

Location: INNES RD @ JEANNE D'ARC BLVD/MER BLEUE RD

Traffic Control: Traffic signal **Total Collisions:** 110

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Sep-16, Mon,21:01	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Oct-05, Sat,13:55	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Oct-17, Thu,10:30	Clear	Sideswipe	P.D. only	Wet	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Unknown	Other motor vehicle	
2019-Oct-18, Fri,19:00	Clear	Rear end	P.D. only	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Nov-07, Thu,15:18	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Nov-08, Fri,11:29	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Dec-01, Sun,14:15	Clear	Rear end	Non-fatal injury	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Dec-05, Thu,15:49	Clear	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Truck - dump	Other motor vehicle	
2019-Dec-17, Tue,20:31	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Passenger van	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

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

Location: INNES RD btwn 260 E OF BELCOURT BLVD/WALMART SC & JEANNE D'ARC BLVD/ME

Traffic Control: No control **Total Collisions:** 21

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Feb-05, Thu,16:59	Clear	Rear end	Non-fatal injury	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Pulling away from shoulder or curb	Municipal transit bus	Other motor vehicle	
2015-Mar-06, Fri,07:12	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					West	Slowing or stopping	Pick-up truck	Other motor vehicle	
					West	Slowing or stopping	Pick-up truck	Other motor vehicle	
					West	Slowing or stopping	Pick-up truck	Other motor vehicle	
2015-May-06, Wed,08:31	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Passenger van	Other motor vehicle	
2015-May-14, Thu,15:30	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Passenger van	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2015-Sep-08, Tue,13:28	Clear	Sideswipe	Non-fatal injury	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Oct-05, Mon,21:23	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Changing lanes	Automobile, station wagon	Other motor vehicle	
2015-Oct-08, Thu,16:43	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Pick-up truck	Other motor vehicle	
2016-Jan-05, Tue,17:26	Clear	Rear end	Non-fatal injury	Wet	East	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Mar-23, Wed,12:04	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Stopped	Passenger van	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

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

Location: INNES RD btwn 260 E OF BELCOURT BLVD/WALMART SC & JEANNE D'ARC BLVD/ME

Traffic Control: No control **Total Collisions:** 21

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-May-19, Thu,21:41	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Pick-up truck	Other motor vehicle	
2016-Jun-21, Tue,16:58	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Stopped	Passenger van	Other motor vehicle	
					East	Stopped	Pick-up truck	Other motor vehicle	
2016-Jun-27, Mon,16:50	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Slowing or stopping	Pick-up truck	Other motor vehicle	
					East	Slowing or stopping	Delivery van	Other motor vehicle	
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Oct-23, Sun,12:38	Clear	Angle	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2017-Aug-02, Wed,11:00	Clear	SMV other	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Debris on road	0
2017-Dec-15, Fri,18:50	Snow	Rear end	Non-fatal injury	Loose snow	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jan-25, Thu,14:25	Clear	Rear end	P.D. only	Ice	East	Slowing or stopping	Passenger van	Skidding/sliding	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Oct-03, Wed,19:00	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Unknown	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Oct-04, Thu,16:50	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-10, Thu,21:38	Clear	Turning movement	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: INNES RD btwn 260 E OF BELCOURT BLVD/WALMART SC & JEANNE D'ARC BLVD/ME

Traffic Control: No control **Total Collisions:** 21

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Mar-11, Mon,21:00	Snow	Sideswipe	P.D. only	Ice	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-06, Fri,14:50	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	

Location: INNES RD btwn BELCOURT BLVD & 260 E OF BELCOURT BLVD/WALMART SC

Traffic Control: No control **Total Collisions:** 12

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Oct-27, Tue,09:00	Clear	Angle	P.D. only	Dry	East	Going ahead	Passenger van	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2016-May-03, Tue,15:45	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-May-16, Mon,23:54	Clear	SMV other	P.D. only	Dry	East	Going ahead	Pick-up truck	Curb	0
2016-Nov-10, Thu,09:30	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Passenger van	Other motor vehicle	
2017-May-23, Tue,18:56	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Passenger van	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Aug-31, Thu,19:15	Clear	Sideswipe	P.D. only	Dry	East	Unknown	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Sep-22, Fri,13:00	Clear	Rear end	P.D. only	Dry	East	Going ahead	Unknown	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Dec-09, Sat,15:45	Clear	Turning movement	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle	0
					East	Turning right	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: INNES RD btwn BELCOURT BLVD & 260 E OF BELCOURT BLVD/WALMART SC

Traffic Control: No control **Total Collisions:** 12

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Mar-26, Mon,14:01	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Nov-16, Fri,18:38	Snow	Rear end	P.D. only	Loose snow	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Going ahead	Unknown	Other motor vehicle	
2018-Nov-20, Tue,04:13	Rain	Sideswipe	P.D. only	Loose snow	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Police vehicle	Other motor vehicle	
2018-Dec-19, Wed,12:37	Clear	Rear end	P.D. only	Dry	East	Going ahead	Passenger van	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

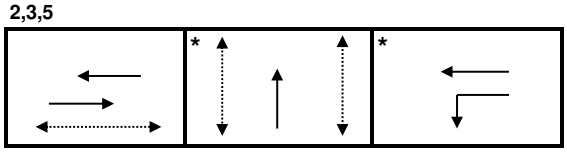
Intersection:	***Main:*** Innes	***Side:***	260m E of Frank Bender
Controller:	**ATC 3**	**TSD:**	**6609**
Author:	Matthew Anderson	**Date:**	06-Jul-2021

Existing Timing Plans†

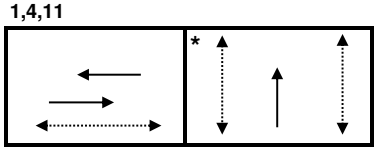
	Plan						**Ped Minimum Time**		
	AM Peak	**Off Peak**	**PM Peak**	**Night**	**Weekend**	**AM Heavy**	***Walk***	***DW***	***A+R***
	1	2	3	4	5	11			
Cycle	110	110	130	90	130	120			
Offset	30	101	1	X	68	30			
EB Thru	80	66	80	60	68	90	10	15	3.7+2.9
WB Thru	80	80	100	60	96	90	10	15	3.7+2.9
NB Thru	30	30	30	30	34	30	7	17	3.3+2.8
WB Left	-	14	20	-	28	-	-	-	3.7+2.1

Phasing Sequence‡

Plan: 2,3,5



Plan: 1,4,11



Schedule

Weekday

Time	Plan
0:15	4
6:00	11
9:00	1
9:30	2
15:00	3
18:30	2
22:00	4

Saturday

Time	Plan
0:10	4
7:00	2
9:00	5
19:00	2
20:00	4

Sunday

Time	Plan
0:10	4
7:00	2
10:00	5
18:00	2
19:00	4

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $59.96 ($53.06 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

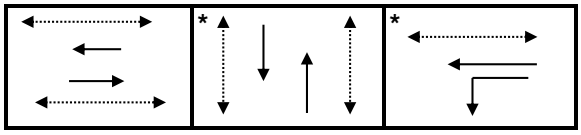
Intersection:	**Main:**	Innes	**Side:**	Frank Bender	
Controller:	**ATC 3**			**TSD:**	**6599**
Author:	Matthew Anderson			**Date:**	06-Jul-2021

Existing Timing Plans†

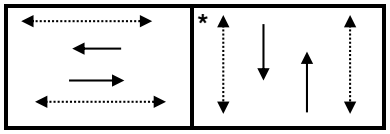
	Plan						**Ped Minimum Time**		
	Post AM 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	**AM Peak** 11	***Walk***	***DW***	***A+R***
Cycle	110	110	130	80	130	120			
Offset	33	64	116	X	64	33			
EB Thru	62	59	74	54	60	74	7	23	3.7 + 2.9
WB Thru	74	74	94	54	85	84	7	23	3.7 + 2.9
NB Thru	36	36	36	36	45	36	7	22	3.0 + 3.8
SB Thru	36	36	36	36	45	36	7	22	3.0 + 3.8
WB Left	12	15	20	-	25	10	-	-	3.7 + 1.0

Phasing Sequence‡

Plan: 1,2,3,5,11



Plan: 4



Schedule

Weekday

Time	Plan
0:10	4
6:00	11
9:00	1
9:30	2
15:00	3
18:30	2
22:00	4

Saturday

Time	Plan
0:10	4
7:00	2
9:00	5
19:00	2
20:00	4

Sunday

Time	Plan
0:10	4
7:00	2
10:00	5
18:00	2
19:00	4

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $59.96 ($53.06 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

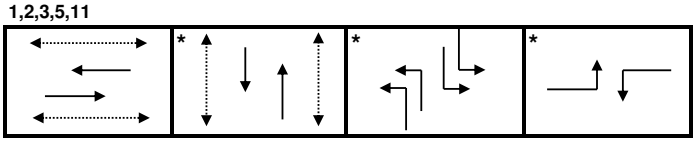
Intersection:	***Main:*** Innes	***Side:***	Jeanne d'Arc / Mer Bleue
Controller:	**MS 3200**	**TSD:**	**5907**
Author:	Matthew Anderson	**Date:**	06-Jul-2021

Existing Timing Plans†

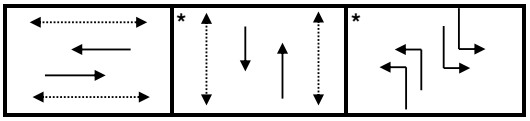
	Plan						**Ped Minimum Time**		
	Post AM 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	**AM Peak** 11	***Walk***	***DW***	***A+R***
Cycle	110	110	130	90	130	120			
Offset	0	0	0	X	0	0			
EB Thru	52	41	59	41	49	62	7	20	3.7+2.7
WB Thru	52	41	59	41	49	62	7	20	3.7+2.7
NB Thru	31	31	31	31	31	31	7	17	3.7+2.5
SB Thru	31	31	31	31	31	31	7	17	3.7+2.5
NB Left (fp)	15	25	23	18	23	15	-	-	3.7+2.6
SB Left (fp)	15	25	23	18	23	15	-	-	3.7+2.6
EB Left	12	13	17	-	27	12	-	-	3.7+2.4
WB Left	12	13	17	-	27	12	-	-	3.7+2.4

Phasing Sequence‡

Plan: 1,2,3,5,11



Plan: 4



Schedule

Weekday

Time	Plan
0:15	4
6:00	11
9:00	1
9:30	2
15:00	3
18:30	2
22:00	4

Saturday

Time	Plan
0:10	4
7:00	2
9:00	5
19:00	2
20:00	4

Sunday

Time	Plan
0:10	4
7:00	2
10:00	5
18:00	2
19:00	4

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $59.96 ($53.06 + HST)

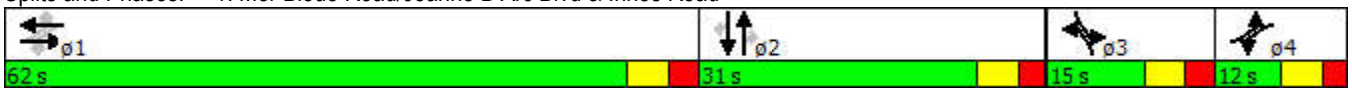
APPENDIX E: EXISTING (2021) AND BACKGROUND (2022) SYNCHRO ANALYSIS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	327	64	190	1148	520	111	336	71	135	142	59
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	120.0		120.0	120.0		100.0	100.0		20.0	70.0		20.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1383	3007	1473	1712	3357	1517	3195	3262	1502	3288	3007	1289
Flt Permitted	0.107			0.530			0.950			0.950		
Satd. Flow (perm)	156	3007	1473	955	3357	1517	3195	3262	1502	3288	3007	1289
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			142			404			144			144
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		317.9			302.5			358.6			236.2	
Travel Time (s)		19.1			18.2			21.5			14.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	25%	15%	5%	1%	3%	2%	5%	6%	3%	2%	15%	20%
Adj. Flow (vph)	39	363	71	211	1276	578	123	373	79	150	158	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	363	71	211	1276	578	123	373	79	150	158	66
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	1		4	1		3	2		3	2	
Permitted Phases	1		1	1		1			2			2
Detector Phase	4	1	1	4	1	1	3	2	2	3	2	2
Switch Phase												
Minimum Initial (s)	1.0	4.0	4.0	1.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	7.1	28.4	28.4	7.1	28.4	28.4	14.5	28.2	28.2	14.5	28.2	28.2
Total Split (s)	12.0	62.0	62.0	12.0	62.0	62.0	15.0	31.0	31.0	15.0	31.0	31.0
Total Split (%)	10.0%	51.7%	51.7%	10.0%	51.7%	51.7%	12.5%	25.8%	25.8%	12.5%	25.8%	25.8%
Maximum Green (s)	5.9	55.6	55.6	5.9	55.6	55.6	8.7	24.8	24.8	8.7	24.8	24.8
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.4	2.7	2.7	2.4	2.7	2.7	2.6	2.5	2.5	2.6	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.4	6.4	6.1	6.4	6.4	6.3	6.2	6.2	6.3	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	61.9	55.7	55.7	61.9	55.7	55.7	8.5	19.1	19.1	8.5	19.1	19.1
Actuated g/C Ratio	0.54	0.49	0.49	0.54	0.49	0.49	0.07	0.17	0.17	0.07	0.17	0.17
v/c Ratio	0.27	0.25	0.09	0.38	0.78	0.61	0.52	0.68	0.21	0.62	0.31	0.20
Control Delay	15.5	18.2	0.2	14.9	29.0	9.3	60.2	51.5	1.3	63.7	43.2	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	18.2	0.2	14.9	29.0	9.3	60.2	51.5	1.3	63.7	43.2	1.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	B	A	B	C	A	E	D	A	E	D	A
Approach Delay		15.3			22.1			46.4			44.0	
Approach LOS		B			C			D			D	
Queue Length 50th (m)	3.4	24.1	0.0	20.6	120.5	23.1	13.8	41.7	0.0	17.0	16.5	0.0
Queue Length 95th (m)	8.9	37.2	0.0	36.6	163.2	63.2	24.5	57.4	0.0	28.8	26.3	0.0
Internal Link Dist (m)		293.9			278.5			334.6			212.2	
Turn Bay Length (m)	120.0		120.0	120.0		100.0	100.0		20.0	70.0		20.0
Base Capacity (vph)	147	1466	791	556	1637	946	243	709	439	250	654	393
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.25	0.09	0.38	0.78	0.61	0.51	0.53	0.18	0.60	0.24	0.17

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 114.2			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 27.5		Intersection LOS: C	
Intersection Capacity Utilization 71.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Mer Bleue Road/Jeanne D'Arc Blvd & Innes Road

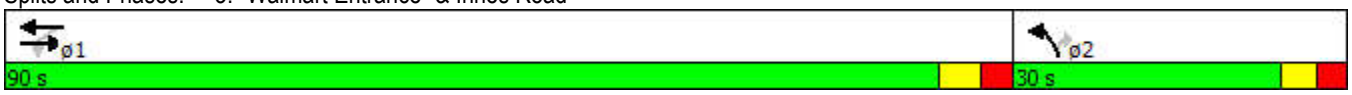


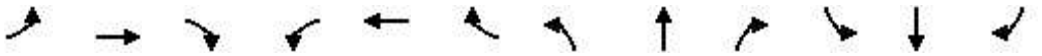
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	443	22	41	1316	5	33
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	150.0		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3029	0	1729	3325	1729	1459
Flt Permitted			0.461		0.950	
Satd. Flow (perm)	3029	0	839	3325	1729	1459
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	10					37
Link Speed (k/h)	60			60	60	
Link Distance (m)	263.3			317.9	112.7	
Travel Time (s)	15.8			19.1	6.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	14%	0%	0%	4%	0%	6%
Adj. Flow (vph)	492	24	46	1462	6	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	516	0	46	1462	6	37
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	1			1	2	
Permitted Phases			1			2
Detector Phase	1		1	1	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	24.6		24.6	24.6	28.1	28.1
Total Split (s)	90.0		90.0	90.0	30.0	30.0
Total Split (%)	75.0%		75.0%	75.0%	25.0%	25.0%
Maximum Green (s)	83.4		83.4	83.4	23.9	23.9
Yellow Time (s)	3.7		3.7	3.7	3.3	3.3
All-Red Time (s)	2.9		2.9	2.9	2.8	2.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6		6.6	6.6	6.1	6.1
Lead/Lag	Lead		Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Max	Max	None	None
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	15.0	15.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	100.7		100.7	100.7	6.5	6.5
Actuated g/C Ratio	0.90		0.90	0.90	0.06	0.06
v/c Ratio	0.19		0.06	0.49	0.06	0.31
Control Delay	1.6		1.9	2.8	52.4	23.4
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	1.6		1.9	2.8	52.4	23.4

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A		A	A	D	C
Approach Delay	1.6			2.7	27.5	
Approach LOS	A			A	C	
Queue Length 50th (m)	8.4		1.3	36.4	1.3	0.0
Queue Length 95th (m)	14.1		3.6	55.7	5.4	10.3
Internal Link Dist (m)	239.3			293.9	88.7	
Turn Bay Length (m)			150.0			
Base Capacity (vph)	2720		753	2985	369	340
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.19		0.06	0.49	0.02	0.11

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 112.1			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 3.0		Intersection LOS: A	
Intersection Capacity Utilization 52.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: "Walmart Entrance" & Innes Road



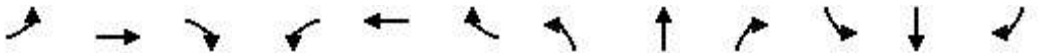


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	378	15	24	1204	81	15	37	3	39	24	43
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		100.0	100.0		0.0	100.0		0.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.991				0.850		0.904	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1572	3033	1345	1662	3331	0	1729	1670	1547	1679	1624	0
Flt Permitted	0.187			0.474			0.708			0.730		
Satd. Flow (perm)	309	3033	1345	830	3331	0	1289	1670	1547	1290	1624	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		11				75		48	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		238.0			263.3			225.6			203.5	
Travel Time (s)		14.3			15.8			20.3			18.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	10%	14%	15%	4%	3%	1%	0%	9%	0%	3%	0%	2%
Adj. Flow (vph)	37	420	17	27	1338	90	17	41	3	43	27	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	420	17	27	1428	0	17	41	3	43	75	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	5			3			7	
Permitted Phases	2		2	5			3		3	7		
Detector Phase	2	2	2	1	5		3	3	3	7	7	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	24.6	24.6	24.6	8.7	24.6		28.8	28.8	28.8	28.8	28.8	
Total Split (s)	74.0	74.0	74.0	10.0	84.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	61.7%	61.7%	61.7%	8.3%	70.0%		30.0%	30.0%	30.0%	30.0%	30.0%	
Maximum Green (s)	67.4	67.4	67.4	5.3	77.4		29.2	29.2	29.2	29.2	29.2	
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.9	2.9	2.9	1.0	2.9		3.8	3.8	3.8	3.8	3.8	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	6.6	6.6	4.7	6.6		6.8	6.8	6.8	6.8	6.8	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0		15.0	15.0	15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0	0	0		0		0	0	0	0	0	
Act Effct Green (s)	67.7	67.7	67.7	79.7	79.3		8.7	8.7	8.7	8.7	8.7	
Actuated g/C Ratio	0.70	0.70	0.70	0.82	0.82		0.09	0.09	0.09	0.09	0.09	
v/c Ratio	0.17	0.20	0.02	0.04	0.52		0.15	0.28	0.01	0.37	0.40	
Control Delay	8.9	6.2	0.1	2.6	4.9		44.4	46.8	0.0	52.0	26.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	8.9	6.2	0.1	2.6	4.9		44.4	46.8	0.0	52.0	26.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A	A	A	A		D	D	A	D	C	
Approach Delay		6.2			4.9			43.9			35.6	
Approach LOS		A			A			D			D	
Queue Length 50th (m)	2.3	14.1	0.0	0.8	44.4		3.1	7.5	0.0	8.0	4.9	
Queue Length 95th (m)	7.5	22.6	0.0	2.7	68.5		9.5	17.6	0.0	18.6	18.1	
Internal Link Dist (m)		214.0			239.3			201.6			179.5	
Turn Bay Length (m)			100.0	100.0			100.0					
Base Capacity (vph)	215	2115	961	726	2723		389	504	519	389	524	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.17	0.20	0.02	0.04	0.52		0.04	0.08	0.01	0.11	0.14	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 97.1			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 8.0		Intersection LOS: A	
Intersection Capacity Utilization 58.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Frank Bender St. & Innes Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	135	1276	139	179	707	293	165	269	256	424	445	81
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	120.0		120.0	120.0		100.0	100.0		20.0	70.0		20.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	3424	1547	1712	3390	1517	3288	3357	1547	3354	3357	1432
Flt Permitted	0.244			0.076			0.950			0.950		
Satd. Flow (perm)	431	3424	1547	137	3390	1517	3288	3357	1547	3354	3357	1432
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154			326			155			133
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		317.9			302.5			358.6			236.2	
Travel Time (s)		19.1			18.2			21.5			14.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	1%	0%	1%	2%	2%	2%	3%	0%	0%	3%	8%
Adj. Flow (vph)	150	1418	154	199	786	326	183	299	284	471	494	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	150	1418	154	199	786	326	183	299	284	471	494	90
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	1		4	1		3	2		3	2	
Permitted Phases	1		1	1		1			2			2
Detector Phase	4	1	1	4	1	1	3	2	2	3	2	2
Switch Phase												
Minimum Initial (s)	1.0	4.0	4.0	1.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	7.1	28.4	28.4	7.1	28.4	28.4	14.5	28.2	28.2	14.5	28.2	28.2
Total Split (s)	17.0	59.0	59.0	17.0	59.0	59.0	23.0	31.0	31.0	23.0	31.0	31.0
Total Split (%)	13.1%	45.4%	45.4%	13.1%	45.4%	45.4%	17.7%	23.8%	23.8%	17.7%	23.8%	23.8%
Maximum Green (s)	10.9	52.6	52.6	10.9	52.6	52.6	16.7	24.8	24.8	16.7	24.8	24.8
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.4	2.7	2.7	2.4	2.7	2.7	2.6	2.5	2.5	2.6	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.4	6.4	6.1	6.4	6.4	6.3	6.2	6.2	6.3	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	63.8	52.6	52.6	63.8	52.6	52.6	16.7	23.7	23.7	16.7	23.7	23.7
Actuated g/C Ratio	0.49	0.41	0.41	0.49	0.41	0.41	0.13	0.18	0.18	0.13	0.18	0.18
v/c Ratio	0.47	1.02	0.21	0.99	0.57	0.40	0.43	0.48	0.69	1.09	0.80	0.24
Control Delay	20.5	66.0	4.4	95.5	31.6	4.1	55.5	50.0	31.4	120.0	61.1	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	66.0	4.4	95.5	31.6	4.1	55.5	50.0	31.4	120.0	61.1	3.6

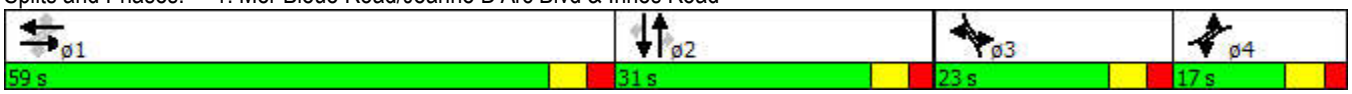
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	E	A	F	C	A	E	D	C	F	E	A
Approach Delay		56.5			34.5			44.4			82.5	
Approach LOS		E			C			D			F	
Queue Length 50th (m)	18.8	~203.1	0.0	36.4	81.1	0.0	22.6	36.1	30.7	~70.1	63.8	0.0
Queue Length 95th (m)	30.5	#245.7	12.9	#86.2	101.1	17.6	34.3	50.6	62.2	#103.6	83.3	4.7
Internal Link Dist (m)		293.9			278.5			334.6			212.2	
Turn Bay Length (m)	120.0		120.0	120.0		100.0	100.0		20.0	70.0		20.0
Base Capacity (vph)	319	1397	722	201	1383	811	426	646	422	434	646	382
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	1.02	0.21	0.99	0.57	0.40	0.43	0.46	0.67	1.09	0.76	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 128.9			
Natural Cycle: 130			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay: 54.3		Intersection LOS: D	
Intersection Capacity Utilization 89.1%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Mer Bleue Road/Jeanne D'Arc Blvd & Innes Road

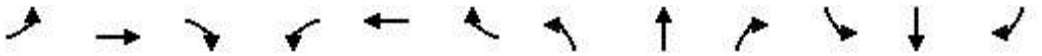


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1462	83	134	905	82	173
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	150.0		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3336	0	1729	3293	1679	1532
Flt Permitted			0.073		0.950	
Satd. Flow (perm)	3336	0	133	3293	1679	1532
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7					187
Link Speed (k/h)	60			60	40	
Link Distance (m)	263.3			317.9	112.7	
Travel Time (s)	15.8			19.1	10.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	0%	0%	5%	3%	1%
Adj. Flow (vph)	1624	92	149	1006	91	192
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1716	0	149	1006	91	192
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	1		2	5	3	
Permitted Phases			5			3
Detector Phase	1		2	5	3	3
Switch Phase						
Minimum Initial (s)	4.0		3.9	4.0	4.0	4.0
Minimum Split (s)	24.6		12.0	24.6	28.1	28.1
Total Split (s)	80.0		20.0	100.0	30.0	30.0
Total Split (%)	61.5%		15.4%	76.9%	23.1%	23.1%
Maximum Green (s)	73.4		14.2	93.4	23.9	23.9
Yellow Time (s)	3.7		3.7	3.7	3.3	3.3
All-Red Time (s)	2.9		2.1	2.9	2.8	2.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6		5.8	6.6	6.1	6.1
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		None	Max	None	None
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		15.0	11.0	15.0	15.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	73.5		94.3	93.5	11.7	11.7
Actuated g/C Ratio	0.62		0.80	0.79	0.10	0.10
v/c Ratio	0.82		0.50	0.39	0.55	0.60
Control Delay	22.0		30.6	4.4	63.0	15.9
Queue Delay	0.4		0.0	0.0	0.0	0.0
Total Delay	22.4		30.6	4.4	63.0	15.9

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	C		C	A	E	B
Approach Delay	22.4			7.7	31.0	
Approach LOS	C			A	C	
Queue Length 50th (m)	150.2		10.0	29.6	20.4	1.1
Queue Length 95th (m)	205.1		32.0	46.2	36.9	22.3
Internal Link Dist (m)	239.3			293.9	88.7	
Turn Bay Length (m)			150.0			
Base Capacity (vph)	2081		298	2611	340	459
Starvation Cap Reductn	82		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.86		0.50	0.39	0.27	0.42

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 117.9			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 17.8		Intersection LOS: B	
Intersection Capacity Utilization 73.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: "Walmart Entrance" & Innes Road



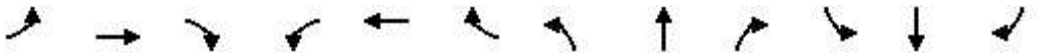
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	133	1385	104	78	775	62	103	39	39	94	95	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		100.0	100.0		0.0	100.0		0.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.989				0.850		0.937	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3390	1532	1729	3293	0	1729	1802	1547	1712	1698	0
Flt Permitted	0.307			0.075			0.473			0.729		
Satd. Flow (perm)	553	3390	1532	136	3293	0	861	1802	1547	1314	1698	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		14				70		26	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		238.0			263.3			225.6			203.5	
Travel Time (s)		14.3			15.8			20.3			18.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	2%	1%	0%	4%	2%	0%	1%	0%	1%	0%	1%
Adj. Flow (vph)	148	1539	116	87	861	69	114	43	43	104	106	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	1539	116	87	930	0	114	43	43	104	183	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	5			3			7	
Permitted Phases	2		2	5			3		3	7		
Detector Phase	2	2	2	1	5		3	3	3	7	7	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	24.6	24.6	24.6	8.7	24.6		28.8	28.8	28.8	28.8	28.8	
Total Split (s)	74.0	74.0	74.0	20.0	94.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	56.9%	56.9%	56.9%	15.4%	72.3%		27.7%	27.7%	27.7%	27.7%	27.7%	
Maximum Green (s)	67.4	67.4	67.4	15.3	87.4		29.2	29.2	29.2	29.2	29.2	
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.9	2.9	2.9	1.0	2.9		3.8	3.8	3.8	3.8	3.8	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	6.6	6.6	4.7	6.6		6.8	6.8	6.8	6.8	6.8	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0		15.0	15.0	15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0	0	0		0		0	0	0	0	0	
Act Effct Green (s)	67.5	67.5	67.5	89.5	87.6		17.6	17.6	17.6	17.6	17.6	
Actuated g/C Ratio	0.57	0.57	0.57	0.75	0.74		0.15	0.15	0.15	0.15	0.15	
v/c Ratio	0.47	0.80	0.13	0.28	0.38		0.90	0.16	0.15	0.54	0.67	
Control Delay	22.8	25.1	2.9	8.6	6.6		105.6	44.3	4.4	56.5	52.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	22.8	25.1	2.9	8.6	6.6		105.6	44.3	4.4	56.5	52.7	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C	A	A	A		F	D	A	E	D	
Approach Delay		23.5			6.8			70.6			54.1	
Approach LOS		C			A			E			D	
Queue Length 50th (m)	19.2	140.6	0.0	4.5	35.2		26.3	8.8	0.0	22.6	34.9	
Queue Length 95th (m)	44.7	203.5	8.8	14.1	59.7		#50.0	19.0	4.1	40.1	58.0	
Internal Link Dist (m)		214.0			239.3			201.6			179.5	
Turn Bay Length (m)			100.0	100.0			100.0					
Base Capacity (vph)	315	1930	922	308	2435		212	444	434	324	438	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.47	0.80	0.13	0.28	0.38		0.54	0.10	0.10	0.32	0.42	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 118.6
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 23.9 Intersection LOS: C
Intersection Capacity Utilization 81.5% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Frank Bender St. & Innes Road

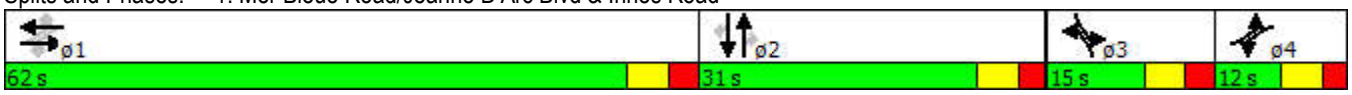


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	330	65	192	1159	525	112	339	72	136	143	60
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	120.0		120.0	120.0		100.0	100.0		20.0	70.0		20.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1383	3007	1473	1712	3357	1517	3195	3262	1502	3288	3007	1289
Flt Permitted	0.144			0.553			0.950			0.950		
Satd. Flow (perm)	210	3007	1473	996	3357	1517	3195	3262	1502	3288	3007	1289
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			142			432			144			144
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		317.9			302.5			358.6			236.2	
Travel Time (s)		19.1			18.2			21.5			14.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	25%	15%	5%	1%	3%	2%	5%	6%	3%	2%	15%	20%
Adj. Flow (vph)	35	330	65	192	1159	525	112	339	72	136	143	60
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	330	65	192	1159	525	112	339	72	136	143	60
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	1		4	1		3	2		3	2	
Permitted Phases	1		1	1		1			2			2
Detector Phase	4	1	1	4	1	1	3	2	2	3	2	2
Switch Phase												
Minimum Initial (s)	1.0	4.0	4.0	1.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	7.1	28.4	28.4	7.1	28.4	28.4	14.5	28.2	28.2	14.5	28.2	28.2
Total Split (s)	12.0	62.0	62.0	12.0	62.0	62.0	15.0	31.0	31.0	15.0	31.0	31.0
Total Split (%)	10.0%	51.7%	51.7%	10.0%	51.7%	51.7%	12.5%	25.8%	25.8%	12.5%	25.8%	25.8%
Maximum Green (s)	5.9	55.6	55.6	5.9	55.6	55.6	8.7	24.8	24.8	8.7	24.8	24.8
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.4	2.7	2.7	2.4	2.7	2.7	2.6	2.5	2.5	2.6	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.4	6.4	6.1	6.4	6.4	6.3	6.2	6.2	6.3	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	61.9	55.7	55.7	61.9	55.7	55.7	8.4	17.9	17.9	8.4	17.9	17.9
Actuated g/C Ratio	0.55	0.49	0.49	0.55	0.49	0.49	0.07	0.16	0.16	0.07	0.16	0.16
v/c Ratio	0.20	0.22	0.08	0.33	0.70	0.54	0.47	0.66	0.20	0.56	0.30	0.18
Control Delay	13.3	17.5	0.2	13.6	25.7	6.2	58.2	50.9	1.2	60.8	43.2	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.3	17.5	0.2	13.6	25.7	6.2	58.2	50.9	1.2	60.8	43.2	1.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	B	A	B	C	A	E	D	A	E	D	A
Approach Delay		14.6			19.0			45.6			42.8	
Approach LOS		B			B			D			D	
Queue Length 50th (m)	3.0	21.1	0.0	17.9	101.0	10.8	12.4	37.5	0.0	15.2	14.8	0.0
Queue Length 95th (m)	8.1	33.8	0.0	33.3	141.0	39.7	22.6	52.4	0.0	26.6	24.2	0.0
Internal Link Dist (m)		293.9			278.5			334.6			212.2	
Turn Bay Length (m)	120.0		120.0	120.0		100.0	100.0		20.0	70.0		20.0
Base Capacity (vph)	176	1483	798	583	1655	967	246	717	442	253	661	395
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.22	0.08	0.33	0.70	0.54	0.46	0.47	0.16	0.54	0.22	0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 112.9			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 25.4		Intersection LOS: C	
Intersection Capacity Utilization 72.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Mer Bleue Road/Jeanne D'Arc Blvd & Innes Road

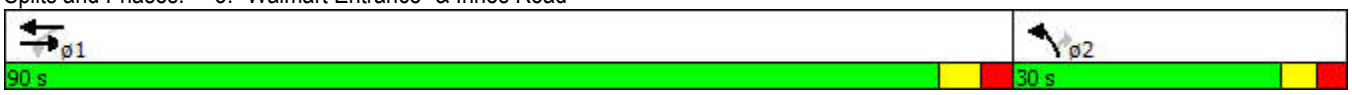


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	447	22	41	1329	5	33
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	150.0		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.993					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3030	0	1729	3325	1729	1459
Flt Permitted			0.483		0.950	
Satd. Flow (perm)	3030	0	879	3325	1729	1459
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	10					33
Link Speed (k/h)	60			60	60	
Link Distance (m)	263.3			317.9	112.7	
Travel Time (s)	15.8			19.1	6.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	14%	0%	0%	4%	0%	6%
Adj. Flow (vph)	447	22	41	1329	5	33
Shared Lane Traffic (%)						
Lane Group Flow (vph)	469	0	41	1329	5	33
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	1			1	2	
Permitted Phases			1			2
Detector Phase	1		1	1	2	2
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	24.6		24.6	24.6	28.1	28.1
Total Split (s)	90.0		90.0	90.0	30.0	30.0
Total Split (%)	75.0%		75.0%	75.0%	25.0%	25.0%
Maximum Green (s)	83.4		83.4	83.4	23.9	23.9
Yellow Time (s)	3.7		3.7	3.7	3.3	3.3
All-Red Time (s)	2.9		2.9	2.9	2.8	2.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6		6.6	6.6	6.1	6.1
Lead/Lag	Lead		Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Max	Max	None	None
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		11.0	11.0	15.0	15.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	101.1		101.1	101.1	6.4	6.4
Actuated g/C Ratio	0.90		0.90	0.90	0.06	0.06
v/c Ratio	0.17		0.05	0.44	0.05	0.29
Control Delay	1.6		1.8	2.5	52.8	23.9
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	1.6		1.8	2.5	52.8	23.9

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	A		A	A	D	C
Approach Delay	1.6			2.5	27.7	
Approach LOS	A			A	C	
Queue Length 50th (m)	7.5		1.1	30.7	1.1	0.0
Queue Length 95th (m)	12.5		3.2	46.4	5.1	9.9
Internal Link Dist (m)	239.3			293.9	88.7	
Turn Bay Length (m)			150.0			
Base Capacity (vph)	2724		790	2989	368	336
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.17		0.05	0.44	0.01	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 112.5			
Natural Cycle: 60			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 2.7		Intersection LOS: A	
Intersection Capacity Utilization 52.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: "Walmart Entrance" & Innes Road

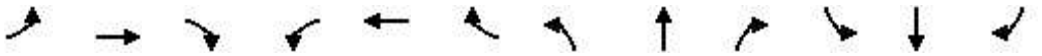


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	382	15	24	1216	82	15	37	3	39	24	43
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		100.0	100.0		0.0	100.0		0.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.991				0.850		0.904	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1572	3033	1345	1662	3331	0	1729	1670	1547	1679	1624	0
Flt Permitted	0.213			0.491			0.713			0.733		
Satd. Flow (perm)	352	3033	1345	859	3331	0	1298	1670	1547	1295	1624	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			77		12				75		43	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		238.0			263.3			225.6			203.5	
Travel Time (s)		14.3			15.8			20.3			18.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	10%	14%	15%	4%	3%	1%	0%	9%	0%	3%	0%	2%
Adj. Flow (vph)	33	382	15	24	1216	82	15	37	3	39	24	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	382	15	24	1298	0	15	37	3	39	67	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	5			3			7	
Permitted Phases	2		2	5			3		3	7		
Detector Phase	2	2	2	1	5		3	3	3	7	7	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	24.6	24.6	24.6	8.7	24.6		28.8	28.8	28.8	28.8	28.8	
Total Split (s)	74.0	74.0	74.0	10.0	84.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	61.7%	61.7%	61.7%	8.3%	70.0%		30.0%	30.0%	30.0%	30.0%	30.0%	
Maximum Green (s)	67.4	67.4	67.4	5.3	77.4		29.2	29.2	29.2	29.2	29.2	
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.9	2.9	2.9	1.0	2.9		3.8	3.8	3.8	3.8	3.8	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	6.6	6.6	4.7	6.6		6.8	6.8	6.8	6.8	6.8	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0		15.0	15.0	15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0	0	0		0		0	0	0	0	0	
Act Effct Green (s)	67.7	67.7	67.7	79.7	79.3		8.4	8.4	8.4	8.4	8.4	
Actuated g/C Ratio	0.70	0.70	0.70	0.82	0.82		0.09	0.09	0.09	0.09	0.09	
v/c Ratio	0.13	0.18	0.02	0.03	0.48		0.13	0.26	0.01	0.35	0.37	
Control Delay	7.8	6.0	0.0	2.5	4.4		44.3	46.6	0.0	51.4	26.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	7.8	6.0	0.0	2.5	4.4		44.3	46.6	0.0	51.4	26.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	A	A	A	A	A		D	D	A	D	C	
Approach Delay		5.9			4.3			43.5			35.6	
Approach LOS		A			A			D			D	
Queue Length 50th (m)	2.0	12.5	0.0	0.7	36.6		2.7	6.8	0.0	7.2	4.4	
Queue Length 95th (m)	6.4	20.1	0.0	2.5	56.6		8.9	16.3	0.0	17.3	16.9	
Internal Link Dist (m)		214.0			239.3			201.6			179.5	
Turn Bay Length (m)			100.0	100.0			100.0					
Base Capacity (vph)	246	2122	964	751	2731		393	506	521	392	522	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.13	0.18	0.02	0.03	0.48		0.04	0.07	0.01	0.10	0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 96.8			
Natural Cycle: 65			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 7.5		Intersection LOS: A	
Intersection Capacity Utilization 58.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Frank Bender St. & Innes Road



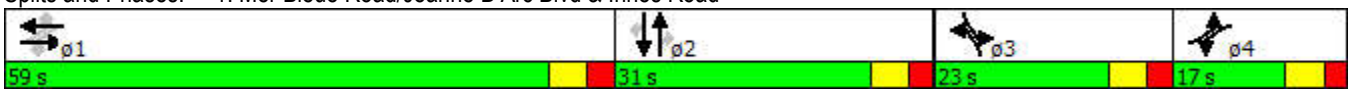
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	136	1289	140	181	714	296	167	272	259	428	449	82
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	120.0		120.0	120.0		100.0	100.0		20.0	70.0		20.0
Storage Lanes	1		1	1		1	2		1	2		1
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1679	3424	1547	1712	3390	1517	3288	3357	1547	3354	3357	1432
Flt Permitted	0.283			0.076			0.950			0.950		
Satd. Flow (perm)	500	3424	1547	137	3390	1517	3288	3357	1547	3354	3357	1432
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			140			296			160			133
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		317.9			302.5			358.6			236.2	
Travel Time (s)		19.1			18.2			21.5			14.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	1%	0%	1%	2%	2%	2%	3%	0%	0%	3%	8%
Adj. Flow (vph)	136	1289	140	181	714	296	167	272	259	428	449	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	1289	140	181	714	296	167	272	259	428	449	82
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	1		4	1		3	2		3	2	
Permitted Phases	1		1	1		1			2			2
Detector Phase	4	1	1	4	1	1	3	2	2	3	2	2
Switch Phase												
Minimum Initial (s)	1.0	4.0	4.0	1.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	7.1	28.4	28.4	7.1	28.4	28.4	14.5	28.2	28.2	14.5	28.2	28.2
Total Split (s)	17.0	59.0	59.0	17.0	59.0	59.0	23.0	31.0	31.0	23.0	31.0	31.0
Total Split (%)	13.1%	45.4%	45.4%	13.1%	45.4%	45.4%	17.7%	23.8%	23.8%	17.7%	23.8%	23.8%
Maximum Green (s)	10.9	52.6	52.6	10.9	52.6	52.6	16.7	24.8	24.8	16.7	24.8	24.8
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	2.4	2.7	2.7	2.4	2.7	2.7	2.6	2.5	2.5	2.6	2.5	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.1	6.4	6.4	6.1	6.4	6.4	6.3	6.2	6.2	6.3	6.2	6.2
Lead/Lag	Lag	Lead	Lead	Lag	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		15.0	15.0		15.0	15.0		15.0	15.0		15.0	15.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	63.9	52.6	52.6	63.9	52.6	52.6	16.7	22.8	22.8	16.7	22.8	22.8
Actuated g/C Ratio	0.50	0.41	0.41	0.50	0.41	0.41	0.13	0.18	0.18	0.13	0.18	0.18
v/c Ratio	0.39	0.92	0.19	0.90	0.51	0.37	0.39	0.46	0.64	0.98	0.75	0.23
Control Delay	18.4	47.2	4.5	72.8	30.1	4.1	54.5	49.6	26.2	93.8	58.5	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	47.2	4.5	72.8	30.1	4.1	54.5	49.6	26.2	93.8	58.5	2.5

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	D	A	E	C	A	D	D	C	F	E	A
Approach Delay		40.9			30.1			42.1			69.5	
Approach LOS		D			C			D			E	
Queue Length 50th (m)	16.9	164.0	0.0	31.2	71.7	0.0	20.5	32.6	22.5	57.2	57.1	0.0
Queue Length 95th (m)	27.9	#209.3	12.4	#74.3	90.1	17.0	31.7	46.4	51.4	#90.6	75.5	2.3
Internal Link Dist (m)		293.9			278.5			334.6			212.2	
Turn Bay Length (m)	120.0		120.0	120.0		100.0	100.0		20.0	70.0		20.0
Base Capacity (vph)	349	1407	718	202	1393	798	429	650	428	437	650	384
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.92	0.19	0.90	0.51	0.37	0.39	0.42	0.61	0.98	0.69	0.21

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 128.1
Natural Cycle: 110
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 44.4 Intersection LOS: D
Intersection Capacity Utilization 89.9% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Mer Bleue Road/Jeanne D'Arc Blvd & Innes Road

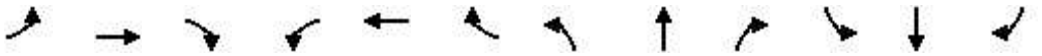


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	1477	84	135	914	83	175
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0	150.0		0.0	0.0
Storage Lanes		0	1		1	1
Taper Length (m)			2.5		2.5	
Lane Util. Factor	0.95	0.95	1.00	0.95	1.00	1.00
Frt	0.992					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	3336	0	1729	3293	1679	1532
Flt Permitted			0.101		0.950	
Satd. Flow (perm)	3336	0	184	3293	1679	1532
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	7					175
Link Speed (k/h)	60			60	40	
Link Distance (m)	263.3			317.9	112.7	
Travel Time (s)	15.8			19.1	10.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	0%	0%	5%	3%	1%
Adj. Flow (vph)	1477	84	135	914	83	175
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1561	0	135	914	83	175
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	1		2	5	3	
Permitted Phases			5			3
Detector Phase	1		2	5	3	3
Switch Phase						
Minimum Initial (s)	4.0		3.9	4.0	4.0	4.0
Minimum Split (s)	24.6		12.0	24.6	28.1	28.1
Total Split (s)	80.0		20.0	100.0	30.0	30.0
Total Split (%)	61.5%		15.4%	76.9%	23.1%	23.1%
Maximum Green (s)	73.4		14.2	93.4	23.9	23.9
Yellow Time (s)	3.7		3.7	3.7	3.3	3.3
All-Red Time (s)	2.9		2.1	2.9	2.8	2.8
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.6		5.8	6.6	6.1	6.1
Lead/Lag	Lead		Lag			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		None	Max	None	None
Walk Time (s)	7.0		7.0	7.0	7.0	7.0
Flash Dont Walk (s)	11.0		15.0	11.0	15.0	15.0
Pedestrian Calls (#/hr)	0		0	0	0	0
Act Effct Green (s)	73.5		94.3	93.5	11.1	11.1
Actuated g/C Ratio	0.63		0.80	0.80	0.09	0.09
v/c Ratio	0.75		0.40	0.35	0.52	0.58
Control Delay	18.6		18.7	4.0	62.4	15.2
Queue Delay	0.2		0.0	0.0	0.0	0.0
Total Delay	18.8		18.7	4.0	62.4	15.2

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
LOS	B		B	A	E	B
Approach Delay	18.8			5.9	30.4	
Approach LOS	B			A	C	
Queue Length 50th (m)	122.7		5.3	25.0	18.5	0.0
Queue Length 95th (m)	166.8		17.7	39.1	34.6	20.1
Internal Link Dist (m)	239.3			293.9	88.7	
Turn Bay Length (m)			150.0			
Base Capacity (vph)	2092		335	2624	342	451
Starvation Cap Reductn	92		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.78		0.40	0.35	0.24	0.39

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 117.3			
Natural Cycle: 90			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 74.1%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: "Walmart Entrance" & Innes Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	134	1399	105	79	783	63	104	39	39	95	96	70
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		100.0	100.0		0.0	100.0		0.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	1		0
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.989				0.850		0.937	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3390	1532	1729	3293	0	1729	1802	1547	1712	1698	0
Flt Permitted	0.334			0.103			0.525			0.732		
Satd. Flow (perm)	602	3390	1532	187	3293	0	956	1802	1547	1319	1698	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105		14				70		26	
Link Speed (k/h)		60			60			40			40	
Link Distance (m)		238.0			263.3			225.6			203.5	
Travel Time (s)		14.3			15.8			20.3			18.3	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	2%	1%	0%	4%	2%	0%	1%	0%	1%	0%	1%
Adj. Flow (vph)	134	1399	105	79	783	63	104	39	39	95	96	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	134	1399	105	79	846	0	104	39	39	95	166	0
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	5			3			7	
Permitted Phases	2		2	5			3		3	7		
Detector Phase	2	2	2	1	5		3	3	3	7	7	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	24.6	24.6	24.6	8.7	24.6		28.8	28.8	28.8	28.8	28.8	
Total Split (s)	74.0	74.0	74.0	20.0	94.0		36.0	36.0	36.0	36.0	36.0	
Total Split (%)	56.9%	56.9%	56.9%	15.4%	72.3%		27.7%	27.7%	27.7%	27.7%	27.7%	
Maximum Green (s)	67.4	67.4	67.4	15.3	87.4		29.2	29.2	29.2	29.2	29.2	
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7		3.0	3.0	3.0	3.0	3.0	
All-Red Time (s)	2.9	2.9	2.9	1.0	2.9		3.8	3.8	3.8	3.8	3.8	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.6	6.6	6.6	4.7	6.6		6.8	6.8	6.8	6.8	6.8	
Lead/Lag	Lag	Lag	Lag	Lead								
Lead-Lag Optimize?	Yes	Yes	Yes	Yes								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Max	Max		None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0		7.0		7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0		11.0		15.0	15.0	15.0	15.0	15.0	
Pedestrian Calls (#/hr)	0	0	0		0		0	0	0	0	0	
Act Effct Green (s)	67.6	67.6	67.6	89.5	87.6		17.8	17.8	17.8	17.8	17.8	
Actuated g/C Ratio	0.57	0.57	0.57	0.75	0.74		0.15	0.15	0.15	0.15	0.15	
v/c Ratio	0.39	0.73	0.11	0.23	0.35		0.73	0.14	0.13	0.48	0.60	
Control Delay	20.2	22.7	3.0	6.4	6.5		75.5	43.7	3.2	53.9	48.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	20.2	22.7	3.0	6.4	6.5		75.5	43.7	3.2	53.9	48.4	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C	A	A	A		E	D	A	D	D	
Approach Delay		21.2			6.5			53.2			50.4	
Approach LOS		C			A			D			D	
Queue Length 50th (m)	16.5	119.6	0.0	4.1	31.2		23.4	8.0	0.0	20.5	30.7	
Queue Length 95th (m)	38.1	175.5	8.5	10.7	54.2		42.6	17.6	2.8	37.0	52.2	
Internal Link Dist (m)		214.0			239.3			201.6			179.5	
Turn Bay Length (m)			100.0	100.0			100.0					
Base Capacity (vph)	342	1926	915	339	2430		235	443	433	324	437	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.39	0.73	0.11	0.23	0.35		0.44	0.09	0.09	0.29	0.38	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 118.9			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 21.2		Intersection LOS: C	
Intersection Capacity Utilization 82.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 4: Frank Bender St. & Innes Road

APPENDIX F: CITY OF OTTAWA TDM CHECKLISTS

TDM Measures Checklist:

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

Legend

BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users

BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance

* — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		1. TDM PROGRAM MANAGEMENT	
		1.1 Program coordinator	
BASIC	*	1.1.1 Designate an internal coordinator, or contract with an external coordinator	☒ Recommended
		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	☒ Recommended
		2.2 Bicycle skills training *Commuter travel*	
BETTER	*	2.2.1 Offer on-site cycling courses for commuters, or subsidize off-site courses	☐ Low number of employees; not feasible
		2.3 Valet bike parking *Visitor travel*	
BETTER		2.3.1 Offer secure valet bike parking during public events when demand exceeds fixed supply (e.g. for festivals, concerts, games)	☐ No such events expected

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
	3. TRANSIT		
	3.1	**Transit information**	
BASIC	3.1.1	Display relevant transit schedules and route maps at entrances	☒ Recommended
BASIC	3.1.2	Provide online links to OC Transpo and STO information	☒ Recommended
BETTER	3.1.3	Provide real-time arrival information display at entrances	☐
	3.2	**Transit fare incentives**	
		Commuter travel	
BETTER	3.2.1	Offer preloaded PRESTO cards to encourage commuters to use transit	☐
BETTER *	3.2.2	Subsidize or reimburse monthly transit pass purchases by employees	☐
		Visitor travel	
BETTER	3.2.3	Arrange inclusion of same-day transit fare in price of tickets (e.g. for festivals, concerts, games)	☐
	3.3	**Enhanced public transit service**	
		Commuter travel	
BETTER	3.3.1	Contract with OC Transpo to provide enhanced transit services (e.g. for shift changes, weekends)	☐
		Visitor travel	
BETTER	3.3.2	Contract with OC Transpo to provide enhanced transit services (e.g. for festivals, concerts, games)	☐
	3.4	**Private transit service**	
		Commuter travel	
BETTER	3.4.1	Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for shift changes, weekends)	☐
		Visitor travel	
BETTER	3.4.2	Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for festivals, concerts, games)	☐

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		4. RIDESHARING	
		4.1 Ridematching service	
		Commuter travel	
BASIC	*	4.1.1 Provide a dedicated ridematching portal at OttawaRideMatch.com	☐ Not feasible due to low number of employees
		4.2 Carpool parking price incentives	
		Commuter travel	
BETTER		4.2.1 Provide discounts on parking costs for registered carpools	☐
		4.3 Vanpool service	
		Commuter travel	
BETTER		4.3.1 Provide a vanpooling service for long-distance commuters	☐
		5. CARSHARING & BIKESHARING	
		5.1 Bikeshare stations & memberships	
BETTER		5.1.1 Contract with provider to install on-site bikeshare station for use by commuters and visitors	☐
		Commuter travel	
BETTER		5.1.2 Provide employees with bikeshare memberships for local business travel	☐
		5.2 Carshare vehicles & memberships	
		Commuter travel	
BETTER		5.2.1 Contract with provider to install on-site carshare vehicles and promote their use by tenants	☐
BETTER		5.2.2 Provide employees with carshare memberships for local business travel	☐
		6. PARKING	
		6.1 Priced parking	
		Commuter travel	
BASIC	*	6.1.1 Charge for long-term parking (daily, weekly, monthly)	☐
BASIC		6.1.2 Unbundle parking cost from lease rates at multi-tenant sites	☐
		Visitor travel	
BETTER		6.1.3 Charge for short-term parking (hourly)	☐

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

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

Legend

BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users

BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance

* — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

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

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

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

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

Legend

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

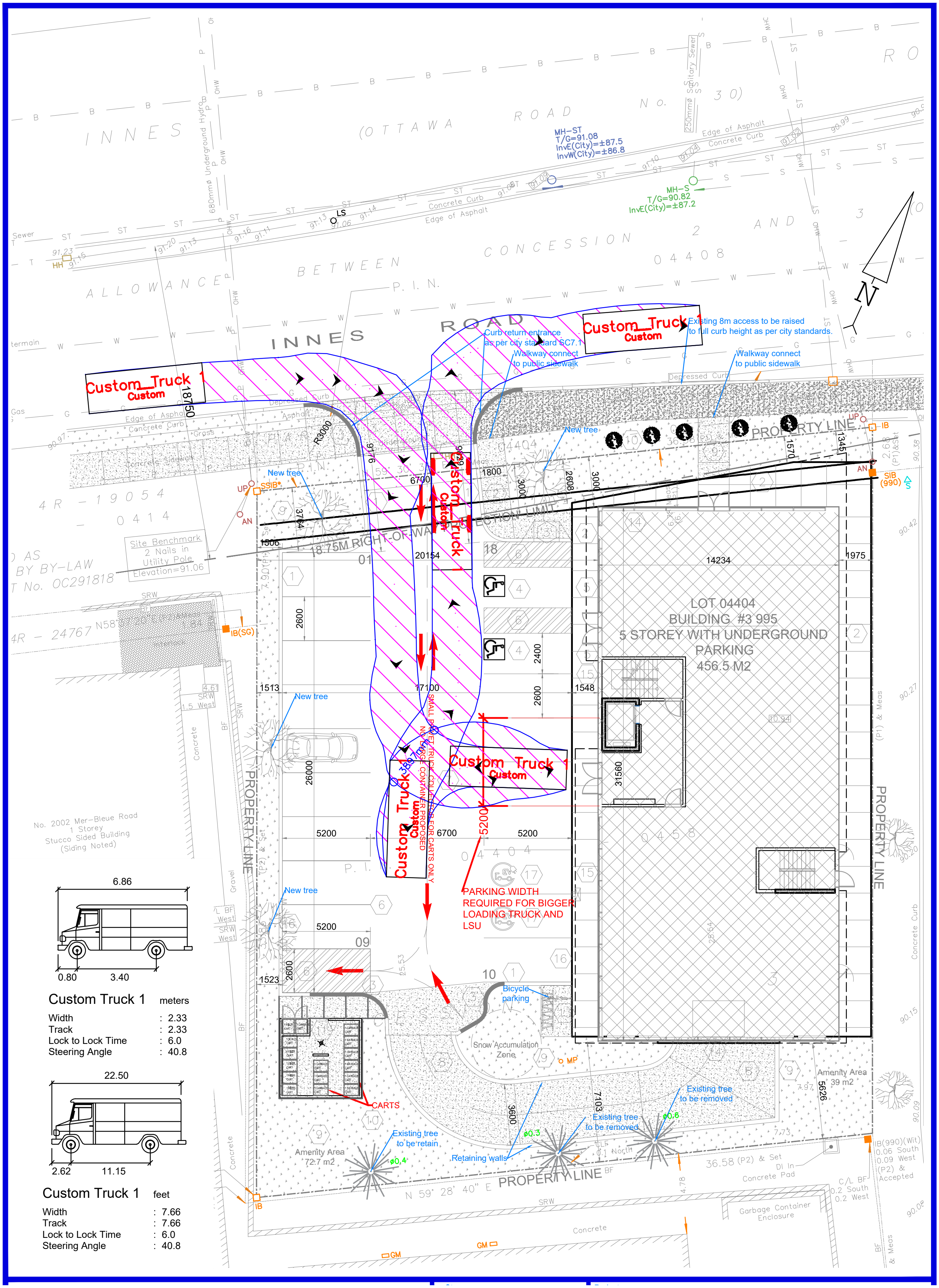
		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	1.	**WALKING & CYCLING: ROUTES**	
	1.1	**Building location & access points**	
BASIC	1.1.1	Locate building close to the street, and do not locate parking areas between the street and building entrances	☒ Parking area is located on the side of the building. Direct pedestrian connection to building's entrance is provided
BASIC	1.1.2	Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	☒ Direct pedestrian connection to sidewalk is provided
BASIC	1.1.3	Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	☒ Building front door oriented to street
	1.2	**Facilities for walking & cycling**	
REQUIRED	1.2.2	Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations *(see Official Plan policy 4.3.3)*	☒ Sidewalk to be provided fronting to site; direct access to the building's entrance to be provided
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	☒ Pedestrian connectivity is maintained throughout the site, street sidewalk access is provided

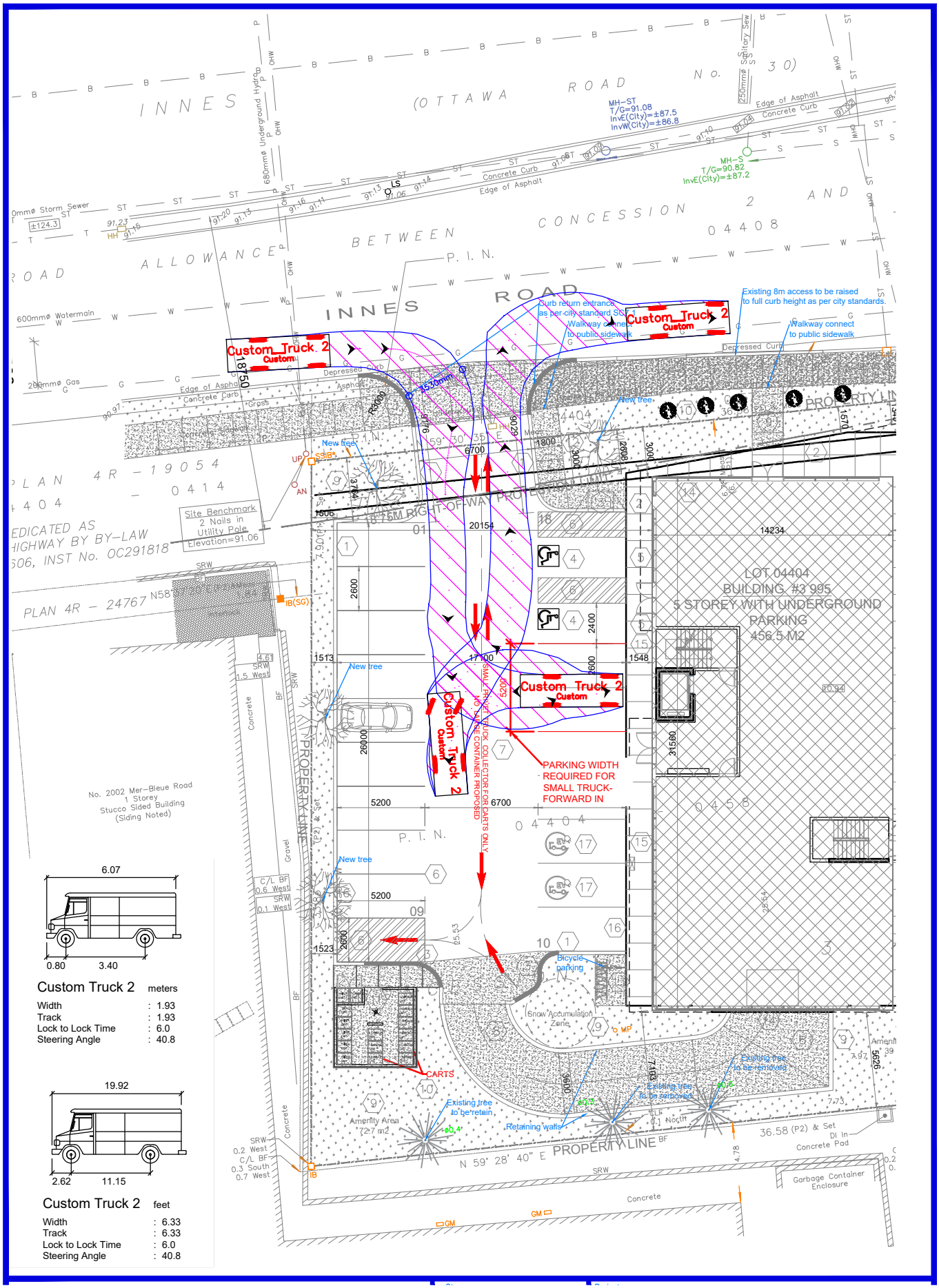
		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
		other design elements wherever possible *(see Official Plan policy 4.3.12)*	
REQUIRED	1.2.3	Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks *(see Official Plan policy 4.3.10)*	☒ On-site pedestrian areas designated by interlock pavers.
REQUIRED	1.2.4	Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps *(see Official Plan policy 4.3.10)*	☒ Sidewalks / hard surfaces connect building entrances to accessible parking stall.
REQUIRED	1.2.5	Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians *(see Official Plan policy 4.3.11)*	☒ Sidewalk to be continuous across site access
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	☐ N/A
	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)	☐ N/A

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	2.	**WALKING & CYCLING: END-OF-TRIP FACILITIES**	
	2.1	**Bicycle parking**	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)*	6 Outside cycle stalls 6 indoor and secure cycle stalls ☒ Recommended to secure 4 out of 6 outdoor stalls for residents' use or move them inside
REQUIRED	2.1.2	Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)*	
REQUIRED	2.1.3	Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)*	
BASIC	2.1.4	Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists	☐
	2.2	**Secure bicycle parking**	
REQUIRED	2.2.1	Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers *(see Zoning By-law Section 111)*	☒ 50% of stalls are secured
BETTER	2.2.2	Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	☐ Recommended to increase number of bicycle stalls
	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	☐ N/A
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	☐ N/A
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐

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

APPENDIX G: ON-SITE TURNING MOVEMENTS


INNES ROAD
(OTTAWA ROAD No. 30)
ROAD ALLOWANCE BETWEEN CONCESSION 2 AND 3
P.I.N. 04408
MH-ST
T/G=91.08
InvE(City)=±87.5
InvW(City)=±86.8
MH-S
T/G=90.82
InvE(City)=±87.2
Edge of Asphalt
Concrete Curb
Existing 8m access to be raised
to full curb height as per city standards.
Curb return entrance
as per city standard SC7.1
Walkway connect
to public sidewalk
Custom_Truck 1
Custom
New tree
PROPERTY LINE
18.75M RIGHT-OF-WAY
Site Benchmark
2 Nails in
Utility Pole
Elevation=91.06
4R-19054
4R-24767
LOT 04404
BUILDING #3 995
5 STOREY WITH UNDERGROUND
PARKING
456.5 M2
SMALL PICKET TRUCK COLLECTION FOR CARTS ONLY
NO GARBAGE CONTAINER PROPOSED
PARKING WIDTH
REQUIRED FOR BIGGER
LOADING TRUCK AND
LSU
CARTS
Bicycle
parking
Snow Accumulation
Zone
Amenity Area
72.7 m2
Amenity Area
39 m2
Existing tree
to be retain
Existing tree
to be removed
Retaining walls
No. 2002 Mer-Bleue Road
1 Storey
Stucco Sided Building
(Siding Noted)
N 59° 28' 40" E PROPERTY LINE
Garbage Container
Enclosure
Concrete Pad
6.86
0.80
3.40
Custom Truck 1 meters
Width : 2.33
Track : 2.33
Lock to Lock Time : 6.0
Steering Angle : 40.8
22.50
2.62
11.15
Custom Truck 1 feet
Width : 7.66
Track : 7.66
Lock to Lock Time : 6.0
Steering Angle : 40.8

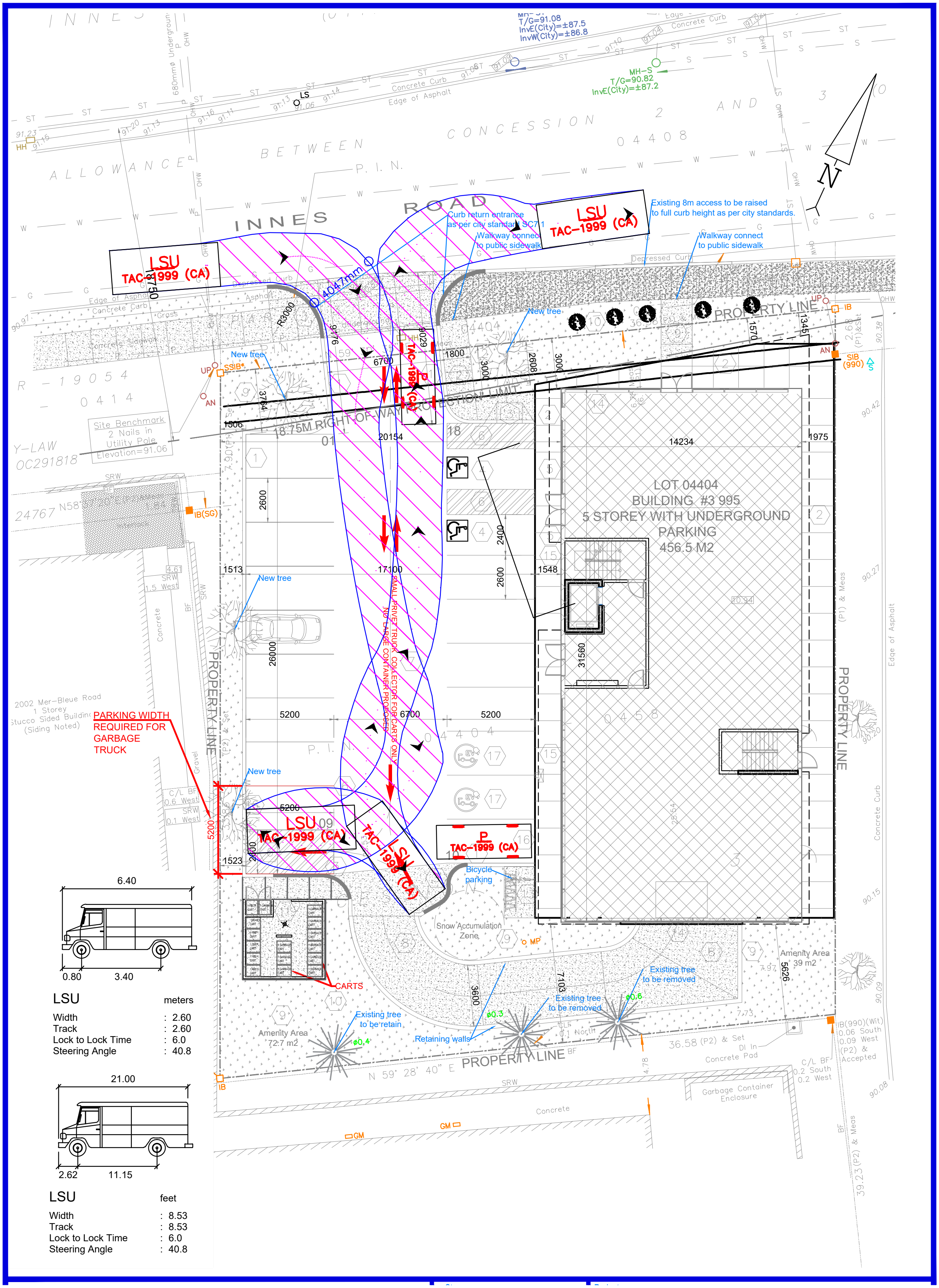


Custom Truck 2 meters

Width	:	1.93
Track	:	1.93
Lock to Lock Time	:	6.0
Steering Angle	:	40.8

Custom Truck 2 feet

Width	:	6.33
Track	:	6.33
Lock to Lock Time	:	6.0
Steering Angle	:	40.8



INNES ROAD
ALLOWANCE BETWEEN CONCESSION 2 AND 3
P. I. N. 04408
LSU
TAC-1999 (CA)
Existing 8m access to be raised to full curb height as per city standards.
Curb return entrance as per city standard SC7.1
Walkway connect to public sidewalk
New tree
Depressed Curb
PROPERTY LINE
18.75M RIGHT-OF-WAY PROTECTION LIMIT
Site Benchmark 2 Nails in Utility Pole Elevation=91.06
LOT 04404
BUILDING #3 995
5 STOREY WITH UNDERGROUND PARKING
456.5 M2
SMALL PRIVET TRUCK COLLECTOR FOR CARTS ONLY
NO LARGE CONTAINER PROPOSED
PARKING WIDTH REQUIRED FOR GARBAGE TRUCK
2002 Mer-Bleue Road 1 Storey Stucco Sided Building (Siding Noted)
P
TAC-1999 (CA)
Bicycle parking
Snow Accumulation Zone
CARTS
Amenity Area 72.7 m2
Amenity Area 39 m2
Existing tree to be retain
Existing tree to be removed
Retaining walls
N 59° 28' 40" E PROPERTY LINE
Garbage Container Enclosure
6.40
0.80
3.40
LSU meters
Width : 2.60
Track : 2.60
Lock to Lock Time : 6.0
Steering Angle : 40.8
21.00
2.62
11.15
LSU feet
Width : 8.53
Track : 8.53
Lock to Lock Time : 6.0
Steering Angle : 40.8

APPENDIX H: INTERSECTION MMLOS ANALYSIS

Table 1: Multi-Modal Level of Service -Innes Road ad Mer Bleue-Jeanne D'Arc

	Intersection Leg			
Performance Measure	West Leg - Innes Road	East leg - Innes Road	North Leg - Jeanne D'Arc Blvd	South Leg - Mer Bleue Rd
Pedestrian LOS (PLOS)				
Total Travel Lanes (Assume 3.7 m lane width)	8	8	9	9
Median > 2.4m	No	No	No	No
Island Refuge	No	No	No	No
Left Turn Type	pm+pt	pm+pt	protected	protected
Right Turn Type	Permissive	Permissive	Permissive	Permissive
Right Turns on Red	yield	yield	yield	yield
Leading Pedestrian Interval	No	No	No	No
Corner Radius	>25 m	>25 m	>25 m	>25 m
Right Turn Channel	conventional no receiving lane (0)	conventional no receiving lane (0)	conventional no receiving lane (0)	conventional no receiving lane (0)
Crosswalk Treatment	Standard Transverse	Standard Transverse	Standard Transverse	Standard Transverse
PETSI Points	<0	<0	<0	<0
Intersection PLOS	F	F	F	F
Target PLOS	C	C	C	C
Bicycle LOS (BLOS)				
Bikeway Type	Bike Lane	Bike Lane	Bike Lane	Bike Lane
Left Turn Approach	2 lanes crossed	2 lanes crossed	dual left	dual left
Right Turn Lane Configuration of Approach	Exclusive RT	Exclusive RT	Exclusive RT	Exclusive RT
Length of Right Turn Lane	>50	>50	<50	<50
Turning Speed of Right Turning Vehicles	< 25	< 25	< 25	< 25
Operating Speed (km/h)	70	70	70	70
Intersection BLOS	E	E	E	E
Target BLOS	B	B	B	B
Transit LOS (TLOS)				
Delay 2022 Background - AM (PM)	14.6(40.9)	19.0(30.1)	42.8(69.5)	45.6(42.1)
Intersection TLOS	D	D	F	F
Target TLOS	D	D	D	D
Truck LOS (TkLOS)				
Effective Corner Radius (m)	>15 m	>15 m	>15 m	>15 m
Number of Receiving Lanes on Departing Leg	2	2	2	2
Intersection TkLOS	A	A	A	A
Target TkLOS	C	C	C	C

Table 2: Multi-Modal Level of Service - Innes Road and Walmart Access

	Intersection Leg			
Performance Measure	West Leg - Innes Road	East Leg - Innes Road	South Leg - Walmart Access	N/A
Pedestrian LOS (PLOS)				
Total Travel Lanes	6	6	5	
Median > 2.4m	No	No	No	
Island Refuge	YES	No	No	
Left Turn Type	no	pm+pt	permissive	
Right Turn Type	Permissive	no	permissive	
Right Turns on Red	Allowed	no RT	allowed	
Leading Pedestrian Interval	No	No	No	
Corner Radius	10 to 15 m	N/A	5 to 10 m	
Right Turn Channel	No Right Turn Channel (-4)	N/A	No Right Turn Channel (-4)	
Crosswalk Treatment	Standard Transverse	Standard Transverse	Standard Transverse	
PETSI Points	28	34	40	
Intersection PLOS	F	E	E	
Target PLOS	C	C	C	
Bicycle LOS (BLOS)				
Bikeway Type	Bike Lane	Bike Lane	Mixed Traffic	
Left Turn Approach	2 lanes crossed	2 lanes crossed	1 lane crossed	
Right Turn Lane Configuration of Approach	Shared TH/Turn	no RT	Shared TH/Turn	
Length of Right Turn Lane	N/A	N/A	N/A	
Turning Speed of Right Turning Vehicles	< 25	> 25	< 25	
Operating Speed (km/h)	70	70	50	
Intersection BLOS	E	E	E	
Target BLOS	B	B	B	
Transit LOS (TLOS)				
Delay 2022 Background - AM (PM)	1.6 (18.8)	2.5 (5.9)	27.7 (30.5)	
Intersection TLOS	B	B	N/A	
Target TLOS	D	D	N/A	
Truck LOS (TkLOS)				
Effective Corner Radius (m)	>15 m	>15 m	>15 m	
Number of Receiving Lanes on Departing Leg	2	2	2	
Intersection TkLOS	A	A	A	
Target TkLOS	C	C	C	

Table 3: Multi-Modal Level of Service - Innes Road and Frank Bender St

Performance Measure	***Intersection Leg***			
	West Leg - Innes Road	East leg - Innes Road	North Leg - Frank Bender St	South Leg - Frank Bender St
Pedestrian LOS (PLOS)				
Total Travel Lanes	8	8	6	8
Median > 2.4m	No	No	No	No
Island Refuge	No	No	No	No
Left Turn Type	Permissive	Permissive	Permissive	Permissive
Right Turn Type	Permissive	pm+pt	Permissive	Permissive
Right Turns on Red	Allowed	Allowed	Allowed	Allowed
Leading Pedestrian Interval	No	No	No	No
Corner Radius	10 to 15 m	15 to 20 m	10 to 15 m	15 to 20 m
Right Turn Channel	No Right Turn Channel (-4)	No Right Turn Channel (-4)	No Right Turn Channel (-4)	No Right Turn Channel (-4)
Crosswalk Treatment	Standard Transverse	Standard Transverse	Standard Transverse	Standard Transverse
PETSI Points	<30	<30	<30	<30
Intersection PLOS	F	F	F	F
Target PLOS	C	C	C	C
Bicycle LOS (BLOS)				
Bikeway Type	Bike Lane	Bike Lane	Mixed Traffic	Mixed Traffic
Left Turn Approach	2 lanes crossed	2 lanes crossed	One lane crossed	2 lanes crossed
Right Turn Lane Configuration of Approach	Exclusive RT	Shared Th/RT	Shared Th/RT	Exclusive RT
Length of Right Turn Lane	>50	N/A	>50	N/A
Turning Speed of Right Turning Vehicles	< 25	< 25	< 25	< 25
Operating Speed (km/h)	70	70	50	50
Intersection BLOS	E	E	D	E
Target BLOS	B	B	B	B
Transit LOS (TLOS)				
Delay 2022 Background - AM (PM)	5.9 (21.2)	4.3 (6.5)	35.6 (50.4)	43.5 (53.2)
Intersection TLOS	C	B	N/A	N/A
Target TLOS	D	D	N/A	N/A
Truck LOS (TkLOS)				
Effective Corner Radius (m)	>15 m	>15 m	>15 m	>15 m
Number of Receiving Lanes on Departing Leg	2	2	1	2
Intersection TkLOS	A	A	C	A
Target TkLOS	C	C	C	C