570 March Road

Transportation Impact Assessment

Prepared for:

Nokia Canada Inc.

Prepared by:

Stantec Consulting Ltd.

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Table of Contents

Figures

Tables

1.0 SCREENING

1.1 SUMMARY OF DEVELOPMENT

Municipal Address	570 March Road
Description of Location	Kanata North, east side of March Road between Terry Fox Drive and Solandt Road, south of existing Nokia building at 600 March Road
Land Use Classification	Lab, Office, Retail
Development Size (units)	NA
Development Size (m^2)	Gross Building Area Lab: 31,948 m^2 Office: 20,665 m^2 Retail: 1,339 m^2
Number of Accesses and Locations	Three (3) accesses on March Road, Three (3) accesses on Legget Drive.
Phase of Development	One phase
Buildout Year	2027

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

1.2 TRIP GENERATION TRIGGER

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

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

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

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

1.3 LOCATION TRIGGERS

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

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

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

1.4 SAFETY TRIGGERS

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

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

1.5 SUMMARY

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

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

2.0 SCOPING

2.1 EXISTING AND PLANNED CONDITIONS

2.1.1 Proposed Development

This TIA has been prepared in support of the site plan application for the proposed development at 570 March Road (east side of March Road between Terry Fox Drive and Solandt Road) in Kanata, Ontario. The site is currently occupied by a parking lot for the existing Nokia office building. The proposed development consists of approximately 32,000 m^2 gross building area of labs, 20,700 m^2 gross building area of office space and 1,300 m^2 gross building area of retail space. The site is bound by an existing office building to the south, March Road to the west, Legget Drive to the east, and the existing Nokia office building to the north. **Figure 1** illustrates the site location.

The subject site is currently zoned Mixed-Use Centre (MC) and as outlined in the City of Ottawa's Zoning By-Law, the purpose MC Zone is to:

- Ensure that the areas designated Mixed-Use Centres in the Official Plan, or a similar designation in a Secondary Plan, accommodate a combination of transit-supportive uses such as offices, secondary and post-secondary schools, hotels, hospitals, large institutional buildings, community recreation and leisure centres, day care centres, retail uses, entertainment uses, service uses such as restaurants and personal service businesses, and high- and medium-density residential uses; (By-law 2015-293);
- Allow the permitted uses in a compact and pedestrian-oriented built form in mixed-use buildings or side by side in separate buildings; and;
- Impose development standards that ensure medium to high profile development while minimizing its impact on surrounding residential areas.

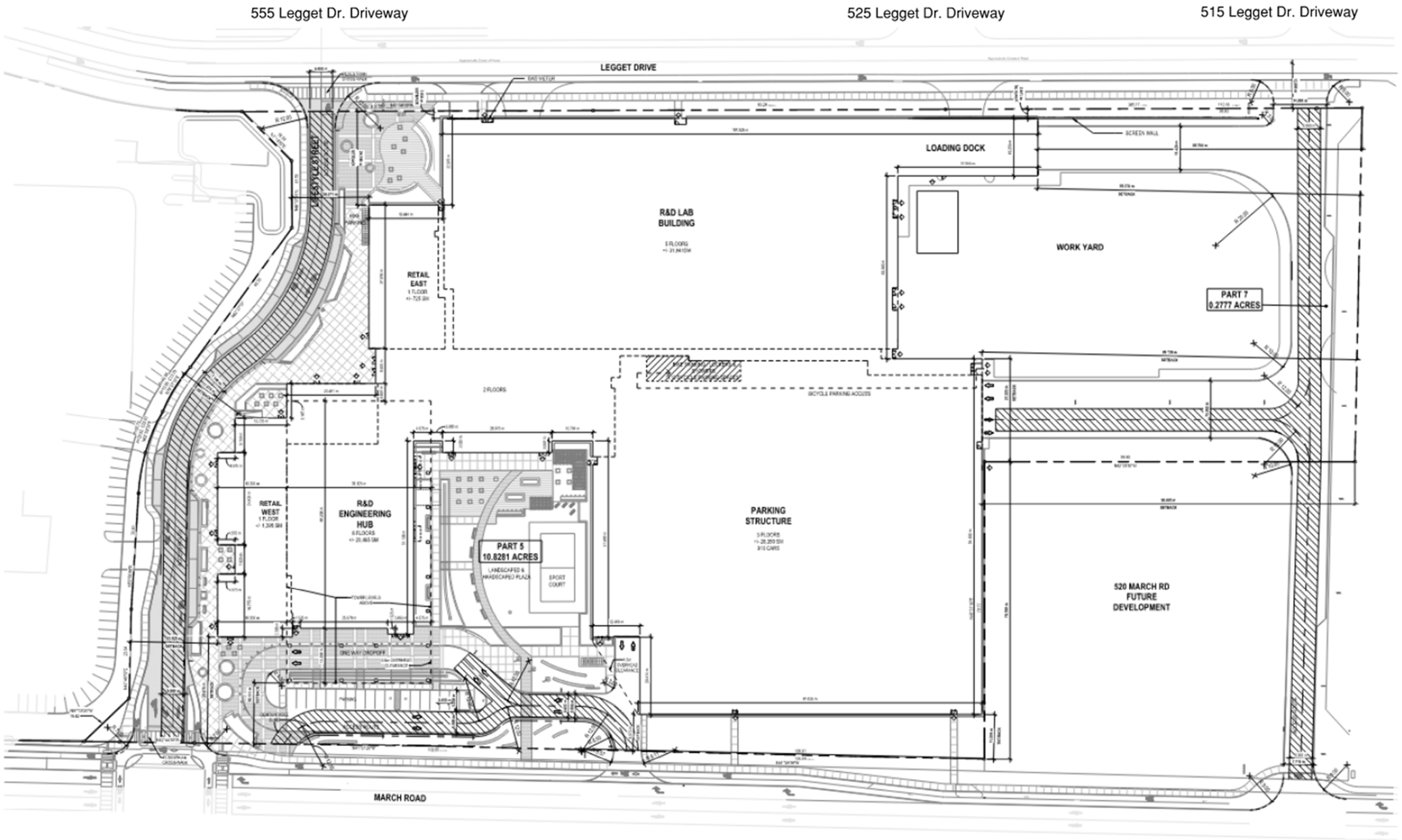
The new Zoning By-Law is underway, which will support the designation of the subject site as a Special District in the 2021 City of Ottawa Official Plan. It is a part of the Kanata North Economic District (KNED).

A full build-out and occupancy of the proposed development is anticipated to occur by 2027, in one phase. A new road labelled Lifestyle Street (at the north end of the site) and a new Private Drive (at the south end of the site) are proposed as part of the site plan. Lifestyle Street at March Road is proposed to be signalized, while all other intersections of the site are stop-controlled. In total, there are three proposed site accesses to March Road and three proposed site accesses to Legget Drive. 910 vehicle parking spaces will be provided in a three-floor parking garage, and 18 visitor parking spaces will be provided at-grade as part of the development.

Figure 2 illustrates the proposed development site plan. It should be noted that the site plan shown in Figure 2 may not align with the most recent version of the site plan submitted through the SPA process.

Figure 1 - Site Location

Figure 2 - Proposed Development Site Plan



2.1.2 Existing Conditions

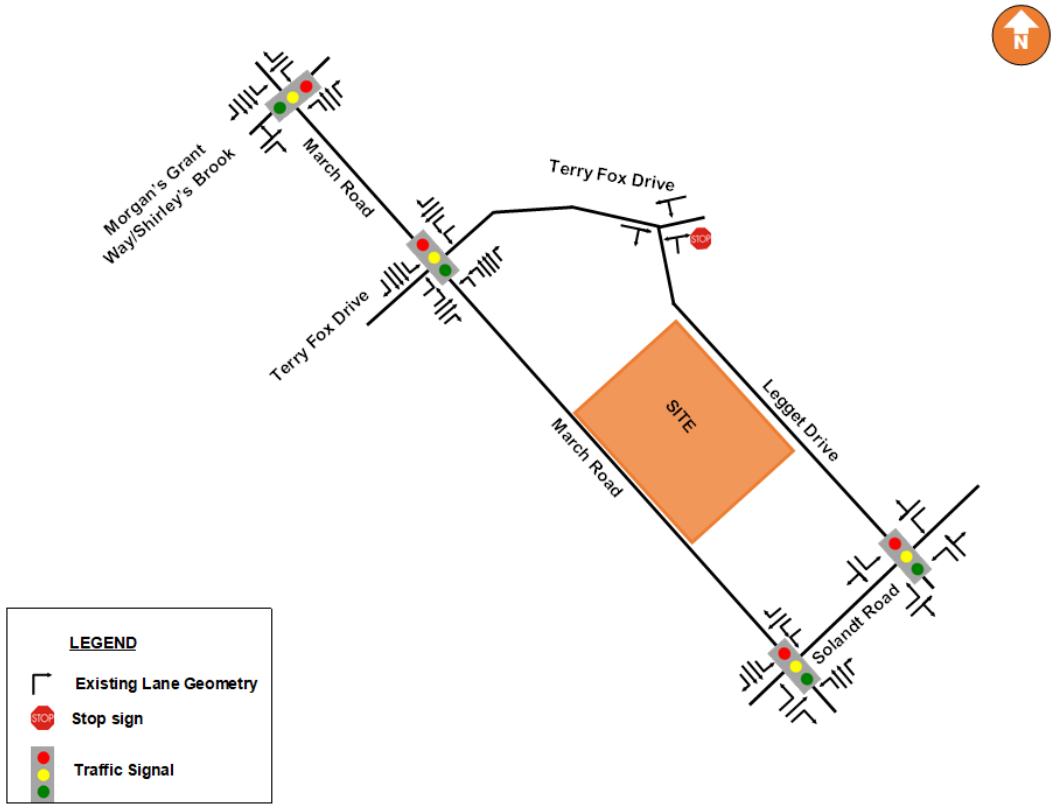
2.1.2.1 Roads and Traffic Control

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

March Road	March Road is a four-lane arterial roadway with a posted speed limit of 80 km/h. Across the frontage of the subject site, there are buffered on-street cycle lanes in both directions. In addition, sidewalks are provided along both sides of March Road. The roadway is designated as a Cross-Town Bikeway as per the City of Ottawa's new Transportation Master Plan (TMP) and is also designated as a full-load truck route. On-street parking on March Road in the vicinity of the subject site is prohibited at all times. The intersection with Terry Fox Drive is signalized with dual left turn lanes in the northbound, westbound, and eastbound directions, and channelized right turn lanes in all directions. The intersection with Solandt Road is signalized with dual left turn lanes in the westbound direction, and has channelized right turn lanes in all directions.
Terry Fox Drive	Across the frontage of the existing Nokia office building, Terry Fox Drive is a two-lane major collector roadway with a posted speed limit of 60 km/h. This portion of Terry Fox Drive has on-street cycling lanes. Continuous sidewalks are provided along the south side of Terry Fox Drive. A sidewalk is provided along the north side of Terry Fox Drive between March Road and McKinley Drive. West of March Road, Terry Fox Drive is designated as a Cross-Town Bikeway and a truck route. On-street parking along Terry Fox Drive in the vicinity of the study area is prohibited at all times. The intersection with Legget Drive is a T- intersection that is stop-controlled along Legget Drive.
Legget Drive	Across the frontage of the subject site, Legget Drive is a two-lane collector roadway with a posted speed limit of 50 km/h. There is an existing sidewalk along the east side of Legget Drive and an on-street cycle lane along both sides. On-street parking on Legget Drive in the vicinity of the subject site is prohibited at all times. The intersection with Solandt Road is signalized with auxiliary left turn lanes in all directions.
Solandt Road	Solandt Road is a two-lane collector road with a default speed limit of 50 km/h. West of Legget Drive, there are sidewalks along both sides of Solandt Road. Currently, the roadway is classified as a suggested cycling route in the City's existing network. On-street parking on Solandt Road in the vicinity of the subject site is prohibited at all times.
Morgan's Grant Way / Shirley's Brook Drive	Morgan's Grant Way is a two-lane collector roadway with a posted speed limit of 40 km/h. Sidewalks are provided along the south of Morgan's Grant Way / Shirley's Brook Drive. On-street cycle lanes are provided on both sides of the roadway. Currently, Morgan's Grant Way / Shirley's Brook Drive are designed as suggested cycling routes in the City's existing network. The intersection with March Road is signalized with channelized right turn lanes in all directions.

Figure 3 illustrates the existing lane configuration and traffic control.

Figure 3 - Existing Lane Configuration and Traffic Control



There are numerous existing driveways in proximity to the proposed site driveways:

- On the east side of March Road:
  - One driveway approximately 280m south of Terry Fox Drive (existing Nokia access)
  - One driveway approximately 200m north of Solandt Road (office)
- On the west side of March Road:
  - Four driveways approximately 100m, 200m, 300m, 350m south of Terry Fox Drive (office and commercial)
- On the east side of Legget Drive:
  - Three driveways approximately 70m, 200m, 350m south of Terry Fox Drive (office and Brookstreet Hotel)
  - Four driveways approximately 60m, 140m, 230m, 300m north of Solandt Road (office)
- On the west side of Legget Drive:
  - Three driveways approximately 80m, 240m, 375m south of Terry Fox Drive (existing Nokia access)
  - Three driveways approximately 115m, 200m, 250m north of Solandt Road (office)

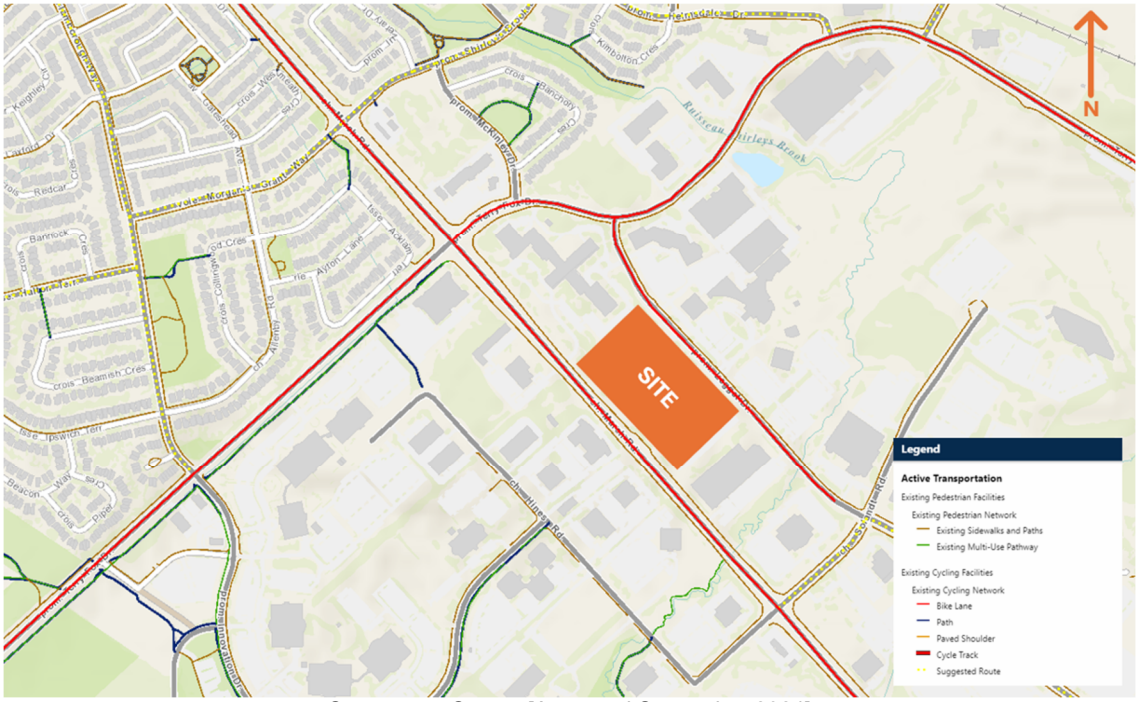
2.1.2.2 Walking and Cycling

The study area is currently generally served by pedestrian facilities with sidewalks along all study area roadways. However, there is no sidewalk along the west side of Legget Drive beside the subject site, as well as no sidewalk along the north side of Terry Fox Drive, east of McKinley Drive.

The current cycling network in the study area consists of bike lanes on March Road, Terry Fox Drive, and Legget Drive. There is also a pathway on the south side of Terry Fox Drive west of March Road that provides a connection to the pathway network near Innovation Station. Solandt Road and Morgan's Grant Way-Shirley's Brook Drive are suggested cycling routes with no dedicated facilities. March Road and Terry Fox Drive (west of March Road) are designated as Cross-Town Bikeways as outlined in the City of Ottawa's new TMP Part 1.

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

Figure 4 - Existing Pedestrian and Cycling Network



Source: geoOttawa [Accessed September 2024]

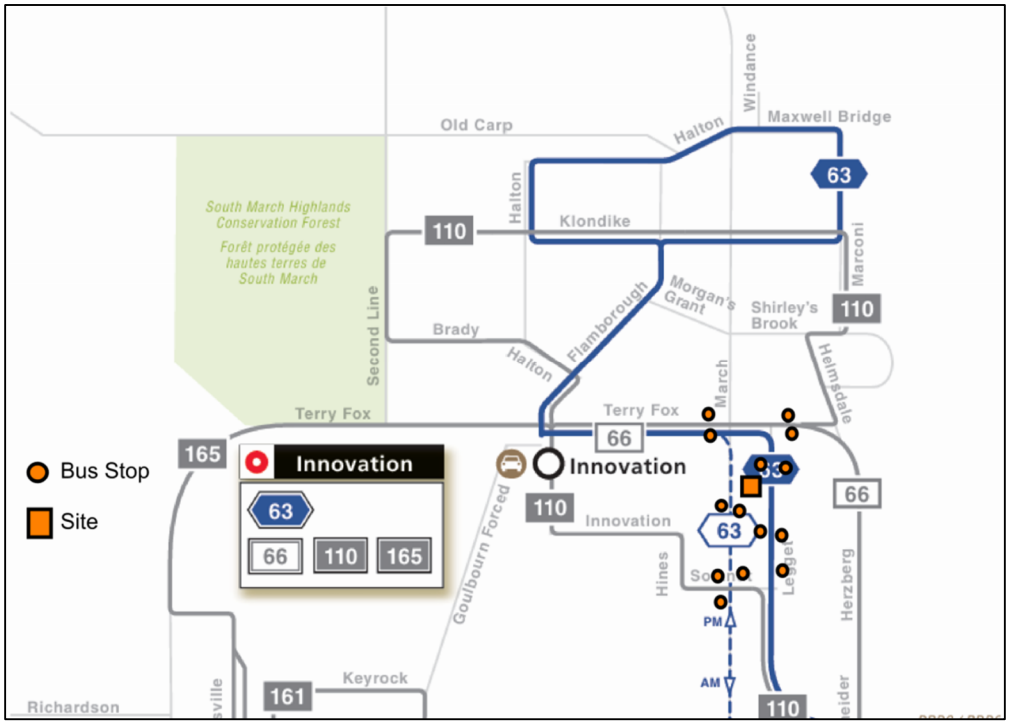
2.1.2.3 Transit

In the New Ways to Bus network, service is provided in the vicinity of the site via routes 63, 66, and 110.

- Route 63 is a Frequent Route that runs 7 days per week between Innovation and Tunney's Pasture. It runs with 15 to 20-minute headways during the weekday peak periods and 30-minute headways during the weekend peak periods.
- Route 66 is a Local Route that runs Monday to Friday between Kanata and Gatineau. It runs with a 30-minute headway in the weekday peak period.
- Route 110 is a Local Route that runs Monday to Friday between Innovation and Fallowfield. It runs 7 days per week with a 30-minute headway in the weekday and weekend peak periods.

Figure 5 illustrates the current transit network.

Figure 5 - Study Area New Ways to Bus Transit Network



Source: OC Transpo New Ways to Bus Map [Accessed January 2025]

The only bus stop within the subject site is the northbound midblock bus stop #1820 on March Road. This bus stop lacks a landing zone or platform but includes a bench and garbage can on a concrete pad behind the existing sidewalk.

2.1.2.4 Traffic Management Measures

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

2.1.2.5 Traffic Volumes

Traffic volumes at the study area intersections received from the City of Ottawa were collected from 2016 to 2025 and are included in **Appendix A**. Recent post-COVID data that account for return-to-office mandates was available

for the intersections of March Road & Terry Fox Drive, March Road & Solandt Road, Legget Drive & Terry Fox Drive, and Legget Drive & Solandt Road. The data for these four intersections were used to appropriately balance the older data for March Road & Morgan's Grant Way-Shirley's Brook Drive. These data were used in the traffic analysis in subsequent sections. Traffic count data dates are shown in **Table 1**.

Table 1 - Traffic Count Data Dates

Intersection	Pre-COVID Date	Post-COVID Date
March Road & Morgan's Grant Way-Shirley's Brook Drive	Wednesday, August 10, 2016	-
March Road & Terry Fox Drive	Wednesday, April 11, 2018	Thursday, February 29, 2024
March Road & Solandt Road	Wednesday, August 10, 2016	Thursday, September 28, 2023
Legget Drive & Terry Fox Drive	Wednesday, February 20, 2019	Wednesday, April 2, 2025
Legget Drive & Solandt Rod	Tuesday, April 11, 2017	Tuesday, January 9, 2024

Using the City of Ottawa's long-range EMME model, the weighted forecasted trip growth is approximately 1.9% per year. However, this growth has been accounted for in traffic analyses as part of adjacent developments and traffic impact studies, therefore a reduced background growth rate of 0.5% per year was felt to be more appropriate to not overestimate future traffic volumes.

For pre-COVID data, the background annual growth rate was applied to align with the pre-COVID 2019 date, and for post-COVID data, the background annual growth rate was applied to align with the post-COVID 2025 date to represent existing traffic volumes.

A volume balancing exercise was conducted to address significant volume discrepancies between intersections. It should be noted that there is an imbalance between the intersections of Legget Drive & Terry Fox Drive and Legget Drive & Solandt Road in both figures, which was felt to be reasonable due to the high number of accesses to other offices, the Brookstreet Hotel, and their respective parking lots.

Comparison of Pre- and Post-COVID Data

Figure 6 and **Figure 7** show pre- and post-COVID volumes for peak hours. There are slightly lower volumes observed post-COVID, particularly at the March Road at Solandt Road, Legget Drive at Terry Fox Drive, and Legget Drive at Solandt Road intersections. This is deemed to be reasonable as after COVID many workplaces have implemented back-to-office mandates but with hybrid work arrangements that allow employees to work from home several days a week. This would result in a more distributed demand on the road network.

Active Transportation Data

Figure 8 and **Figure 9** show pedestrian and cyclist volumes respectively in 2025 existing conditions. It should be noted that the traffic counts at the intersections of March Road & Terry Fox Drive and Legget Drive & Solandt Road were conducted in the winter, which is likely to result in low active transportation volumes. The count for Legget Drive & Terry Fox Drive was conducted in early April which may also be a low-volume time for active transportation compared to the summer months. Despite this, the most pedestrians are observed at the March Road & Terry Fox Drive intersection and the south crosswalk of Legget Drive & Terry Fox Drive. Additionally, in the summer months of August and September, several cyclists are observed at the March Road & Solandt Road intersection and the March Road & Morgan's Grant Way-Shirley's Brook Drive intersection.

Figure 6 – Pre-COVID Traffic Volumes

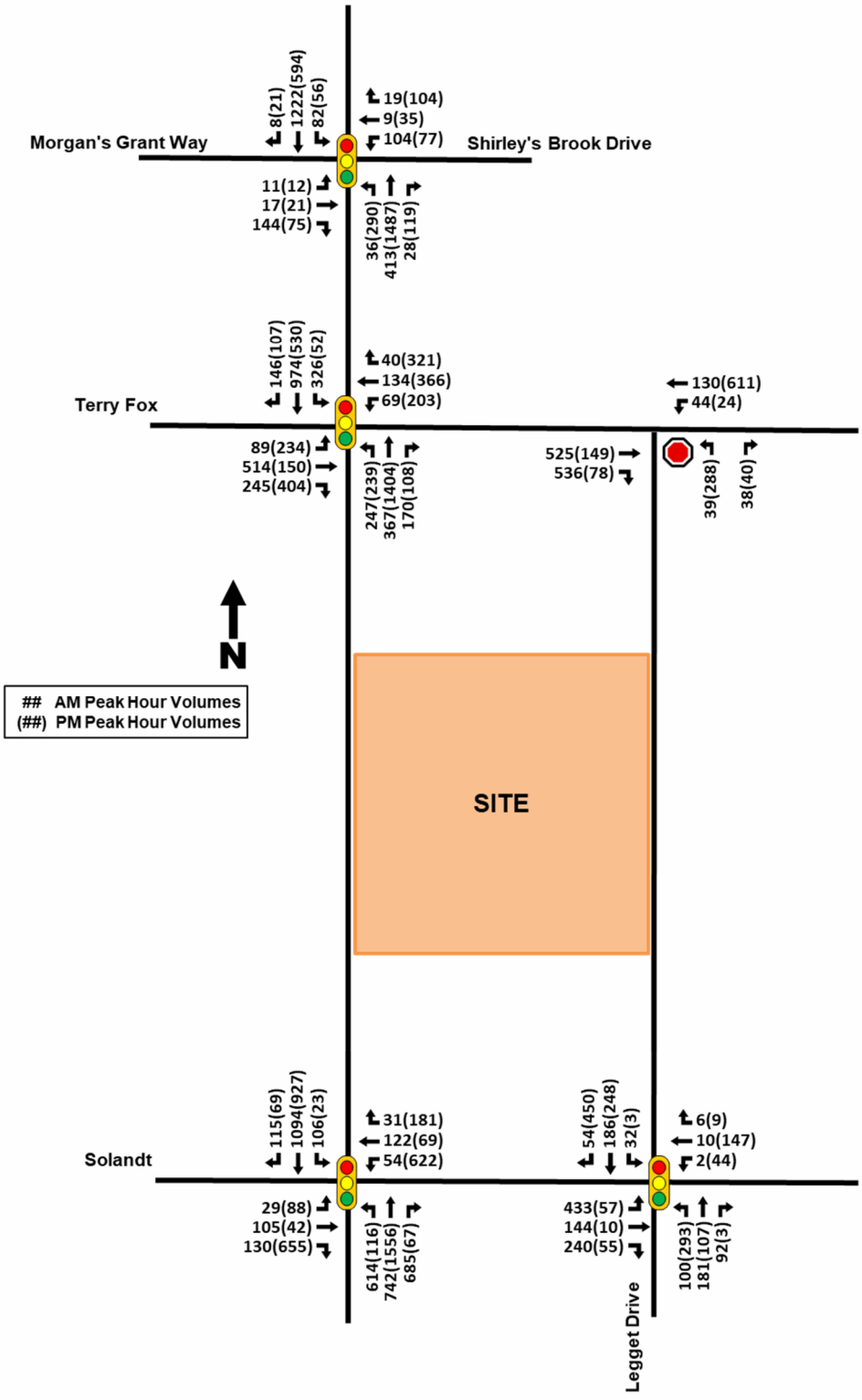


Figure 7 - Post-COVID Traffic Volumes

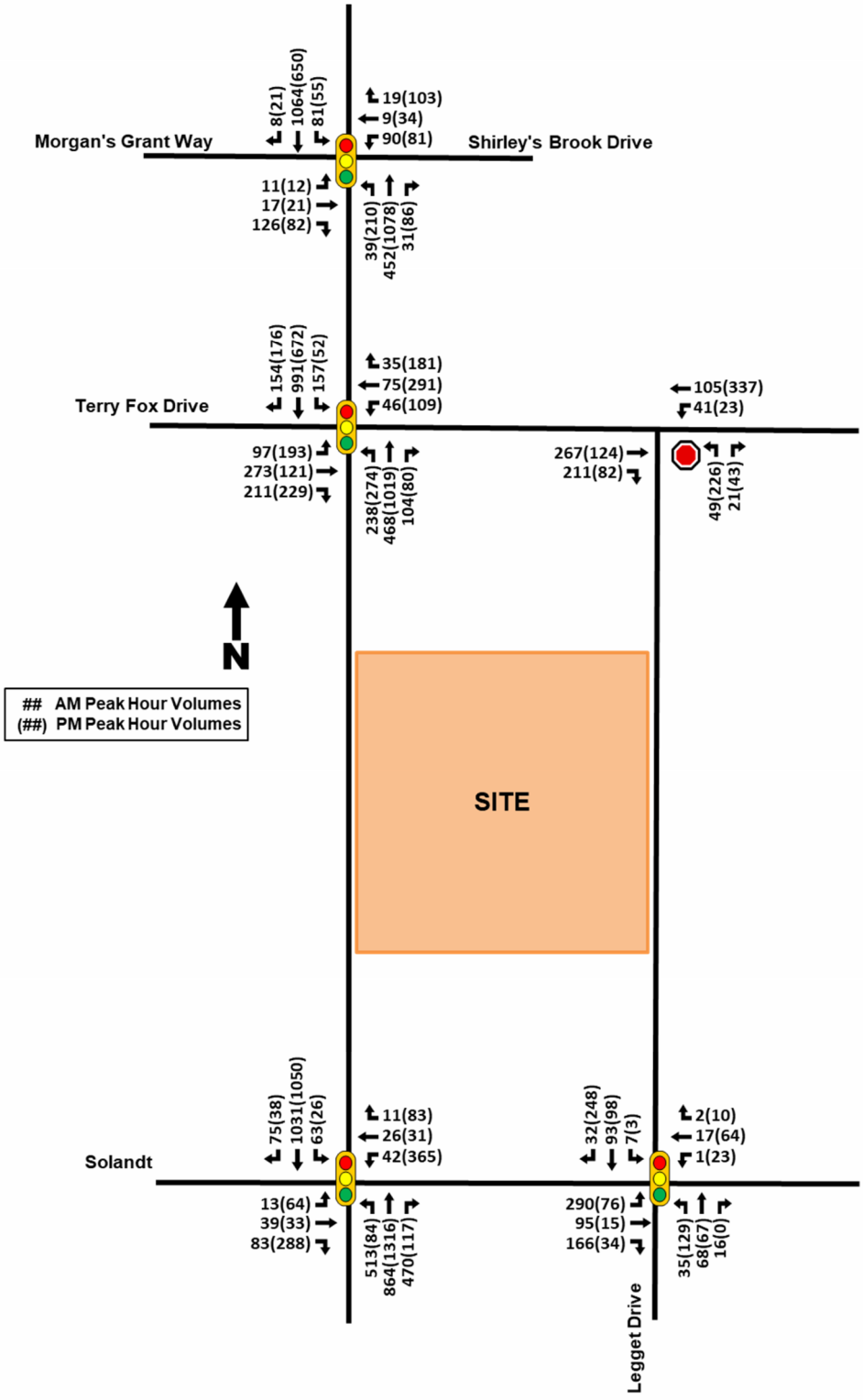


Figure 8 – Existing Pedestrian Volumes

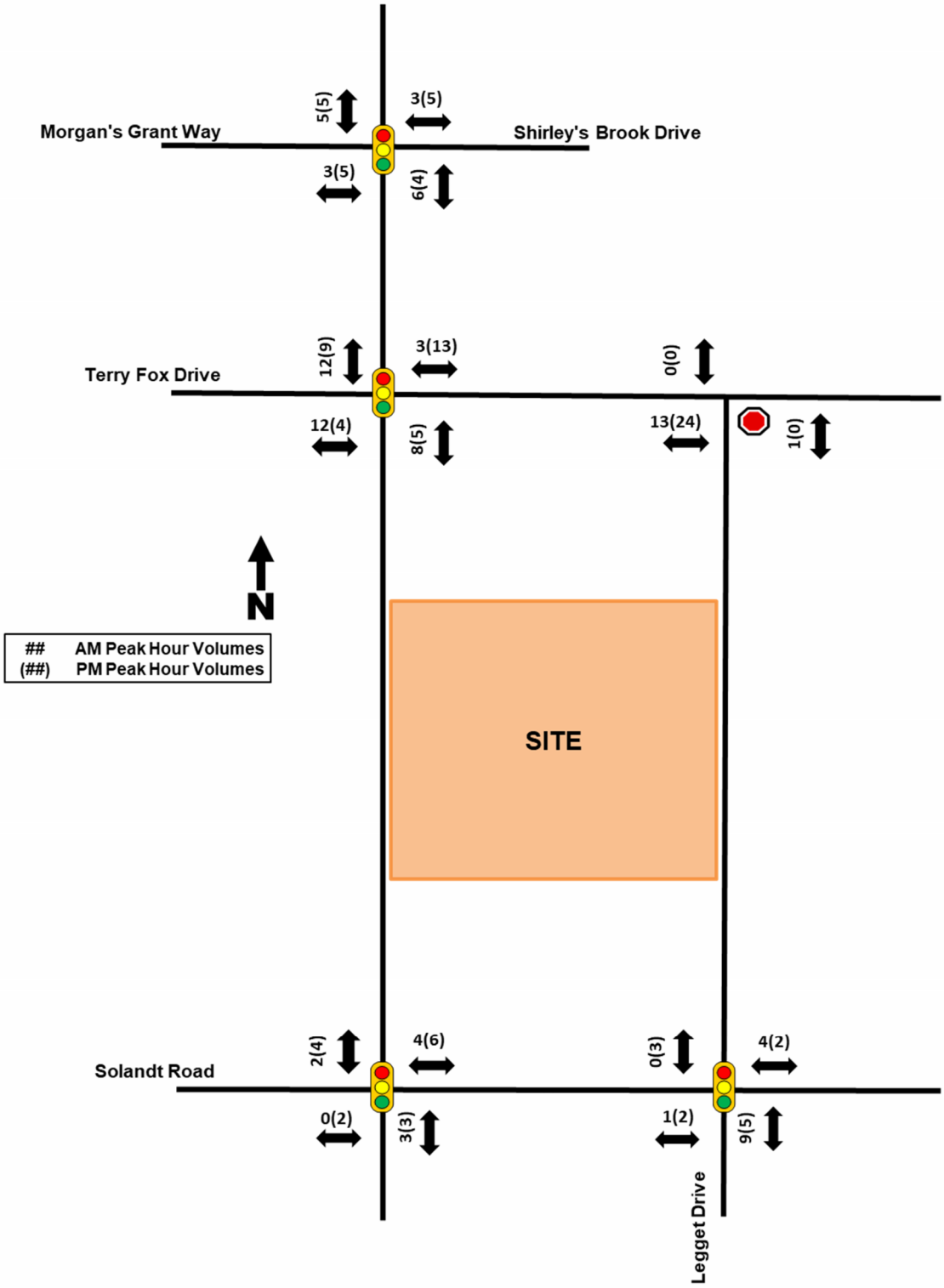
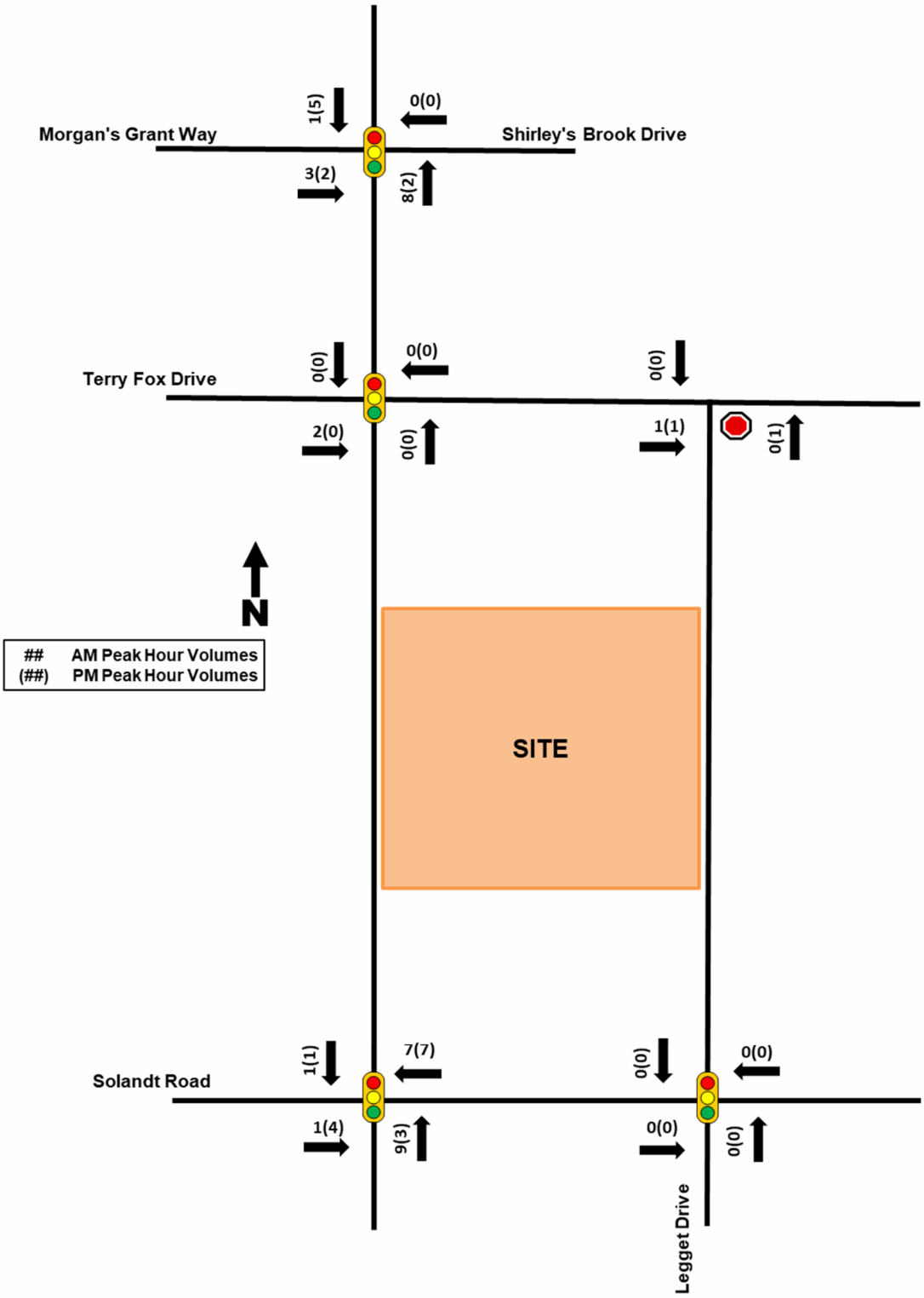


Figure 9 - Existing Cyclist Volumes



2.1.2.6 Collision History

Collision data was provided by the City of Ottawa and included collisions from 2015 to 2019 in the vicinity of the subject site.

Overall, there were a total of 184 reported collisions between 2015 to 2019. It was found that 143 collisions (78%) resulted in property damage only. The analysis also found that 41 collisions (22%) resulted in non-fatal injuries, and 0 collision (0%) resulted in a fatal injury. The collision statistics are shown in **Table 2** below.

Table 2 - Collision Statistics

		Terry Fox / March	March / Morgan Grant	March / Solandt	Solandt / Legget	Terry Fox / Legget	Terry Fox btwn. March & Legget	March btwn. Terry Fox & Solandt	Legget btwn. Solandt & Terry Fox	Solandt btwn. March & Legget
Classification	Property Damage Only	43	27	47	4	6	1	13	1	1
	Non-Fatal Injury	13	10	6	--	1	2	7	2	--
	Fatal Injury	--	--	--	--	--	--	--	--	--
Collision Type	Sideswipe	7	2	4	--	--	--	3	--	--
	Angle / Turning	6	20	24	1	4	--	1	2	1
	Rear End	36	13	24	2	3	1	7	--	--
	Single Motor Vehicle	5	2	1	1	--	2	9	1	--
	Other	2	--	--	--	--	--	--	--	--
Environmental Condition	Clear	41	31	39	2	3	3	16	3	--
	Rain	10	2	6	1	2	--	2	--	1
	Snow	4	4	7	1	2	--	2	--	--
	Freezing Rain	1	--	1	--	--	--	--	--	--

At the intersection of Terry Fox Drive & March Road, a total of 56 collisions were reported, which accounts for 30% of the total collisions in the identified intersections and segments. Of these 56 collisions, 43 of them (77%) resulted in property damage only and 13 of them (23%) resulted in non-fatal injuries. Of these 56 collisions, the vast majority of them were rear end collisions (64%). These rear end collisions were analyzed further to determine if there are any significant patterns in the rear end collisions at this intersection, which can be seen in **Table 3** below. It was found that 50% of the rear end collisions occurred between vehicles traveling in the northbound direction. As there does not appear to be any geometric issues that could explain the frequency of the northbound rear end collisions at this location, the combination of the high volume of vehicles coupled with the high posted speed limit are likely to have been factors.

Table 3 - Terry Fox at March Rear End Collisions

Vehicle Direction	Number of Collisions
North	18
South	8
East	5
West	5

At the intersection of March Road & Solandt Road, a total of 53 collisions were reported, accounting for 29% of the total collisions. Of the 53 collisions, 47 collisions (89%) resulted in property damage only and 6 collisions (11%) resulted in non-fatal injuries. Of these 53 collisions, a significant portion of them were rear end collisions (45%) and angle / turning collisions (45%). These collisions were reviewed further to determine if there are any significant patterns, which can be seen in **Table 4** below. The rear end collision analysis at this intersection found that 9 collisions (25%) occurred along the southbound approach and 7 collisions (19%) occurred along the northbound approach. The angle / turning movement analysis at this intersection found that 11 collisions (31%) occurred in the southbound approach and 10 collisions (28%) occurred in the northbound approach. Of the 24 total angle / turning collisions, 10 collisions (42%) were from the northbound left turn and southbound through conflict, and 7 collisions (29%) were from the southbound left and northbound through conflict. The northbound left turn is currently a protected-permitted phase and may benefit from a change to a fully protected phase given the high volume of vehicles turning northbound left particularly in the AM peak (600+ vehicles). The southbound left turn is currently a permitted phase and may benefit from a change to a protected-permitted or a fully protected phase.

Table 4 - March at Solandt Rear End and Angle/Turning Collisions

March at Solandt Rear End and Angle/Turning Collisions			
Rear End Collision	Vehicle 1 Direction	North	7
		South	9
		East	4
		West	4
Angle/Turning Collision	Vehicle 1 Direction	North	10
		South	11
		East	2
		West	1

At the intersection of March Road & Morgan's Grant Way-Shirley's Brook Drive, a total of 38 collisions were reported, accounting for 21% of the total collisions. Of these 38 collisions, 28 collisions (74%) resulted in property damage only and 10 collisions (26%) resulted in non-fatal injuries. The 38 collisions consisted of 18 turning collisions (47%) and 14 rear end collisions (37%). In further review of the 18 turning collisions as shown in **Table 5**, 9 collisions (50%) were from the northbound left and southbound through conflict, and 8 collisions (39%) were from the southbound left and northbound through conflict. The collision data only includes collisions from 2015 to 2019, and an examination of Google Street View shows that separate northbound and southbound left turn signal heads allowing for fully protected turns were installed sometime after 2019. Therefore, it can be assumed that the addition of fully protected phases has improved left turn-through conflicts. The analysis of the 14 rear end collisions found that 6 collisions (43%) were on the

north approach and 4 collisions (29%) on the west approach. As there are no obvious geometric issues that could explain the frequency of the rear end collisions, the combination of high volume and high speed are likely to have been factors.

Table 5 - March at Morgan's Grant-Shirley's Brook Turning and Rear End Collisions

March at Morgan's Grant / Shirley's Brook Turning and Rear End Collisions			
Turning Collision	Vehicle Direction	North turning left	9
		South turning left	8
		West turning left	1
Rear End Collision	Vehicle Direction	North	6
		South	2
		East	2
		West	4

On March Road between Terry Fox Drive and Solandt Road, there were 20 total collisions, accounting for 11% of the total collisions. Of these 20 collisions, 13 collisions resulted in property damage only and 7 collisions resulted in non-fatal injuries. The 20 collisions primarily consisted of single motor vehicle collisions (45%) and rear end collisions (35%), with details shown in **Table 6**. There were 9 single motor vehicle collisions, consisting of 4 skidding/sliding collisions, 4 animal collisions, and 1 debris on road collision. 2 of 4 skidding/sliding collisions occurred in slush or wet surface conditions. The animal collisions may be explained by the presence of an east-west natural/watercourse corridor that crosses March Road near Solandt Road. Lower vehicle speeds may help mitigate skidding/sliding and maneuvering around unexpected animals. There were 7 rear end collisions, of which 5 collisions were in the northbound approach and 2 collisions in the southbound approach. High vehicle volumes and high speeds are likely to be factors in the rear end collisions.

Table 6 - March between Terry Fox and Solandt Single Motor Vehicle and Rear End Collisions

March between Terry Fox and Solandt Single Motor Vehicle and Rear End Collisions			
Single Motor Vehicle Collision	Type	Skidding	4
		Animal	4
		Debris on Road	1
Rear End Collision	Vehicle Direction	North	5
		South	2
		East	0
		West	0

2.1.3 Planned Conditions

2.1.3.1 Road Network Modifications

Table 7 identifies the City of Ottawa's 2013 Transportation Master Plan (TMP) projects located in the vicinity of the subject site, as well as projects that are anticipated to influence modal share characteristics in the future.

The City of Ottawa is currently undertaking Part 2 – Capital Infrastructure Plan of the new TMP, anticipated for completion in 2025. A new list of projects in Ottawa's Ultimate Transit and Road Networks will be included as part of this phase and may result in changes to the projects listed in **Table 7**. Additionally, Part 1 of the new TMP includes an active transportation project to implement bike lanes where feasible on Legget, Solandt, and Hines.

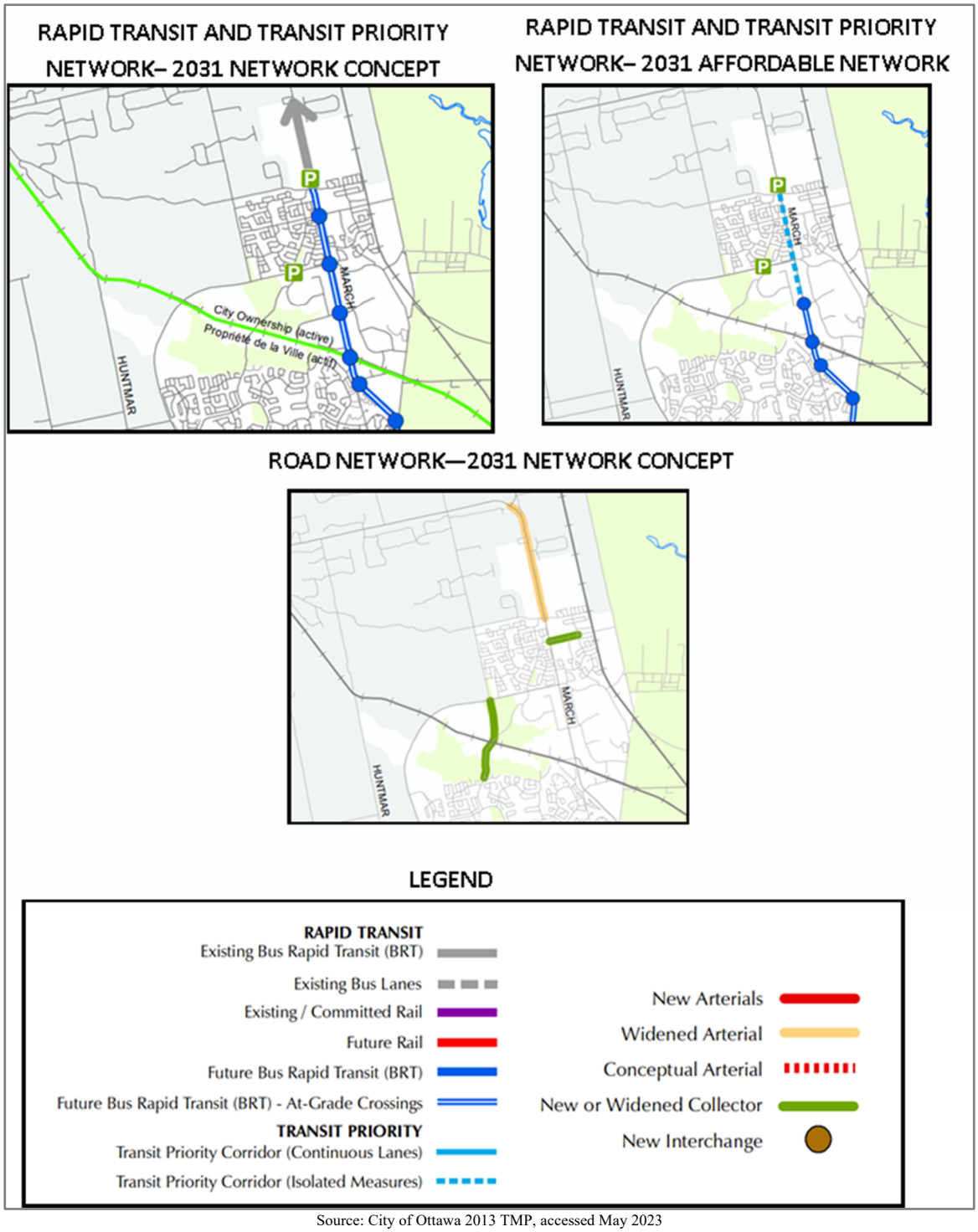
Figure 10 illustrates planned network modifications near the proposed development from the 2013 TMP.

Table 7 - City of Ottawa 2013 Transportation Master Plan Projects

Project	Description	TMP Phase
Kanata North Transitway	Affordable: At-grade March Road BRT between Solandt Road and Hwy. 417 Concept: At-grade March Road BRT between Maxwell Bridge Road and Highway 417	Affordable Network Network Concept
March Road	Transit signal priority and queue jump lanes between Maxwell Bridge Road and Carling Avenue. Allows for future conversion to BRT at a later time to connect with planned BRT south of Carling Avenue	Affordable Network
March Road	Widen from two to four lanes between Old Carp Road and Dunrobin Road	Network Concept
Klondike Road	Urbanize existing two-lane rural cross section between March Road and Sandhill Road	Affordable Network and Network Concept
Goulbourn Forced Road Realignment	Re-aligned and new two-lane road between Terry Fox Drive and Kanata Avenue	Network Concept

It should be noted that while the horizon year for the planned network modifications is 2031, updated timelines are expected to be included with Part 2 of the new TMP for the 2046 horizon year. A draft of the new TMP Part 2 dated March 31, 2025 was released for public consultation and includes the Kanata North Transitway as a project in the Priority Transit Network, but it is the lowest scoring rapid transit project. Therefore, for the purposes of this TIA, it is conservatively assumed that none of the above noted projects will be completed within the horizon of this study. The possibility remains that the Transitway will be implemented prior to the 2032 horizon of this TIA.

Figure 10 - Planned Network Modifications



Source: City of Ottawa 2013 TMP, accessed May 2023

2.1.3.2 Future Background Developments

There are numerous developments scheduled to occur in the vicinity of the subject site as identified through the City's Development Application Search Tool. These developments are described in **Table 8.**

Table 8 - Background Developments

Development[1]	Location	Description
359 Terry Fox Drive & 525 Legget Drive	Southeast corner of Terry Fox Drive and Legget Drive	30-storey high-rise residential building with 253 rental dwellings and approx. 3,877 ft^2 GFA of rooftop restaurant space
2707 Solandt Road	At the eastern limits of Solandt Road	8-storey, 198,615ft^2 office building
415 Legget Drive & 2700 Solandt Road	Southeast corner of Legget Drive and Solandt Road intersection	2-storey warehousing, GFA 14,350m^2 and 2 warehouse buildings, GFA 18,580m^2
706,710, and 714 March Road	Bound by Shirley's Brook Drive to the north, McKinley Drive to the east, March Road to the west, and Terry Fox Drive to the south	4,165 m^2 supermarket, 350m^2 fast-food restaurant with drive-through, and multi-unit commercial space 1500m^2, 237 parking stalls
788 March Road	Southeast corner of the Klondike and March Road	196 residential units
1055 Klondike Road	Northeast corner of the Klondike Road and March Road intersection	12 Semi-detached & 46 townhomes dwellings, 56 apartment dwellings
1050 Klondike Road[2]	Southwest corner of the Klondike Road and Sandhill Road	Seven 3- storey townhomes and a 2-storey stacked dwelling with 9 dwellings
1104 Halton Terrace	Northeast corner of the Halton Terrace and Flamborough Way intersection	103 apartment dwellings
910 March Road	Northeast corner of the March Road and Maxwell Bridge Road intersection	Multi-level mixed-use building with 390 residential units and 501 m^2 of ground floor commercial space.
KNUEA[3]	North of the established urban area of Kanata	960 single-detached homes, 1282 townhomes, 2,170 multi-unit residential units, and 145,600 ft2 GFA of commercial space
555,591,595,603 March Road	Southwest corner of Terry Fox Drive and March Road	9 residential and mixed-use buildings between six and thirty storeys with up to 2100 dwellings and 31,482 sq ft of retail space, and two office buildings with154,178 sq ft. of office space

1 – The potential redevelopment of the existing Nokia site (600 March Road) is no longer active in the City of Ottawa Development Applications; therefore, it has not been included in this TIA.
2 - Traffic for these developments have not been added.
3 - This KNUEA (Kanata North Urban Expansion Area development) includes 927 March Road, 936 March Road, 1020 and 1070 March Road, 1053,1075 and 1145 March Road.

2.2 STUDY AREA AND TIME PERIODS

2.2.1 Study Area

The study area was limited to the following intersections:

1. March Road & Terry Fox Drive;
2. Legget Drive & Terry Fox Drive;
3. March Road & Solandt Road;
4. March Road & Morgan's Grant Way-Shirley's Brook Drive;
5. Legget Drive & Solandt Road;
6. All site access intersections as shown in **Figure 2**: three on March Road, three on Legget Drive.

2.2.2 Time Periods

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

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

2.2.3 Horizon Years

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

- 2025 existing conditions;
- 2027 future background conditions;
- 2027 total future conditions (site build-out); and
- 2032 total future conditions (5 years beyond build-out).

2.3 DEVELOPMENT GENERATED TRAVEL DEMAND

2.3.1 Trip Generation

In this assessment, the projected lab, office, and retail traffic was estimated using the trip generation rates from the 11th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. This method of predicting trip generation is considered industry best practice and is the method required as part of a formal Traffic Impact Assessment Study for the City of Ottawa. **Table 9** below summarizes appropriate vehicle trip generation rates for estimating projected site-generated traffic by land use, derived from the ITE Trip General Manual.

The subject development will be a replacement for the existing Nokia office building at 600 March Road, where the existing building will be decommissioned. Therefore, the trips for the existing office building at 600 March Road have been calculated and removed from the network to avoid double counting the future trips associated with this development. It should be noted that the GFA of the existing office building is similar to that of the proposed office building, but the number of employees will increase from approximately 2000 to 2400. Since using the GFA as an independent variable for calculating trips may not capture the growth in employees and trips, the number of employees is used as the independent variable to provide a more accurate calculation.

A general land use of High-Turnover (Sit-Down) Restaurant has been utilized for the retail portion of the development for analysis purposes, as the Illustrative Campus Master Plan for the Nokia site has used the label 'food hall' for this space. Based on the information available at the time of writing, it is assumed that the 'food hall' would primarily serve the employees of the site but would also be open for public access.

It should be noted that the first listed equation is an average person trip generation rate, and the second equation is a "line of best fit" equation that more accurately represents the trend of person trip generation based on land use size. Typical industry practice is to use the "line of best fit" equation for site-generated traffic projections, if available.

Table 9 - Trip Generation Rates

Land Use	Land Use Code (ITE)	AM Peak Hour	PM Peak Hour
Lab and Office – Research and Development Center *(X = Number of Employees)*	ITE 760 General Urban/Suburban	Ln(T) = 0.82 Ln(X) + 0.25	Ln(T) = 0.83 Ln(X) + 0.14
Retail - High-Turnover (Sit-Down) Restaurant *(X = 1,000 ft^2 GFA)*	ITE 932 General Urban/Suburban	T = 9.57(X)	T = 9.05(X)

Note: T = Average Person Trip Ends

To properly consider multi-modal trips, projected site vehicle trips are converted to projected site-generated person trips. To convert projected ITE vehicle trips to person trips, an auto occupancy factor and non-auto factor is applied to the ITE trip generation rates. According to the City's TIA Guidelines, and based on available American Census data, the typical modal share of non-auto person trips is approximately 10% and the typical auto occupancy is 1.15. When solving for "person trips" (i.e., Persons = 1.15xAutos + 0.10xPersons), a factor of 1.28 is used to convert vehicle trips to person trips.

Existing Office Building Trip Generation Calculation

Total person trips have been calculated for the existing office building at 600 March Road below in **Table 10**.

Table 10 - Existing Office Building Person Trip Generation by Land Use Type

Land Use	Units	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Research and Development Center	2,000 employees	556	98	654	76	556	632

The total projected person trips are subdivided by mode share values to determine the number of person trips arriving and departing by travel mode. The observed mode share for Employment Generators in the Kanata-Stittsville District as identified in the 2020 TRANS Trip Generation Manual has been used below in **Table 11**. The auto driver trips will be removed from the transportation network.

Table 11 - Existing Office Building Trips by Mode Share

Travel Mode	Mode Share	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Auto Driver	84%	467	82	549	64	467	531
Auto Passenger	4%	22	4	26	3	22	25
Transit	8%	44	8	52	6	44	50
Non-motorized	4%	22	4	26	3	22	25
Total Person Trips	100%	556	98	654	76	556	632

Future Development Trip Generation Calculation

Total person trips calculated for the proposed development are shown below in **Table 12**.

Table 12 - Future Site Person Trip Generation by Land Use Type

Land Use	Units	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Research and Development Center	2,400 employees	645	114	759	88	647	735
High-Turnover (Sit-Down) Restaurant	14,412 sqf	49	40	88	51	33	83
Total Person Trips		**694**	**154**	**847**	**139**	**680**	**818**

A 50% reduction of trips was applied to the AM and PM peak hour for the high-turnover restaurant to account for internal trips. In the AM peak, the reduction assumed that the establishment would not generate many trips in this time period from non-employees. This value was derived from the approximate ratio of employees of the Kanata North Business Park against the population of surrounding Kanata neighbourhoods. In the PM peak, the reduction

assumed that employees already on site would use the restaurant establishment before commuting home. The resulting values are shown in Table 12.

As shown in **Table 12**, the subject development is projected to generate approximately 850 and 820 trips during weekday morning and afternoon peak hours respectively.

2.3.2 Travel Mode Shares

The total projected person trips are subdivided by mode share values to determine the number of person trips arriving and departing by travel mode. The subject site falls within the Kanata-Stittsville District as identified in the 2020 TRANS Trip Generation Manual, where the associated Employment and Commercial Generator mode share values are as shown in **Table 13.**

Table 13 - Observed Kanata-Stittsville Mode Shares

Mode	Employment	Commercial	
	AM / PM	AM	PM
Auto Driver	84%	81%	73%
Auto Passenger	4%	12%	22%
Transit	8%	5%	1%
Cycling	1%	0%	0%
Walking	3%	2%	4%

However, taking into consideration the future context of the site's surroundings as an increasingly mixed-use area with incoming mid to high-density residential developments (359 Terry Fox Drive & 525 Legget Drive, 788 March Road, 1055 Klondike Road, 1104 Halton Terrace, and 910 March Road), and bike lane projects on Legget, Solandt and Hines providing connections to the local cycling network, it is reasonable to anticipate a slight increase in non-auto trips. As there are no clear timelines for the March Road BRT, it is conservatively assumed to be beyond the horizon of this study, and no significant increases will be made to the transit mode targets. However, it is noted that there is potential for the transit mode share to be higher by the 2032 horizon if the BRT is implemented prior to 2032. The future mode share targets are as follows:

Employment Generator

- **80%** **Auto Driver**
- **4%** **Auto Passenger**
- **9%** **Transit**
- **2%** **Cycling**
- **5%** **Walking**

Commercial Generator

- **78% AM / 70% PM** **Auto Driver**
- **11% AM / 21% PM** **Auto Passenger**
- **6% AM / 2% PM** **Transit**
- **1% AM / 1% PM** **Cycling**
- **4% AM / 6% PM** **Walking**

Incorporating the future mode share targets for the subject development, the resulting projected trips generated by the proposed development subdivided by mode are captured in the three tables below.

Table 14 – Proposed Lab/Office, Peak Period Trips by Mode Share

Travel Mode	Mode Share	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Auto Driver	80%	516	91	607	70	518	588
Auto Passenger	4%	26	5	31	4	26	30
Transit	9%	58	10	68	8	58	66
Non-motorized	7%	45	8	53	6	45	51
Total Person Trips	**100%**	**645**	**114**	**759**	**88**	**647**	**735**

The proposed lab and office are estimated to generate approximately 759 and 735 person trips in the AM and PM peak hour respectively.

Table 15 - Proposed Retail, Peak Period Trips by Mode Share

Travel Mode	Mode Share		AM Peak Hour			PM Peak Hour		
	AM	PM	In	Out	Total	In	Out	Total
Auto Driver	78%	70%	38	31	69	35	23	58
Auto Passenger	11%	21%	5	4	10	11	7	17
Transit	6%	2%	3	2	5	1	1	2
Non-motorized	5%	7%	2	2	4	4	2	6
Total Person Trips	**100%**	**100%**	**49**	**40**	**88**	**51**	**33**	**83**

The proposed retail is estimated to generate approximately 88 and 83 trips in the AM and PM peak hour respectively.

Table 16 - Projected Site Auto, Transit, and Active Trips

Travel Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto Driver						
Lab and Office	516	91	607	70	518	588
Retail	38	31	69	35	23	58
Sub-Total	**554**	**122**	**676**	**105**	**541**	**646**
Auto Passenger						
Lab and Office	26	5	31	4	26	30
Retail	5	4	10	11	7	17
Sub-Total	**31**	**9**	**41**	**15**	**33**	**47**
Transit						
Lab and Office	58	10	68	8	58	66
Retail	3	2	5	1	1	2
Sub-Total	**61**	**12**	**73**	**9**	**59**	**68**

Travel Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Non-Motorized						
Lab and Office	45	8	53	6	45	51
Retail	2	2	4	4	2	6
Sub-Total	**47**	**10**	**57**	**10**	**47**	**57**

Table 16 summarizes the projected trips by mode for the subject site. In summary, the proposed development is estimated to generate:

- 676 and 646 two-way auto driver trips in the AM and PM peak hour respectively,
- 41 and 47 two-way auto passenger trips in the AM and PM peak hour respectively,
- 73 and 68 two-way transit trips in the AM and PM peak hour respectively, and
- 57 and 57 two-way active trips in the AM and PM peak hour respectively.

2.3.3 Trip Distribution and Assignment

The projected distribution of site-generated vehicular traffic was derived based on existing travel patterns as indicated by the 2011 TRANS Origin-Destination travel survey, existing AM and PM peak hour volumes, the site's connections to/from the surrounding road network, logical trip routings, and distribution of population based on the Statistics Canada 2021 Census (as shown in Ottawa Neighbourhood Study's Neighbourhood Maps). For the proposed retail (assumed to be a food hall), distribution values were adjusted based on the assumption that a greater proportion of trips would occur within Kanata-Stittsville compared to the proposed lab and office. Considerations were also given to drivers avoiding congested or high-volume intersections and movements. The following approximate distribution and assignment of projected site-generated traffic was assumed, as shown in **Table 17** for the proposed lab/office use and **Table 18** for the proposed retail use.

Table 17 - Proposed Lab/Office Trip Distrubtion and Assignment

%	Distribution Direction	IN Assignment		OUT Assignment	
60%	To/From South via March	**10%**	via Solandt / Legget	**40%**	via Solandt/Legget
		60%	via Private Drive	**35%**	Via Lifestyle Street
		30%	via Parking Access	**5%**	via Terry Fox
				20%	via Legget/Herzberg
5%	To/From East via Terry Fox & Legget	**60%**	via Legget	**50%**	via Legget
		40%	via Terry Fox	**50%**	via Terry Fox
15%	To/From North via March	**50%**	via Terry Fox / Legget	**5%**	via Terry Fox / Legget
		50%	via Lifestyle Street	**40%**	via Parking Access
				40%	via Private Drive
				15%	via Lifestyle Street
20%	To/From West via Terry Fox	**60%**	via Terry Fox / Legget	**5%**	via Terry Fox / Legget
		40%	via Lifestyle Street	**40%**	via Parking Access
				40%	via Private Drive
				15%	via Lifestyle Street

For the proposed lab and office uses, the IN and OUT trip assignment focused on movement to and from the parking garage which is accessible from the Private Drive and Parking Access on March Road and Private Drive on Legget Drive. Trips coming to/from the north and west were also assumed to be using the new signal at March Road and Lifestyle Street as a bypass.

Table 18 - Proposed Retail Trip Distribution and Assignment

%	Distribution Direction	IN Assignment		OUT Assignment	
52%	To/From South via March	**10%**	via Solandt / Legget	**40%**	via Solandt / Legget
		5%	via Private Drive	**35%**	via Lifestyle Street
		15%	via Parking Access	**5%**	via Terry Fox
		70%	via Lifestyle Street	**20%**	via Legget / Herzberg
8%	To/From East via Terry Fox & Legget	**50%**	via Legget	**50%**	via Legget
		50%	via Terry Fox	**50%**	via Terry Fox
23%	To/From North via March	**30%**	via Terry Fox / Legget	**5%**	via Terry Fox / Legget
		70%	via Lifestyle Street	**40%**	via Parking Access
				10%	via Private Drive
				45%	via Lifestyle Street
17%	To/From West via Terry Fox	**50%**	via Terry Fox / Legget	**5%**	via Terry Fox / Legget
		50%	via Lifestyle Street	**40%**	via Parking Access
				10%	via Private Drive
				45%	via Lifestyle Street

For the proposed retail use, more IN and OUT trips were assigned to Lifestyle Street as that is where the main retail entrance will be located and where the on-street parking will be provided. There is also the potential for the drop-off loop to be used, which is accessible from the Parking Access on March Road.

Based on the trip generation calculations and assumed distribution and assignment, **Figure 11** below shows the trips that will be removed from the road network for the decommissioned 600 March Road office building and **Figure 12** below shows the projected site-generated traffic.

Figure 11 - Decommissioned 600 March Road Trips Removed from the Network

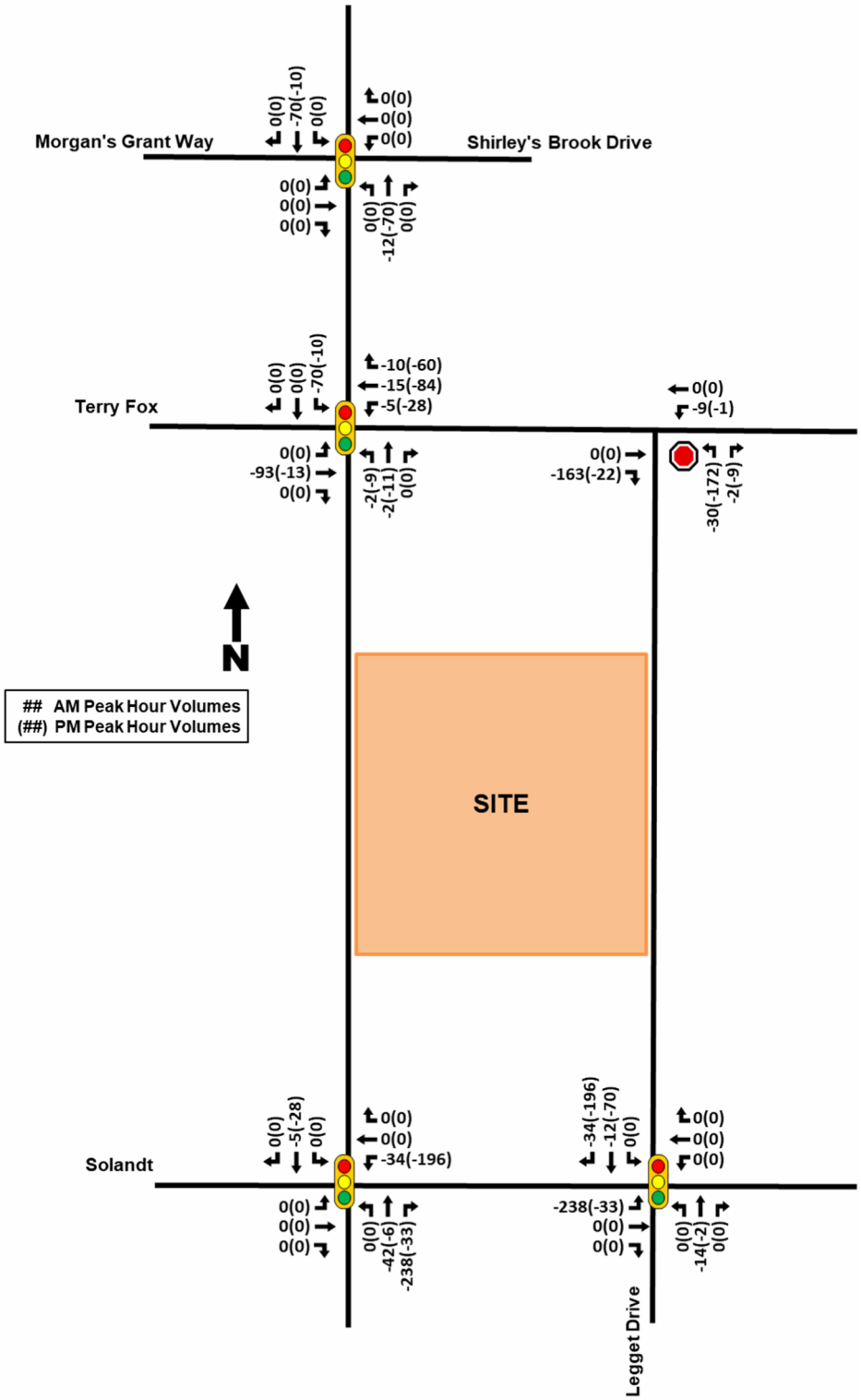
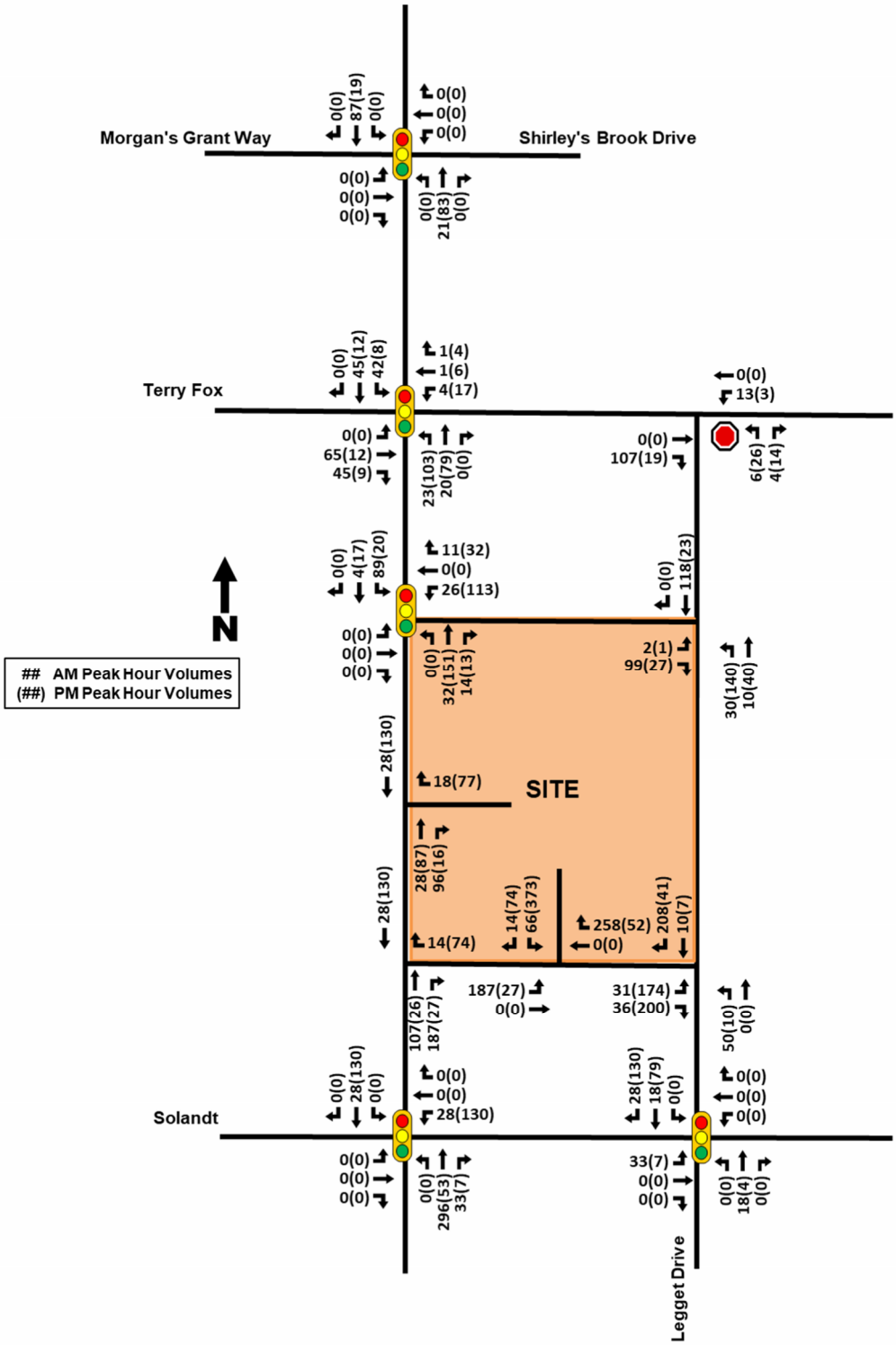


Figure 12 - Projected Site-Generated Traffic



2.4 EXEMPTIONS REVIEW

Table 19 summarizes the Exemptions Review table from the City of Ottawa's 2017 Transportation Impact Assessment Guidelines with revisions effective June 2023.

Table 19 - Exemptions Review

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

**Due to the unique status of the ongoing Community Design Plan (CDP) for Kanata North Economic District (KNED), it is proposed that the Module 4.8 Network Concept should be excluded from this TIA and instead will be addressed by the transportation portion of the CDP for the KNED.*

3.0 ANALYSIS

3.1 BACKGROUND NETWORK TRAFFIC

3.1.1 Changes to the Background Transportation Network

As discussed previously, there are no confirmed timelines for the March Road BRT. It is noted that an RFP for the update of the Kanata North Transitway EA study was recently released, however this does not indicate that construction timelines are imminent. It is acknowledged that approximate timelines for the Kanata North Transitway are provided in the 2024 City-wide and Area-Specific Development Charges Background Study, Appendix B.2 Table 1, which indicates that the BRT construction may start in 2031, within the 2032 horizon of this TIA. It is also noted that in the Transit Network Development document released in advance of Part 2 of the City's new TMP, the March Road BRT is identified as part of the Priority Transit Network. However, it is scored as the eighth highest Rapid Transit Project, indicating that it is unlikely to be constructed in the near-term. Therefore, the March Road BRT project has not been included in the background network assumptions, which will provide a conservative estimate from a traffic volumes perspective.

There are numerous ongoing studies for the land use and road network within the vicinity of the development, including the Kanata North Economic District (KNED) Urban Design Guidelines, and TIAs for redevelopments in the area, as identified in **Section 3.1.3** below. It is understood that these studies, specifically the KNED Urban Design Guidelines, will be recommending changes to the road network and cross-sections. Therefore, while it is noted improvements may be required to the road network as a result of trips from this development, it is recommended that any improvements be reviewed as part of those studies, which consider the entire Kanata North transportation network as a whole.

3.1.2 General Background Growth Rates

The general background growth rate of 0.5% was applied to the existing volumes for background scenarios, as described in **Section 2.1.2.5**.

3.1.3 Other Area Development

The City's online Development Application Tool was used to identify developments in proximity to the subject site that will have traffic impacts within the development's horizon years. Site-generated traffic from the following sites were included in the traffic analysis:

- 555 March Road
- 706-714 March Road
- 788 March Road
- 910 March Road
- 936 March Road
- 1053, 1075, 1145 March Road
- 359 Terry Fox Drive & 525 Legget Drive
- 415 Legget Drive & 2700 Solandt Road
- 2707 Solandt Road
- 1055 Klondike Road

Additionally, it should be noted that although some of the study areas of the developments listed above did not contain intersections in this TIA's study area, some traffic was carried downstream or upstream on March Road into the study area.

3.2 DEMAND RATIONALIZATION

It is reasonable to assume that demand rationalization will occur based on the high volumes, particularly on the March Road corridor as shown in the pre-COVID traffic counts. Auto drivers are likely to change their travel behaviour as the roadway capacity is reached, by adjusting their travel time, taking alternative routes, or switching to non-auto modes. Additionally, within the context of post-COVID office work and the nature of the Kanata North area as a high-tech park offering flexible work arrangements, remote and hybrid work arrangements have likely resulted in a distributed demand on the road network. As shown in **Section 2.1.2.5**, the post-COVID traffic volumes when compared to pre-COVID volumes are shown to be similar or lower despite the 5+ year time difference. Therefore, it can be considered that the post-COVID traffic count data has already accounted for demand rationalization as it shows the impact of peak hour demand spreading through hybrid work arrangements.

Based on the foregoing information, **Figure 13 and Figure 14** below show the 2027 Future Background and 2032 Future Background traffic volumes.

Figure 13 - 2027 Future Background Volumes

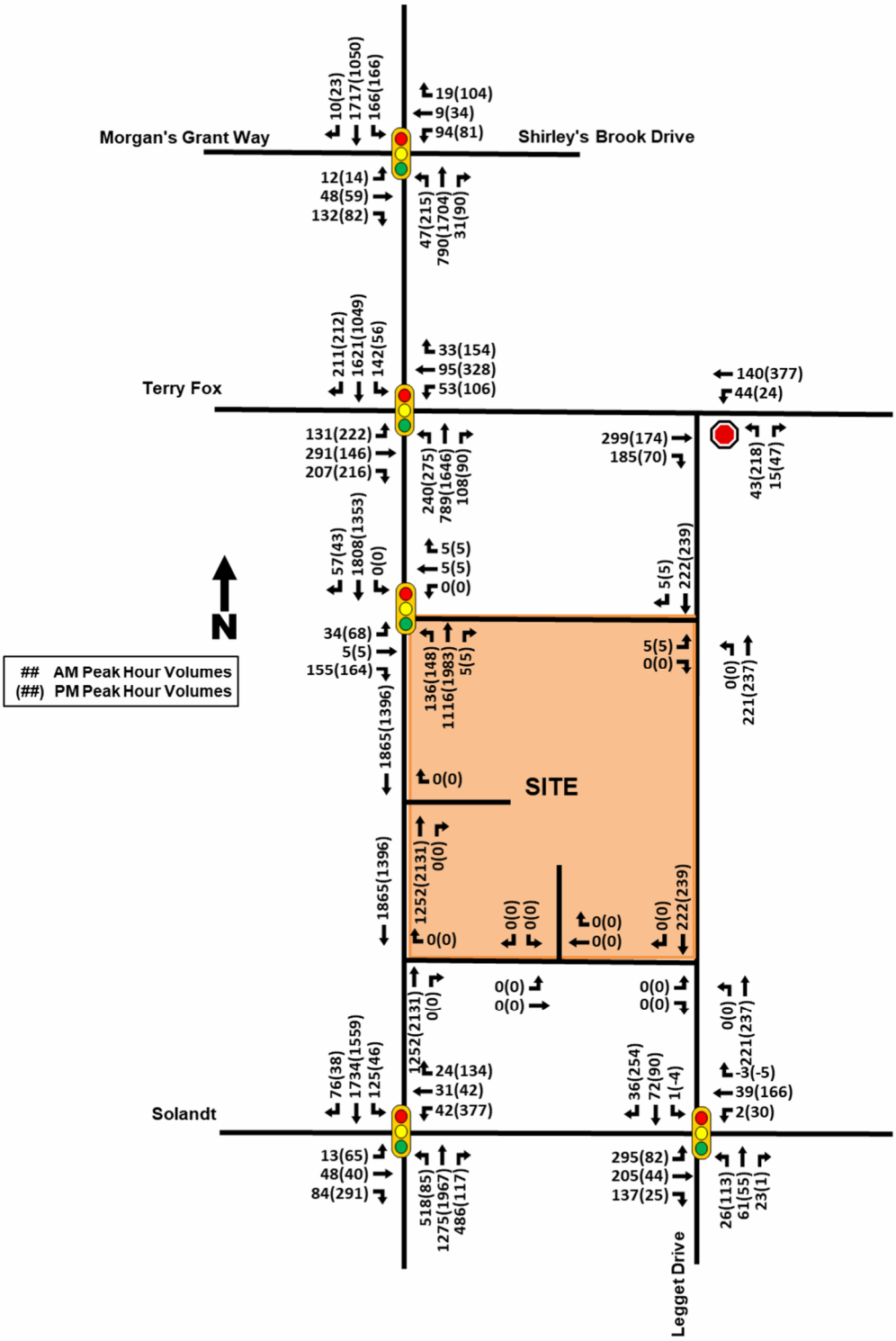
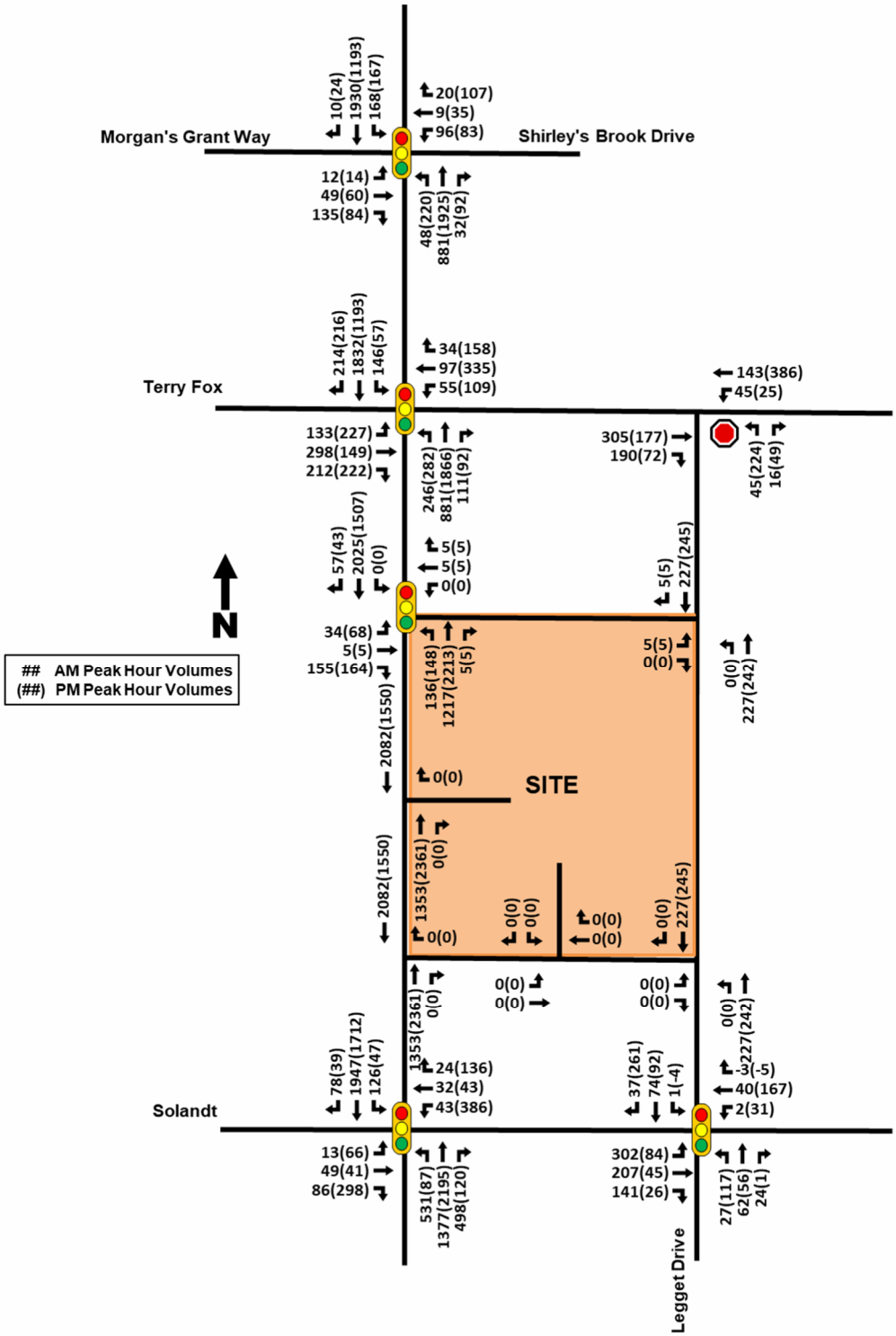


Figure 14 - 2032 Future Background Volumes



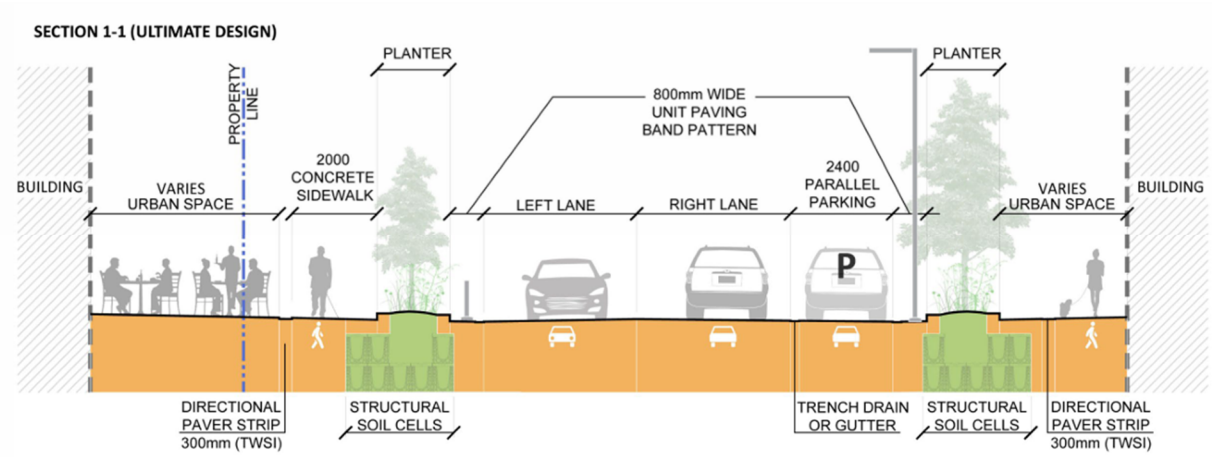
3.3 DEVELOPMENT DESIGN

3.3.1 Design for Sustainable Modes

Many features of the development support walking, cycling, and transit. Sidewalks are provided on March Road, Legget Drive, and Lifestyle Street which connect to open landscaped/hardscaped plazas with seating areas and the entrances to the lab, office, and retail buildings that create welcoming intersections. Generally, the northern side of the site along Lifestyle Street and the drop-off loop from March Road are hardscaped areas to indicate a pedestrianized environment. Cycle tracks are proposed on the March Road frontage of the site that provides safe cycling access to the cycling facilities on Lifestyle Street, the outdoor bike parking areas at the two plazas, and the bike parking room through the Private Driveway.

Lifestyle Street is a key feature of the site that is designed to prioritize people walking and cycling. A conceptual cross-section is shown in **Figure 15**, taken from the Nokia Ottawa Campus Design Brief. There are pedestrian facilities on both sides that are integrated with urban, gathering spaces, and sharrows on the roadway to mark a shared space between bikes and vehicles. Vehicular travel lanes will be narrowed to the minimum permitted to support safe facilities for people on bikes. The street curves through the site to support traffic calming. A protected intersection is provided at March & Lifestyle, supporting a safe cycling connection between the site, the proposed cycle tracks on March Road, and the west side of March Road, as well as a safe crossing of March Road for pedestrians.

Figure 15 - Lifestyle Street Conceptual Cross-Section



Source: Nokia Ottawa Campus Design Brief, February 2025

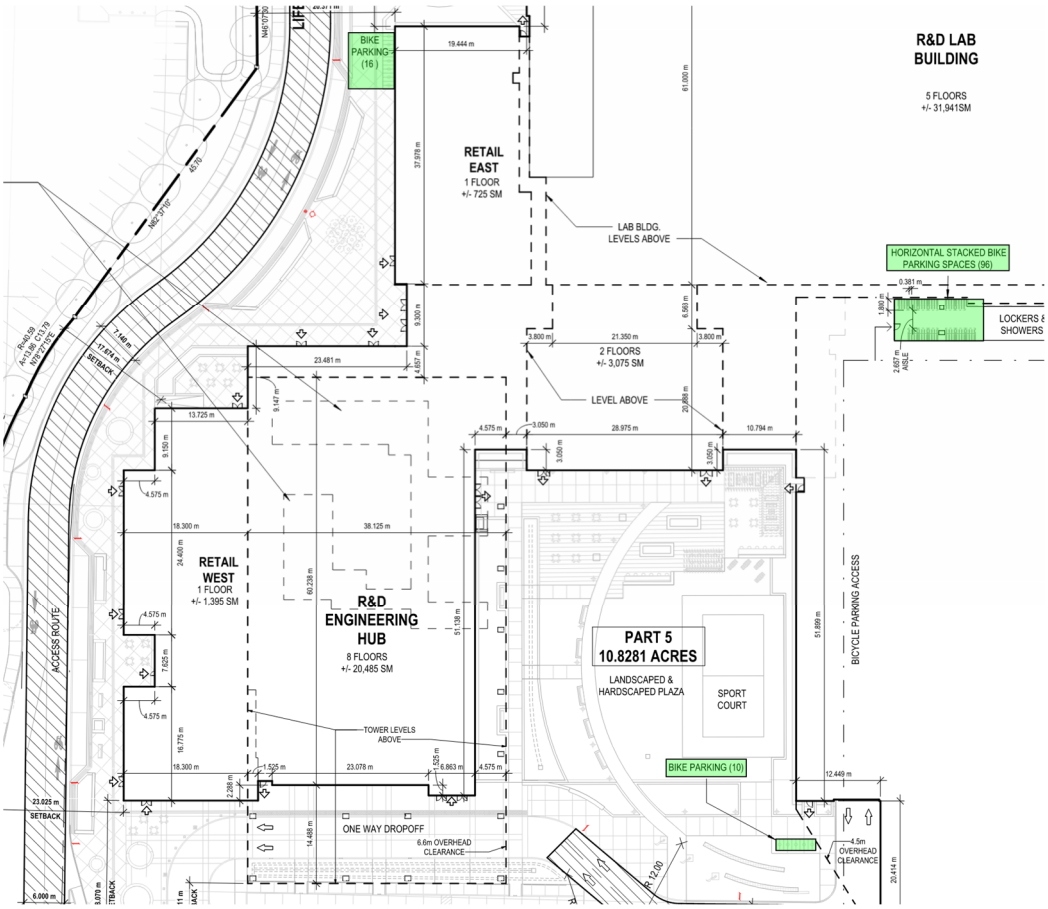
There are numerous west- and north-facing entrances available for the office and retail to allow for pedestrians to enter from the west on March Road or from the east on Legget Drive (via Lifestyle Street). The lab portion of the site is most directly accessible from the east on Legget Drive. All entrances for the lab, office, and retail are within a 400m walk of a transit stop. The existing northbound midblock bus stop #1820 on March Road will be relocated to the far side of the protected intersection of March Road & Lifestyle Street, as is preferred by OC Transpo. Improvements to the bus stop will be made with the relocation as the design integrates a bus platform and the proposed cycle tracks on March Road to safely guide transit customers to the sidewalk. The addition of a shelter at this bus stop is recommended to improve existing conditions. The walking routes to existing transit stops on the east side of the site

are more restricted due to the lack of sidewalks on the west side of Legget Drive. The subject development fills some of this gap in the pedestrian network by providing a new sidewalk that extends to the limits of the site, improving access to the southbound bus stop #4972 and bus stop #6150 on Legget Drive.

In the future, the closest March Road BRT station will be the proposed location at March & Terry Fox, which would be within a 600m walk from all the main entrances for the lab, retail, and engineering hub. As most entrances are facing the northern end of the subject site or the March Road frontage, it provides a direct connection to the future Terry Fox BRT Station. Lifestyle Street provides a cut-through the site to allow the walkshed of the BRT Station to reach to the eastern entrances of the retail and lab, as well as to other properties along Leggett Drive.

There are two outdoor bike parking areas proposed on the site, geared towards visitors or short-term parking. One is located at a plaza on the northeast corner of the site/Legget frontage with 16 parking spaces, and the other near the main plaza on the west side/March frontage with 10 parking spaces. An indoor, secure bike parking room with 96 parking spaces, lockers, and showers is accessible through the Private Drive/southern entrance of the parking structure. **Figure 16** shows the bike parking locations on the site plan, highlighted in green.

Figure 16 – Bike Parking Locations



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

3.3.2 Circulation and Access

Fire routes are provided on the drop-off loop via March Road, on Lifestyle Street, and on the Private Drive via both March Road and Legget Drive. Loading and deliveries will be facilitated through the truck dock in the basement (access ramp just south of Lifestyle Street & Legget Drive) and the loading dock at the southeast driveway from Legget Drive beside the work yard. Garbage trucks will also use the truck dock in the basement level through the access ramp just south of Lifestyle Street on Legget Drive. Short-stay delivery services or drop-offs can be accommodated on Lifestyle Street in the parking bays, or the drop-off loop via March Road. Para Transpo vehicles can service the entrances to the lab, retail, and office via Lifestyle Street and the drop-off loop via March Road.

Access to the parking garage is provided via the Private Drive south of the site, as well as via the access off of March Road, which also provides access to the drop-off loop. While it is feasible for users of the drop-off loop to access the parking garage, it is not anticipated that this will be a heavily utilized movement.

3.4 PARKING

The proposed development is zoned as Mixed-Use Centre (MC), with an exception [2854] (Bylaw 2023-63) that states that no parking is required. However, the subject development proposes 910 vehicular parking spaces, which is in line with the parking estimate for the site as per the zoning bylaw for Area C, identified in Schedule 1A. In the future when the BRT is in place, fewer parking stalls may be justifiable, or the parking stalls may be shared with adjacent businesses.

Table 20 - Minimum Auto Parking Zoning Bylaw Provisions

Use	Parking Rate	Area	Required	Provided
Lab	0.8/100m^2 for the first 5000m^2 0.4/100m^2 above 5000m^2	21,042m^2	40 64	
Office	2.4/100m^2	31,948m^2	766	
Retail	5/100m^2	2,120m^2	105	
		Total	**975**	**910**

A total of 122 bike parking spaces are proposed on the site: 96 spaces in an indoor, secure bike parking room and 16 spaces outdoor. The bicycle parking spaces provided exceed the bicycle parking provisions as per the zoning bylaw, as shown in **Table 21**. Additionally, the zoning bylaw states that where the number of bicycle parking spaces required for a single office or residential building exceeds 50 spaces, a minimum of 25% of that required total must be located within a secure building, area, or lockers. In compliance with this bylaw, 96 spaces are located in an indoor, secure bike parking room which exceeds this minimum.

Table 21 - Minimum Bike Parking Zoning Bylaw Provisions

Use	Parking Rate	Area	Required	Provided
Office	1/250m^2	21,042m^2	85	85
Lab	1/1500m^2	31,948m^2	22	28
Retail	1/250m^2	2,120m^2	9	9
Total			**116**	**122**

3.5 BOUNDARY STREETS

3.5.1 Mobility

The City of Ottawa analyzes Multi-Modal Level of Service (MMLOS) which evaluates LOS for all modes of transportation, including pedestrians (PLOS), cyclists (BLOS), transit (TLOS), and vehicles (AutoLOS). The MMLOS guidelines provide further direction on the trade-offs that can be made, depending on the location of the study site in the city. MMLOS targets are defined according to the Official Plan Designation / Policy Area. **Table 22** captures the MMLOS targets for the subject site. As the site has been designated as a Special Economic District in the Official Plan with policy directions towards sustainable, multi-modal corridors, the MMLOS targets reflect high standards for PLOS and BLOS.

Table 22 - Minimum Desirable MMLOS Targets by Official Plan Designation / Policy

OP Designation / Policy Area	PLOS	BLOS		TLOS		AutoLOS
		Cross-Town	Elsewhere	TP – Isolated Measures*	Mixed Traffic	
Downtown Core, Inner Urban, Hub and/or Special District	A	A	B	C	E	E

**TP – Isolated Measures was selected for the TLOS target, given the initial plans for transit signal priority and queue jump lanes on March Road preceding the March Road BRT. Part 2 of the new TMP will indicate the correct designation but has not been released at the time of writing.*

The subject site is bound by March Road (arterial) to the west, Legget Drive (collector) to the east, and adjacent properties to the north and south. Segment MMLOS analysis for future background conditions was conducted for March Road and Legget Drive. Detailed MMLOS results are included in **Appendix F** and summarized in **Table 23** below.

Table 23 - Segment MMLOS for Boundary Streets, Future Background

	PLOS	BLOS		TLOS		Public Realm LOS
		Cross-Town	Elsewhere	TP – Isolated Measures	Mixed Traffic	
Target	**A**	**A**	**B**	**C**	**E**	
March, Terry Fox to Solandt	D	D		C		E
Legget, Terry Fox to Solandt	F (west side) B (east side)		C		C	C

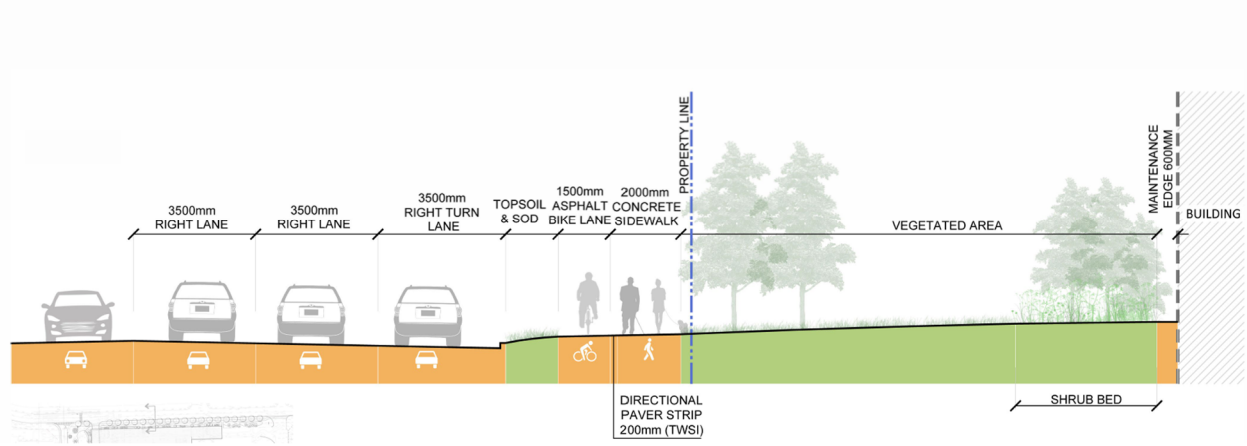
The segment MMLOS results indicate that the targets are not met for any mode except TLOS on Legget Drive. There are opportunities for March Road and Legget Drive to better align with the City of Ottawa's complete streets policy.

March Road, Terry Fox to Solandt

High traffic volumes, the high speed limit, long distances between controlled crossings, and the painted bike lanes result in the PLOS and BLOS failing to meet targets on March Road. The proposed cycle tracks on the March frontage of the site and the new protected intersection at Lifestyle Street at March Road will be beneficial for BLOS performance and reduce the distance between crossings for pedestrians which is currently close to 900m. Other improvements to improve PLOS and BLOS performance on March Road include lowering the speed limit to 70 km/h or lower, and increasing offset from vehicle travel lanes to at least 3m. The pursuit of transit priority measures or BRT would help achieve TLOS targets. Public Realm LOS can be improved through wider boulevard offsets and ensuring that the relocated bus stop includes a shelter and adequate boarding and waiting areas.

The proposed development improves the design of March Road to better meet MMLOS objectives. As shown in **Figure 17**, taken from the Nokia Ottawa Campus Design Brief, cycle tracks are provided across the site on March Road with a buffer from the vehicular lanes which is a critical improvement from the existing on-road bike lanes. Sidewalks are 2m wide and benefit from an increased buffer from vehicular lanes. In terms of public realm, an inner boulevard of approximately 1.5m is added, allowing for turf, and a generous outer boulevard is maintained that can accommodate various trees and plantings.

Figure 17 – Conceptual March Road Cross-Section



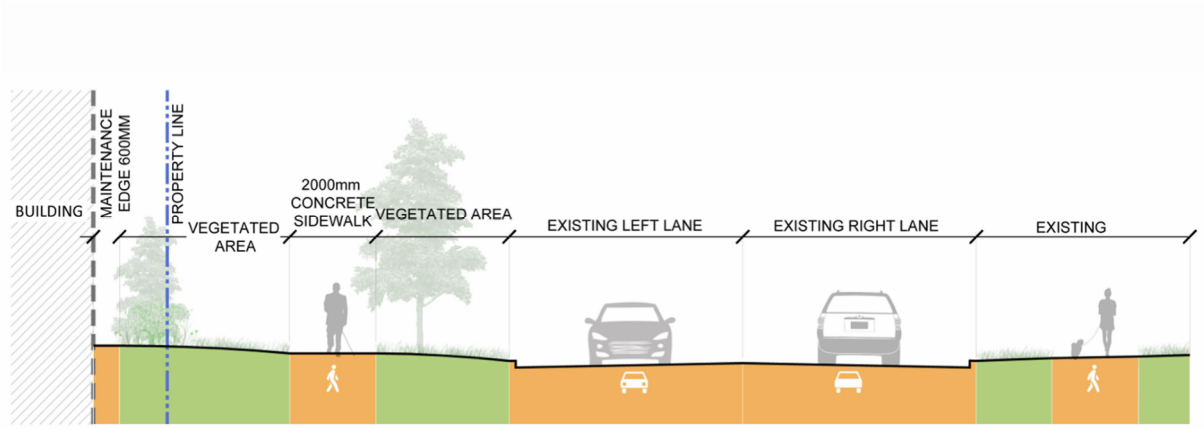
Source: Nokia Ottawa Campus Design Brief, February 2025

Legget Drive, Terry Fox to Solandt

There is a significant gap in the pedestrian network on the west side of Legget Drive resulting in PLOS ‘F’, and the east side results in PLOS ‘B’. Similar to March Road, there is a long distance between controlled crossings for pedestrians that is approximately 750m. To improve PLOS for the whole area, this is suggested to be examined as part of the KNED Urban Design Guidelines. The painted bike lanes result in BLOS ‘C’. A higher quality facility with adequate physical protection and width would help raise the BLOS performance. TLOS is shown to meet the target. Public Realm LOS can be improved through the addition of a sidewalk of at least 2m and upgrading bus stops to be curbside platforms on the west side of Legget Drive.

Figure 17 below**,** taken from the Nokia Ottawa Campus Design Brief, shows the improvements to the design of Legget Drive by the proposed development. A new 2m sidewalk is added to the west side, with a middle boulevard of approximately 2.8m and an outer boulevard of approximately 4.2m.

Figure 18 – Conceptual Legget Drive Cross-Section



Source: Nokia Ottawa Campus Design Brief, February 2025

Segment MMLOS results for Future Total 2027 conditions are shown below in **Table 24** with the proposed design elements of the site. There are improvements in PLOS for the east side of March Road and west side of Legget Drive.

Table 24 – Segment MMLOS for Boundary Streets, Future Total

	PLOS	BLOS		TLOS		Public Realm LOS
		Cross-Town	Elsewhere	TP – Isolated Measures	Mixed Traffic	
Target	**A**	**A**	**B**	**C**	**E**	
March, Terry Fox to Solandt	D (west side) C (east side)	D		C		E
Legget, Terry Fox to Solandt	B		C		C	C

3.5.2 Road Safety

As discussed in **Section 2.1.2.6**, concerns for vehicular collisions include:

- Northbound and southbound left turns conflicting with the through movement at March Road & Solandt Road.
- The high volume of cars in combination with the high posted speed limit on March Road as a potential factor for rear end collisions in this corridor.

There are no concerning collision trends for active transportation users from the collision data.

3.5.3 Neighbourhood Traffic Management (NTM)

As mentioned previously, there are various ongoing studies for the Kanata North area which will be recommending changes to the transportation network within the vicinity of the development. Therefore, while it is noted improvements may be required to neighbourhood traffic management as a result of trips from this development, it is recommended that any improvements be reviewed as part of those studies, which consider the entire Kanata North transportation network as a whole.

3.6 TRANSPORTATION DEMAND MANAGEMENT (TDM)

3.6.1 Context for TDM

The proposed mode shares as discussed in **Section 2.3.2** were based on the values for the Kanata-Stittsville District from the 2020 TRANS Trip Generation Manual. The mode share values were adjusted to capture an increase in the use of sustainable modes and decrease in auto, considering the changing character of the site context to become more focused on sustainable, multi-modal travel though policy and prospective mixed-use developments increasing the amount of residential population in the area. Therefore, it is important for the Travel Demand Management (TDM) strategies to support the future mode share targets and the integration of the site with the surrounding context.

3.6.2 Need and Opportunity

The subject development, as a significant employment site with an added retail destination, should aim to minimize traffic congestion in the study road network in the future in the peak hours for the benefit of site access and traffic operations in the area. Rapid growth in the Kanata North area, as shown in Future Background traffic volume projections, will put pressures on the road capacity and the March Road corridor. Furthermore, a shift towards supporting sustainable modes will align with the transformative policy directions for the area.

There are many opportunities for the subject site:

- March Road is designated as a Major Corridor in the Kanata North Economic District in the Official Plan, aimed to be lively and attractive to sustainable modes.
- The development is currently serviced by an OC Transpo Rapid Route and several local routes on both boundary streets.
- The Kanata North area is growing, as evidenced by nearby development applications, policy directions, and projected traffic volumes. There are several prospective residential developments within approximately 2km travel distance to the development which may include employees or retail customers of the site.
- The site includes a retail component which is understood to be open to the public and can attract customers from the surrounding area by walking or biking.

3.6.3 TDM Program

The Transportation Demand Management (TDM) Measures Checklist has been reviewed to recommend the following measures:

- TDM Program Management – Travel surveys should be conducted periodically or monitoring programs to collect information on commute information and to identify barriers to sustainable mode choice. Additionally, workplace campaigns, initiatives, or programs should advertise and encourage commuting through sustainable modes. A multi-modal travel option information package should be provided to new employees, and a TDM Program coordinator should be designated.
- On-Site Amenities – There is potential for the retail portion of the site to provide amenities that eliminate the need for separate errands or trips during employees' commutes or lunchtimes.
- Parking Strategies – Should enforce charges for short-term and long-term parking or offer discounts for registered carpools. Charges for parking passes can be directed towards improving amenities for sustainable modes.
- Transit Amenities – Maps, schedules, and real-time bus tracking information should be displayed on screens in the lobby or elevator. Consider subsidizing or reimbursing monthly transit pass purchases by employees.

The completed TDM Measures checklist is included in **Appendix E**. It is understood that Nokia will review the potential for conducting a travel mode survey when construction of the new building is occupied.

3.7 TRANSIT

3.7.1 Transit Priority

Timelines for the planned transit priority measures by the City of Ottawa are not confirmed. Transit priority measures are supported to accommodate the anticipated growth on the March Road corridor, projected network traffic volumes, the new proposed intersection at March Road & Lifestyle Street, and two additional site accesses on March Road.

In the following sections, traffic operations analysis results will be presented. With respect to transit, it is noted that the new signal proposed at March & Lifestyle may see delays of 27 seconds for the northbound through and 39 seconds for the southbound through in the PM peak in 2032 Future Total conditions.

In the New Ways to Bus network, Route 63 passes through the proposed March & Lifestyle intersection. It is observed that in the future Network, the frequent Route 63 is planned to travel on Legget Drive instead of March Road, which is a mitigation measure to avoid through-traffic delays on March. For the occasional Route 63 service on March Road, mitigation measures include removing the midblock bus bays for stop #1820 and #7994 and placing the stops far side of the intersection, which this site plan proposes for northbound stop #1820. Additionally, the site plan also mimics a queue jump lane by proposing a right turn lane on the northbound approach but including a receiving through lane far side of the intersection that allows buses to service the bus stop. Signage could be added for this northbound right turn lane to enforce a Right Turn/Bus-Only Lane. Implementing transit signal priority at this intersection would further support these measures, which would be most effective in coordination with the other signals sequence along on March Road.

3.8 INTERSECTION DESIGN

3.8.1 Location and Design of Access

Proximity to Adjacent Driveways

On March Road

- There is one right-in right-out driveway on the east side of March Road:
    - Approximately 200m north of March & Solandt for the building at 500 March Road and will be approximately 100m south of the new right-in, right-out driveway at March & Private Drive.
- There is one right-in, right-out driveway on the west side of March Road:
    - Approximately 350m south of March & Terry Fox for the building at 525 March Road. This driveway is separated from the subject development's site accesses by the median on March Road.

On Legget Drive

- There are three driveways on the west side of Legget Drive:
    - Approximately 250m, 190m, and 110m north of March & Solandt. These driveways will be approximately 30m, 95m, and 175m south of the new site access at Legget & Private Drive.
- There are three driveways on the east side of Legget Drive, approximately:
    - 75m south of Legget & Terry Fox, will be approximately 120m north of Legget at Lifestyle
    - 195m south of Legget & Terry Fox, will be directly across Legget at Lifestyle
    - 365m south of Legget & Terry Fox, will be approximately 170m south of Legget & Lifestyle and 85m north of Legget & Private Drive
    - 275m north of Legget & Solandt, will be directly across Legget & Private Drive
    - 220m north of Legget & Solandt, will be approximately 65m south of Legget & Private Drive
    - 135m north of Legget & Solandt, will be approximately 155m south of Legget & Private Drive
    - 50m north of Legget & Solandt, will be approximately 235m south of Legget & Private Drive

Private Approach By-Law

- As per Private Approach By-Law Section 25 (1) (a) (iv) and (v), a maximum of three two-way private approaches are permitted for 240m of frontage. The site complies with this by-law as it has three two-way private approaches on both March Road and Legget Drive frontages which both exceed 240m.

- As per By-Law Section 25 (1) (c), the driveways at March & Parking Access/Drop-Off Loop and March & Private Drive, basement loading access do not exceed 9 metres in width at the street line.
- As per By-Law Section 25 (m) (ii), a property that abuts on or is within 46m of an arterial or major collector must follow minimum distances between the private approach and the nearest intersecting street line or distance between a two-way private approach and any other private approach depending on the type of development. For this development the distance is at least 60m. The site accesses on March Road comply with this bylaw.

Proximity to Adjacent Signalized Intersections

- The proposed signalized intersection at March & Lifestyle will be approximately 300m south of existing signalized intersection at March & Terry Fox.
- The three driveways on Legget will be approximately 285m, 490m, and 550m north of the existing signalized intersection at March & Solandt.

Access Throat Length

- The Transportation Association of Canada (TAC) Geometric Design Guide Section 8.9.10 addresses required clear throat lengths for major driveways, including Table 8.9.3: Suggested Minimum Clear Throat Lengths for Major Driveways. It is noted that for an office or industrial development over 40,000 m2 on an arterial roadway, a minimum clear throat length of 60 – 75 metres is recommended for major driveways. On a collector roadway, the recommended minimum clear throat length is 15 – 40 metres for major driveways.
- These throat lengths are met for the Private Driveway at the southern edge of the site, which is envisioned as the main access to the parking structure and therefore will carry the highest volume of traffic of all driveways on the site. A shorter throat length is provided at the driveway near the main entrance off of March Road for the pick-up and drop-off loop, which also includes a secondary access to the parking garage. Shorter throat lengths are also proposed for the loading entrances off of Legget Drive. These shorter throat lengths are not anticipated to cause major issues as they are not the major driveways for the site.

Median Opening

- There is an existing median on March Road. The proposed signalized intersection at March & Lifestyle will add a median opening. No other median openings are proposed as the two other accesses on March will be right-in-right-out.

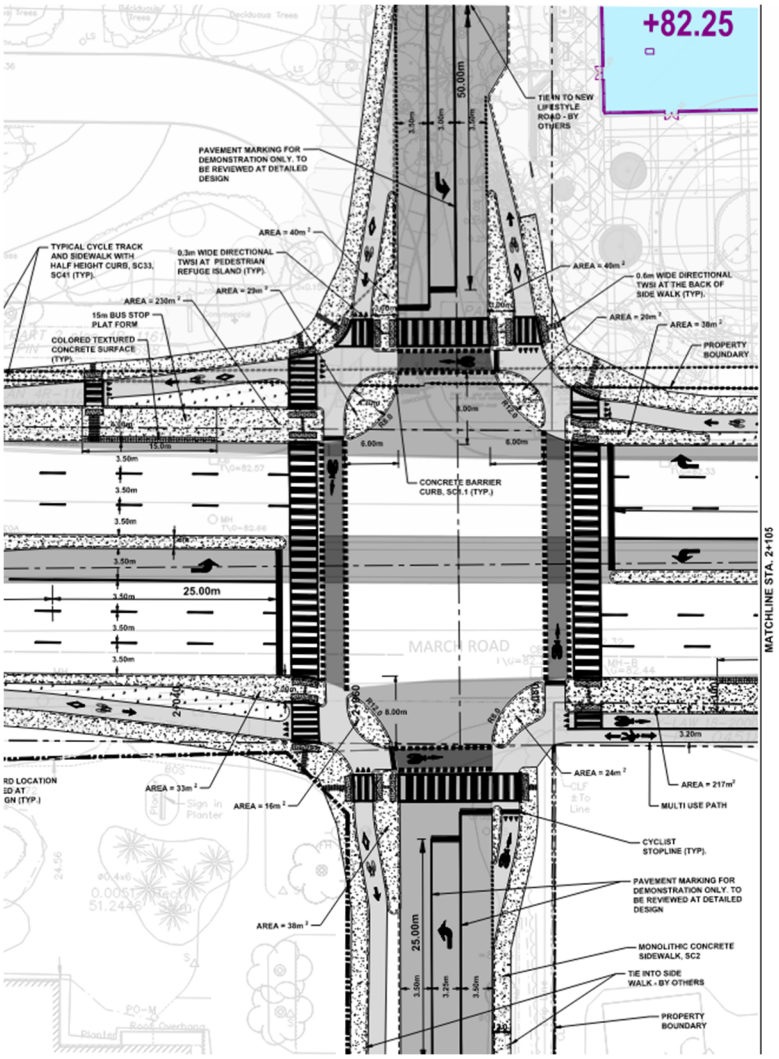
3.8.2 Intersection Controls

A new, signalized intersection at March Road & Lifestyle Street is included with the proposed development, where the west leg will provide access to the proposed development at 555-603 March Road and the east leg will be Lifestyle Street that provides access to the subject site.

The two other site driveways on March Road will be stop-controlled with right-in-right-out operations: one that provides access to the drop-off loop and the western entrance of the parking structure, and the other for the southern entrance of the parking structure.

The two driveways on Legget Drive will also be stop-controlled. The stop-controlled accesses can adequately accommodate anticipated traffic volumes.

Figure 19 - March Road & Lifestyle Street Intersection



The new proposed signalized intersection of March Road & Lifestyle Street is shown in **Figure 19** above, with the full design package provided in **Appendix G**. The west leg provides access to the proposed development at 555-603 March Road, and the east leg into the subject development. It is designed as a protected intersection. Cycle tracks are provided on the east side of March Road along the subject development's frontage south of the intersection and transition to the existing on-road bike lanes north of the protected intersection. The existing on-road bike lanes transition to/from the protected intersection on the west side of March Road. The existing northbound bus stop #1820 is relocated to the far side of the intersection with a bus platform.

For traffic operations analysis, the proposed cycle length is 130s in the AM and 120s in the PM, to match the existing cycle length at March Road & Morgan's Grant Way-Shirley's Brook Drive, March Road & Terry Fox Drive, and March Road & Solandt Road intersections and is actuated-coordinated along March Road. The northbound left and southbound left are proposed to be fully protected based on existing road safety concerns on the March Road corridor, the number of conflicting through lanes, the traffic volumes. The eastbound and westbound lefts are modelled as permitted.

It is acknowledged that there have been previous discussions on the intersection of March Road & Lifestyle Street with regards to the proposed development at 555-603 March Road, which makes up the west side of the intersection. The intersection analysis in the 555-603 March Road TIA takes into consideration a redevelopment of 600 March Road (the northern parcel of Nokia's property) that entails 1900 residential units and additional office and retail uses for a horizon year of 2037. That development is not currently active with the City, and there is currently no indication of a redevelopment at 600 March Road. Therefore, the 600 March Road redevelopment is not included in this TIA, resulting in different results at March & Lifestyle from the TIA for 555-603 March Road. If the 600 March Road redevelopment becomes active again, the timeline for its redevelopment (2037) is likely to align with that of the March Road BRT, and any additional intersection requirements to accommodate that development can be made at that time. Auxiliary storage lengths for access to and from the eastern side of the intersection of March Road & Lifestyle Street are based on the Future Total 2032 intersection operations in **Section 3.8.6**. Auxiliary storage lengths for access to and from the western side of the intersection of March Road & Lifestyle Street are based on the results of the 555-603 March Road TIA and supporting documentation. Further discussion of these storage lengths is captured in **Section 3.8.6**.

An alternative to signalizing this intersection would be right-in-right-out operations where the existing median on March Road is maintained. With several new site accesses proposed for vehicles, the demand on the road network is distributed and a preliminary Synchro analysis indicates that the road network would be able to handle the southbound left, eastbound through, and westbound through/left vehicles redistributed from March & Lifestyle (if it were to be right-in-right-out operations). However, the proposed signal is supported based on City of Ottawa policy and MMLOS context. The signal would decrease the distance between controlled crossings for active transportation users (currently 900m from March & Terry Fox to March & Solandt) and increase vehicular and active transportation permeability and circulation which is desired from the Official Plan – Kanata North Special Economic District policies.

3.8.3 Intersection MMLOS

Intersection Multi-Modal Level of Service (MMLOS) analysis was conducted to assess the extent of risk, comfort, and stress for active modes, and the level of impedance, delay, and reliability for buses and cars. The signalized intersections on March Road between Terry Fox Drive and Solandt Road, and on Legget Drive between Terry Fox Drive and Solandt Road were analyzed for Existing, Future Background, and Future Total scenarios. Detailed MMLOS results are provided in **Appendix F** and summarized below.

Table 25 - Intersection MMLOS, Existing

	PLOS	BLOS	TLOS	AutoLOS
March, Terry Fox to Solandt				
Target	**A**	**A**	**C**	**E**
March Road & Terry Fox Drive	E	F	D	A
March Road & Solandt Road	D	F	D	D
Legget, Terry Fox to Solandt				
Target	**A**	**B**	**E**	**E**
Legget Drive & Solandt Road	B	D	B	A

Intersection MMLOS for Existing conditions are shown in **Table 25**.

March Road, Terry Fox to Solandt

PLOS targets are not achieved at both intersections on March Road. This is attributed to the high number of travel lanes crossed, the presence of conventional right-turn channels, long signal cycle lengths, high travel speeds, and high traffic volumes. BLOS is failing at both intersections with BLOS 'F' as there is a lack of protected cycling facilities and crossrides with floating bike lanes on most approaches, leaving cyclists highly vulnerable to turning conflicts with vehicles. A protected intersection would be suggested to improve conditions for active modes. TLOS falls a grade below the target at both intersections on March Road. Similarly, AutoLOS is shown to operate above the target at both intersections.

Legget Drive, Terry Fox to Solandt

PLOS falls short of the target at Legget & Solandt with PLOS 'B'. The pedestrian environment is more favourable at this intersection as there are fewer number of travel lanes crossed, lower speed and traffic volumes. There is potential to improve the BLOS 'D' through bike boxes or ultimately, a protected intersection treatment. TLOS and AutoLOS operate at acceptable levels.

Table 26 - Intersection MMLOS, Future Background

	PLOS	BLOS	TLOS	AutoLOS
March, Terry Fox to Solandt				
Target	**A**	**A**	**C**	**E**
March Road & Terry Fox Drive	E	F	D	C
March Road & Solandt Road	D	F	D	F
Legget, Terry Fox to Solandt				
Target	**A**	**B**	**E**	**E**
Legget Drive & Solandt Road	B	D	B	A

Intersection MMLOS for Future Background conditions are summarized in **Table 26**. There is minimal variation of MMLOS results from Existing to Future Background conditions as there are no major changes to these intersections from known, committed projects.

Table 27 - Intersection MMLOS, Future Total

	PLOS	BLOS	TLOS	AutoLOS
March, Terry Fox to Solandt				
Target	**A**	**A**	**C**	**E**
March Road & Terry Fox Drive	E	F	D	C
March Road & Lifestyle Street	C	A	A	B
March Road & Solandt Road	D	F	D	F
Legget, Terry Fox to Solandt				
Target	**A**	**B**	**E**	**E**
Legget Drive & Solandt Road	B	D	A	A

Intersection MMLOS for Future Total conditions are summarized in **Table 27**.

March Road, Terry Fox to Solandt

There is little variation of MMLOS from Existing and Future Background conditions to Future Total conditions for the intersections of March & Terry Fox and March & Solandt, as minimal changes are anticipated in this time frame. In summary, the MMLOS results indicate that the intersections operate poorly for PLOS and BLOS in particular. Significant changes to the intersection design would be required to reach the MMLOS targets. Recognizing that it may be challenging to reduce traffic volumes, signal cycle lengths, and number of travel lanes, other measures to improve PLOS and BLOS include lowering the speed limit on March, replacing the conventional right-turn channels with smart channels and raised crosswalks, protected intersection treatments, and providing median refuges.

To assess the MMLOS for the new intersection of March & Lifestyle in the Future Total conditions, signal timing within a range of at least 106 seconds and the inclusion of LPI/LBI were assumed to support the proposed protected intersection. PLOS target ‘A’ is not achieved at this intersection, due to the number of lanes and signal cycle length. As previously discussed, other measures to improve PLOS may include providing a median refuge for pedestrians. BLOS ‘A’ is achieved through the implementation of protected corners and crossrides on all legs. TLOS and AutoLOS operate at an acceptable LOS.

3.8.4 Existing Conditions

The following section summarizes the study area intersection capacity analysis for Existing, Future Background and Future Total Volume scenarios. Detailed results will be sent to the City alongside the submission of the TIA.

Using the intersection capacity analysis software Synchro, study area intersections were assessed in terms of vehicle delay, volume-to-capacity ratio (v/c) and the corresponding Level of Service (LOS). It should be noted that the overall performance of a signalized intersection is calculated as a weighted v/c ratio and assigned a corresponding LOS, with critical movements assigned a LOS based on their respective v/c ratio. Unsignalized intersections are given an LOS based on delay. **Table 28** shows the vehicular level of service that corresponds to each v/c ratio.

Table 28 - Level of Service vs. v/c Ratio

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

Table 29 and **Table 30** below summarize the results of the Synchro traffic analysis in Existing conditions for AM and PM peak hours.

Table 29 - Signalized Intersection Operations, Existing Conditions 2025, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
March Road & Morgan's Grant Way/Shirley's Brook Dr	EBLT	51 (51)	0.17 (0.25)	A (A)	16 (17)
	EBR	13 (13)	0.46 (0.36)	A (A)	18 (14)
	WBL	73 (66)	0.65 (0.59)	B (A)	42 (36)
	WBTR	27 (22)	0.16 (0.54)	A (A)	11 (27)
	NBL	54 (54)	0.39 (0.59)	A (A)	m23 (66)
	NBT	23 (4)	0.17 (0.38)	A (A)	61 (20)
	NBR	11 (1)	0.04 (0.10)	A (A)	m7 (m0)
	SBL	70 (63)	0.57 (0.45)	A (A)	39 (27)
	SBT	11 (20)	0.37 (0.32)	A (A)	69 (49)
	SBR	0 (1)	0.01 (0.03)	A (A)	0 (0)
	Overall	**20 (17)**	**0.29 (0.40)**	**A (A)**	**-**
March Road & Terry Fox Drive	EBL	68 (64)	0.52 (0.68)	A (B)	24 (38)
	EBT	57 (45)	0.59 (0.26)	A (A)	52 (23)
	EBR	12 (11)	0.56 (0.56)	A (A)	22 (22)
	WBL	63 (58)	0.29 (0.46)	A (A)	13 (23)
	WBT	51 (55)	0.21 (0.66)	A (B)	17 (51)
	WBR	1 (11)	0.13 (0.52)	A (A)	0 (20)
	NBL	45 (46)	0.32 (0.35)	A (A)	36 (m35)
	NBT	19 (6)	0.25 (0.50)	A (A)	46 (37)
	NBR	2 (1)	0.16 (0.11)	A (A)	11 (m0)
	SBL	60 (56)	0.71 (0.44)	C (A)	65 (26)
	SBT	45 (60)	0.68 (0.60)	B (A)	113 (80)
	SBR	17 (24)	0.29 (0.37)	A (A)	34 (38)
	Overall	**37 (32)**	**0.43 (0.58)**	**A (A)**	**-**

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
March Road & Solandt Road	EBL	67 (63)	0.21 (0.49)	A (A)	10 (30)
	EBT	63 (41)	0.32 (0.14)	A (A)	23 (16)
	EBR	9 (51)	0.40 (0.88)	A (D)	7 (#80)
	WBL	65 (58)	0.30 (0.76)	A (C)	12 (62)
	WBT	55 (33)	0.15 (0.07)	A (A)	17 (14)
	WBR	1 (3)	0.04 (0.19)	A (A)	0 (3)
	NBL	39 (37)	0.81 (0.60)	D (A)	#182 (#36)
	NBT	8 (34)	0.40 (0.86)	A (D)	59 (#232)
	NBR	2 (7)	0.43 (0.17)	A (A)	9 (16)
	SBL	75 (57)	0.43 (0.50)	A (A)	m30 (m#16)
	SBT	141 (38)	1.14 (0.88)	F (D)	#229 (#201)
	SBR	23 (4)	0.16 (0.07)	A (A)	m19 (m5)
	Overall	**58 (38)**	**1.00 (0.86)**	**E (D)**	**-**
Legget Drive & Solandt Road	EBL	11 (33)	0.46 (0.39)	A (A)	35 (24)
	EBTR	6 (15)	0.32 (0.19)	A (A)	19 (11)
	WBL	6 (28)	0.00 (0.12)	A (A)	1 (10)
	WBTR	7 (28)	0.03 (0.28)	A (A)	3 (22)
	NBL	14 (6)	0.10 (0.21)	A (A)	9 (14)
	NBTR	13 (5)	0.14 (0.06)	A (A)	15 (8)
	SBL	14 (18)	0.02 (0.01)	A (A)	3 (2)
	SBTR	13 (21)	0.20 (0.66)	A (B)	20 (61)
	Overall	**10 (18)**	**0.35 (0.49)**	**A (A)**	**-**

Table 30 - Unsignalized Intersection Operations, Existing Conditions 2025, AM Peak (PM Peak)

Intersection	Movements	Delay (s)	Delay LOS	v/c Ratio	v/c LOS	95th Queue (m)
Legget Drive & Terry Fox Drive	EBTR	0 (0)	A (A)	0.31 (0.13)	A (A)	0 (0)
	WBLT	3 (1)	A (A)	0.05 (0.02)	A (A)	1 (1)
	NBLR	15 (26)	B (D)	0.16 (0.65)	A (B)	4 (34)
	Overall	**2 (9)**	**A (A)**	**-**	**-**	**-**

In Existing conditions, all intersections in the study area operate at an acceptable overall level of service in both peak hours with the exception of the southbound through movement at March & Solandt with a v/c ratio of 1.14 in the AM peak. The intersection of March & Solandt is at capacity with an overall v/c ratio of 1.00 in the AM peak.

3.8.5 Future Background

Table 31 and

Table 32 below summarize the results of the Synchro traffic analysis in Future Background 2027 conditions.

Table 31 – Signalized Intersection Operations, Future Background 2027, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
March Road & Morgan's Grant Way/Shirley's Brook Dr	EBLT	55 (59)	0.31 (0.47)	A (A)	26 (30)
	EBR	14 (13)	0.45 (0.33)	A (A)	17 (13)
	WBL	73 (66)	0.63 (0.57)	B (A)	40 (33)
	WBTR	27 (22)	0.15 (0.51)	A (A)	11 (26)
	NBL	64 (62)	0.41 (0.60)	A (A)	m25 (m61)
	NBT	13 (11)	0.30 (0.62)	A (B)	26 (152)
	NBR	1 (2)	0.04 (0.10)	A (A)	m0 (m4)
	SBL	65 (60)	0.66 (0.65)	B (B)	62 (58)
	SBT	13 (20)	0.53 (0.44)	A (A)	115 (74)
	SBR	0 (1)	0.01 (0.03)	A (A)	0 (0)
	Overall	**19 (21)**	**0.38 (0.62)**	**A (B)**	**-**
March Road & Terry Fox Drive	EBL	72 (65)	0.62 (0.70)	B (B)	28 (39)
	EBT	57 (45)	0.58 (0.27)	A (A)	50 (25)
	EBR	12 (10)	0.53 (0.51)	A (A)	22 (20)
	WBL	63 (58)	0.30 (0.42)	A (A)	13 (21)
	WBT	52 (56)	0.25 (0.67)	A (B)	19 (52)
	WBR	1 (11)	0.11 (0.44)	A (A)	0 (17)
	NBL	39 (46)	0.26 (0.33)	A (A)	43 (m26)
	NBT	27 (9)	0.36 (0.72)	A (C)	63 (m53)
	NBR	5 (1)	0.14 (0.12)	A (A)	10 (m0)
	SBL	93 (53)	0.68 (0.43)	B (A)	58 (26)
	SBT	90 (62)	1.10 (0.80)	F (C)	#203 (110)
	SBR	6 (24)	0.37 (0.38)	A (A)	16 (43)
	Overall	**58 (33)**	**0.93 (0.70)**	**E (B)**	**-**
March Road & Solandt Road	EBL	66 (63)	0.19 (0.47)	A (A)	10 (28)
	EBT	64 (43)	0.35 (0.17)	A (A)	24 (17)
	EBR	7 (47)	0.36 (0.85)	A (D)	4 (64)
	WBL	64 (57)	0.27 (0.73)	A (C)	12 (58)
	WBT	55 (35)	0.16 (0.10)	A (A)	17 (16)
	WBR	1 (7)	0.09 (0.29)	A (A)	0 (13)
	NBL	36 (32)	0.76 (0.53)	C (A)	#149 (#32)
	NBT	9 (87)	0.53 (1.11)	A (F)	92 (#362)
	NBR	2 (7)	0.41 (0.15)	A (A)	9 (15)
	SBL	94 (100)	1.02 (0.79)	F (C)	m#38 (m#25)
	SBT	324 (97)	1.66 (1.13)	F (F)	m#314 (#306)
	SBR	2 (2)	0.14 (0.06)	A (A)	m1 (m1)
	Overall	**138 (78)**	**1.41 (1.06)**	**F (F)**	**-**

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
Legget Drive & Solandt Road	EBL	11 (27)	0.43 (0.36)	A (A)	29 (20)
	EBTR	9 (17)	0.38 (0.21)	A (A)	27 (14)
	WBL	6 (22)	0.00 (0.12)	A (A)	1 (9)
	WBTR	7 (27)	0.05 (0.48)	A (A)	5 (35)
	NBL	13 (7)	0.06 (0.22)	A (A)	6 (12)
	NBTR	11 (6)	0.13 (0.06)	A (A)	12 (7)
	SBL	13 (0)	0.00 (0.00)	A ()	1 (0)
	SBTR	11 (16)	0.16 (0.57)	A (A)	15 (48)
	Overall	**10 (17)**	**0.32 (0.47)**	**A (A)**	**-**

Table 32 - Unsignalized Intersection Operations, Future Background 2027, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	Delay LOS	v/c Ratio	v/c LOS	95th Queue (m)
Legget Drive & Terry Fox Drive	EBTR	0 (0)	A (A)	0.28 (0.14)	A (A)	0 (0)
	WBLT	3 (1)	A (A)	0.04 (0.02)	A (A)	1 (1)
	NBLR	14 (24)	B (C)	0.12 (0.59)	A (A)	3 (28)
	Overall	**2 (7)**	**A (A)**	**-**	**-**	**-**

In Future Background 2027 conditions, all intersections in the study area continue to operate with an acceptable overall level of service in both peak hours with the exception of:

- Southbound through at March & Terry Fox with a v/c ratio of 1.10 in the AM peak hour
- Southbound left at March & Solandt with a v/c ratio of 1.02 in the AM peak hour
- Southbound through at March & Solandt with a v/c ratio of 1.66 in the AM peak hour
- Northbound through at March & Solandt with a v/c ratio of 1.11 in the PM peak hour
- Southbound through at March & Solandt with a v/c ratio of 1.13 in the PM peak hour
- March & Solandt with an overall intersection v/c ratio of 1.41 in the AM peak hour and 1.06 in the PM peak hour

Table 33 Error! Reference source not found. and **Table 34** below summarize the results of the Synchro traffic analysis in Future Background 2032 conditions.

Table 33 - Signalized Intersection Operations, Future Background 2032, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
March Road & Morgan's Grant Way/Shirley's Brook Dr	EBLT	55 (59)	0.31 (0.47)	A (A)	27 (30)
	EBR	13 (13)	0.46 (0.34)	A (A)	18 (13)
	WBL	73 (66)	0.64 (0.58)	B (A)	40 (34)
	WBTR	27 (22)	0.15 (0.52)	A (A)	11 (26)
	NBL	64 (62)	0.42 (0.60)	A (A)	m26 (m57)
	NBT	13 (13)	0.33 (0.71)	A (C)	27 (181)
	NBR	1 (2)	0.04 (0.11)	A (A)	m0 (m3)
	SBL	65 (60)	0.66 (0.65)	B (B)	63 (58)
	SBT	15 (22)	0.60 (0.50)	A (A)	139 (87)
	SBR	0 (1)	0.01 (0.03)	A (A)	0 (0)
	Overall	**19 (22)**	**0.40 (0.69)**	**A (B)**	**-**
March Road & Terry Fox Drive	EBL	73 (66)	0.63 (0.71)	B (C)	28 (40)
	EBT	58 (45)	0.61 (0.27)	B (A)	51 (25)
	EBR	12 (10)	0.54 (0.51)	A (A)	22 (20)
	WBL	63 (58)	0.31 (0.43)	A (A)	14 (22)
	WBT	52 (55)	0.26 (0.67)	A (B)	19 (52)
	WBR	1 (11)	0.11 (0.45)	A (A)	0 (17)
	NBL	39 (48)	0.30 (0.34)	A (A)	44 (m23)
	NBT	29 (10)	0.40 (0.83)	A (D)	72 (m64)
	NBR	7 (1)	0.15 (0.12)	A (A)	12 (m0)
	SBL	92 (52)	0.69 (0.43)	B (A)	60 (27)
	SBT	92 (73)	1.11 (0.92)	F (E)	#243 (#133)
	SBR	5 (26)	0.35 (0.39)	A (A)	13 (45)
	Overall	**60 (36)**	**0.96 (0.78)**	**E (C)**	**-**
March Road & Solandt Road	EBL	66 (63)	0.19 (0.47)	A (A)	10 (29)
	EBT	64 (43)	0.35 (0.17)	A (A)	25 (18)
	EBR	7 (48)	0.37 (0.86)	A (D)	5 (67)
	WBL	64 (57)	0.27 (0.74)	A (C)	12 (59)
	WBT	55 (35)	0.16 (0.10)	A (A)	18 (16)
	WBR	1 (7)	0.09 (0.29)	A (A)	0 (14)
	NBL	36 (33)	0.76 (0.55)	C (A)	#163 (#33)
	NBT	10 (146)	0.57 (1.25)	A (F)	104 (#420)
	NBR	2 (8)	0.42 (0.15)	A (A)	9 (16)
	SBL	140 (99)	1.17 (0.81)	F (D)	m#40 (m#22)
	SBT	436 (148)	1.91 (1.25)	F (F)	m#361 (m#346)
	SBR	2 (2)	0.15 (0.06)	A (A)	m1 (m1)
	Overall	**189 (121)**	**1.62 (1.20)**	**F (F)**	**-**

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
Legget Drive & Solandt Road	EBL	10 (27)	0.43 (0.36)	A (A)	30 (21)
	EBTR	8 (17)	0.37 (0.21)	A (A)	28 (15)
	WBL	6 (23)	0.00 (0.13)	A (A)	1 (10)
	WBTR	7 (27)	0.05 (0.47)	A (A)	5 (36)
	NBL	15 (7)	0.11 (0.22)	A (A)	6 (12)
	NBTR	13 (6)	0.21 (0.06)	A (A)	13 (7)
	SBL	13 (0)	0.00 (0.00)	A ()	1 (0)
	SBTR	13 (14)	0.25 (0.54)	A (A)	16 (48)
	Overall	**10 (17)**	**0.34 (0.45)**	**A (A)**	**-**

Table 34 - Unsignalized Intersection Operations, Future Background 2032, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	Delay LOS	v/c Ratio	v/c LOS	95th Queue (m)
Legget Drive & Terry Fox Drive	EBTR	0 (0)	A (A)	0.29 (0.15)	A (A)	0 (0)
	WBLT	3 (1)	A (A)	0.04 (0.02)	A (A)	1 (1)
	NBLR	14 (26)	B (D)	0.13 (0.61)	A (B)	3 (31)
	Overall	**2 (8)**	**A (A)**	**-**	**-**	**-**

In Future Background 2032 conditions, all intersections are operating at an acceptable level of service with the exception of:

- Southbound through at March Road & Terry Fox with a v/c ratio of 1.11 in the AM peak hour
- Southbound left at March & Solandt with a v/c ratio of 1.17 in the AM peak hour
- Southbound through at March & Solandt with a v/c ratio of 1.91 in the AM peak hour
- Northbound through at March & Solandt with a v/c ratio of 1.25 in the PM peak hour
- Southbound through at March & Solandt with a v/c ratio of 1.25 in the PM peak hour
- March & Solandt with an overall intersection v/c ratio of 1.62 in the AM peak hour 1.20 in the PM peak hour

The results suggest that there are north-south capacity issues on March Road particularly at the Solandt intersection. March Road is a major corridor in the Kanata North area that carries a significant volume of traffic to/from the adjacent neighbourhoods, tech park, and Highway 417, with few alternative parallel routes. March & Solandt is also a key intersection for traffic to turn in and out of the Kanata North business park area. Additional traffic pressure is also expected from surrounding developments in the area, such as large developments in the KNUEA.

3.8.6 Future Total

Table 35 and Table 36 below summarize the results of the Synchro traffic analysis in Future Total 2027 conditions. Projected Future Total 2027 and 2032 traffic volumes are shown at the end of this section in **Figure 20** and **Figure 21**.

Table 35 – Signalized Intersection Operations, Future Total 2027, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
March Road & Morgan's Grant Way/Shirley's Brook Dr	EBLT	55 (59)	0.31 (0.47)	A (A)	26 (30)
	EBR	14 (13)	0.45 (0.33)	A (A)	17 (13)
	WBL	73 (66)	0.63 (0.57)	B (A)	40 (33)
	WBTR	27 (22)	0.15 (0.51)	A (A)	11 (26)
	NBL	66 (59)	0.41 (0.60)	A (A)	m25 (m58)
	NBT	12 (14)	0.30 (0.63)	A (B)	24 (154)
	NBR	1 (2)	0.04 (0.10)	A (A)	m0 (m5)
	SBL	65 (60)	0.66 (0.65)	B (B)	62 (58)
	SBT	13 (20)	0.54 (0.44)	A (A)	117 (75)
	SBR	0 (1)	0.01 (0.03)	A (A)	0 (0)
	Overall	**19 (22)**	**0.38 (0.62)**	**A (B)**	**-**
March Road & Terry Fox Drive	EBL	69 (65)	0.57 (0.70)	A (B)	28 (39)
	EBT	61 (48)	0.64 (0.31)	B (A)	46 (26)
	EBR	14 (12)	0.63 (0.56)	B (A)	24 (22)
	WBL	63 (58)	0.29 (0.40)	A (A)	13 (19)
	WBT	53 (57)	0.23 (0.62)	A (B)	17 (42)
	WBR	1 (4)	0.08 (0.31)	A (A)	0 (2)
	NBL	43 (25)	0.28 (0.39)	A (A)	49 (m35)
	NBT	25 (31)	0.34 (0.71)	A (C)	61 (174)
	NBR	6 (4)	0.13 (0.11)	A (A)	10 (m1)
	SBL	92 (52)	0.63 (0.42)	B (A)	51 (26)
	SBT	61 (64)	1.02 (0.85)	F (D)	#212 (111)
	SBR	6 (24)	0.35 (0.39)	A (A)	16 (43)
	Overall	**45 (40)**	**0.87 (0.71)**	**D (C)**	**-**
March Road & Solandt Road	EBL	66 (63)	0.19 (0.47)	A (A)	10 (28)
	EBT	68 (43)	0.41 (0.17)	A (A)	24 (17)
	EBR	8 (45)	0.38 (0.84)	A (D)	4 (63)
	WBL	63 (57)	0.23 (0.69)	A (B)	10 (49)
	WBT	58 (36)	0.21 (0.10)	A (A)	17 (16)
	WBR	1 (7)	0.10 (0.30)	A (A)	0 (13)
	NBL	38 (31)	0.77 (0.53)	C (A)	#153 (#33)
	NBT	9 (84)	0.61 (1.11)	B (F)	125 (#373)
	NBR	2 (5)	0.24 (0.11)	A (A)	9 (10)
	SBL	161 (95)	1.18 (0.79)	F (C)	m#60 (m#24)
	SBT	262 (103)	1.51 (1.16)	F (F)	#394 (#323)
	SBR	4 (1)	0.13 (0.06)	A (A)	m1 (m0)
	Overall	**116 (80)**	**1.31 (1.09)**	**F (F)**	**-**

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
Legget Drive & Solandt Road	EBL	8 (24)	0.11 (0.24)	A (A)	9 (14)
	EBTR	8 (17)	0.32 (0.21)	A (A)	27 (13)
	WBL	7 (22)	0.00 (0.12)	A (A)	1 (9)
	WBTR	7 (26)	0.04 (0.47)	A (A)	5 (33)
	NBL	11 (7)	0.03 (0.20)	A (A)	5 (12)
	NBTR	10 (6)	0.10 (0.06)	A (A)	11 (7)
	SBL	11 (0)	0.00 (0.00)	A ()	1 (0)
	SBTR	10 (14)	0.11 (0.45)	A (A)	13 (41)
	Overall	**8 (16)**	**0.26 (0.39)**	**A (A)**	**-**
March Road & Lifestyle Street	EBL	63 (47)	0.31 (0.33)	A (A)	19 (26)
	EBTR	19 (11)	0.59 (0.44)	A (A)	22 (18)
	WBL	87 (111)	0.48 (0.92)	A (E)	16 (#48)
	WBTR	32 (16)	0.14 (0.15)	A (A)	9 (10)
	NBL	79 (46)	0.60 (0.68)	A (B)	58 (m37)
	NBT	5 (24)	0.48 (0.88)	A (D)	19 (m#185)
	NBR	1 (4)	0.02 (0.02)	A (A)	m0 (m0)
	SBL	82 (60)	0.57 (0.20)	A (A)	m27 (m5)
	SBTR	14 (31)	0.82 (0.71)	D (C)	m96 (208)
	Overall	**16 (29)**	**0.79 (0.85)**	**C (D)**	**-**

Table 36 - Unsignalized Intersection Operations, Future Total 2027, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	Delay LOS	v/c Ratio	v/c LOS	95th Queue (m)
Legget Drive & Lifestyle Street	EBLR	12 (12)	B (B)	0.16 (0.05)	A (A)	4 (1)
	NBLT	2 (4)	A (A)	0.02 (0.11)	A (A)	1 (3)
	SBTR	0 (0)	A (A)	0.20 (0.16)	A (A)	0 (0)
	Overall	**2 (3)**	**A (A)**	**-**	**-**	**-**
March Road & Private Drive	WBR	10 (14)	A (B)	0.02 (0.14)	A (A)	0 (4)
	NBT	0 (0)	A (A)	0.40 (0.63)	A (B)	0 (0)
	NBT	0 (0)	A (A)	0.40 (0.63)	A (B)	0 (0)
	NBR	0 (0)	A (A)	0.11 (0.02)	A (A)	0 (0)
	SBT	0 (0)	A (A)	0.56 (0.45)	A (A)	0 (0)
	SBT	0 (0)	A (A)	0.56 (0.45)	A (A)	0 (0)
	Overall	**0 (0)**	**A (A)**	**-**	**-**	**-**
Legget Drive & Private Drive	EBLR	13 (19)	B (C)	0.13 (0.60)	A (A)	3 (30)
	NBT	2 (1)	A (A)	0.04 (0.01)	A (A)	1 (0)
	SBT	0 (0)	A (A)	0.26 (0.17)	A (A)	0 (0)
	Overall	**2 (8)**	**A (A)**	**-**	**-**	**-**

Intersections	Movements	Delay (s)	Delay LOS	v/c Ratio	v/c LOS	95th Queue (m)
March Road & Drop-Off Loop/Parking Access	WBR	14 (33)	B (D)	0.04 (0.37)	A (A)	1 (12)
	NBT	0 (0)	A (A)	0.38 (0.65)	A (B)	0 (0)
	NBT	0 (0)	A (A)	0.38 (0.65)	A (B)	0 (0)
	NBR	0 (0)	A (A)	0.06 (0.01)	A (A)	0 (0)
	SBT	0 (0)	A (A)	0.56 (0.45)	A (A)	0 (0)
	SBT	0 (0)	A (A)	0.56 (0.45)	A (A)	0 (0)
	Overall	**0 (1)**	**A (A)**	**-**	**-**	**-**
Legget Drive & Terry Fox Drive	EBTR	0 (0)	A (A)	0.25 (0.14)	A (A)	0 (0)
	WBLT	3 (1)	A (A)	0.04 (0.02)	A (A)	1 (1)
	NBLR	13 (15)	B (B)	0.06 (0.24)	A (A)	2 (7)
	Overall	**1 (3)**	**A (A)**	**-**	**-**	**-**

In Future Total 2027 conditions, all intersections are operating at an acceptable level of service with the exception of:

- Southbound through at March & Terry Fox with a v/c ratio of 1.02 in the AM peak hour
- Southbound left at March & Solandt with a v/c ratio of 1.18 in the AM peak hour
- Southbound through at March & Solandt with a v/c ratio of 1.51 in the AM peak
- Northbound through at March & Solandt with a v/c ratio of 1.11 in the PM peak hour
- Southbound through at March & Solandt with a v/c ratio of 1.16 in the PM peak hour
- March & Solandt with overall intersection v/c of 1.31 in AM peak and 1.09 PM peak

Note that the analysis results show minor improvements in certain movements from 2027 Future Background to 2027 Total Future, such as the northbound through in the PM peak and southbound through in the AM peak, as the trips associated with the decommissioned office building at 600 March Road have been removed from the network for Future Total conditions. Traffic impacts on the road network are also mitigated by a greater redistribution of traffic for the new Nokia site through the Private Drive and Drop-Off Loop/Parking accesses to the parking garage, as well as some diversion of traffic to the new signal at Lifestyle Street.

As explained in **Section 2.3.1**, the number of employees at Nokia is expected to increase with the new development and result in a slight increase in the v/c ratio for other movements. However, the over capacity movements listed above are already over capacity from 2027 Future Background conditions.

Table 37 and Table 38 below summarize the results of the Synchro traffic analysis in Future Total 2032 conditions.

Table 37 – Signalized Intersection Operations, Future Total 2032, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
March Road & Morgan's Grant Way/Shirley's Brook Dr	EBLT	55 (59)	0.31 (0.47)	A (A)	27 (30)
	EBR	13 (13)	0.46 (0.34)	A (A)	18 (13)
	WBL	73 (66)	0.64 (0.58)	B (A)	40 (34)
	WBTR	27 (22)	0.15 (0.52)	A (A)	11 (26)
	NBL	50 (59)	0.42 (0.60)	A (A)	m23 (m53)
	NBT	29 (16)	0.34 (0.72)	A (C)	101 (185)
	NBR	9 (2)	0.04 (0.11)	A (A)	m7 (m4)
	SBL	65 (60)	0.66 (0.65)	B (B)	63 (58)
	SBT	15 (22)	0.61 (0.51)	B (A)	141 (87)
	SBR	0 (1)	0.01 (0.03)	A (A)	0 (0)
	Overall	**23 (23)**	**0.41 (0.70)**	**A (B)**	**-**
March Road & Terry Fox Drive	EBL	73 (66)	0.63 (0.71)	B (C)	28 (40)
	EBT	57 (48)	0.55 (0.32)	A (A)	47 (26)
	EBR	12 (12)	0.60 (0.56)	A (A)	24 (22)
	WBL	63 (58)	0.31 (0.41)	A (A)	14 (20)
	WBT	52 (57)	0.22 (0.63)	A (B)	17 (42)
	WBR	1 (4)	0.08 (0.32)	A (A)	0 (3)
	NBL	50 (27)	0.33 (0.41)	A (A)	39 (m33)
	NBT	14 (33)	0.40 (0.82)	A (D)	55 (m#188)
	NBR	1 (3)	0.14 (0.11)	A (A)	4 (m0)
	SBL	58 (51)	0.64 (0.42)	B (A)	41 (m26)
	SBT	121 (79)	1.16 (0.96)	F (E)	#257 (#135)
	SBR	20 (26)	0.36 (0.40)	A (A)	53 (45)
	Overall	**69 (45)**	**1.00 (0.79)**	**E (C)**	**-**
March Road & Solandt Road	EBL	66 (63)	0.19 (0.47)	A (A)	10 (29)
	EBT	64 (43)	0.35 (0.17)	A (A)	25 (17)
	EBR	7 (47)	0.37 (0.85)	A (D)	5 (66)
	WBL	65 (57)	0.31 (0.70)	A (B)	13 (52)
	WBT	55 (36)	0.16 (0.10)	A (A)	18 (16)
	WBR	1 (7)	0.09 (0.30)	A (A)	0 (14)
	NBL	36 (32)	0.76 (0.54)	C (A)	#163 (#34)
	NBT	12 (144)	0.68 (1.25)	B (F)	143 (#432)
	NBR	2 (6)	0.26 (0.12)	A (A)	10 (11)
	SBL	292 (97)	1.52 (0.81)	F (D)	m#52 (m#21)
	SBT	457 (165)	1.95 (1.30)	F (F)	m#442 (#367)
	SBR	4 (1)	0.15 (0.06)	A (A)	m0 (m0)
	Overall	**202 (128)**	**1.65 (1.21)**	**F (F)**	**-**

Intersections	Movements	Delay (s)	v/c Ratio	v/c LOS	95th Queue (m)
Legget Drive & Solandt Road	EBL	9 (25)	0.19 (0.26)	A (A)	10 (15)
	EBTR	11 (17)	0.50 (0.23)	A (A)	29 (14)
	WBL	7 (22)	0.00 (0.13)	A (A)	1 (9)
	WBTR	8 (28)	0.06 (0.50)	A (A)	5 (35)
	NBL	12 (7)	0.08 (0.21)	A (A)	6 (12)
	NBTR	11 (6)	0.16 (0.06)	A (A)	12 (7)
	SBL	11 (0)	0.00 (0.00)	A ()	1 (0)
	SBTR	11 (15)	0.22 (0.48)	A (A)	16 (46)
	Overall	**10 (17)**	**0.41 (0.42)**	**A (A)**	**-**
March Road & Lifestyle Street	EBL	61 (46)	0.29 (0.31)	A (A)	18 (25)
	EBTR	23 (20)	0.61 (0.48)	B (A)	26 (29)
	WBL	114 (104)	0.70 (0.91)	B (E)	#24 (#48)
	WBTR	25 (14)	0.20 (0.17)	A (A)	11 (11)
	NBL	76 (46)	0.53 (0.63)	A (B)	m55 (m34)
	NBT	5 (28)	0.53 (0.99)	A (E)	21 (m#170)
	NBR	1 (4)	0.02 (0.02)	A (A)	m0 (m0)
	SBL	42 (52)	0.57 (0.21)	A (A)	m23 (m5)
	SBTR	39 (39)	0.96 (0.81)	E (D)	m150 (m218)
	Overall	**29 (34)**	**0.79 (0.95)**	**C (E)**	**-**

Table 38 - Unsignalized Intersection Operations, Future Total 2032, AM Peak (PM Peak)

Intersections	Movements	Delay (s)	Delay LOS	v/c Ratio	v/c LOS	95th Queue (m)
Legget Drive & Lifestyle Street	EBLR	12 (12)	B (B)	0.20 (0.08)	A (A)	6 (2)
	NBLT	2 (4)	A (A)	0.03 (0.11)	A (A)	1 (3)
	SBTR	0 (0)	A (A)	0.21 (0.16)	A (A)	0 (0)
	Overall	**3 (3)**	**A (A)**	**-**	**-**	**-**
March Road & Private Drive	WBR	10 (13)	A (B)	0.02 (0.14)	A (A)	1 (4)
	NBT	0 (0)	A (A)	0.43 (0.70)	A (B)	0 (0)
	NBT	0 (0)	A (A)	0.43 (0.70)	A (B)	0 (0)
	NBR	0 (0)	A (A)	0.11 (0.02)	A (A)	0 (0)
	SBT	0 (0)	A (A)	0.62 (0.50)	B (A)	0 (0)
	SBT	0 (0)	A (A)	0.62 (0.50)	B (A)	0 (0)
	Overall	**0 (0)**	**A (A)**	**-**	**-**	**-**
Legget Drive & Private Drive	EBLR	14 (20)	B (C)	0.13 (0.61)	A (B)	3 (32)
	NBT	2 (1)	A (A)	0.05 (0.01)	A (A)	1 (0)
	SBT	0 (0)	A (A)	0.27 (0.18)	A (A)	0 (0)
	Overall	**2 (8)**	**A (A)**	**-**	**-**	**-**

Intersections	Movements	Delay (s)	Delay LOS	v/c Ratio	v/c LOS	95th Queue (m)
March Road & Drop-Off Loop/Parking Access	WBR	15 (45)	B (E)	0.07 (0.49)	A (A)	2 (18)
	NBT	0 (0)	A (A)	0.41 (0.72)	A (C)	0 (0)
	NBT	0 (0)	A (A)	0.41 (0.72)	A (C)	0 (0)
	NBR	0 (0)	A (A)	0.06 (0.01)	A (A)	0 (0)
	SBT	0 (0)	A (A)	0.62 (0.50)	B (A)	0 (0)
	SBT	0 (0)	A (A)	0.62 (0.50)	B (A)	0 (0)
	Overall	**0 (1)**	**A (A)**	**-**	**-**	**-**
Legget Drive & Terry Fox Drive	EBTR	0 (0)	A (A)	0.26 (0.14)	A (A)	0 (0)
	WBLT	3 (1)	A (A)	0.05 (0.02)	A (A)	1 (1)
	NBLR	13 (15)	B (B)	0.08 (0.27)	A (A)	2 (8)
	Overall	**2 (3)**	**A (A)**	**-**	**-**	**-**

In Future Total 2032 conditions, all intersections are operating at an acceptable level of service with the exception of:

- Southbound through at March & Terry Fox with a v/c ratio of 1.16 in the AM peak hour
- Southbound left at March & Solandt with a v/c ratio of 1.52 in the AM peak hour
- Southbound through at March & Solandt with a v/c ratio of 1.95 in the AM peak hour
- Northbound through at March & Solandt with a v/c ratio of 1.25 in the PM peak hour
- Southbound through at March & Solandt with a v/c ratio of 1.30 in the PM peak hour
- March & Solandt with overall intersection v/c ratio of 1.65 in the AM peak hour and 1.21 in the PM peak hour

These movements are already over capacity in 2032 Future Background conditions. The only over capacity movement that sees a significant increase in v/c ratio (more than 0.10) from 2032 Future Background to 2032 Future Total conditions is the southbound left movement at March & Solandt with an increase from 1.17 v/c to 1.50 v/c.

March & Solandt

The failing southbound left movement is likely due to the combination of the high volume of conflicting northbound through vehicles and the southbound left as a permitted phase. It is recommended that the southbound left is changed to protected-permitted or fully protected that can run at the same time as the protected-permitted northbound left phase, from a traffic operations and road safety perspective. The failing northbound and southbound through movements are discussed below.

March Road North-South Capacity Issues

Overall, failing northbound and southbound through movements at March & Terry Fox and March & Solandt in Future Background and Future Total conditions project capacity issues on the March Road corridor. It is most pronounced at the March & Solandt intersection. High volumes are expected along and near the corridor as growth occurs in the area. Mitigation measures include optimizing signal timing and phasing, and additional through lanes. These

ultimately should be reviewed as part of other studies that review the entire March Road corridor, namely March Road BRT for March Road intersections and the KNED Urban Design Guidelines for Legget intersections, and evaluated against the recommendations from these studies. Additionally, major physical improvements to traffic operations like road widening for additional lanes are not recommended as it causes induced demand, and is contrary to the Transportation Master Plan Policy 9-5 for human-scaled streets that discourage widenings beyond four mid-block general purpose lanes, and the visions of a multi-modal Kanata North community outlined in City policies. Nonetheless, there may be long-term challenges for intersection operations to adequately accommodate growth in the area, and a need for higher capacity and efficiencies on March Road into the future which would be best addressed by the March Road BRT. To address operational issues in a way that aligns with the City's objectives, it is recommended that the City continues to advance the timelines for the BRT.

March & Lifestyle

The recommended auxiliary lane lengths to support the functional design of the March & Lifestyle intersection are provided below, based on the 95th percentile queue lengths identified in the 2032 Future Total Traffic Scenario above in **Table 37**.

- Eastbound left turn – 25m
- Westbound left turn – 50m
- Northbound left turn - 55m
- Northbound right turn – carries back to drop-off loop / parking garage entrance to south.
- Southbound left turn – 25m

Figure 20 - 2027 Future Total Traffic Volumes

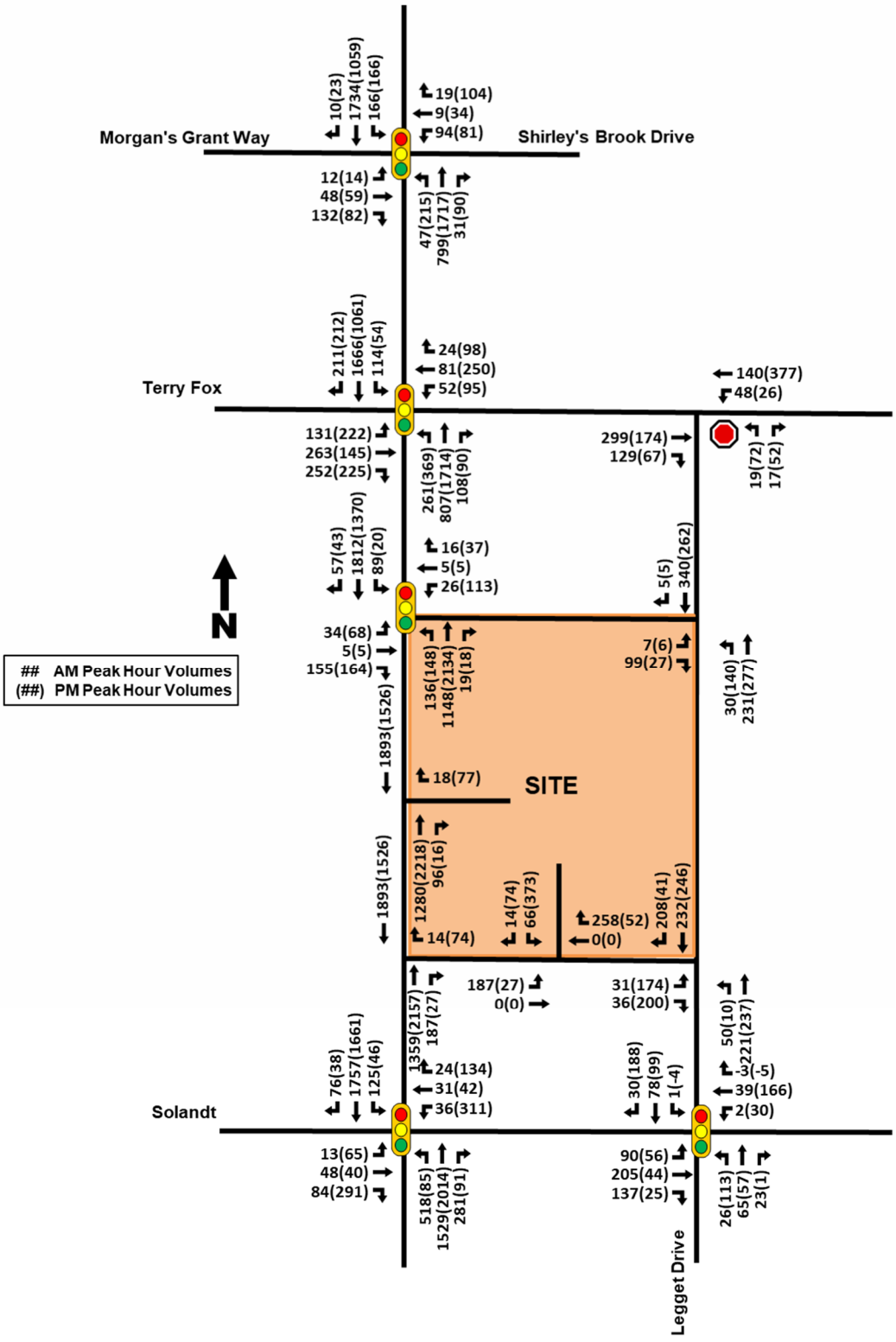
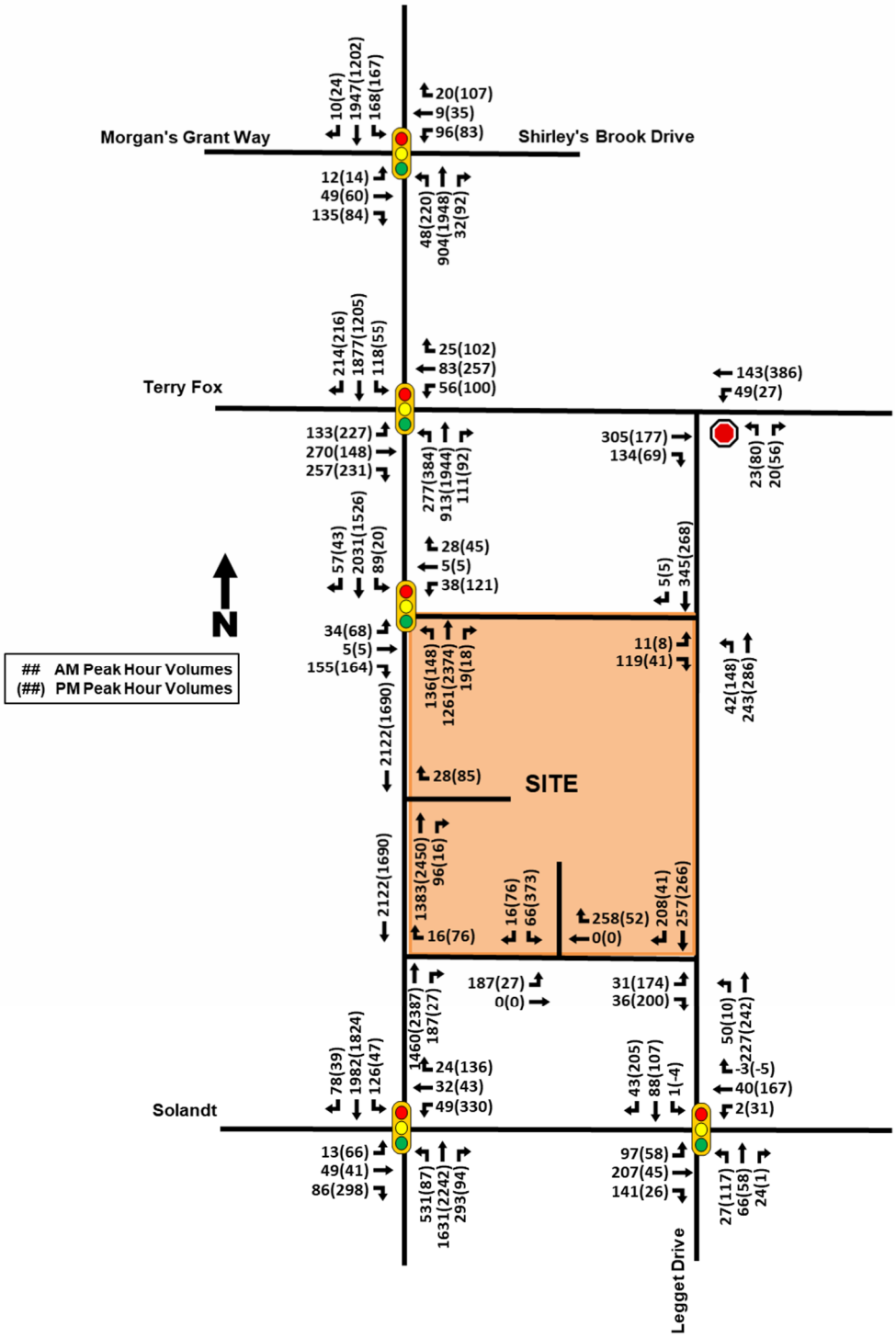


Figure 21 - 2032 Future Total Traffic Volumes



3.9 CONCLUSION AND RECOMMENDATION

This Transportation Impact Assessment was prepared in support of the Site Plan Application at 570 March Road for Nokia Canada Inc. The site is bound by the existing Nokia office building to the north and another existing office building to the south, March Road to the west, and Legget Drive to the east. Lab, office, and retail uses are proposed for the subject site. Build-out will occur in one phase in 2027 with a horizon of 5 years after build-out in 2032.

The proposed development is projected to generate approximately 847 and 818 two-way person trips per hour during weekday AM and PM peak hours respectively. This includes 676 (AM) and 646 (PM) two-way auto driver trips.

The design of the site supports sustainable modes of walking, cycling, and transit, through the design of the site and the new proposed infrastructure along March Road and Legget Drive. Further TDM measures have been recommended for consideration including physical measures, amenities, and programs.

Segment and intersection MMLOS analysis indicates that almost none of the pedestrian and bike LOS targets are met in the study area road network. A greater prioritization of people walking and cycling should be considered through the improved quality and safety of physical facilities and reduced delays at intersections. TLOS can be improved with transit priority measures and the BRT.

Traffic operations analysis for Existing and Future Background conditions show increasing traffic volumes at the study area intersections over the horizon years, generated by several background developments occurring in the Kanata North area and feeding into the March Road corridor. March Road & Solandt Road exceeds capacity in both peak hours in 2027 and 2032 Future Background and Future Total conditions. Northbound and southbound through movements at March Road & Terry Fox Drive and March Road & Solandt Road are over capacity in these scenarios, suggesting north-south capacity issues on March Road. The southbound left movement at March & Solandt is over capacity, likely due to the combination of the high volume of conflicting northbound through vehicles and the southbound left as a permitted phase. It is recommended that the southbound left is changed to protected-permitted or fully protected that can run at the same time as the protected-permitted northbound left phase, from a traffic operations and road safety perspective.

Given the ongoing status of studies for the Kanata North area like the March Road BRT and KNED Urban Design Guidelines which will recommend changes to the transportation network, potential intersection improvements in this report should generally be reviewed comprehensively in the local network as part of those studies. Suggested mitigation measures for traffic operations impacts from the subject development include signal timing and phasing optimization and additional lanes. However, major physical measures like additional lanes to address north-south capacity issues are not recommended as it should be investigated within the context of the BRT, and may result in negative impacts to walking and cycling, and run contrary to City policies. The advancement of the BRT is recommended as it presents the opportunity to efficiently accommodate growth by adding capacity on March Road and supporting modal shift, in line with the policy directions for the site and the KNED toward sustainable modes.

APPENDICES

APPENDIX A TRAFFIC COUNT DATA

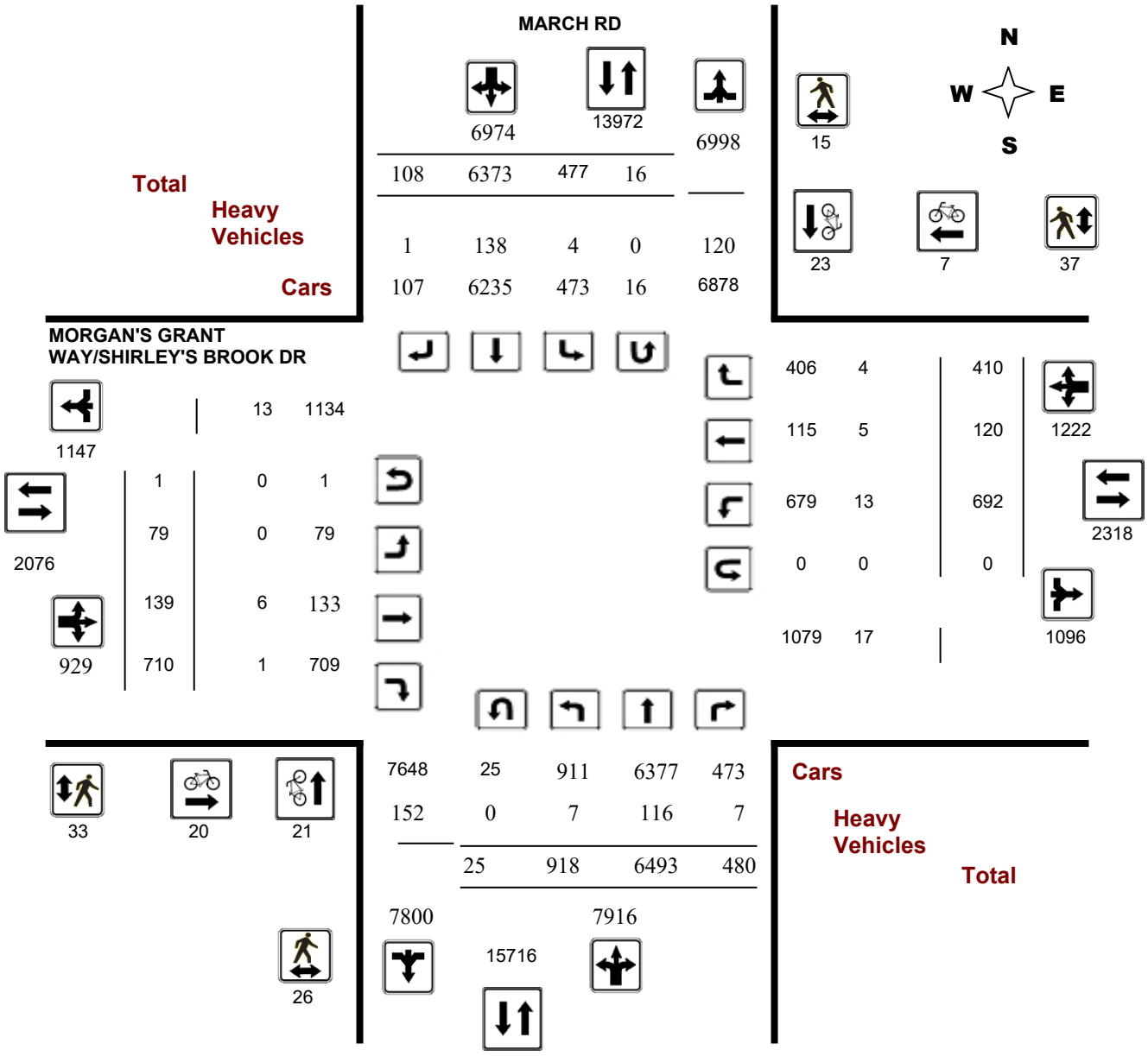
Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016
Start Time: 07:00
WO No: 36160
Device: Miovision

Full Study Diagram



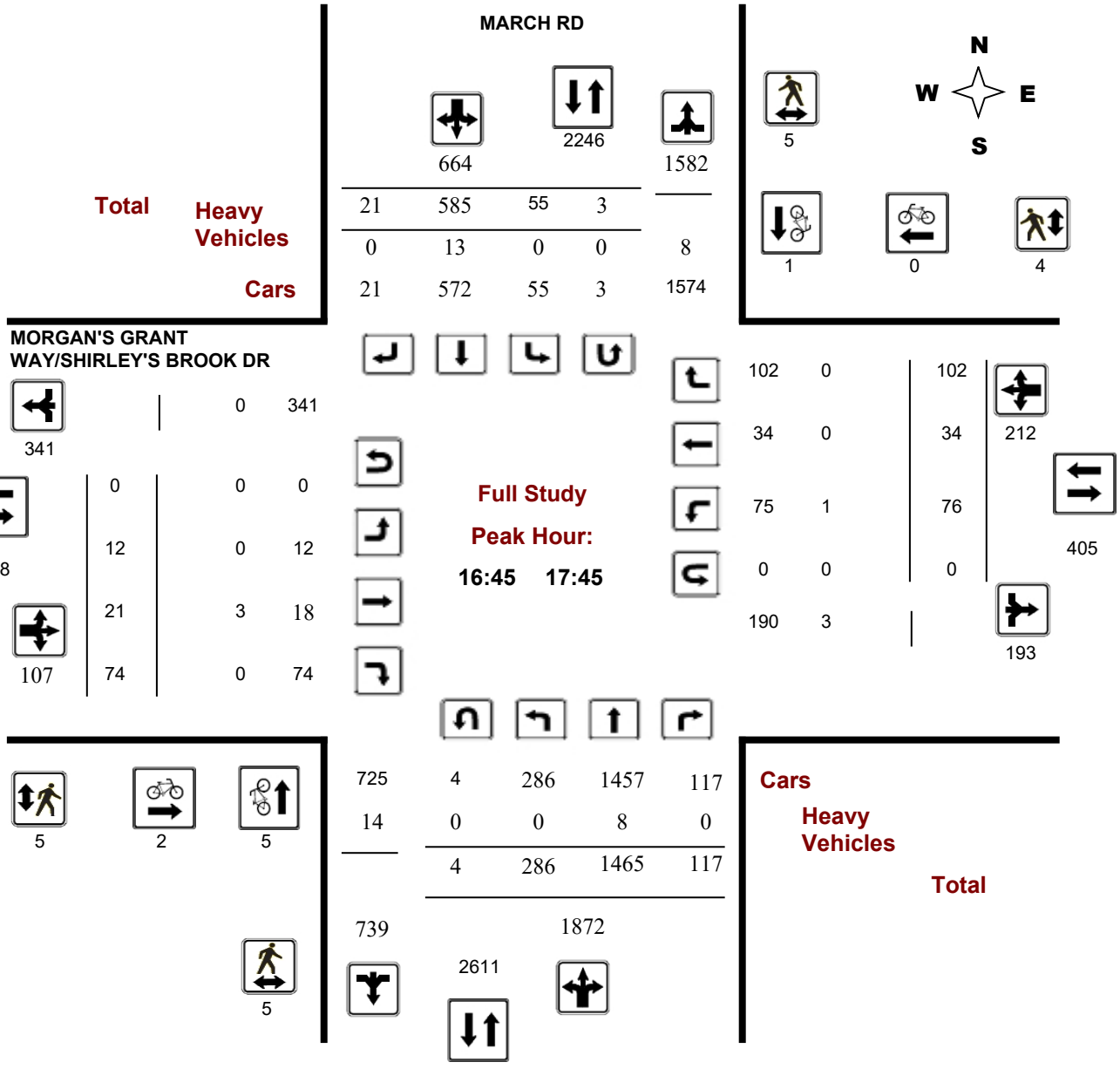
Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016
Start Time: 07:00
WO No: 36160
Device: Miovision

Full Study Peak Hour Diagram



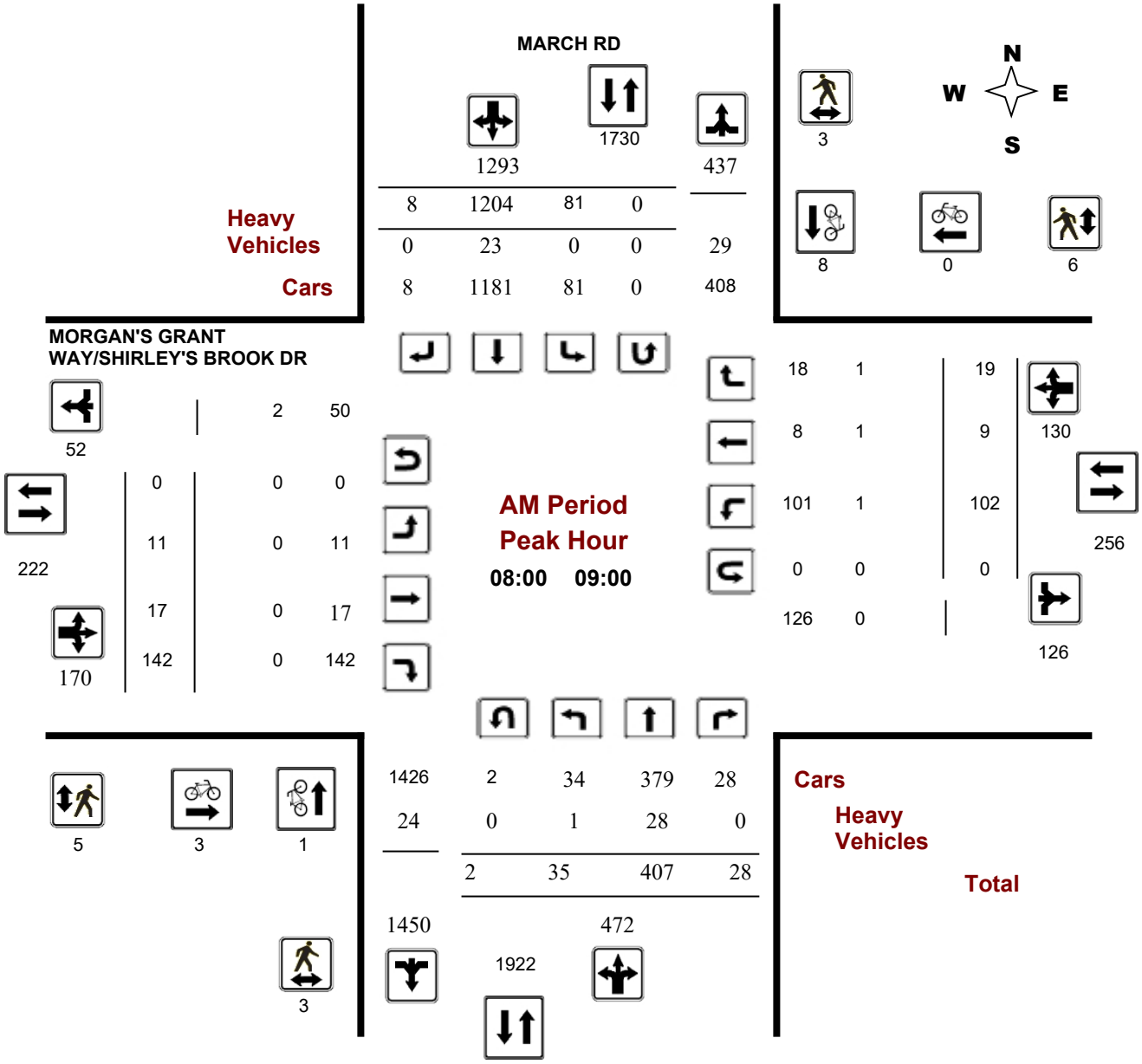
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016 **WO No:** 36160

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



Comments

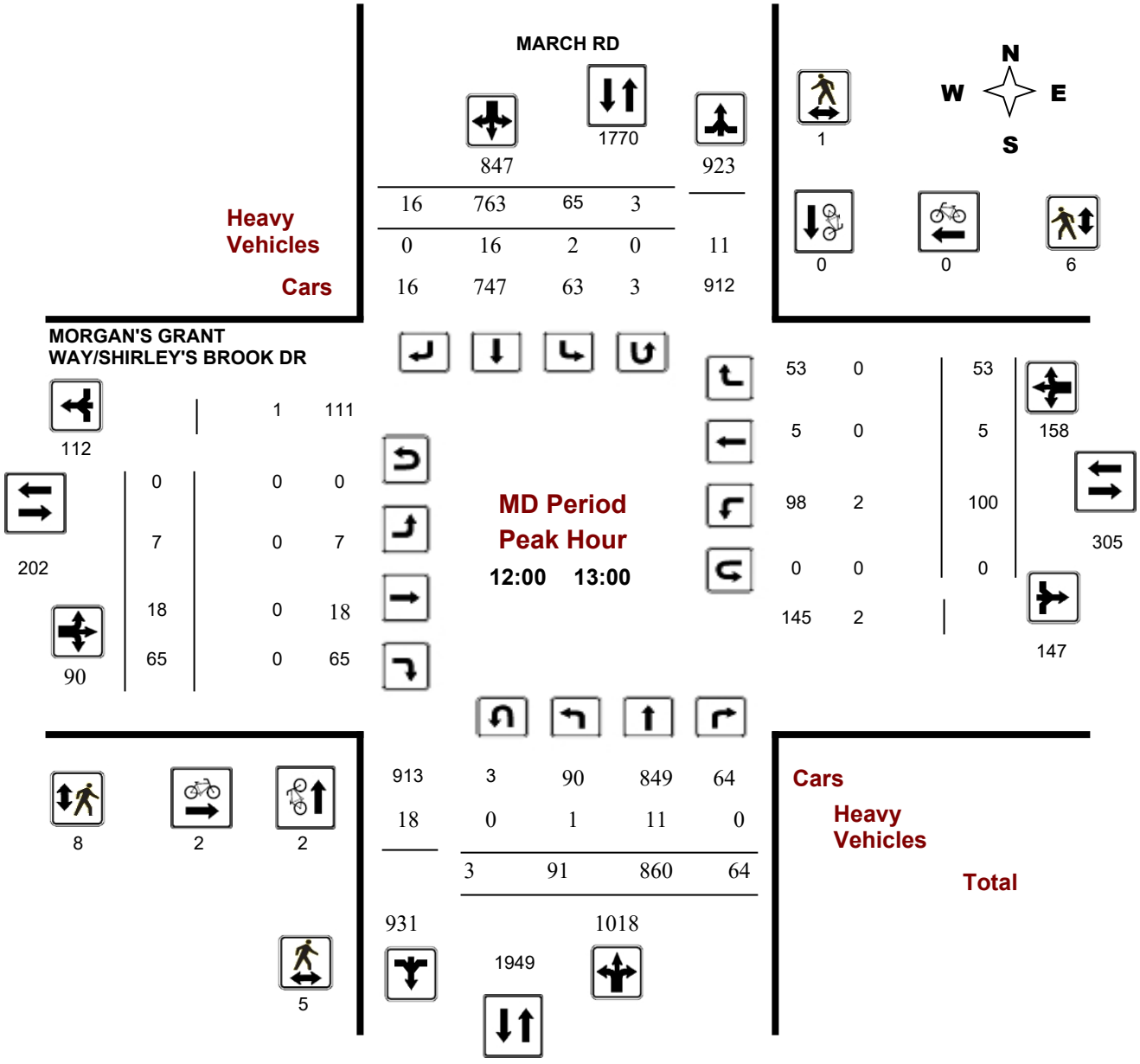
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016 **WO No:** 36160

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



Comments

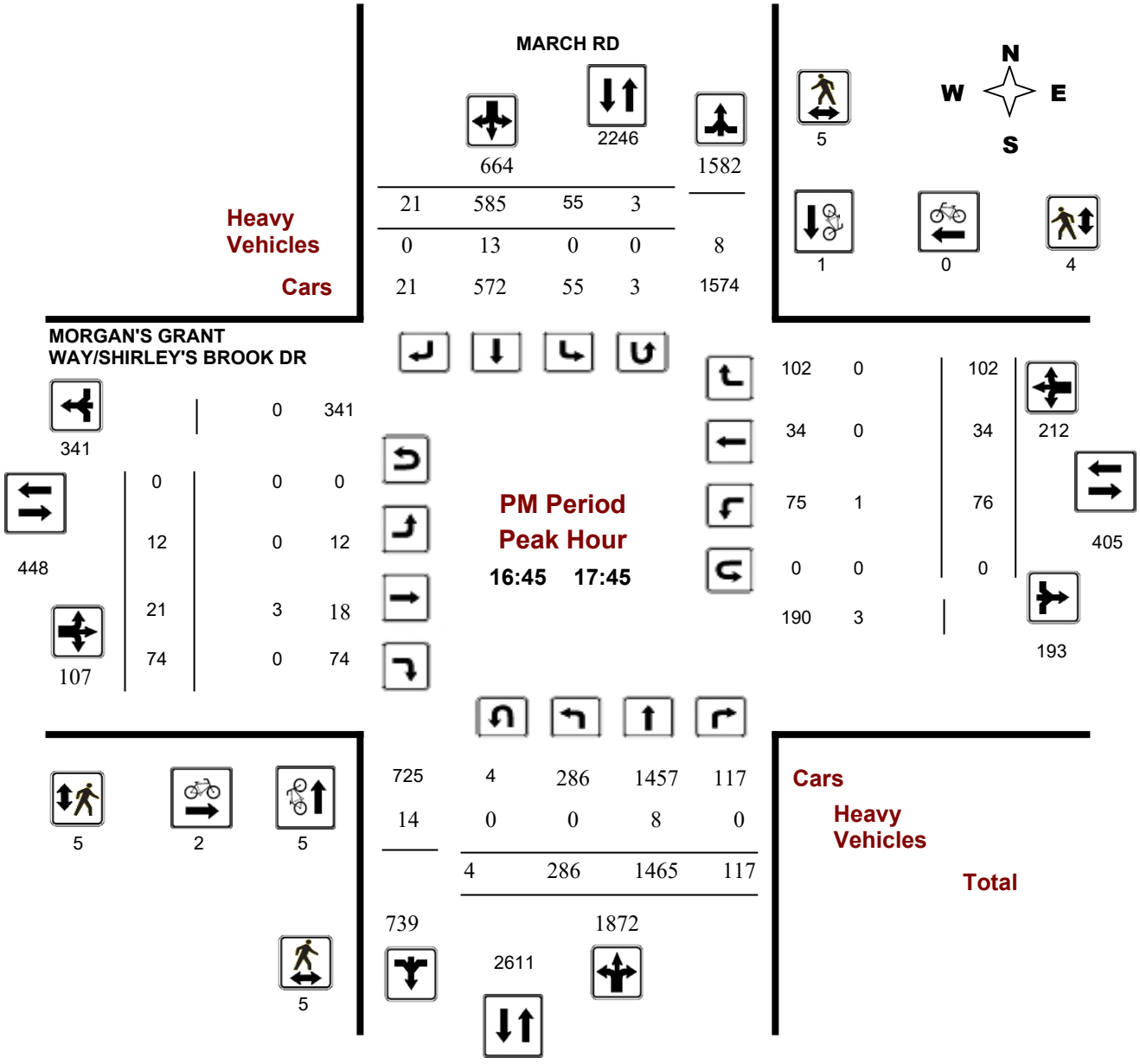
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016 **WO No:** 36160

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



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016 **WO No:** 36160

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

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, August 10, 2016

Total Observed U-Turns

Northbound: 25 Southbound: 16

Eastbound: 1 Westbound: 0

AADT Factor

.90

	MARCH RD									MORGAN'S GRANT WAY/SHIRLEY'S BROOK DR									
	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	19	283	25	**327**	95	1082	9	**1186**	**1513**	10	16	140	**166**	97	9	12	**118**	**284**	**1797**
08:00 09:00	35	407	28	**470**	81	1204	8	**1293**	**1763**	11	17	142	**170**	102	9	19	**130**	**300**	**2063**
09:00 10:00	55	445	31	**531**	61	873	12	**946**	**1477**	6	18	108	**132**	91	8	28	**127**	**259**	**1736**
11:30 12:30	86	863	59	**1008**	52	672	15	**739**	**1747**	10	14	46	**70**	93	3	50	**146**	**216**	**1963**
12:30 13:30	81	740	52	**873**	57	787	12	**856**	**1729**	9	19	72	**100**	95	12	50	**157**	**257**	**1986**
15:00 16:00	136	990	64	**1190**	29	600	14	**643**	**1833**	10	10	56	**76**	56	14	62	**132**	**208**	**2041**
16:00 17:00	235	1359	109	**1703**	46	579	15	**640**	**2343**	13	24	77	**114**	83	31	92	**206**	**320**	**2663**
17:00 18:00	271	1406	112	**1789**	56	576	23	**655**	**2444**	10	21	69	**100**	75	34	97	**206**	**306**	**2750**
Sub Total	918	6493	480	**7891**	477	6373	108	**6958**	**14849**	79	139	710	**928**	692	120	410	**1222**	**2150**	**16999**
U Turns	25			**25**	16			**16**	**41**	**1**			**1**	0			**0**	**1**	**42**
Total	943	6493	480	**7916**	493	6373	108	**6974**	**14890**	80	139	710	**929**	692	120	410	**1222**	**2151**	**17041**
EQ 12Hr	1311	9025	667	**11003**	685	8858	150	**9693**	**20696**	111	193	987	**1291**	962	167	570	**1699**	**2990**	**23686**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	1180	8122	600	**9902**	616	7972	135	**8723**	**18625**	100	174	888	**1162**	866	150	513	**1529**	**2691**	**21316**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**.90**					
AVG 24Hr	1546	10640	786	**12972**	807	10443	177	**11427**	**24399**	131	228	1163	**1522**	1134	196	672	**2002**	**3524**	**27923**
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

MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016 **WO No:** 36160

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

Full Study 15 Minute Increments

		MARCH RD									MORGAN'S GRANT WAY/SHIRLEY'S BROOK DR									
		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	6	54	5	65	26	237	0	263	**328**	0	3	31	34	22	3	2	27	**61**	**389**
07:15	07:30	2	74	10	86	27	248	2	277	**363**	3	3	35	41	22	3	3	28	**69**	**432**
07:30	07:45	8	66	2	76	15	292	4	311	**387**	3	5	33	41	24	1	5	30	**71**	**458**
07:45	08:00	5	89	8	102	27	305	3	335	**437**	5	5	41	51	29	2	2	33	**84**	**521**
08:00	08:15	9	102	3	114	20	298	1	319	**433**	7	2	39	48	23	2	5	30	**78**	**511**
08:15	08:30	11	101	7	119	28	287	3	318	**437**	1	2	46	49	23	2	7	32	**81**	**518**
08:30	08:45	7	100	6	113	13	312	3	328	**441**	2	8	31	41	25	1	4	30	**71**	**512**
08:45	09:00	10	104	12	126	20	307	1	328	**454**	1	5	26	32	31	4	3	38	**70**	**524**
09:00	09:15	23	118	8	149	14	243	1	258	**407**	0	3	31	34	23	2	7	32	**66**	**473**
09:15	09:30	8	113	9	130	21	217	6	244	**374**	2	7	29	38	23	4	7	34	**72**	**446**
09:30	09:45	12	116	4	132	14	241	4	259	**391**	2	2	29	33	26	1	2	29	**62**	**453**
09:45	10:00	15	98	10	123	14	172	1	187	**310**	2	6	19	27	19	1	12	32	**59**	**369**
11:30	11:45	20	181	12	213	11	150	3	164	**377**	1	3	11	15	22	0	9	31	**46**	**423**
11:45	12:00	22	215	14	251	8	168	3	179	**430**	6	2	14	22	28	1	17	46	**68**	**498**
12:00	12:15	26	228	20	274	19	169	5	193	**467**	1	6	9	16	19	0	11	30	**46**	**513**
12:15	12:30	19	239	13	271	17	185	4	206	**477**	2	3	12	17	24	2	13	39	**56**	**533**
12:30	12:45	22	185	12	219	20	209	3	232	**451**	1	6	19	26	25	1	13	39	**65**	**516**
12:45	13:00	27	208	19	254	12	200	4	216	**470**	3	3	25	31	32	2	16	50	**81**	**551**
13:00	13:15	18	173	11	202	14	200	2	216	**418**	3	5	15	23	23	6	11	40	**63**	**481**
13:15	13:30	21	174	10	205	11	178	3	192	**397**	2	5	13	20	15	3	10	28	**48**	**445**
15:00	15:15	23	191	7	221	10	156	2	168	**389**	3	3	18	24	17	3	9	29	**53**	**442**
15:15	15:30	32	258	23	313	7	152	4	163	**476**	1	3	8	12	9	2	24	35	**47**	**523**
15:30	15:45	41	273	16	330	6	146	2	154	**484**	5	0	13	18	22	7	13	42	**60**	**544**
15:45	16:00	44	268	18	330	9	146	6	161	**491**	1	4	17	22	8	2	16	26	**48**	**539**
16:00	16:15	48	309	26	383	16	157	6	179	**562**	2	6	18	26	24	6	20	50	**76**	**638**
16:15	16:30	54	351	32	437	13	143	3	159	**596**	2	5	26	33	16	13	24	53	**86**	**682**
16:30	16:45	63	343	24	430	7	138	3	148	**578**	5	9	14	28	23	6	19	48	**76**	**654**
16:45	17:00	72	356	27	455	13	141	3	157	**612**	4	4	19	27	20	6	29	55	**82**	**694**
17:00	17:15	78	399	35	512	17	141	4	162	**674**	2	3	10	15	13	11	33	57	**72**	**746**
17:15	17:30	86	391	27	504	15	147	6	168	**672**	2	7	19	28	16	7	18	41	**69**	**741**
17:30	17:45	54	319	28	401	13	156	8	177	**578**	4	7	26	37	27	10	22	59	**96**	**674**
17:45	18:00	57	297	22	376	16	132	5	153	**529**	2	4	14	20	19	6	24	49	**69**	**598**
Total:		943	6493	480	7916	493	6373	108	6974	**14890**	80	139	710	929	692	120	410	1222	**14890**	**17,041**

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016 **WO No:** 36160

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

Full Study Cyclist Volume

Time Period		MARCH RD			MORGAN'S GRANT WAY/SHIRLEY'S BROOK DR			
		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	1	**1**	0	0	**0**	**1**
07:30	07:45	2	1	**3**	0	0	**0**	**3**
07:45	08:00	0	0	**0**	0	0	**0**	**0**
08:00	08:15	0	2	**2**	0	0	**0**	**2**
08:15	08:30	0	2	**2**	1	0	**1**	**3**
08:30	08:45	1	2	**3**	1	0	**1**	**4**
08:45	09:00	0	2	**2**	1	0	**1**	**3**
09:00	09:15	0	1	**1**	1	0	**1**	**2**
09:15	09:30	1	0	**1**	4	0	**4**	**5**
09:30	09:45	0	1	**1**	2	0	**2**	**3**
09:45	10:00	1	1	**2**	2	0	**2**	**4**
11:30	11:45	1	1	**2**	0	0	**0**	**2**
11:45	12:00	1	0	**1**	3	0	**3**	**4**
12:00	12:15	1	0	**1**	0	0	**0**	**1**
12:15	12:30	0	0	**0**	0	0	**0**	**0**
12:30	12:45	1	0	**1**	1	0	**1**	**2**
12:45	13:00	0	0	**0**	1	0	**1**	**1**
13:00	13:15	1	1	**2**	0	0	**0**	**2**
13:15	13:30	2	3	**5**	0	0	**0**	**5**
15:00	15:15	0	1	**1**	0	0	**0**	**1**
15:15	15:30	0	0	**0**	0	2	**2**	**2**
15:30	15:45	0	0	**0**	0	1	**1**	**1**
15:45	16:00	0	0	**0**	0	0	**0**	**0**
16:00	16:15	1	2	**3**	0	2	**2**	**5**
16:15	16:30	1	1	**2**	1	1	**2**	**4**
16:30	16:45	0	0	**0**	0	1	**1**	**1**
16:45	17:00	1	0	**1**	1	0	**1**	**2**
17:00	17:15	2	0	**2**	1	0	**1**	**3**
17:15	17:30	1	0	**1**	0	0	**0**	**1**
17:30	17:45	1	1	**2**	0	0	**0**	**2**
17:45	18:00	2	0	**2**	0	0	**0**	**2**
Total		21	23	**44**	20	7	**27**	**71**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016 **WO No:** 36160

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

Full Study Pedestrian Volume

	MARCH RD			MORGAN'S GRANT WAY/SHIRLEY'S BROOK DR			
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	2	0	**2**	0	0	**0**	**2**
07:15 07:30	0	0	**0**	1	0	**1**	**1**
07:30 07:45	0	0	**0**	1	1	**2**	**2**
07:45 08:00	1	1	**2**	0	0	**0**	**2**
08:00 08:15	0	0	**0**	0	1	**1**	**1**
08:15 08:30	1	1	**2**	2	3	**5**	**7**
08:30 08:45	1	1	**2**	1	0	**1**	**3**
08:45 09:00	1	1	**2**	2	2	**4**	**6**
09:00 09:15	4	0	**4**	2	1	**3**	**7**
09:15 09:30	2	0	**2**	2	1	**3**	**5**
09:30 09:45	1	0	**1**	3	2	**5**	**6**
09:45 10:00	0	1	**1**	0	4	**4**	**5**
11:30 11:45	0	0	**0**	0	3	**3**	**3**
11:45 12:00	0	0	**0**	1	1	**2**	**2**
12:00 12:15	3	0	**3**	2	2	**4**	**7**
12:15 12:30	0	0	**0**	5	2	**7**	**7**
12:30 12:45	0	0	**0**	0	0	**0**	**0**
12:45 13:00	2	1	**3**	1	2	**3**	**6**
13:00 13:15	2	0	**2**	0	2	**2**	**4**
13:15 13:30	0	1	**1**	2	0	**2**	**3**
15:00 15:15	0	0	**0**	1	1	**2**	**2**
15:15 15:30	1	0	**1**	0	0	**0**	**1**
15:30 15:45	0	0	**0**	0	0	**0**	**0**
15:45 16:00	0	0	**0**	0	1	**1**	**1**
16:00 16:15	0	0	**0**	0	0	**0**	**0**
16:15 16:30	0	0	**0**	1	0	**1**	**1**
16:30 16:45	0	1	**1**	0	1	**1**	**2**
16:45 17:00	2	1	**3**	0	1	**1**	**4**
17:00 17:15	2	0	**2**	1	0	**1**	**3**
17:15 17:30	1	2	**3**	3	2	**5**	**8**
17:30 17:45	0	2	**2**	1	1	**2**	**4**
17:45 18:00	0	2	**2**	1	3	**4**	**6**
Total	26	15	**41**	33	37	**70**	**111**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016 **WO No:** 36160

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

Full Study Heavy Vehicles

		MARCH RD									MORGAN'S GRANT WAY/SHIRLEY'S BROOK DR									
		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	2	0	**2**	1	5	0	**6**	**8**	0	0	0	**0**	0	1	0	**1**	**1**	**9**
07:15	07:30	1	8	1	**10**	0	2	0	**2**	**12**	0	0	0	**0**	1	0	0	**1**	**1**	**13**
07:30	07:45	1	4	0	**5**	0	6	0	**6**	**11**	0	0	0	**0**	1	1	0	**2**	**2**	**13**
07:45	08:00	0	7	0	**7**	0	3	0	**3**	**10**	0	0	0	**0**	0	1	0	**1**	**1**	**11**
08:00	08:15	1	9	0	**10**	0	4	0	**4**	**14**	0	0	0	**0**	0	0	1	**1**	**1**	**15**
08:15	08:30	0	10	0	**10**	0	6	0	**6**	**16**	0	0	0	**0**	0	1	0	**1**	**1**	**17**
08:30	08:45	0	3	0	**3**	0	7	0	**7**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
08:45	09:00	0	6	0	**6**	0	6	0	**6**	**12**	0	0	0	**0**	1	0	0	**1**	**1**	**13**
09:00	09:15	0	5	0	**5**	0	10	0	**10**	**15**	0	0	0	**0**	0	0	0	**0**	**0**	**15**
09:15	09:30	0	3	0	**3**	0	4	0	**4**	**7**	0	0	0	**0**	1	1	2	**4**	**4**	**11**
09:30	09:45	0	2	1	**3**	0	2	0	**2**	**5**	0	0	0	**0**	0	0	0	**0**	**0**	**5**
09:45	10:00	0	5	0	**5**	0	4	0	**4**	**9**	0	0	1	**1**	1	0	0	**1**	**2**	**11**
11:30	11:45	0	2	1	**3**	0	7	0	**7**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
11:45	12:00	1	2	0	**3**	0	2	0	**2**	**5**	0	0	0	**0**	1	0	0	**1**	**1**	**6**
12:00	12:15	0	3	0	**3**	1	3	0	**4**	**7**	0	0	0	**0**	0	0	0	**0**	**0**	**7**
12:15	12:30	0	5	0	**5**	0	3	0	**3**	**8**	0	0	0	**0**	2	0	0	**2**	**2**	**10**
12:30	12:45	0	1	0	**1**	0	4	0	**4**	**5**	0	0	0	**0**	0	0	0	**0**	**0**	**5**
12:45	13:00	1	2	0	**3**	1	6	0	**7**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**10**
13:00	13:15	0	6	0	**6**	0	2	0	**2**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**8**
13:15	13:30	0	1	0	**1**	0	7	0	**7**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**8**
15:00	15:15	0	3	0	**3**	0	3	0	**3**	**6**	0	0	0	**0**	1	0	0	**1**	**1**	**7**
15:15	15:30	0	4	2	**6**	0	3	1	**4**	**10**	0	0	0	**0**	0	0	1	**1**	**1**	**11**
15:30	15:45	0	2	0	**2**	0	5	0	**5**	**7**	0	0	0	**0**	2	0	0	**2**	**2**	**9**
15:45	16:00	0	2	0	**2**	1	7	0	**8**	**10**	0	1	0	**1**	0	0	0	**0**	**1**	**11**
16:00	16:15	1	4	1	**6**	0	5	0	**5**	**11**	0	0	0	**0**	0	0	0	**0**	**0**	**11**
16:15	16:30	0	4	0	**4**	0	5	0	**5**	**9**	0	0	0	**0**	0	0	0	**0**	**0**	**9**
16:30	16:45	1	2	1	**4**	0	3	0	**3**	**7**	0	1	0	**1**	1	0	0	**1**	**2**	**9**
16:45	17:00	0	5	0	**5**	0	2	0	**2**	**7**	0	0	0	**0**	0	0	0	**0**	**0**	**7**
17:00	17:15	0	3	0	**3**	0	4	0	**4**	**7**	0	1	0	**1**	1	0	0	**1**	**2**	**9**
17:15	17:30	0	0	0	**0**	0	4	0	**4**	**4**	0	1	0	**1**	0	0	0	**0**	**1**	**5**
17:30	17:45	0	0	0	**0**	0	3	0	**3**	**3**	0	1	0	**1**	0	0	0	**0**	**1**	**4**
17:45	18:00	0	1	0	**1**	0	1	0	**1**	**2**	0	1	0	**1**	0	0	0	**0**	**1**	**3**
Total:	None	7	116	7	**130**	4	138	1	**143**	**273**	0	6	1	**7**	13	5	4	**22**	**29**	**302**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016 **WO No:** 36160

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

Full Study 15 Minute U-Turn Total

Time Period		MARCH RD		MORGAN'S GRANT WAY/SHIRLEY'S BROOK DR		Total
		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	
07:00	07:15	1	0	0	0	**1**
07:15	07:30	0	0	1	0	**1**
07:30	07:45	1	0	0	0	**1**
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	2	0	0	0	**2**
08:45	09:00	0	0	0	0	**0**
09:00	09:15	0	1	0	0	**1**
09:15	09:30	1	1	0	0	**2**
09:30	09:45	0	0	0	0	**0**
09:45	10:00	2	0	0	0	**2**
11:30	11:45	0	0	0	0	**0**
11:45	12:00	0	0	0	0	**0**
12:00	12:15	1	2	0	0	**3**
12:15	12:30	0	1	0	0	**1**
12:30	12:45	2	0	0	0	**2**
12:45	13:00	0	0	0	0	**0**
13:00	13:15	3	0	0	0	**3**
13:15	13:30	2	0	0	0	**2**
15:00	15:15	1	0	0	0	**1**
15:15	15:30	1	1	0	0	**2**
15:30	15:45	1	0	0	0	**1**
15:45	16:00	1	2	0	0	**3**
16:00	16:15	0	2	0	0	**2**
16:15	16:30	1	1	0	0	**2**
16:30	16:45	1	0	0	0	**1**
16:45	17:00	0	0	0	0	**0**
17:00	17:15	0	0	0	0	**0**
17:15	17:30	3	2	0	0	**5**
17:30	17:45	1	1	0	0	**2**
17:45	18:00	0	2	0	0	**2**
Total		25	16	1	0	**42**

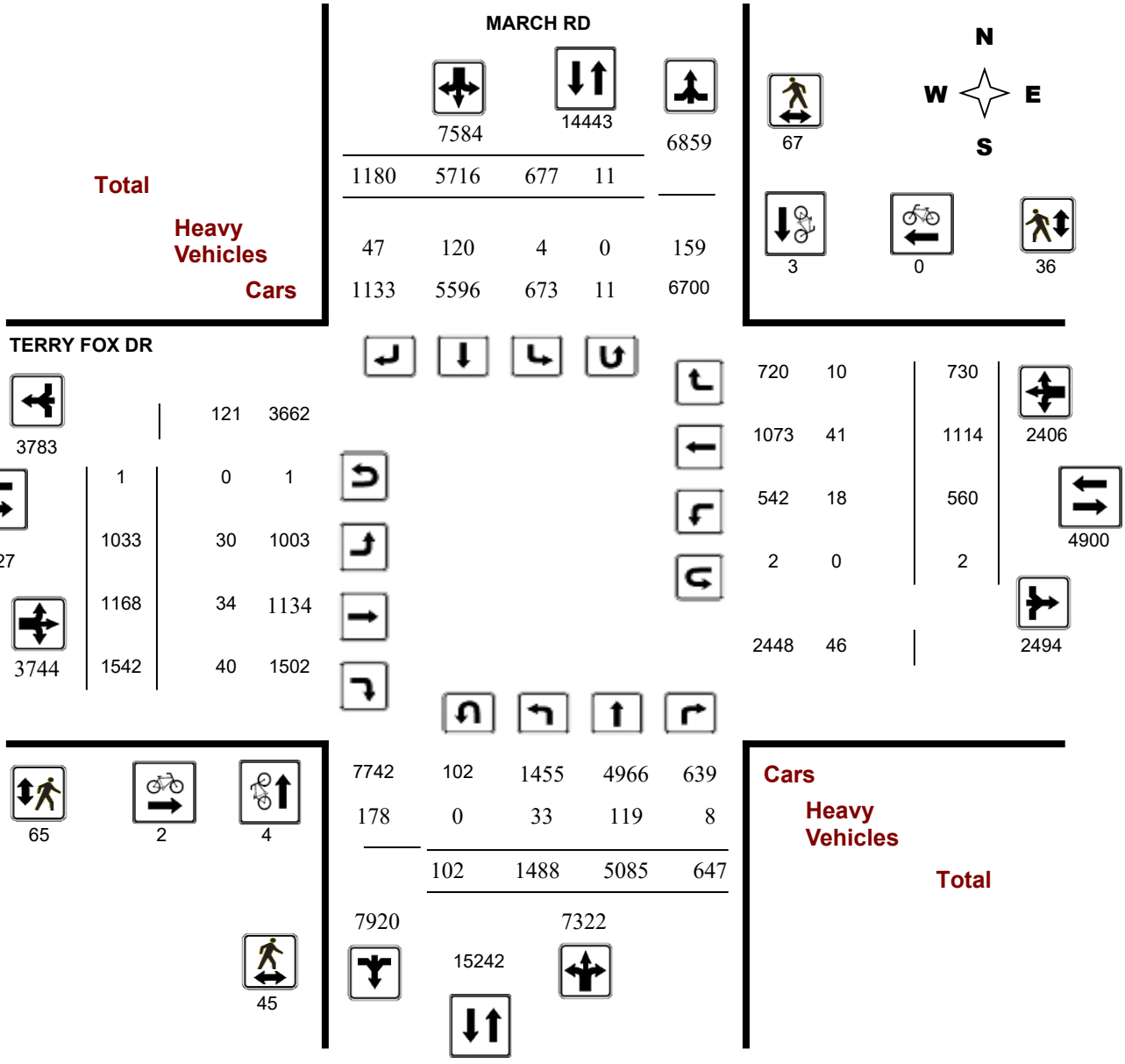
Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Thursday, February 29, 2024
Start Time: 07:00
WO No: 41713
Device: Miovision

Full Study Diagram



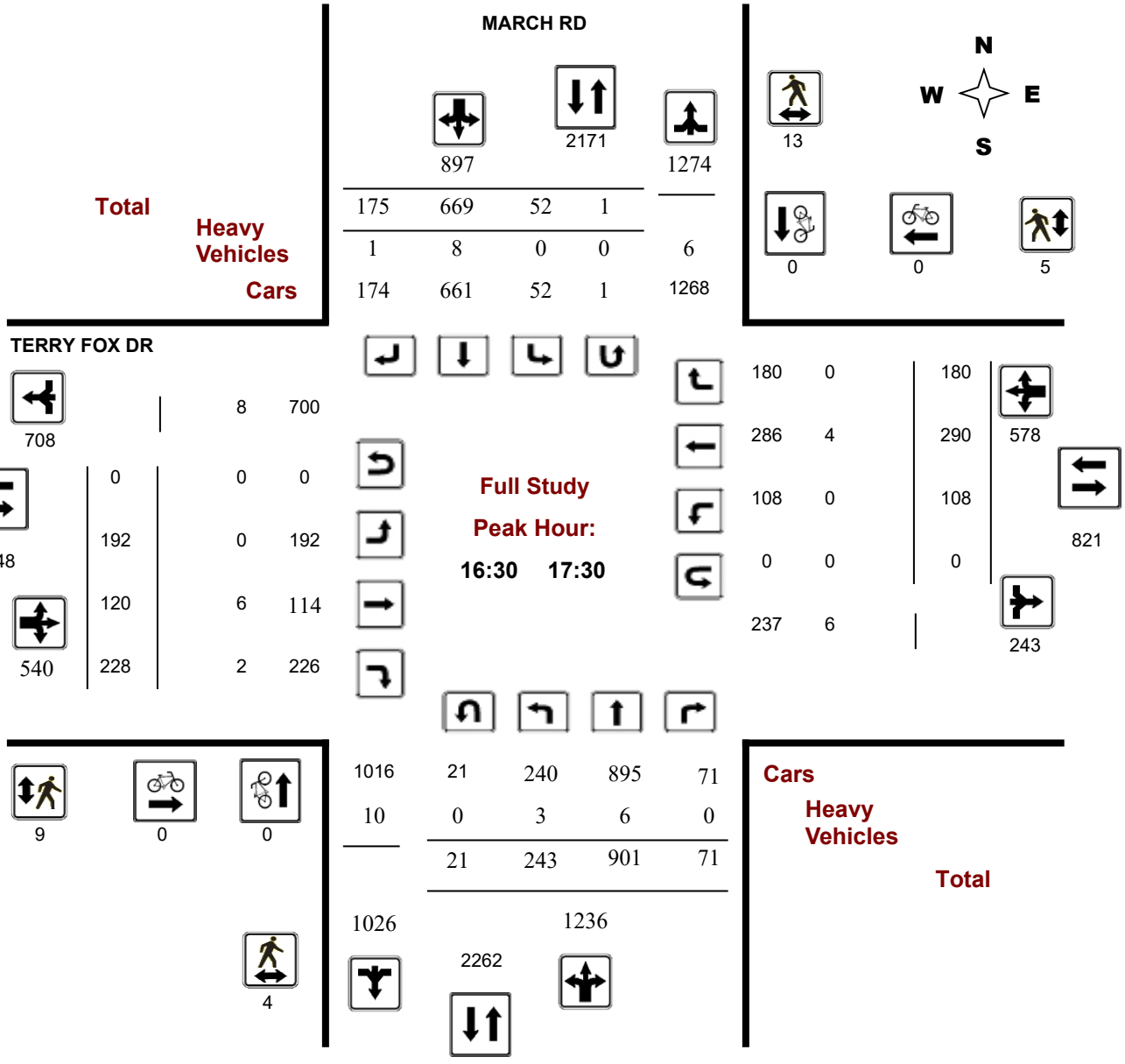
Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Thursday, February 29, 2024
Start Time: 07:00
WO No: 41713
Device: Miovision

Full Study Peak Hour Diagram



Transportation Services - Traffic Services

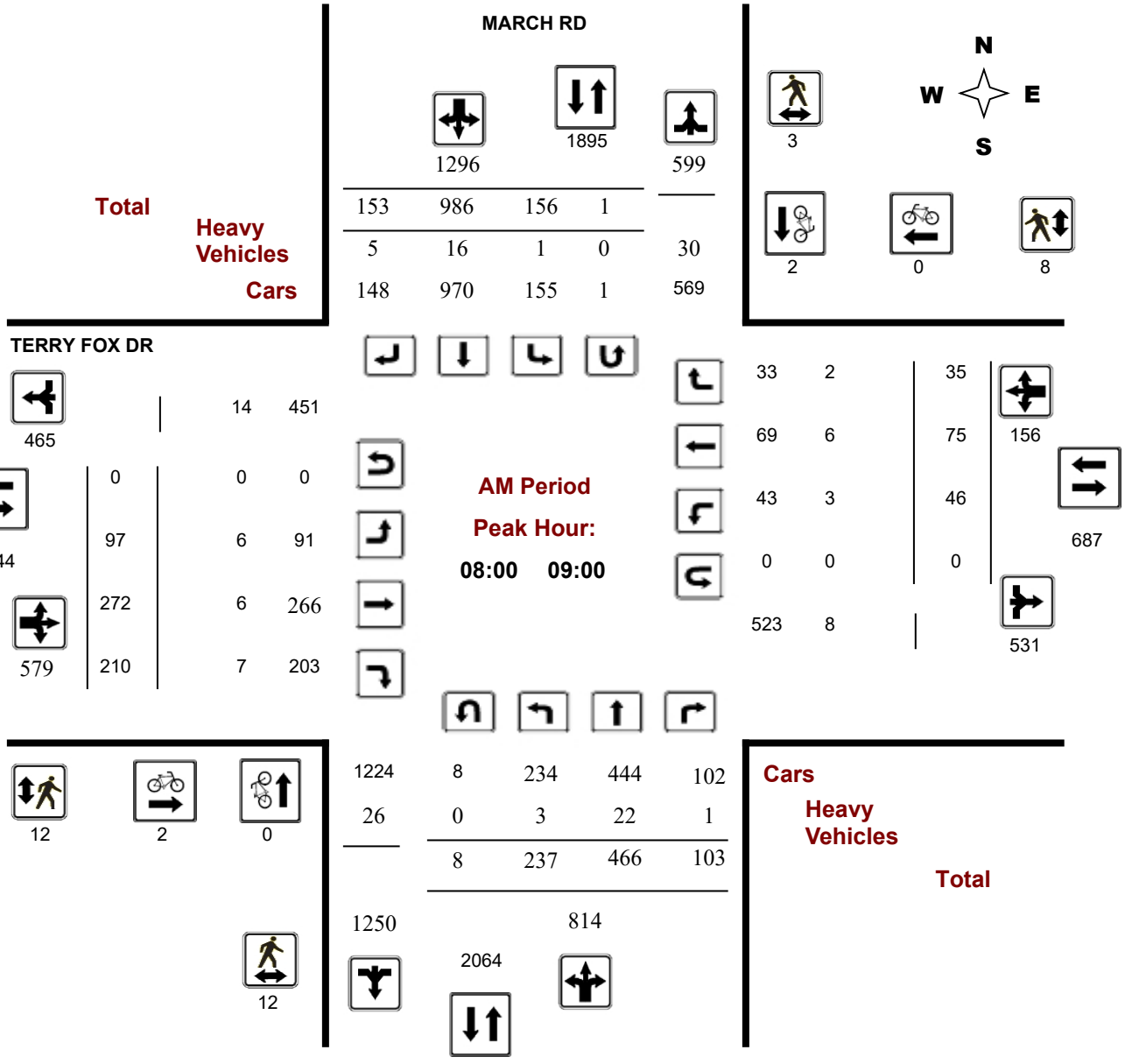
Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Thursday, February 29, 2024 **WO No:** 41713

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

AM Period Peak Hour Diagram



Transportation Services - Traffic Services

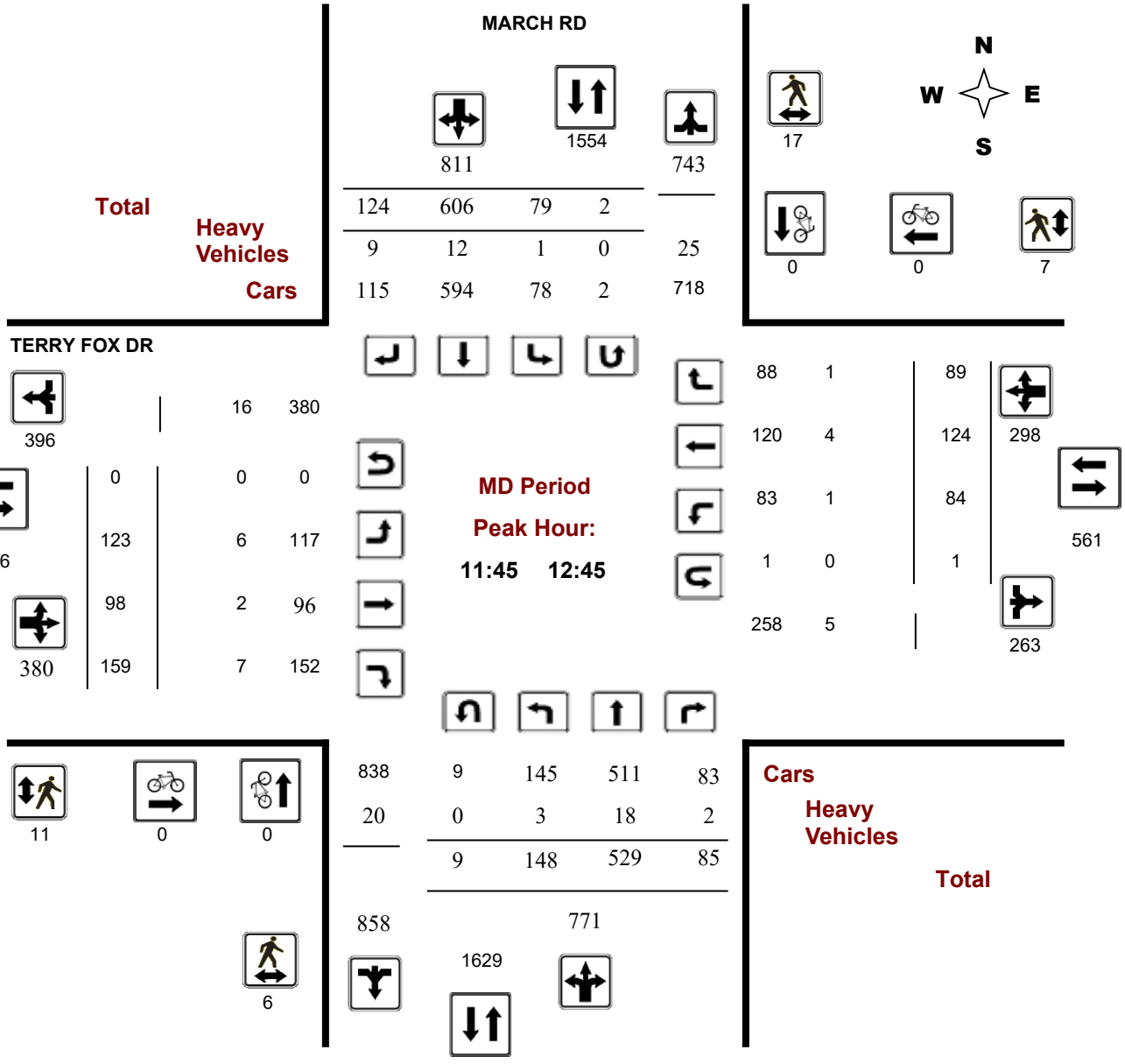
Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Thursday, February 29, 2024 **WO No:** 41713

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

MD Period Peak Hour Diagram



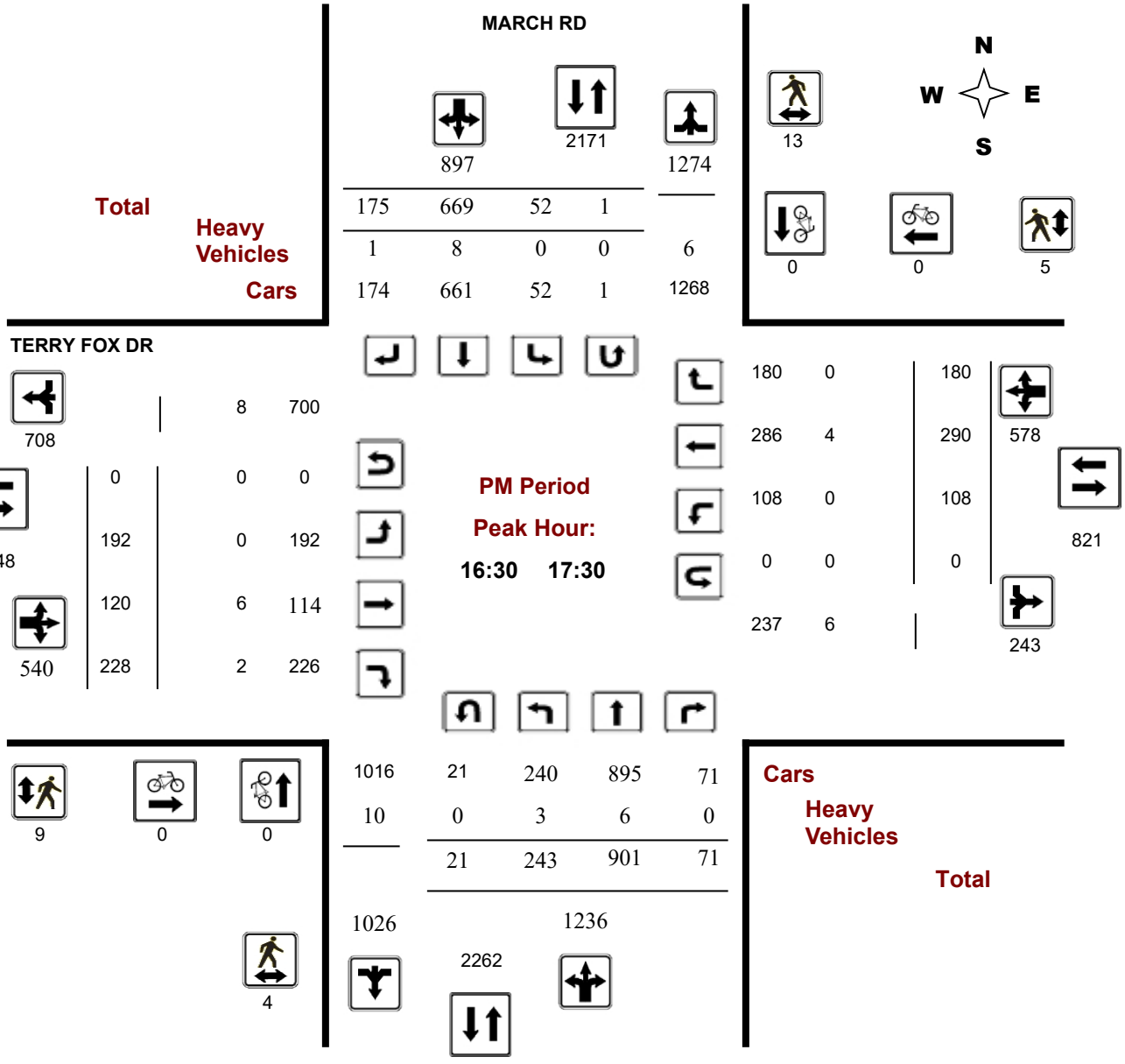
Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Thursday, February 29, 2024
Start Time: 07:00
WO No: 41713
Device: Miovision

PM Period Peak Hour Diagram



Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Thursday, February 29, 2024 **WO No:** 41713

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

Full Study Summary (8 HR Standard)

Survey Date: Thursday, February 29, 2024

Total Observed U-Turns

Northbound: 102 Southbound: 11

Eastbound: 1 Westbound: 2

AADT Factor

.90

	MARCH RD									TERRY FOX DR									
	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	112	383	75	**570**	81	1016	108	**1205**	**1775**	66	137	216	**419**	41	55	15	**111**	**530**	**2305**
08:00 09:00	237	466	103	**806**	156	986	153	**1295**	**2101**	97	272	210	**579**	46	75	35	**156**	**735**	**2836**
09:00 10:00	181	425	80	**686**	128	665	177	**970**	**1656**	106	219	158	**483**	51	67	38	**156**	**639**	**2295**
11:30 12:30	150	531	79	**760**	64	627	129	**820**	**1580**	100	93	143	**336**	78	123	86	**287**	**623**	**2203**
12:30 13:30	130	539	74	**743**	93	534	116	**743**	**1486**	144	115	150	**409**	73	86	81	**240**	**649**	**2135**
15:00 16:00	203	973	79	**1255**	57	614	164	**835**	**2090**	168	105	205	**478**	81	186	130	**397**	**875**	**2965**
16:00 17:00	221	855	73	**1149**	50	621	168	**839**	**1988**	168	133	221	**522**	95	261	180	**536**	**1058**	**3046**
17:00 18:00	254	913	84	**1251**	48	653	165	**866**	**2117**	184	94	239	**517**	95	261	165	**521**	**1038**	**3155**
Sub Total	1488	5085	647	**7220**	677	5716	1180	**7573**	**14793**	1033	1168	1542	**3743**	560	1114	730	**2404**	**6147**	**20940**
U Turns				**102**				**11**	**113**				**1**				**2**	**3**	**116**
Total	1488	5085	647	**7322**	677	5716	1180	**7584**	**14906**	1033	1168	1542	**3744**	560	1114	730	**2406**	**6150**	**21056**
EQ 12Hr	2068	7068	899	**10178**	941	7945	1640	**10542**	**20719**	1436	1624	2143	**5204**	778	1548	1015	**3344**	**8548**	**29268**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	1861	6361	809	**9160**	847	9367	1934	**9488**	**18647**	1292	1462	1929	**4684**	700	1393	914	**3010**	**7693**	**26341**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**.90**					
AVG 24Hr	2438	8333	1060	**12000**	1110	12271	2534	**12429**	**24428**	1693	1915	2527	**6136**	917	1825	1197	**3943**	**10078**	**34507**
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

MARCH RD @ TERRY FOX DR

Survey Date: Thursday, February 29, 2024 **WO No:** 41713

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

Full Study 15 Minute Increments

		MARCH RD									TERRY FOX DR									
		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	21	72	19	112	17	232	14	263	375	11	20	46	77	13	9	1	23	100	475
07:15	07:30	25	105	21	152	20	271	28	320	472	22	31	42	95	5	10	3	18	113	585
07:30	07:45	26	93	17	140	16	240	28	284	424	17	36	65	118	13	14	7	34	152	576
08:15	08:30	57	120	29	207	35	258	39	332	539	17	69	56	142	13	15	8	36	178	717
08:30	08:45	66	118	17	205	44	236	29	310	515	15	66	47	128	14	23	7	44	172	687
08:45	09:00	72	116	22	213	41	209	33	283	496	32	83	65	180	10	26	16	52	232	728
17:45	18:00	52	228	22	304	8	144	36	188	492	32	29	61	122	19	49	28	96	218	710
07:45	08:00	40	113	18	174	28	273	38	339	513	16	50	63	129	10	22	4	36	165	678
08:00	08:15	42	112	35	189	36	283	52	371	560	33	54	42	129	9	11	4	24	153	713
09:00	09:15	52	115	25	199	42	169	64	275	474	33	78	48	159	12	14	9	35	194	668
09:15	09:30	58	100	32	196	33	192	48	273	469	15	60	41	116	20	24	9	53	169	638
09:30	09:45	36	111	13	161	28	167	37	233	394	30	42	38	110	6	14	9	29	139	533
09:45	10:00	35	99	10	148	25	137	28	191	339	28	39	31	98	13	15	11	39	137	476
11:30	11:45	35	114	17	171	14	172	32	221	392	19	18	28	65	17	24	14	55	120	512
12:30	12:45	33	112	23	169	29	151	27	207	376	42	23	44	109	23	25	17	65	174	550
13:15	13:30	36	133	16	186	24	145	31	200	386	33	34	32	99	20	16	19	55	154	540
15:00	15:15	44	191	23	260	18	130	32	180	440	42	28	48	118	18	47	22	87	205	645
15:15	15:30	52	230	13	300	4	158	50	212	512	36	22	41	99	17	44	27	88	187	699
15:30	15:45	54	265	20	342	19	119	35	173	515	47	33	57	137	28	46	45	119	256	771
16:45	17:00	51	212	13	281	11	136	45	192	473	46	35	61	142	20	71	37	128	270	743
17:15	17:30	69	240	22	337	9	195	35	239	576	52	20	54	126	30	84	34	148	274	850
17:30	17:45	70	215	18	309	12	142	42	197	506	47	17	64	128	17	56	38	111	239	745
17:00	17:15	63	230	22	320	19	172	52	244	564	53	28	60	141	29	72	65	166	307	871
16:00	16:15	48	197	21	272	11	159	44	214	486	42	41	46	129	25	73	54	152	281	767
13:00	13:15	25	156	16	199	18	119	32	169	368	37	25	36	98	12	14	23	49	147	515
11:45	12:00	36	133	15	189	18	141	37	197	386	35	27	39	101	21	29	14	65	166	552
12:00	12:15	38	141	28	207	13	134	31	179	386	25	27	43	95	17	35	35	87	182	568
12:15	12:30	41	143	19	206	19	180	29	228	434	21	21	33	75	23	35	23	81	156	590
12:45	13:00	36	138	19	197	22	119	26	167	364	32	33	38	103	18	31	22	72	175	539
15:45	16:00	53	287	23	365	16	207	47	270	635	43	22	59	124	18	49	36	103	227	862
16:15	16:30	62	227	25	314	15	160	36	211	525	39	20	61	121	21	54	45	120	241	766
16:30	16:45	60	219	14	298	13	166	43	222	520	41	37	53	131	29	63	44	136	267	787
Total:		1488	5085	647	7322	677	5716	1180	7584	14906	1033	1168	1542	3744	560	1114	730	2406	6150	21,056

Note: U-Turns are included in Totals, cyclist volume is not included in totals. For cycliste volumes reffer to Cyclist Volume report.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Thursday, February 29, 2024 **WO No:** 41713

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

Full Study Cyclist Volume

Time Period		MARCH RD			TERRY FOX DR			
		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
08:15	08:30	0	0	0	1	0	1	1
08:30	08:45	0	1	1	0	0	0	1
08:45	09:00	0	1	1	1	0	1	2
17:45	18:00	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	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	1	1	2	0	0	0	2
11:30	11:45	0	0	0	0	0	0	0
12:30	12:45	0	0	0	0	0	0	0
13:15	13:30	1	0	1	0	0	0	1
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
16:45	17:00	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
17:00	17:15	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
13:00	13:15	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
12:45	13:00	2	0	2	0	0	0	2
15:45	16:00	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
Total		4	3	**7**	2	0	2	9

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Thursday, February 29, 2024 **WO No:** 41713

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

Full Study Pedestrian Volume

	MARCH RD			TERRY FOX DR			
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	1	0	**1**	0	1	**1**	**2**
07:15 07:30	1	0	**1**	0	0	**0**	**1**
07:30 07:45	3	1	**4**	1	1	**2**	**6**
08:15 08:30	1	0	**1**	7	1	**8**	**9**
08:30 08:45	2	0	**2**	1	2	**3**	**5**
08:45 09:00	7	2	**9**	1	5	**6**	**15**
17:45 18:00	1	4	**5**	5	1	**6**	**11**
07:45 08:00	1	0	**1**	2	0	**2**	**3**
08:00 08:15	2	1	**3**	3	0	**3**	**6**
09:00 09:15	3	1	**4**	7	1	**8**	**12**
09:15 09:30	2	1	**3**	1	1	**2**	**5**
09:30 09:45	1	1	**2**	1	1	**2**	**4**
09:45 10:00	1	2	**3**	3	1	**4**	**7**
11:30 11:45	0	0	**0**	1	1	**2**	**2**
12:30 12:45	1	5	**6**	2	2	**4**	**10**
13:15 13:30	1	1	**2**	1	0	**1**	**3**
15:00 15:15	0	0	**0**	0	1	**1**	**1**
15:15 15:30	0	1	**1**	0	0	**0**	**1**
15:30 15:45	0	3	**3**	0	0	**0**	**3**
16:45 17:00	1	2	**3**	3	1	**4**	**7**
17:15 17:30	1	3	**4**	3	0	**3**	**7**
17:30 17:45	1	5	**6**	5	1	**6**	**12**
17:00 17:15	0	5	**5**	1	1	**2**	**7**
16:00 16:15	1	2	**3**	1	1	**2**	**5**
13:00 13:15	1	1	**2**	2	1	**3**	**5**
11:45 12:00	2	0	**2**	1	0	**1**	**3**
12:00 12:15	1	8	**9**	4	3	**7**	**16**
12:15 12:30	2	4	**6**	4	2	**6**	**12**
12:45 13:00	1	1	**2**	1	1	**2**	**4**
15:45 16:00	1	7	**8**	2	1	**3**	**11**
16:15 16:30	3	3	**6**	0	2	**2**	**8**
16:30 16:45	2	3	**5**	2	3	**5**	**10**
Total	45	67	**112**	65	36	**101**	**213**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Thursday, February 29, 2024 **WO No:** 41713

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

Full Study Heavy Vehicles

		MARCH RD									TERRY FOX DR									
		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	2	3	1	**6**	0	5	0	**5**	**11**	2	1	2	**5**	0	2	0	**2**	**7**	**18**
07:15	07:30	1	8	0	**9**	0	6	4	**10**	**19**	5	0	1	**6**	0	3	1	**4**	**10**	**29**
07:30	07:45	1	2	0	**3**	0	2	0	**2**	**5**	2	1	4	**7**	6	0	0	**6**	**13**	**18**
08:15	08:30	0	6	1	**7**	1	3	2	**6**	**13**	2	0	2	**4**	3	2	0	**5**	**9**	**22**
08:30	08:45	1	9	0	**10**	0	4	1	**5**	**15**	2	2	0	**4**	0	1	0	**1**	**5**	**20**
08:45	09:00	0	3	0	**3**	0	7	2	**9**	**12**	0	1	3	**4**	0	1	2	**3**	**7**	**19**
17:45	18:00	1	2	0	**3**	0	0	0	**0**	**3**	0	0	1	**1**	0	1	0	**1**	**2**	**5**
07:45	08:00	0	9	0	**9**	0	3	4	**7**	**16**	1	0	2	**3**	1	4	0	**5**	**8**	**24**
08:00	08:15	2	4	0	**6**	0	2	0	**2**	**8**	2	3	2	**7**	0	2	0	**2**	**9**	**17**
09:00	09:15	0	8	0	**8**	0	6	6	**12**	**20**	2	2	3	**7**	0	1	1	**2**	**9**	**29**
09:15	09:30	0	4	1	**5**	0	2	5	**7**	**12**	0	0	1	**1**	0	1	1	**2**	**3**	**15**
09:30	09:45	1	6	1	**8**	0	7	2	**9**	**17**	0	1	1	**2**	0	2	0	**2**	**4**	**21**
09:45	10:00	1	7	0	**8**	1	2	1	**4**	**12**	0	0	1	**1**	1	4	1	**6**	**7**	**19**
11:30	11:45	0	0	0	**0**	0	7	0	**7**	**7**	0	1	1	**2**	0	2	1	**3**	**5**	**12**
12:30	12:45	1	4	1	**6**	0	6	1	**7**	**13**	3	0	1	**4**	1	0	1	**2**	**6**	**19**
13:15	13:30	2	1	0	**3**	0	6	2	**8**	**11**	0	1	1	**2**	1	1	0	**2**	**4**	**15**
15:00	15:15	4	2	0	**6**	0	5	0	**5**	**11**	1	2	3	**6**	0	0	1	**1**	**7**	**18**
15:15	15:30	3	3	0	**6**	0	5	1	**6**	**12**	1	1	1	**3**	0	1	0	**1**	**4**	**16**
15:30	15:45	1	1	0	**2**	0	2	0	**2**	**4**	1	1	0	**2**	2	0	1	**3**	**5**	**9**
16:45	17:00	1	1	0	**2**	0	1	0	**1**	**3**	0	1	1	**2**	0	1	0	**1**	**3**	**6**
17:15	17:30	1	2	0	**3**	0	0	0	**0**	**3**	0	0	0	**0**	0	1	0	**1**	**1**	**4**
17:30	17:45	1	1	0	**2**	0	0	0	**0**	**2**	0	3	0	**3**	0	0	0	**0**	**3**	**5**
17:00	17:15	1	0	0	**1**	0	3	0	**3**	**4**	0	2	0	**2**	0	1	0	**1**	**3**	**7**
16:00	16:15	1	2	1	**4**	0	7	2	**9**	**13**	0	3	0	**3**	0	1	0	**1**	**4**	**17**
13:00	13:15	1	3	0	**4**	0	5	3	**8**	**12**	1	0	0	**1**	0	1	0	**1**	**2**	**14**
11:45	12:00	0	4	1	**5**	0	1	1	**2**	**7**	0	0	3	**3**	0	1	0	**1**	**4**	**11**
12:00	12:15	0	4	0	**4**	1	2	6	**9**	**13**	1	1	2	**4**	0	2	0	**2**	**6**	**19**
12:15	12:30	2	6	0	**8**	0	3	1	**4**	**12**	2	1	1	**4**	0	1	0	**1**	**5**	**17**
12:45	13:00	1	5	0	**6**	0	6	1	**7**	**13**	1	1	1	**3**	1	1	0	**2**	**5**	**18**
15:45	16:00	1	4	1	**6**	1	1	0	**2**	**8**	1	1	1	**3**	0	1	0	**1**	**4**	**12**
16:15	16:30	2	2	0	**4**	0	7	1	**8**	**12**	0	1	0	**1**	2	1	0	**3**	**4**	**16**
16:30	16:45	0	3	0	**3**	0	4	1	**5**	**8**	0	3	1	**4**	0	1	0	**1**	**5**	**13**
Total:	None	33	119	8	**160**	4	120	47	**171**	**331**	30	34	40	**104**	18	41	10	**69**	**173**	**504**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Thursday, February 29, 2024 **WO No:** 41713

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

Full Study 15 Minute U-Turn Total

Time Period		MARCH RD Northbound U-Turn Total	MARCH RD Southbound U-Turn Total	TERRY FOX DR Eastbound U-Turn Total	TERRY FOX DR Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	1	1	0	0	2
07:30	07:45	4	0	0	0	4
08:15	08:30	1	0	0	0	1
08:30	08:45	4	1	0	0	5
08:45	09:00	3	0	0	0	3
17:45	18:00	2	0	0	0	2
07:45	08:00	3	0	0	0	3
08:00	08:15	0	0	0	0	0
09:00	09:15	7	0	0	0	7
09:15	09:30	6	0	0	0	6
09:30	09:45	1	1	0	0	2
09:45	10:00	4	1	0	0	5
11:30	11:45	5	3	0	0	8
12:30	12:45	1	0	0	0	1
13:15	13:30	1	0	0	0	1
15:00	15:15	2	0	0	0	2
15:15	15:30	5	0	0	0	5
15:30	15:45	3	0	0	0	3
16:45	17:00	5	0	0	0	5
17:15	17:30	6	0	0	0	6
17:30	17:45	6	1	0	0	7
17:00	17:15	5	1	0	0	6
16:00	16:15	6	0	0	0	6
13:00	13:15	2	0	0	0	2
11:45	12:00	5	1	0	1	7
12:00	12:15	0	1	0	0	1
12:15	12:30	3	0	0	0	3
12:45	13:00	4	0	0	1	5
15:45	16:00	2	0	0	0	2
16:15	16:30	0	0	1	0	1
16:30	16:45	5	0	0	0	5
Total		102	11	1	2	116

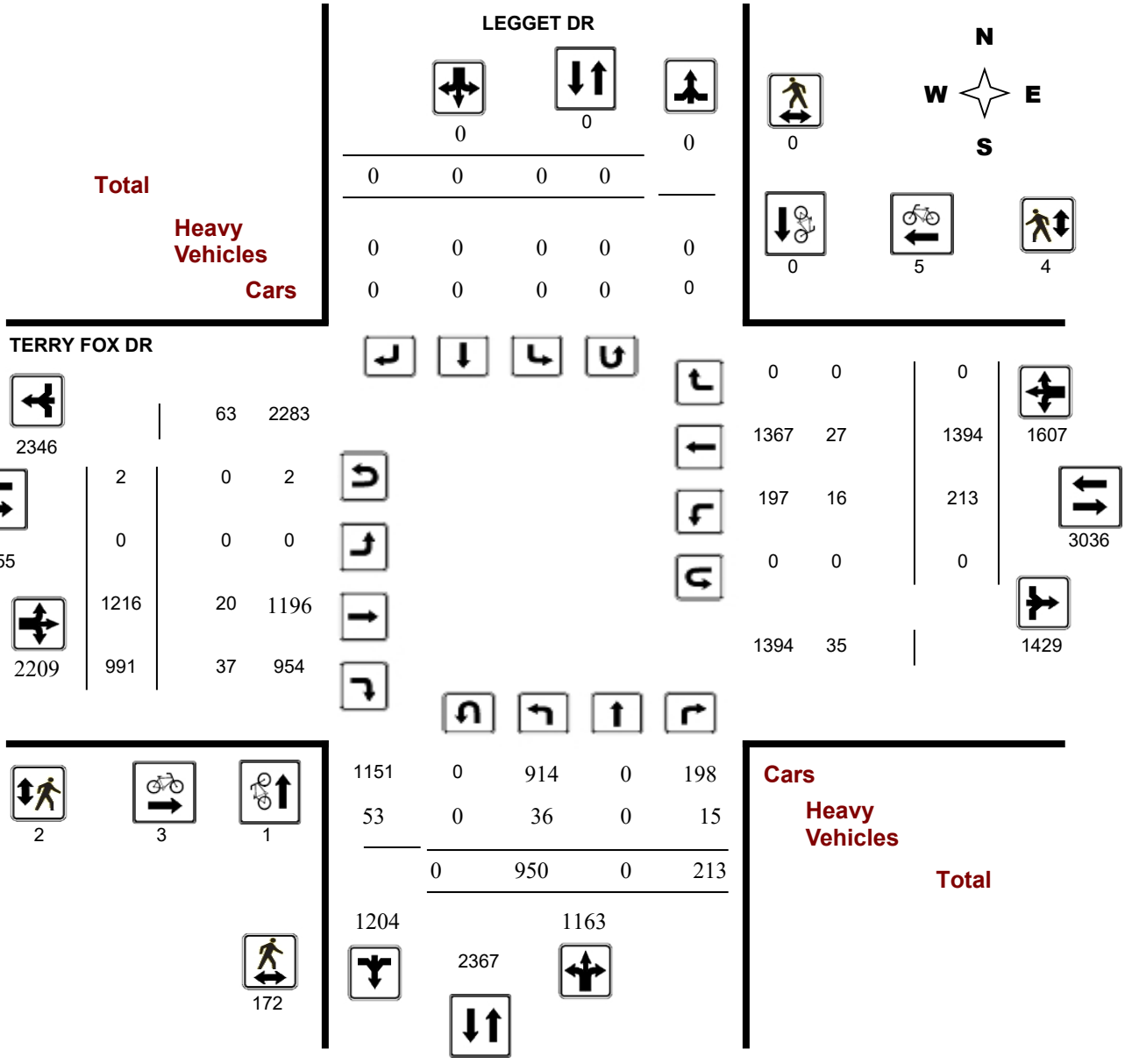
Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, April 02, 2025
Start Time: 07:00
WO No: 42647
Device: Miovision

Full Study Diagram



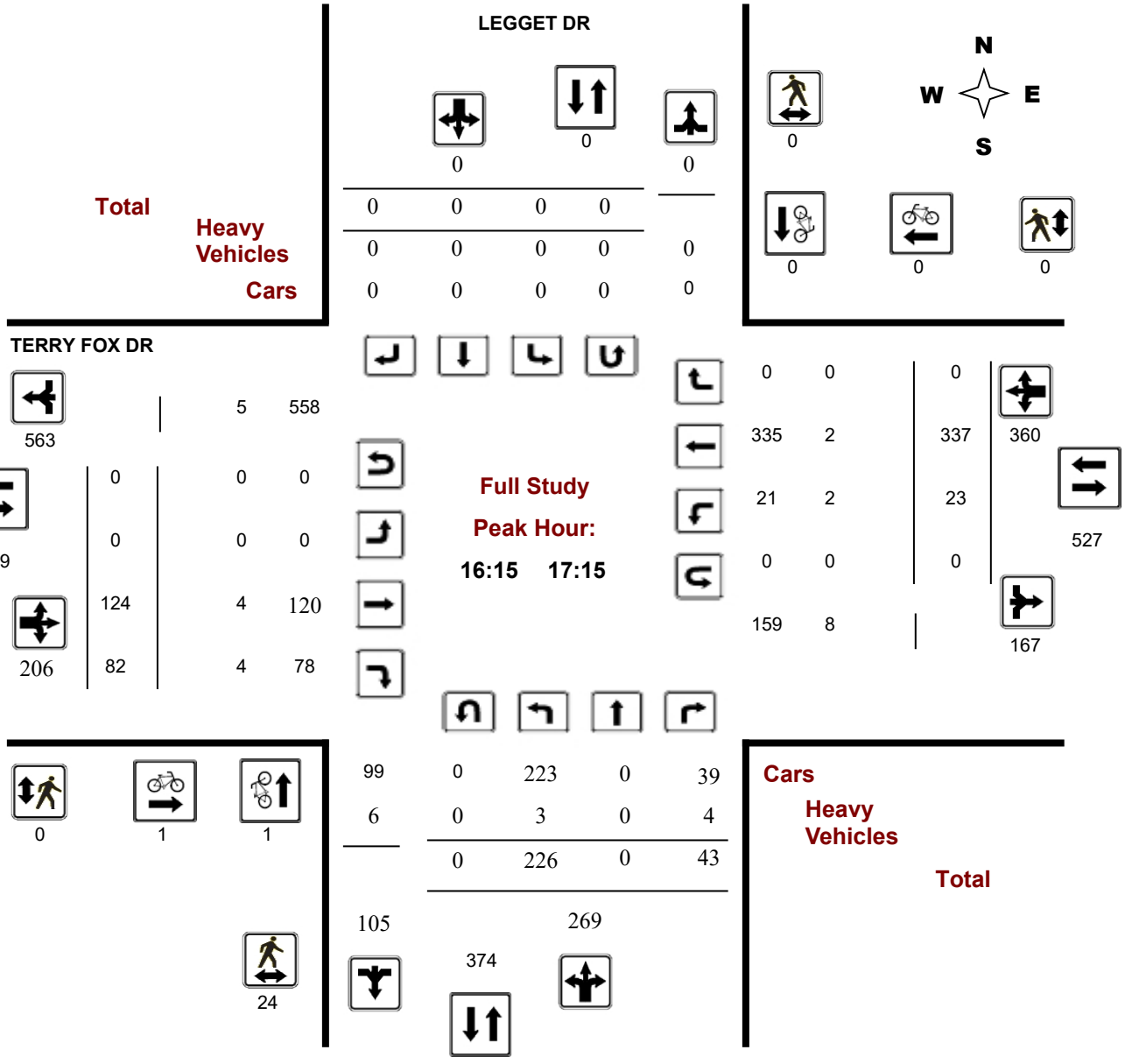
Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, April 02, 2025
Start Time: 07:00
WO No: 42647
Device: Miovision

Full Study Peak Hour Diagram



Transportation Services - Traffic Services

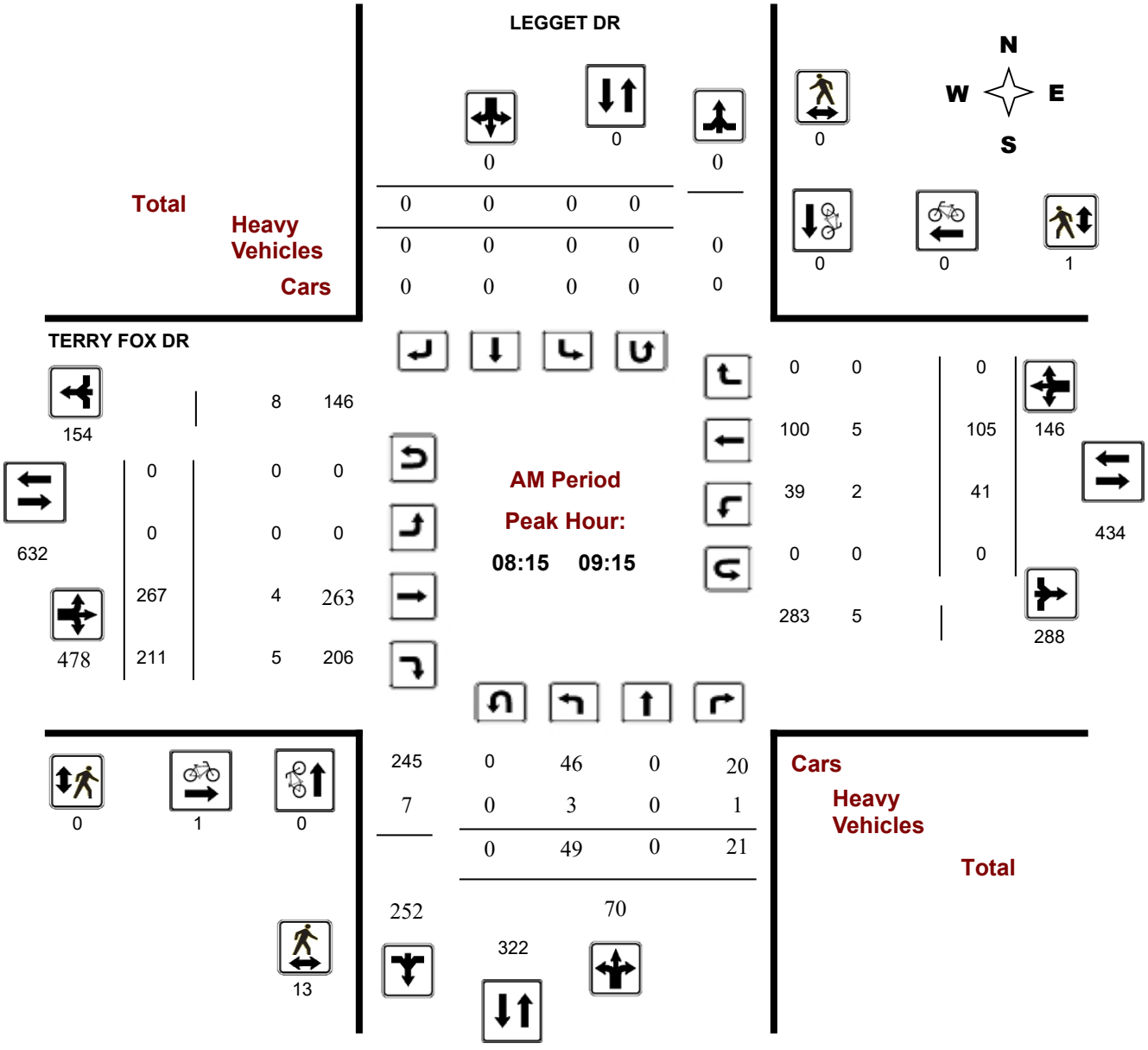
Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, April 02, 2025 **WO No:** 42647

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

AM Period Peak Hour Diagram



Transportation Services - Traffic Services

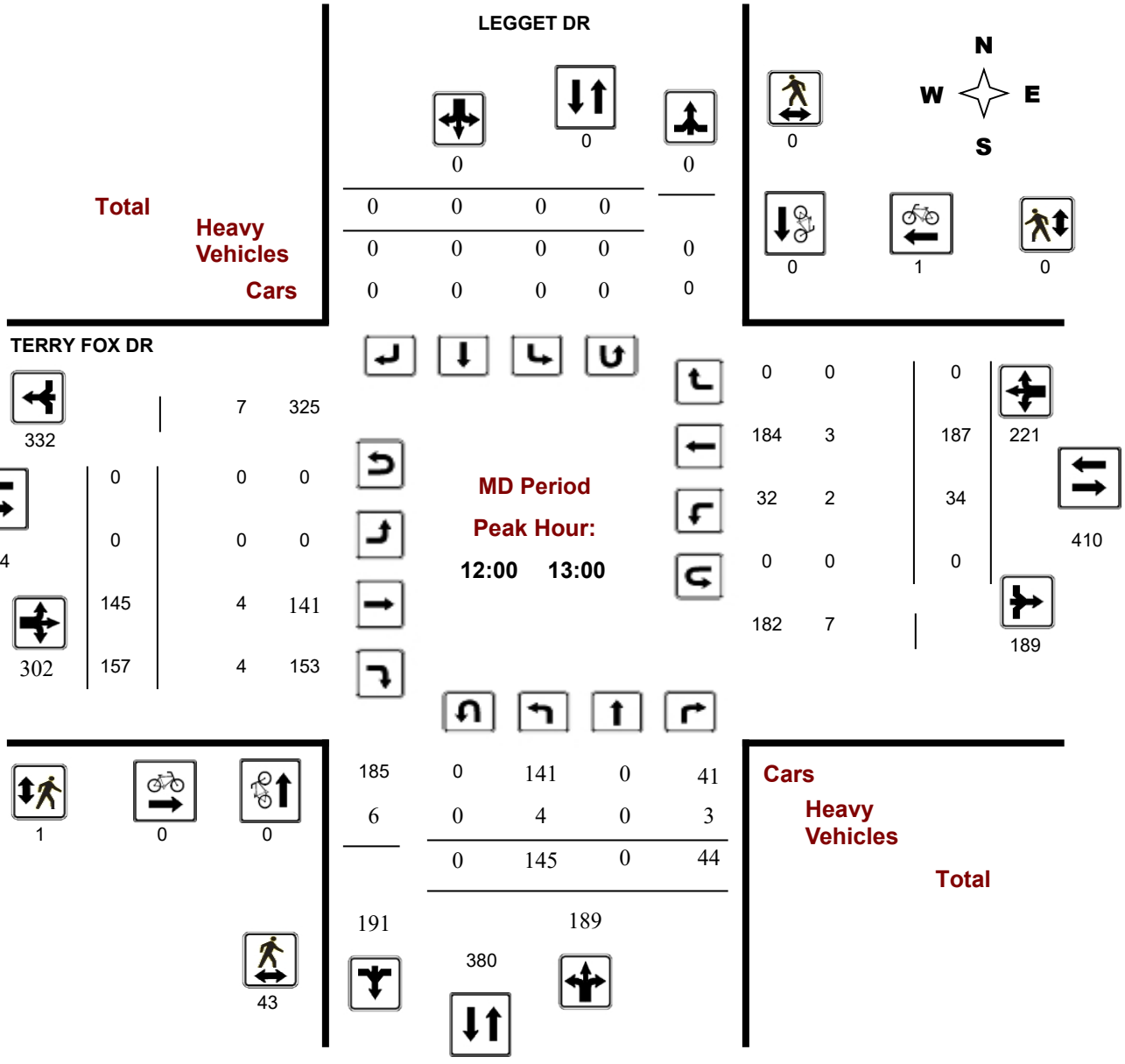
Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, April 02, 2025 **WO No:** 42647

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

MD Period Peak Hour Diagram



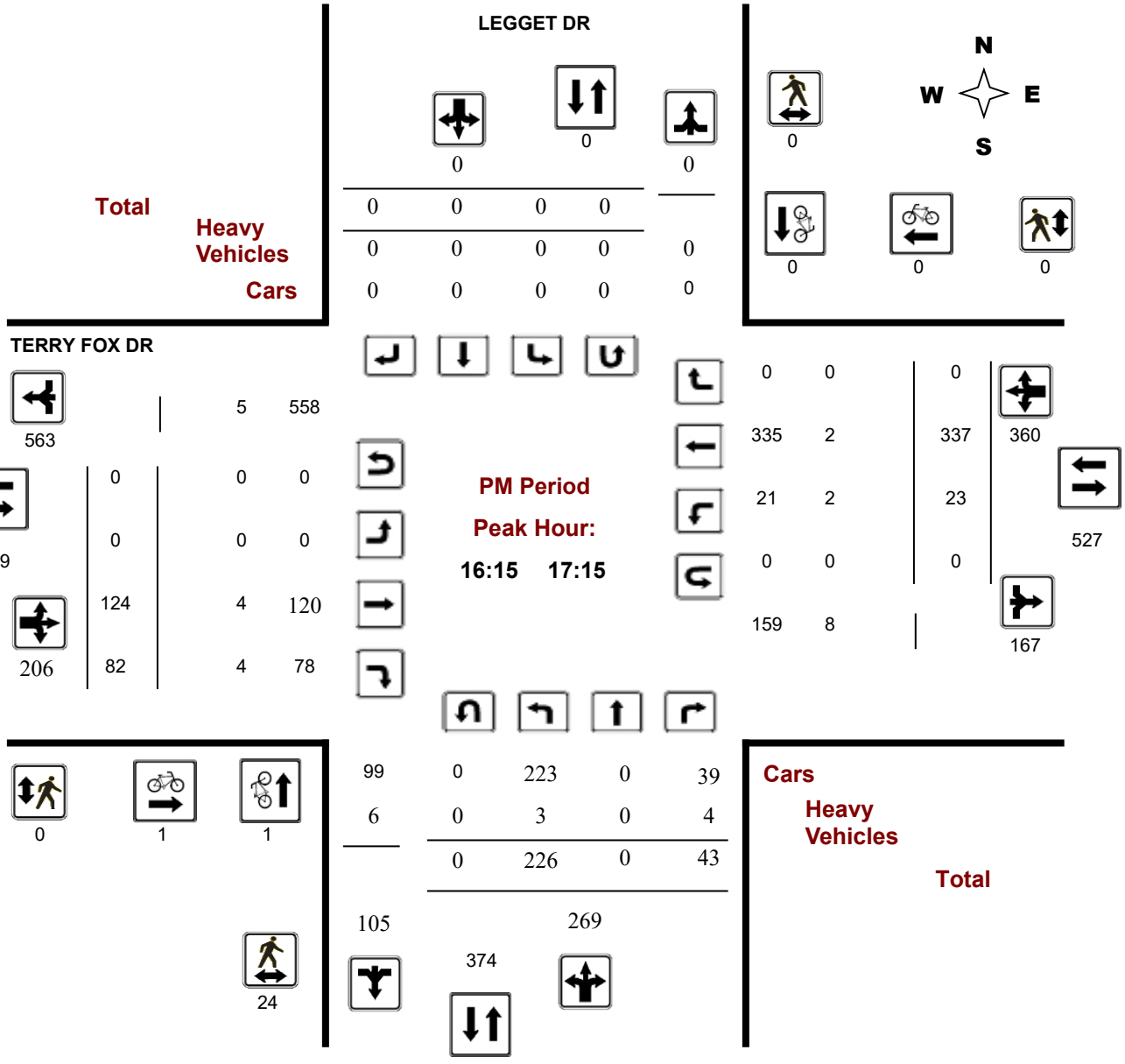
Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, April 02, 2025
Start Time: 07:00
WO No: 42647
Device: Miovision

PM Period Peak Hour Diagram



Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, April 02, 2025 **WO No:** 42647

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

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, April 02, 2025

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 2 Westbound: 0

AADT Factor

.90

	LEGGET DR									TERRY FOX DR									
	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	28	0	9	**37**	0	0	0	**0**	**37**	0	194	132	**326**	18	61	0	**79**	**405**	**442**
08:00 09:00	49	0	18	**67**	0	0	0	**0**	**67**	0	250	182	**432**	36	91	0	**127**	**559**	**626**
09:00 10:00	54	0	20	**74**	0	0	0	**0**	**74**	0	204	180	**384**	33	98	0	**131**	**515**	**589**
11:30 12:30	151	0	35	**186**	0	0	0	**0**	**186**	0	104	124	**228**	32	197	0	**229**	**457**	**643**
12:30 13:30	125	0	37	**162**	0	0	0	**0**	**162**	0	165	139	**304**	33	132	0	**165**	**469**	**631**
15:00 16:00	160	0	27	**187**	0	0	0	**0**	**187**	0	85	75	**160**	26	205	0	**231**	**391**	**578**
16:00 17:00	217	0	36	**253**	0	0	0	**0**	**253**	0	121	82	**203**	22	316	0	**338**	**541**	**794**
17:00 18:00	166	0	31	**197**	0	0	0	**0**	**197**	0	93	77	**170**	13	294	0	**307**	**477**	**674**
Sub Total	950	0	213	**1163**	0	0	0	**0**	**1163**	0	1216	991	**2207**	213	1394	0	**1607**	**3814**	**4977**
U Turns				**0**				**0**	**0**				**2**				**0**	**2**	**2**
Total	950	0	213	**1163**	0	0	0	**0**	**1163**	0	1216	991	**2209**	213	1394	0	**1607**	**3816**	**4979**
EQ 12Hr	1320	0	296	**1617**	0	0	0	**0**	**1617**	0	1690	1377	**3071**	296	1938	0	**2234**	**5304**	**6921**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	1188	0	266	**1455**	0	0	0	**0**	**1455**	0	1521	1239	**2764**	266	1744	0	**2011**	**4774**	**6229**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**.90**					
AVG 24Hr	1556	0	348	**1906**	0	0	0	**0**	**1906**	0	1993	1623	**3621**	348	2285	0	**2634**	**6254**	**8160**
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

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, April 02, 2025 **WO No:** 42647

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

Full Study 15 Minute Increments

		LEGGET DR									TERRY FOX DR									
		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	8	0	3	11	0	0	0	0	11	0	28	16	44	2	8	0	10	54	65
07:15	07:30	5	0	1	6	0	0	0	0	6	0	64	30	94	2	9	0	11	105	111
07:30	07:45	7	0	1	8	0	0	0	0	8	0	45	32	77	7	21	0	28	105	113
07:45	08:00	8	0	4	12	0	0	0	0	12	0	57	54	112	7	23	0	30	142	154
08:00	08:15	13	0	3	16	0	0	0	0	16	0	51	34	85	5	14	0	19	104	120
08:15	08:30	11	0	4	15	0	0	0	0	15	0	65	49	114	8	26	0	34	148	163
08:30	08:45	13	0	5	18	0	0	0	0	18	0	70	48	118	9	23	0	32	150	168
08:45	09:00	12	0	6	18	0	0	0	0	18	0	64	51	115	14	28	0	42	157	175
09:00	09:15	13	0	6	19	0	0	0	0	19	0	68	63	131	10	28	0	38	169	188
09:15	09:30	9	0	4	13	0	0	0	0	13	0	61	47	108	11	16	0	27	135	148
09:30	09:45	16	0	4	20	0	0	0	0	20	0	43	35	78	8	23	0	31	109	129
09:45	10:00	16	0	6	22	0	0	0	0	22	0	32	35	68	4	31	0	35	103	125
11:30	11:45	36	0	6	42	0	0	0	0	42	0	13	23	36	7	29	0	36	72	114
11:45	12:00	34	0	2	36	0	0	0	0	36	0	27	24	51	9	51	0	60	111	147
12:00	12:15	46	0	14	60	0	0	0	0	60	0	21	44	65	9	66	0	75	140	200
12:15	12:30	35	0	13	48	0	0	0	0	48	0	43	33	76	7	51	0	58	134	182
12:30	12:45	33	0	9	42	0	0	0	0	42	0	36	38	74	11	35	0	46	120	162
12:45	13:00	31	0	8	39	0	0	0	0	39	0	45	42	87	7	35	0	42	129	168
13:00	13:15	28	0	11	39	0	0	0	0	39	0	43	28	71	9	34	0	43	114	153
13:15	13:30	33	0	9	42	0	0	0	0	42	0	41	31	72	6	28	0	34	106	148
15:00	15:15	48	0	7	55	0	0	0	0	55	0	20	10	30	4	45	0	49	79	134
15:15	15:30	27	0	7	34	0	0	0	0	34	0	20	16	36	3	48	0	51	87	121
15:30	15:45	38	0	5	43	0	0	0	0	43	0	23	21	44	8	49	0	57	101	144
15:45	16:00	47	0	8	55	0	0	0	0	55	0	22	28	50	11	63	0	74	124	179
16:00	16:15	51	0	5	56	0	0	0	0	56	0	31	22	53	5	75	0	80	133	189
16:15	16:30	62	0	12	74	0	0	0	0	74	0	28	19	47	5	74	0	79	126	200
16:30	16:45	58	0	10	68	0	0	0	0	68	0	23	19	42	10	76	0	86	128	196
16:45	17:00	46	0	9	55	0	0	0	0	55	0	39	22	61	2	91	0	93	154	209
17:00	17:15	60	0	12	72	0	0	0	0	72	0	34	22	56	6	96	0	102	158	230
17:15	17:30	44	0	10	54	0	0	0	0	54	0	24	23	47	3	79	0	82	129	183
17:30	17:45	33	0	4	37	0	0	0	0	37	0	16	18	34	2	72	0	74	108	145
17:45	18:00	29	0	5	34	0	0	0	0	34	0	19	14	33	2	47	0	49	82	116
Total:		950	0	213	1163	0	0	0	0	1163	0	1216	991	2209	213	1394	0	1607	3816	4,979

Note: U-Turns are included in Totals, cyclist volume is not included in totals. For cycliste volumes reffer to Cyclist Volume report.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, April 02, 2025 **WO No:** 42647

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

Full Study Cyclist Volume

Time Period		LEGGET DR			TERRY FOX DR			
		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	1	1	1
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	1	0	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	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	1	1	1
13:00	13:15	0	0	0	0	0	0	0
13:15	13:30	0	0	0	0	1	1	1
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	1	1	1
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	1	0	1	1	0	1	2
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	1	1	1
17:45	18:00	0	0	0	0	0	0	0
Total		1	0	**1**	3	5	8	9

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, April 02, 2025 **WO No:** 42647

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

Full Study Pedestrian Volume

	LEGGET DR			TERRY FOX DR			
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**	0	0	**0**	**1**
07:30 07:45	2	0	**2**	1	0	**1**	**3**
07:45 08:00	2	0	**2**	0	1	**1**	**3**
08:00 08:15	5	0	**5**	0	0	**0**	**5**
08:15 08:30	4	0	**4**	0	1	**1**	**5**
08:30 08:45	3	0	**3**	0	0	**0**	**3**
08:45 09:00	2	0	**2**	0	0	**0**	**2**
09:00 09:15	4	0	**4**	0	0	**0**	**4**
09:15 09:30	2	0	**2**	0	0	**0**	**2**
09:30 09:45	2	0	**2**	0	0	**0**	**2**
09:45 10:00	2	0	**2**	0	0	**0**	**2**
11:30 11:45	4	0	**4**	0	0	**0**	**4**
11:45 12:00	7	0	**7**	0	0	**0**	**7**
12:00 12:15	12	0	**12**	0	0	**0**	**12**
12:15 12:30	7	0	**7**	0	0	**0**	**7**
12:30 12:45	9	0	**9**	1	0	**1**	**10**
12:45 13:00	15	0	**15**	0	0	**0**	**15**
13:00 13:15	12	0	**12**	0	0	**0**	**12**
13:15 13:30	14	0	**14**	0	0	**0**	**14**
15:00 15:15	3	0	**3**	0	1	**1**	**4**
15:15 15:30	7	0	**7**	0	0	**0**	**7**
15:30 15:45	2	0	**2**	0	0	**0**	**2**
15:45 16:00	1	0	**1**	0	0	**0**	**1**
16:00 16:15	6	0	**6**	0	0	**0**	**6**
16:15 16:30	6	0	**6**	0	0	**0**	**6**
16:30 16:45	6	0	**6**	0	0	**0**	**6**
16:45 17:00	11	0	**11**	0	0	**0**	**11**
17:00 17:15	1	0	**1**	0	0	**0**	**1**
17:15 17:30	6	0	**6**	0	0	**0**	**6**
17:30 17:45	3	0	**3**	0	1	**1**	**4**
17:45 18:00	11	0	**11**	0	0	**0**	**11**
Total	172	0	**172**	2	4	**6**	**178**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, April 02, 2025 **WO No:** 42647

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

Full Study Heavy Vehicles

		LEGGET DR									TERRY FOX DR									
		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	4	0	0	**4**	0	0	0	**0**	**4**	0	0	2	**2**	1	0	0	**1**	**3**	**7**
07:15	07:30	2	0	0	**2**	0	0	0	**0**	**2**	0	0	0	**0**	0	0	0	**0**	**0**	**2**
07:30	07:45	2	0	0	**2**	0	0	0	**0**	**2**	0	1	1	**2**	1	6	0	**7**	**9**	**11**
07:45	08:00	3	0	0	**3**	0	0	0	**0**	**3**	0	0	0	**0**	2	3	0	**5**	**5**	**8**
08:00	08:15	2	0	0	**2**	0	0	0	**0**	**2**	0	0	1	**1**	0	0	0	**0**	**1**	**3**
08:15	08:30	0	0	0	**0**	0	0	0	**0**	**0**	0	1	0	**1**	1	1	0	**2**	**3**	**3**
08:30	08:45	1	0	1	**2**	0	0	0	**0**	**2**	0	0	2	**2**	0	1	0	**1**	**3**	**5**
08:45	09:00	1	0	0	**1**	0	0	0	**0**	**1**	0	0	1	**1**	0	1	0	**1**	**2**	**3**
09:00	09:15	1	0	0	**1**	0	0	0	**0**	**1**	0	3	2	**5**	1	2	0	**3**	**8**	**9**
09:15	09:30	1	0	0	**1**	0	0	0	**0**	**1**	0	0	0	**0**	1	0	0	**1**	**1**	**2**
09:30	09:45	3	0	0	**3**	0	0	0	**0**	**3**	0	1	3	**4**	0	1	0	**1**	**5**	**8**
09:45	10:00	0	0	1	**1**	0	0	0	**0**	**1**	0	1	1	**2**	1	2	0	**3**	**5**	**6**
11:30	11:45	2	0	1	**3**	0	0	0	**0**	**3**	0	0	0	**0**	1	1	0	**2**	**2**	**5**
11:45	12:00	0	0	0	**0**	0	0	0	**0**	**0**	0	1	1	**2**	0	2	0	**2**	**4**	**4**
12:00	12:15	1	0	1	**2**	0	0	0	**0**	**2**	0	0	1	**1**	0	1	0	**1**	**2**	**4**
12:15	12:30	2	0	1	**3**	0	0	0	**0**	**3**	0	0	1	**1**	1	1	0	**2**	**3**	**6**
12:30	12:45	0	0	0	**0**	0	0	0	**0**	**0**	0	1	1	**2**	1	1	0	**2**	**4**	**4**
12:45	13:00	1	0	1	**2**	0	0	0	**0**	**2**	0	3	1	**4**	0	0	0	**0**	**4**	**6**
13:00	13:15	2	0	0	**2**	0	0	0	**0**	**2**	0	0	1	**1**	1	0	0	**1**	**2**	**4**
13:15	13:30	0	0	0	**0**	0	0	0	**0**	**0**	0	0	3	**3**	0	0	0	**0**	**3**	**3**
15:00	15:15	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	1	0	0	**1**	**1**	**1**
15:15	15:30	2	0	1	**3**	0	0	0	**0**	**3**	0	0	2	**2**	0	0	0	**0**	**2**	**5**
15:30	15:45	0	0	1	**1**	0	0	0	**0**	**1**	0	1	2	**3**	1	0	0	**1**	**4**	**5**
15:45	16:00	1	0	1	**2**	0	0	0	**0**	**2**	0	1	1	**2**	0	0	0	**0**	**2**	**4**
16:00	16:15	0	0	0	**0**	0	0	0	**0**	**0**	0	0	2	**2**	0	1	0	**1**	**3**	**3**
16:15	16:30	1	0	2	**3**	0	0	0	**0**	**3**	0	2	0	**2**	1	1	0	**2**	**4**	**7**
16:30	16:45	1	0	0	**1**	0	0	0	**0**	**1**	0	1	1	**2**	0	0	0	**0**	**2**	**3**
16:45	17:00	1	0	1	**2**	0	0	0	**0**	**2**	0	0	1	**1**	1	0	0	**1**	**2**	**4**
17:00	17:15	0	0	1	**1**	0	0	0	**0**	**1**	0	1	2	**3**	0	1	0	**1**	**4**	**5**
17:15	17:30	1	0	1	**2**	0	0	0	**0**	**2**	0	1	1	**2**	0	0	0	**0**	**2**	**4**
17:30	17:45	0	0	0	**0**	0	0	0	**0**	**0**	0	1	2	**3**	0	0	0	**0**	**3**	**3**
17:45	18:00	1	0	1	**2**	0	0	0	**0**	**2**	0	0	1	**1**	0	1	0	**1**	**2**	**4**
Total:	None	36	0	15	**51**	0	0	0	**0**	**51**	0	20	37	**57**	16	27	0	**43**	**100**	**151**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, April 02, 2025 **WO No:** 42647

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

Full Study 15 Minute U-Turn Total

		LEGGET DR		TERRY FOX DR		
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	1	0	1
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	0	0
08:45	09:00	0	0	0	0	0
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	1	0	1
11:30	11:45	0	0	0	0	0
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	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
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	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
Total		0	0	2	0	2

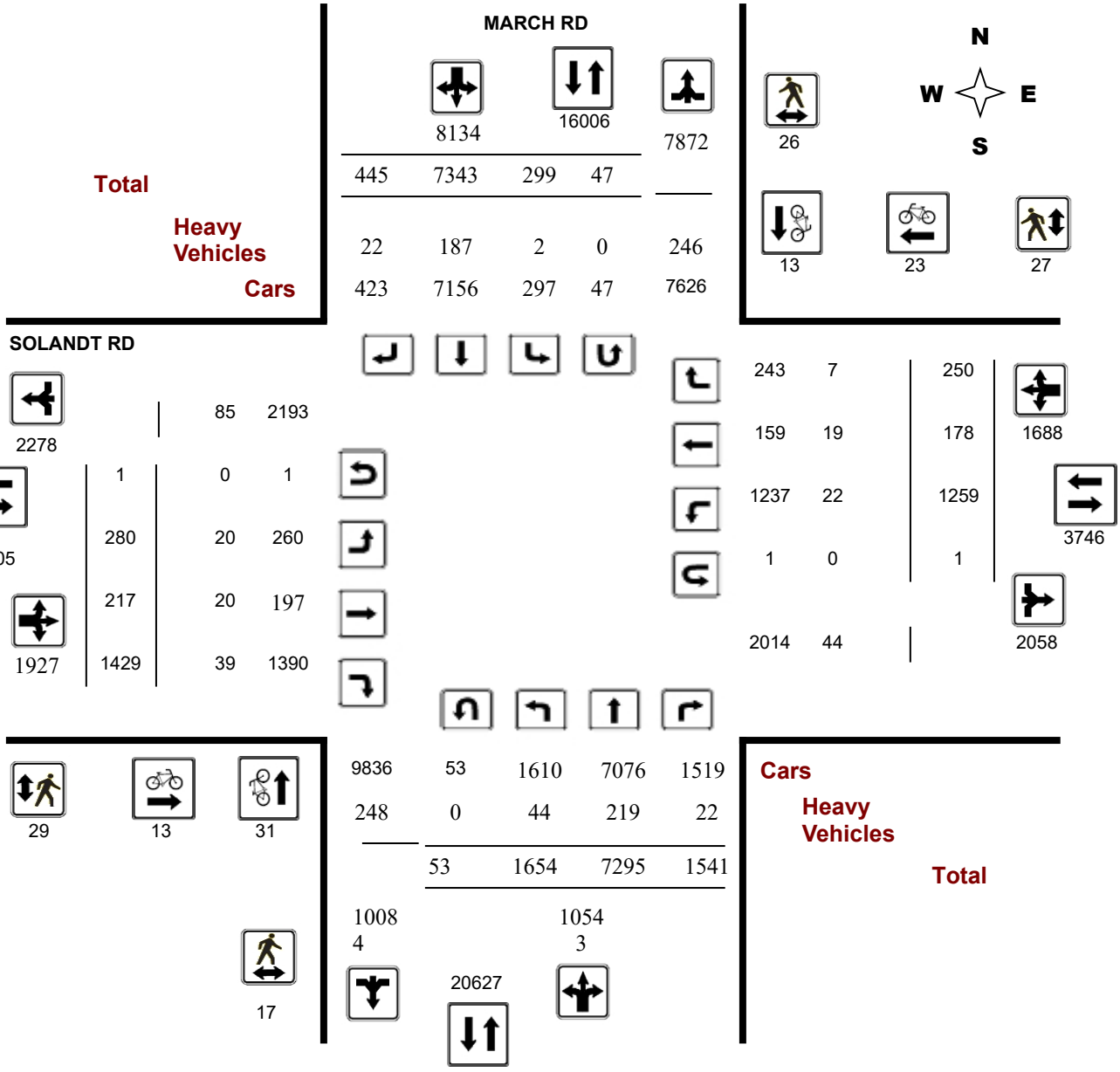
Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Thursday, September 28, 2023
Start Time: 07:00
WO No: 41209
Device: Miovision

Full Study Diagram



Transportation Services - Traffic Services

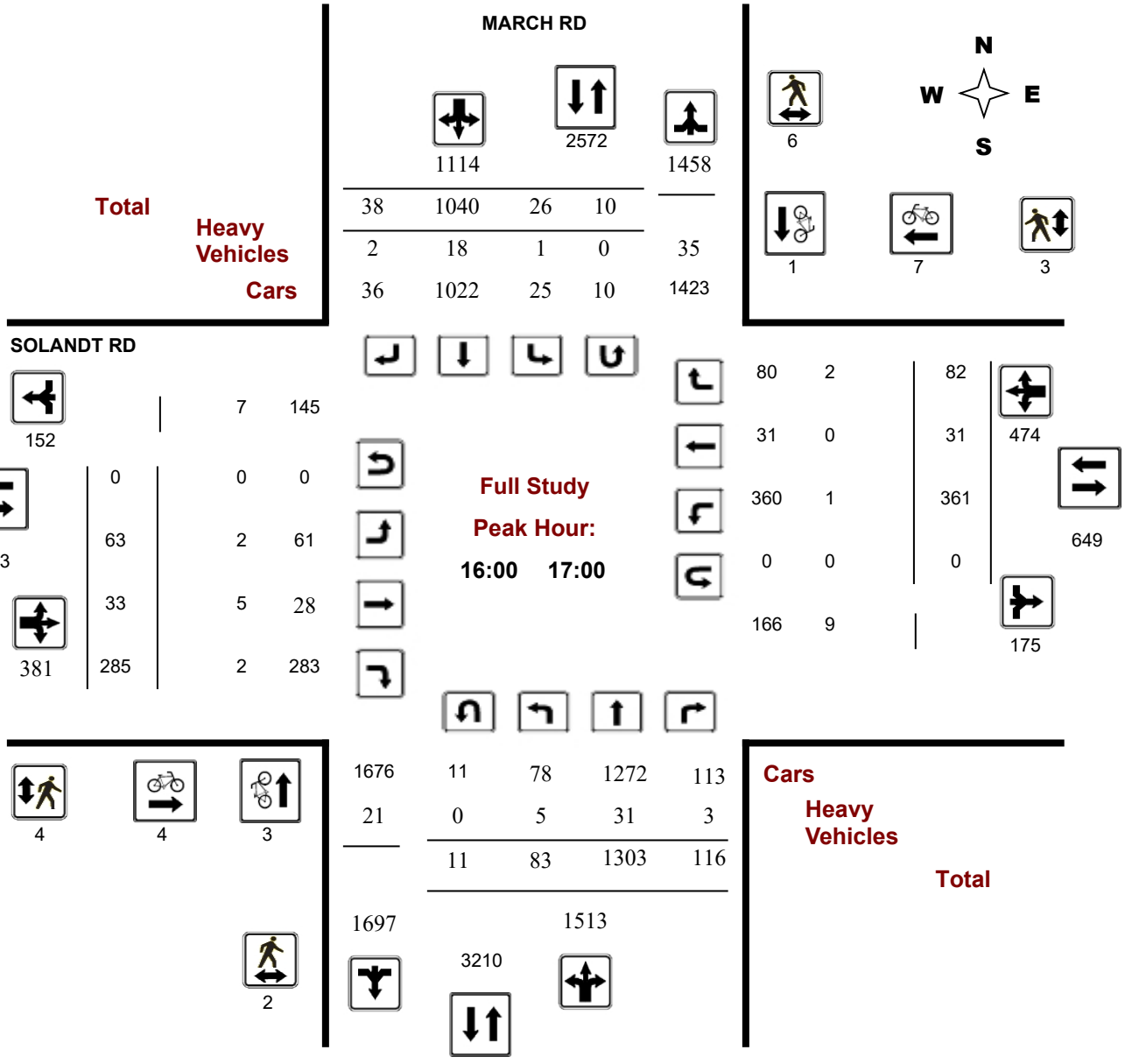
Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Thursday, September 28, 2023 **WO No:** 41209

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

Full Study Peak Hour Diagram



Transportation Services - Traffic Services

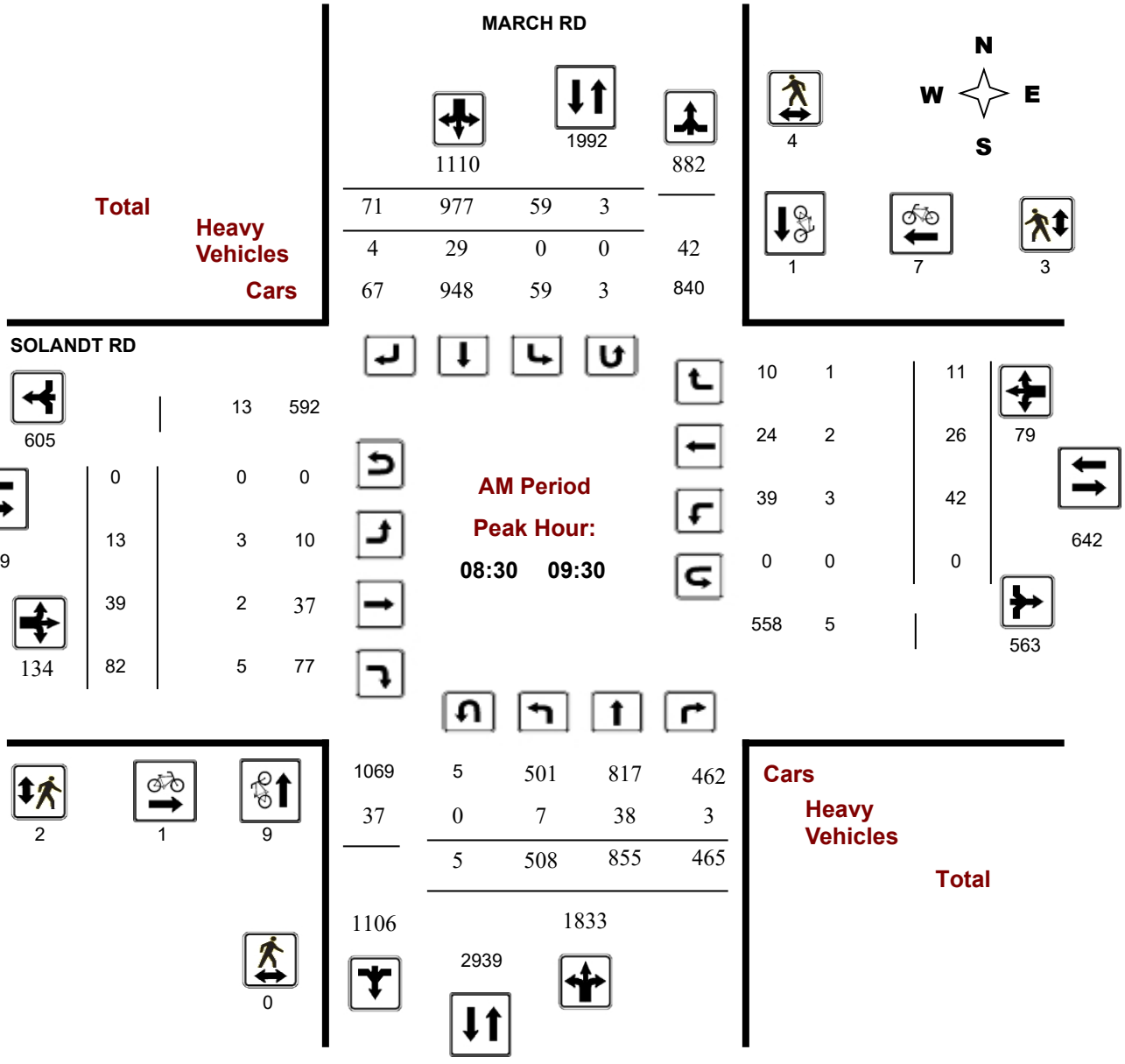
Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Thursday, September 28, 2023 **WO No:** 41209

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

AM Period Peak Hour Diagram



Transportation Services - Traffic Services

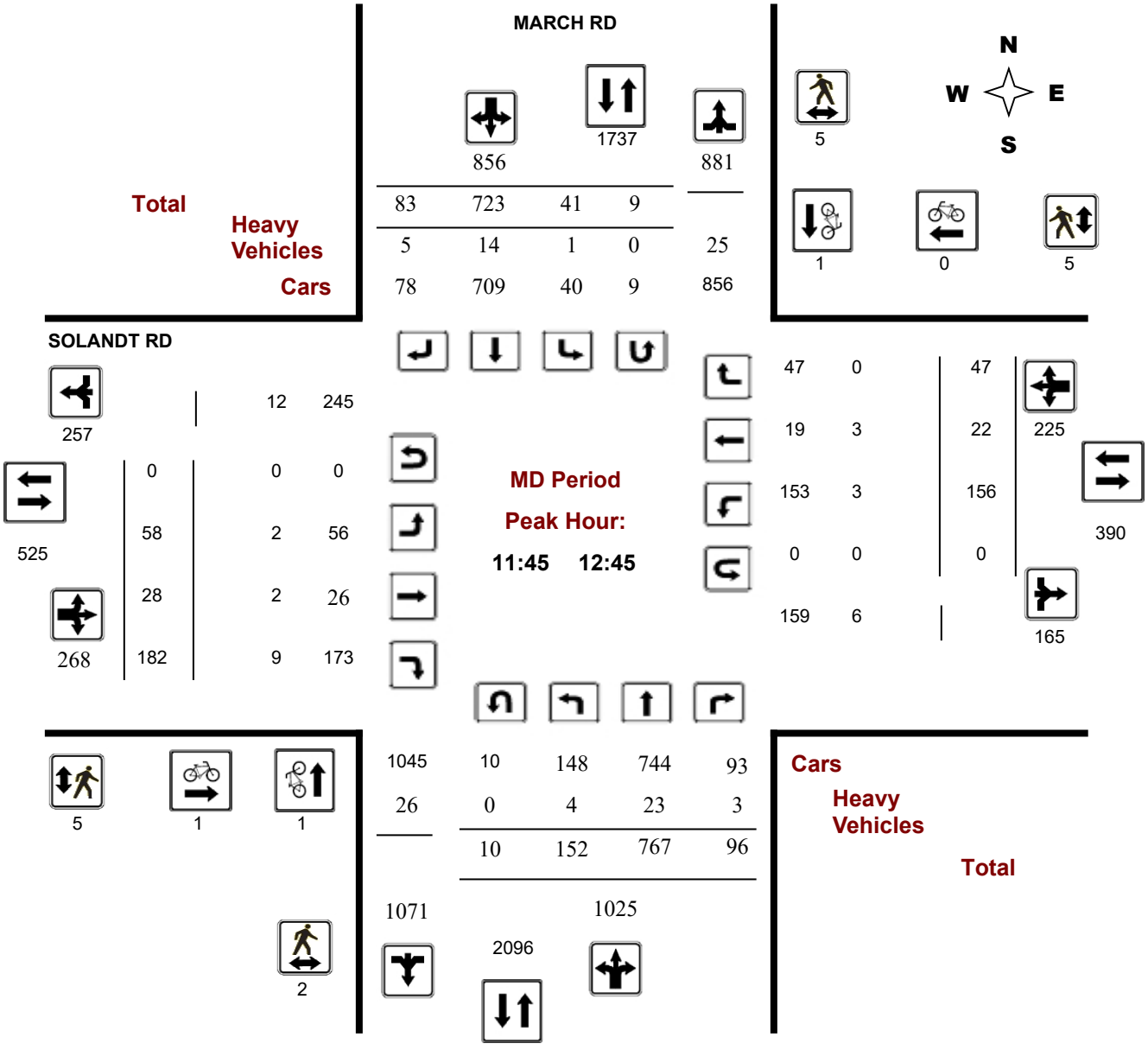
Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Thursday, September 28, 2023 **WO No:** 41209

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

MD Period Peak Hour Diagram



Transportation Services - Traffic Services

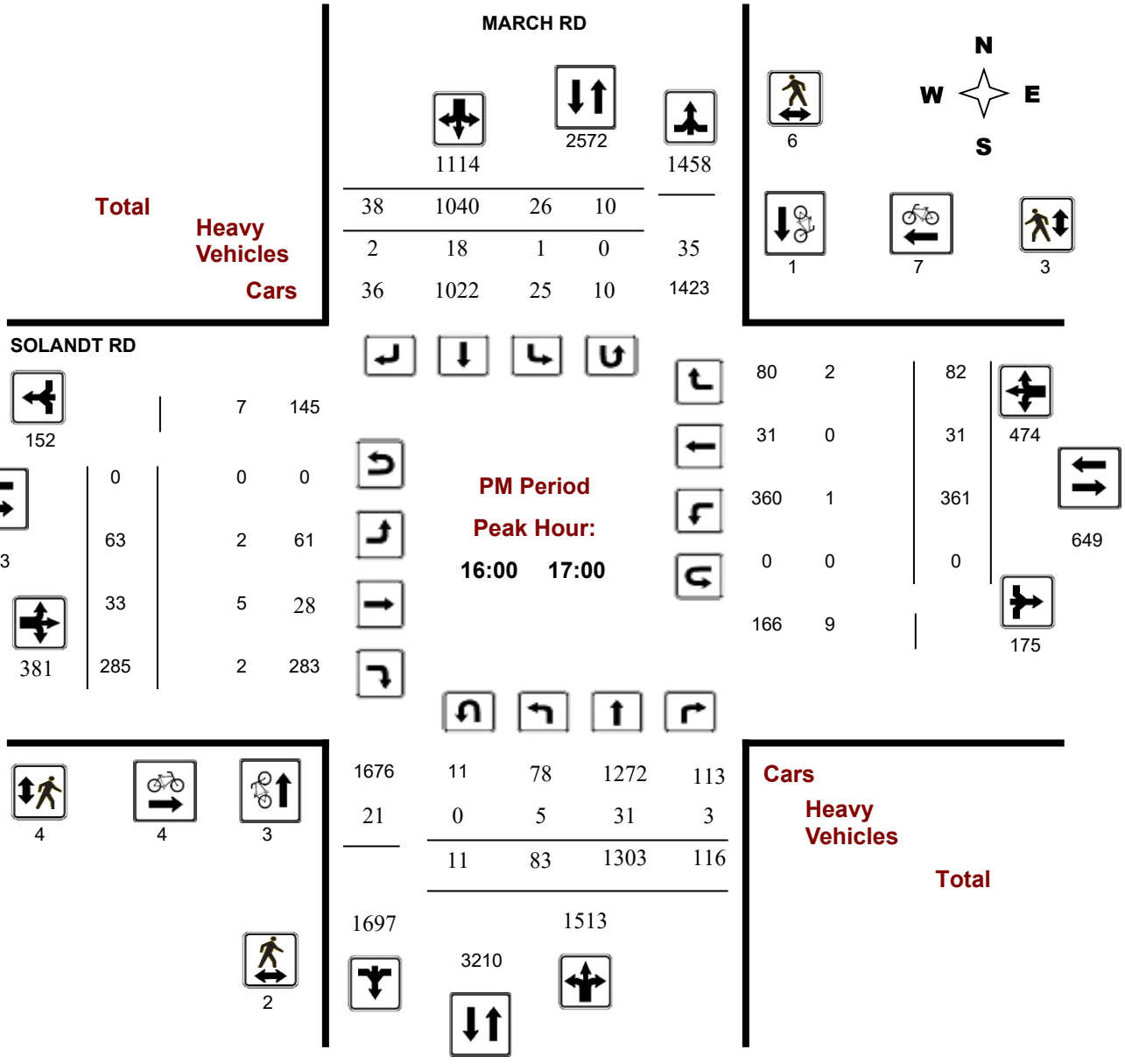
Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Thursday, September 28, 2023 **WO No:** 41209

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

PM Period Peak Hour Diagram



Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Thursday, September 28, 2023 **WO No:** 41209

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

Full Study Summary (8 HR Standard)

Survey Date: Thursday, September 28, 2023

Total Observed U-Turns

Northbound: 53 Southbound: 47

Eastbound: 1 Westbound: 1

AADT Factor

1.00

	MARCH RD								SOLANDT 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	217	581	192	**990**	37	1199	45	**1281**	**2271**	6	19	60	**85**	29	13	13	**55**	**140**	**2411**
08:00 09:00	421	797	415	**1633**	66	1010	65	**1141**	**2774**	14	39	87	**140**	35	19	12	**66**	**206**	**2980**
09:00 10:00	416	772	361	**1549**	47	881	66	**994**	**2543**	15	30	94	**139**	54	22	12	**88**	**227**	**2770**
11:30 12:30	138	744	97	**979**	36	731	77	**844**	**1823**	55	24	164	**243**	164	19	45	**228**	**471**	**2294**
12:30 13:30	141	761	107	**1009**	43	701	58	**802**	**1811**	37	26	145	**208**	78	23	23	**124**	**332**	**2143**
15:00 16:00	111	1173	101	**1385**	17	838	51	**906**	**2291**	45	17	222	**284**	234	21	37	**292**	**576**	**2867**
16:00 17:00	83	1303	116	**1502**	26	1040	38	**1104**	**2606**	63	33	285	**381**	361	31	82	**474**	**855**	**3461**
17:00 18:00	127	1164	152	**1443**	27	943	45	**1015**	**2458**	45	29	372	**446**	304	30	26	**360**	**806**	**3264**
Sub Total	1654	7295	1541	**10490**	299	7343	445	**8087**	**18577**	280	217	1429	**1926**	1259	178	250	**1687**	**3613**	**22190**
U Turns				**53**				**47**	**100**				**1**				**1**	**2**	**102**
Total	1654	7295	1541	**10543**	299	7343	445	**8134**	**18677**	280	217	1429	**1927**	1259	178	250	**1688**	**3615**	**22292**
EQ 12Hr	2299	10140	2142	**14655**	416	10207	619	**11306**	**25961**	389	302	1986	**2679**	1750	247	348	**2346**	**5025**	**30986**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	2299	10140	2142	**14655**	416	13371	810	**11306**	**25961**	389	302	1986	**2679**	1750	247	348	**2346**	**5025**	**30986**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1.00**					
AVG 24Hr	3012	13283	2806	**19198**	545	17516	1061	**14811**	**34009**	510	396	2602	**3509**	2292	324	456	**3073**	**6583**	**40592**
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

MARCH RD @ SOLANDT RD

Survey Date: Thursday, September 28, 2023 **WO No:** 41209

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

Full Study 15 Minute Increments

		MARCH RD									SOLANDT 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	61	118	24	203	7	271	10	289	492	1	3	11	15	4	4	2	10	25	517
07:15	07:30	37	158	42	237	8	314	15	337	574	1	6	16	23	7	2	4	13	36	610
07:30	07:45	41	139	51	231	10	297	7	314	545	2	2	11	15	10	5	4	19	34	579
07:45	08:00	78	166	75	319	12	317	13	343	662	2	8	22	32	8	2	3	13	45	707
09:00	09:15	125	225	114	466	9	262	22	295	761	1	7	28	36	12	4	2	18	54	815
08:00	08:15	79	191	82	352	23	273	22	319	671	1	9	28	38	3	5	3	11	49	720
08:15	08:30	94	180	94	369	11	271	16	300	669	3	8	24	35	14	4	3	21	56	725
08:45	09:00	133	220	124	478	21	238	13	273	751	5	10	21	36	2	5	1	8	44	795
09:30	09:45	88	197	75	362	8	182	12	204	566	6	8	17	31	16	3	4	23	54	620
09:45	10:00	68	146	60	274	12	188	10	210	484	6	5	30	41	14	3	3	20	61	545
11:30	11:45	27	162	22	212	3	185	12	203	415	9	3	29	41	26	3	5	34	75	490
11:45	12:00	37	194	21	254	7	180	17	207	461	14	5	48	67	35	3	12	50	117	578
12:00	12:15	40	196	24	264	10	171	24	206	470	22	5	51	78	65	6	15	86	164	634
12:15	12:30	34	192	30	258	16	195	24	237	495	10	11	36	57	38	7	13	58	115	610
12:30	12:45	41	185	21	249	8	177	18	206	455	12	7	47	66	18	6	7	31	97	552
12:45	13:00	38	185	34	258	16	196	16	230	488	10	8	29	47	23	5	4	32	79	567
13:15	13:30	32	203	25	261	11	161	15	187	448	6	6	39	51	16	6	5	27	78	526
15:15	15:30	25	299	19	345	5	196	9	213	558	14	6	52	72	39	6	8	53	125	683
15:30	15:45	32	282	31	346	2	241	16	259	605	11	4	51	66	82	2	12	96	162	767
17:45	18:00	43	284	31	358	7	209	13	230	588	9	5	76	90	46	3	8	57	147	735
15:45	16:00	31	323	33	387	5	208	14	227	614	5	5	56	67	44	8	10	62	129	743
08:30	08:45	115	206	115	438	11	228	14	253	691	5	12	14	31	16	5	5	26	57	748
09:15	09:30	135	204	112	451	18	249	22	289	740	2	10	19	31	12	12	3	27	58	798
13:00	13:15	30	188	27	245	8	167	9	185	430	9	5	30	44	21	6	7	34	78	508
15:00	15:15	23	269	18	311	5	193	12	210	521	15	2	63	80	69	5	7	81	161	682
16:00	16:15	23	311	21	356	7	279	7	293	649	22	11	96	129	121	11	24	156	285	934
16:15	16:30	21	351	27	400	4	239	14	260	660	15	9	53	77	74	6	26	106	183	843
16:30	16:45	21	332	35	389	6	277	11	296	685	11	6	75	92	88	10	20	118	210	895
16:45	17:00	18	309	33	368	9	245	6	265	633	15	7	61	83	78	4	12	94	177	810
17:00	17:15	25	288	26	345	6	226	10	244	589	13	8	115	136	100	6	15	121	257	846
17:15	17:30	25	311	49	391	9	243	15	272	663	14	12	96	122	92	9	1	102	224	887
17:30	17:45	34	281	46	366	5	265	7	278	644	9	4	85	98	66	12	2	81	179	823
Total:		1654	7295	1541	10543	299	7343	445	8134	18677	280	217	1429	1927	1259	178	250	1688	3615	22,292

Note: U-Turns are included in Totals, cyclist volume is not included in totals. For cycliste volumes reffer to Cyclist Volume report.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Thursday, September 28, 2023 **WO No:** 41209

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

Full Study Cyclist Volume

Time Period		MARCH RD			SOLANDT 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	1	0	1	0	0	0	1
07:30	07:45	0	0	0	0	0	0	0
07:45	08:00	0	2	2	1	0	1	3
09:00	09:15	1	1	2	1	2	3	5
08:00	08:15	0	2	2	1	1	2	4
08:15	08:30	2	1	3	0	0	0	3
08:45	09:00	2	0	2	0	3	3	5
09:30	09:45	4	0	4	1	3	4	8
09:45	10:00	0	0	0	0	0	0	0
11:30	11:45	2	0	2	0	0	0	2
11:45	12:00	0	1	1	0	0	0	1
12:00	12:15	1	0	1	1	0	1	2
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	1	0	1	0	0	0	1
13:15	13:30	0	0	0	0	0	0	0
15:15	15:30	1	1	2	0	2	2	4
15:30	15:45	0	1	1	1	1	2	3
17:45	18:00	1	1	2	0	1	1	3
15:45	16:00	2	1	3	0	0	0	3
08:30	08:45	0	0	0	0	1	1	1
09:15	09:30	6	0	6	0	1	1	7
13:00	13:15	0	0	0	1	1	2	2
15:00	15:15	1	0	1	0	0	0	1
16:00	16:15	0	0	0	1	3	4	4
16:15	16:30	1	0	1	1	1	2	3
16:30	16:45	2	1	3	1	1	2	5
16:45	17:00	0	0	0	1	2	3	3
17:00	17:15	0	1	1	1	0	1	2
17:15	17:30	1	0	1	0	0	0	1
17:30	17:45	2	0	2	1	0	1	3
Total		31	13	**44**	13	23	36	80

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Thursday, September 28, 2023 **WO No:** 41209

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

Full Study Pedestrian Volume

	MARCH RD			SOLANDT 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	0	**0**	0	0	**0**	**0**
07:30 07:45	1	2	**3**	2	0	**2**	**5**
07:45 08:00	0	0	**0**	0	2	**2**	**2**
09:00 09:15	0	0	**0**	0	0	**0**	**0**
08:00 08:15	2	0	**2**	0	0	**0**	**2**
08:15 08:30	0	2	**2**	1	2	**3**	**5**
08:45 09:00	0	1	**1**	0	2	**2**	**3**
09:30 09:45	0	0	**0**	1	0	**1**	**1**
09:45 10:00	0	3	**3**	0	0	**0**	**3**
11:30 11:45	1	1	**2**	1	2	**3**	**5**
11:45 12:00	0	0	**0**	1	1	**2**	**2**
12:00 12:15	0	1	**1**	2	1	**3**	**4**
12:15 12:30	0	3	**3**	1	2	**3**	**6**
12:30 12:45	2	1	**3**	1	1	**2**	**5**
12:45 13:00	1	0	**1**	0	1	**1**	**2**
13:15 13:30	1	0	**1**	0	1	**1**	**2**
15:15 15:30	0	0	**0**	0	0	**0**	**0**
15:30 15:45	1	0	**1**	1	2	**3**	**4**
17:45 18:00	0	1	**1**	0	2	**2**	**3**
15:45 16:00	1	0	**1**	1	2	**3**	**4**
08:30 08:45	0	3	**3**	1	1	**2**	**5**
09:15 09:30	0	0	**0**	1	0	**1**	**1**
13:00 13:15	1	2	**3**	5	0	**5**	**8**
15:00 15:15	2	0	**2**	1	2	**3**	**5**
16:00 16:15	0	1	**1**	0	0	**0**	**1**
16:15 16:30	0	2	**2**	2	0	**2**	**4**
16:30 16:45	1	0	**1**	1	1	**2**	**3**
16:45 17:00	1	3	**4**	1	2	**3**	**7**
17:00 17:15	1	0	**1**	2	0	**2**	**3**
17:15 17:30	1	0	**1**	1	0	**1**	**2**
17:30 17:45	0	0	**0**	1	0	**1**	**1**
Total	17	26	**43**	29	27	**56**	**99**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Thursday, September 28, 2023 **WO No:** 41209

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

Full Study Heavy Vehicles

		MARCH RD									SOLANDT 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	8	0	**8**	0	2	1	**3**	**11**	0	0	0	**0**	1	2	0	**3**	**3**	**14**
07:15	07:30	2	7	0	**9**	0	9	0	**9**	**18**	0	0	2	**2**	0	0	1	**1**	**3**	**21**
07:30	07:45	0	5	0	**5**	0	11	0	**11**	**16**	1	0	1	**2**	0	1	0	**1**	**3**	**19**
07:45	08:00	3	12	2	**17**	0	8	1	**9**	**26**	0	0	0	**0**	1	1	0	**2**	**2**	**28**
09:00	09:15	2	14	0	**16**	0	7	0	**7**	**23**	0	1	2	**3**	2	0	1	**3**	**6**	**29**
08:00	08:15	2	7	2	**11**	0	4	0	**4**	**15**	0	0	2	**2**	0	2	0	**2**	**4**	**19**
08:15	08:30	1	11	0	**12**	0	8	1	**9**	**21**	1	0	2	**3**	2	0	1	**3**	**6**	**27**
08:45	09:00	1	6	2	**9**	0	10	0	**10**	**19**	1	0	1	**2**	0	1	0	**1**	**3**	**22**
09:30	09:45	3	5	2	**10**	0	7	0	**7**	**17**	3	0	1	**4**	1	0	0	**1**	**5**	**22**
09:45	10:00	1	7	2	**10**	0	10	2	**12**	**22**	2	1	1	**4**	0	1	0	**1**	**5**	**27**
11:30	11:45	4	5	0	**9**	0	5	0	**5**	**14**	2	0	1	**3**	2	0	0	**2**	**5**	**19**
11:45	12:00	1	9	0	**10**	0	5	2	**7**	**17**	1	2	3	**6**	1	1	0	**2**	**8**	**25**
12:00	12:15	3	2	0	**5**	1	5	1	**7**	**12**	1	0	2	**3**	0	0	0	**0**	**3**	**15**
12:15	12:30	0	5	2	**7**	0	1	1	**2**	**9**	0	0	1	**1**	0	2	0	**2**	**3**	**12**
12:30	12:45	0	7	1	**8**	0	3	1	**4**	**12**	0	0	3	**3**	2	0	0	**2**	**5**	**17**
12:45	13:00	0	8	1	**9**	0	10	2	**12**	**21**	0	0	0	**0**	1	0	0	**1**	**1**	**22**
13:15	13:30	1	4	0	**5**	0	6	0	**6**	**11**	1	0	2	**3**	0	1	0	**1**	**4**	**15**
15:15	15:30	3	8	1	**12**	0	6	0	**6**	**18**	0	2	2	**4**	1	1	0	**2**	**6**	**24**
15:30	15:45	2	5	1	**8**	0	6	1	**7**	**15**	0	1	2	**3**	1	0	2	**3**	**6**	**21**
17:45	18:00	1	1	0	**2**	0	0	0	**0**	**2**	0	2	0	**2**	0	0	0	**0**	**2**	**4**
15:45	16:00	1	7	2	**10**	0	3	2	**5**	**15**	0	1	3	**4**	0	2	0	**2**	**6**	**21**
08:30	08:45	2	9	0	**11**	0	9	0	**9**	**20**	2	1	1	**4**	0	0	0	**0**	**4**	**24**
09:15	09:30	2	9	1	**12**	0	3	4	**7**	**19**	0	0	1	**1**	1	1	0	**2**	**3**	**22**
13:00	13:15	1	9	0	**10**	0	8	0	**8**	**18**	2	0	0	**2**	1	1	0	**2**	**4**	**22**
15:00	15:15	1	8	0	**9**	0	13	0	**13**	**22**	0	0	3	**3**	1	1	0	**2**	**5**	**27**
16:00	16:15	1	9	1	**11**	0	4	1	**5**	**16**	2	1	1	**4**	1	0	1	**2**	**6**	**22**
16:15	16:30	1	12	0	**13**	0	4	1	**5**	**18**	0	1	0	**1**	0	0	0	**0**	**1**	**19**
16:30	16:45	0	6	1	**7**	1	7	0	**8**	**15**	0	2	0	**2**	0	0	0	**0**	**2**	**17**
16:45	17:00	3	4	1	**8**	0	3	0	**3**	**11**	0	1	1	**2**	0	0	1	**1**	**3**	**14**
17:00	17:15	2	4	0	**6**	0	3	1	**4**	**10**	1	1	1	**3**	2	0	0	**2**	**5**	**15**
17:15	17:30	0	3	0	**3**	0	2	0	**2**	**5**	0	1	0	**1**	1	1	0	**2**	**3**	**8**
17:30	17:45	0	3	0	**3**	0	5	0	**5**	**8**	0	2	0	**2**	0	0	0	**0**	**2**	**10**
Total:	None	44	219	22	**285**	2	187	22	**211**	**496**	20	20	39	**79**	22	19	7	**48**	**127**	**623**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Thursday, September 28, 2023 **WO No:** 41209

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

Full Study 15 Minute U-Turn Total

Time Period		MARCH RD Northbound U-Turn Total	MARCH RD Southbound U-Turn Total	SOLANDT RD Eastbound U-Turn Total	SOLANDT RD Westbound U-Turn Total	Total
07:00	07:15	0	1	0	0	1
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	1	0	0	1
09:00	09:15	2	2	0	0	4
08:00	08:15	0	1	0	0	1
08:15	08:30	1	2	0	0	3
08:45	09:00	1	1	0	0	2
09:30	09:45	2	2	0	0	4
09:45	10:00	0	0	0	0	0
11:30	11:45	1	3	0	0	4
11:45	12:00	2	3	0	0	5
12:00	12:15	4	1	0	0	5
12:15	12:30	2	2	0	0	4
12:30	12:45	2	3	0	0	5
12:45	13:00	1	2	0	0	3
13:15	13:30	1	0	0	0	1
15:15	15:30	2	3	0	0	5
15:30	15:45	1	0	0	0	1
17:45	18:00	0	1	0	0	1
15:45	16:00	0	0	1	0	1
08:30	08:45	2	0	0	0	2
09:15	09:30	0	0	0	0	0
13:00	13:15	0	1	0	0	1
15:00	15:15	1	0	0	0	1
16:00	16:15	1	0	0	0	1
16:15	16:30	1	3	0	0	4
16:30	16:45	1	2	0	0	3
16:45	17:00	8	5	0	0	13
17:00	17:15	6	2	0	0	8
17:15	17:30	6	5	0	0	11
17:30	17:45	5	1	0	1	7
Total		53	47	1	1	102

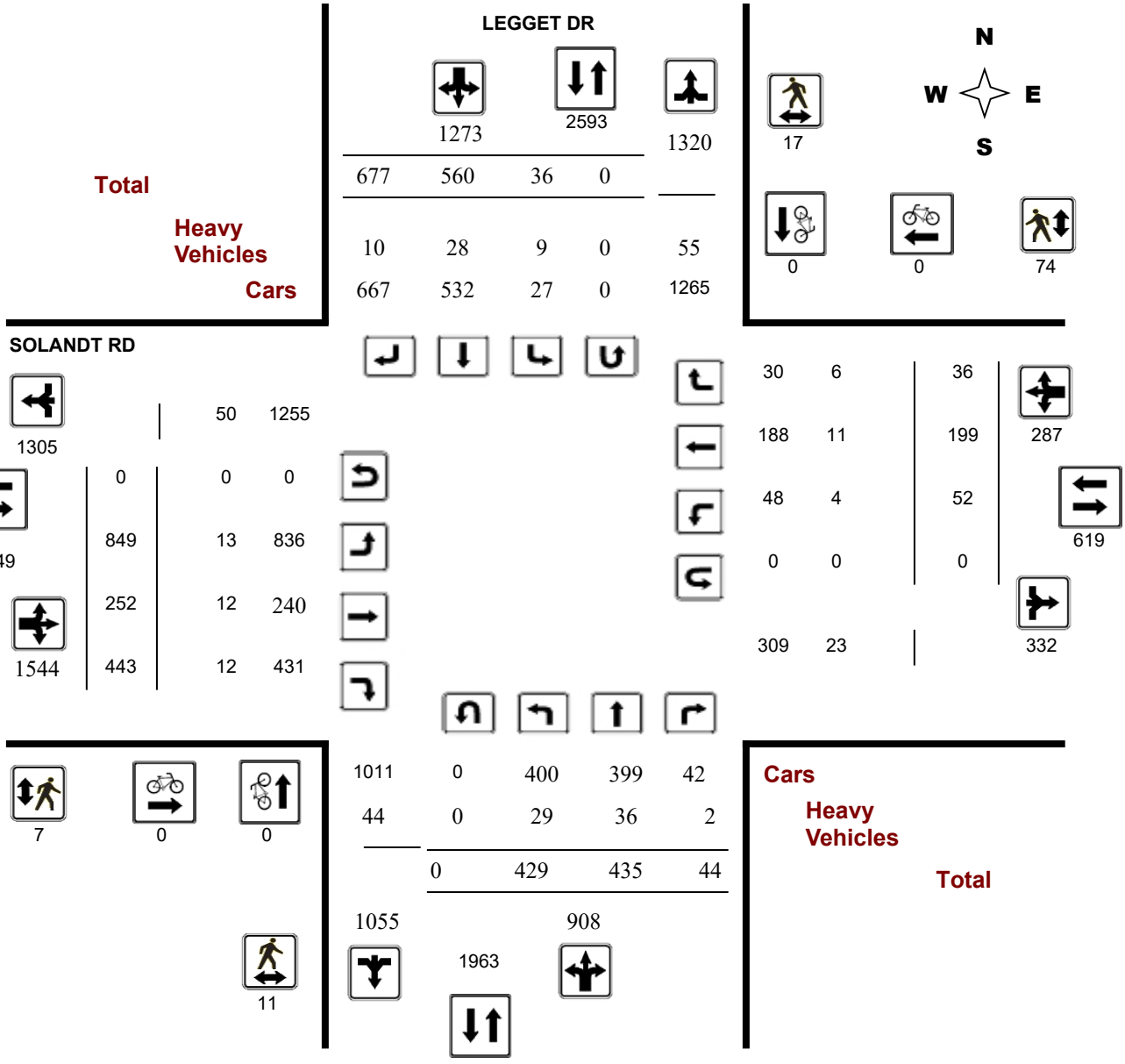
Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, January 09, 2024
Start Time: 07:00
WO No: 41499
Device: Miovision

Full Study Diagram



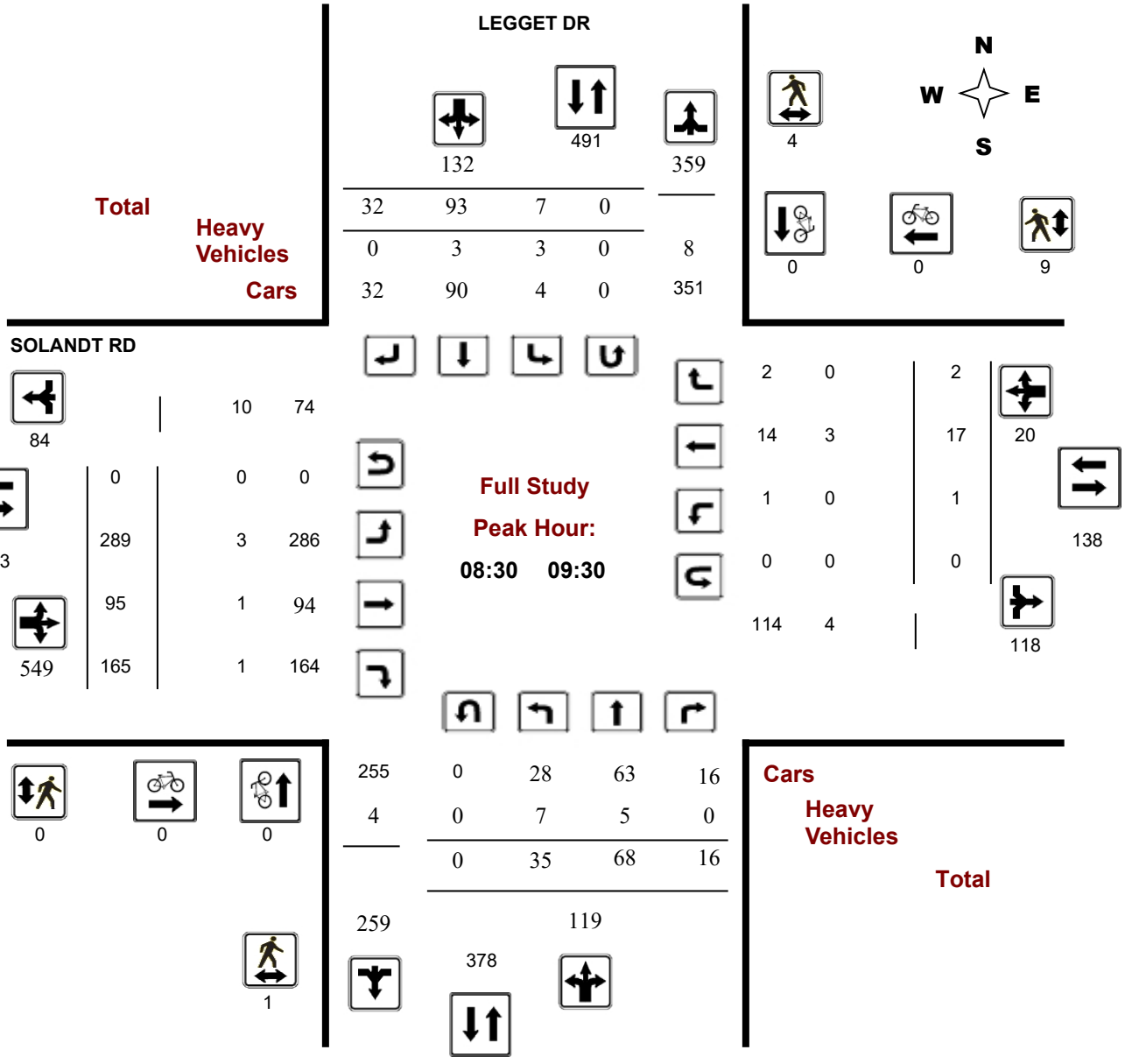
Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, January 09, 2024
Start Time: 07:00
WO No: 41499
Device: Miovision

Full Study Peak Hour Diagram



Transportation Services - Traffic Services

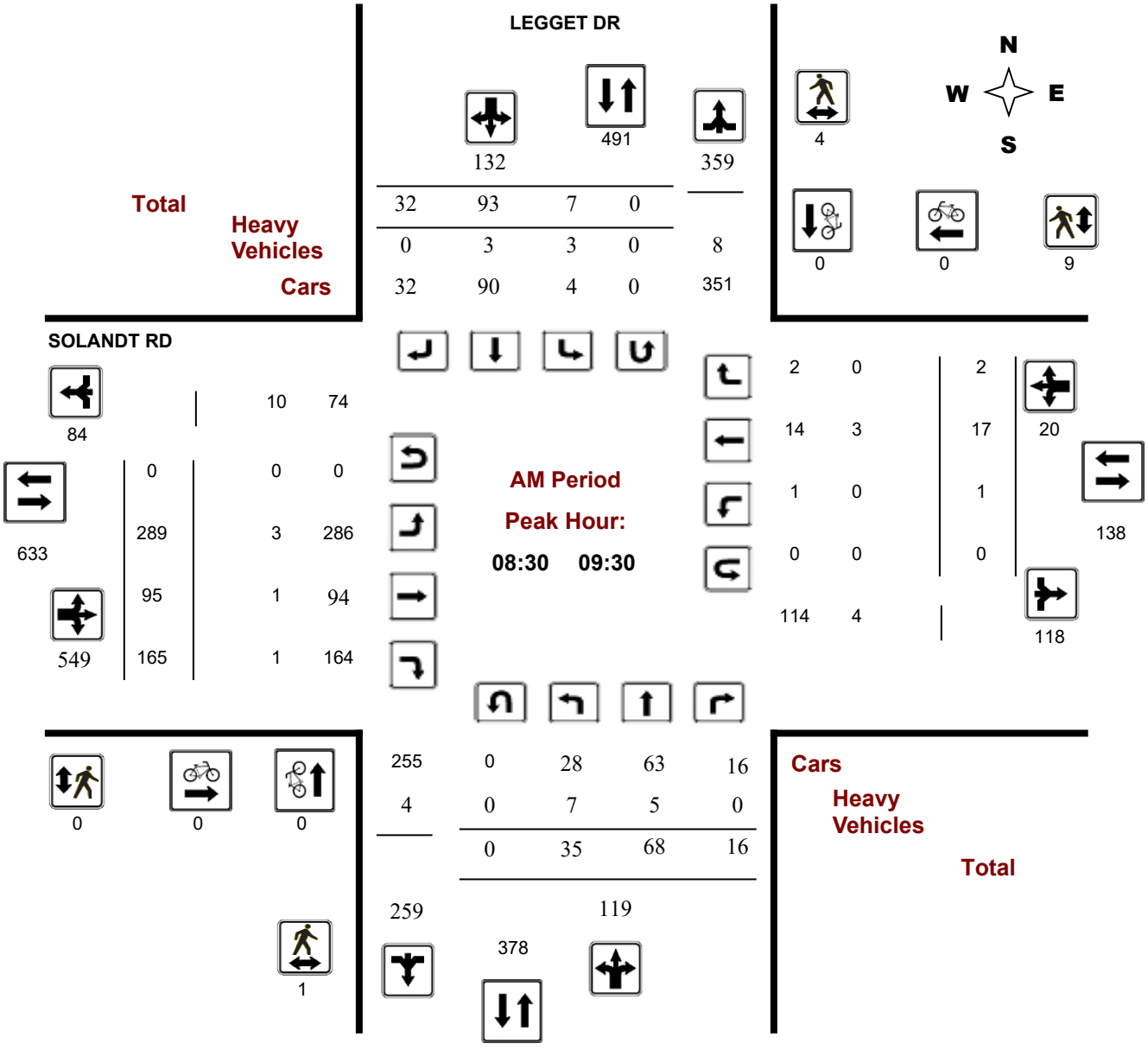
Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, January 09, 2024 **WO No:** 41499

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

AM Period Peak Hour Diagram



Transportation Services - Traffic Services

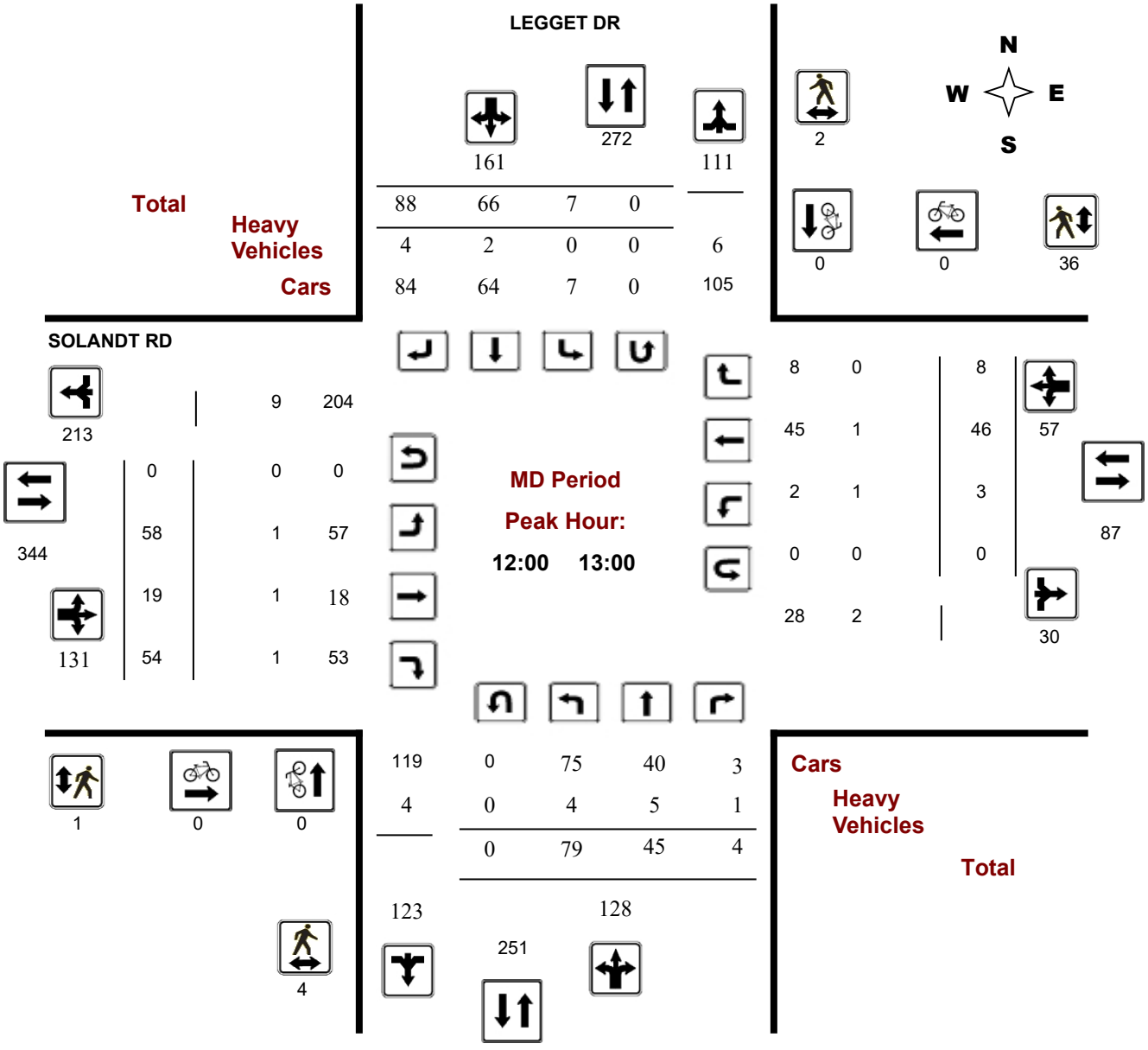
Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, January 09, 2024 **WO No:** 41499

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

MD Period Peak Hour Diagram



Transportation Services - Traffic Services

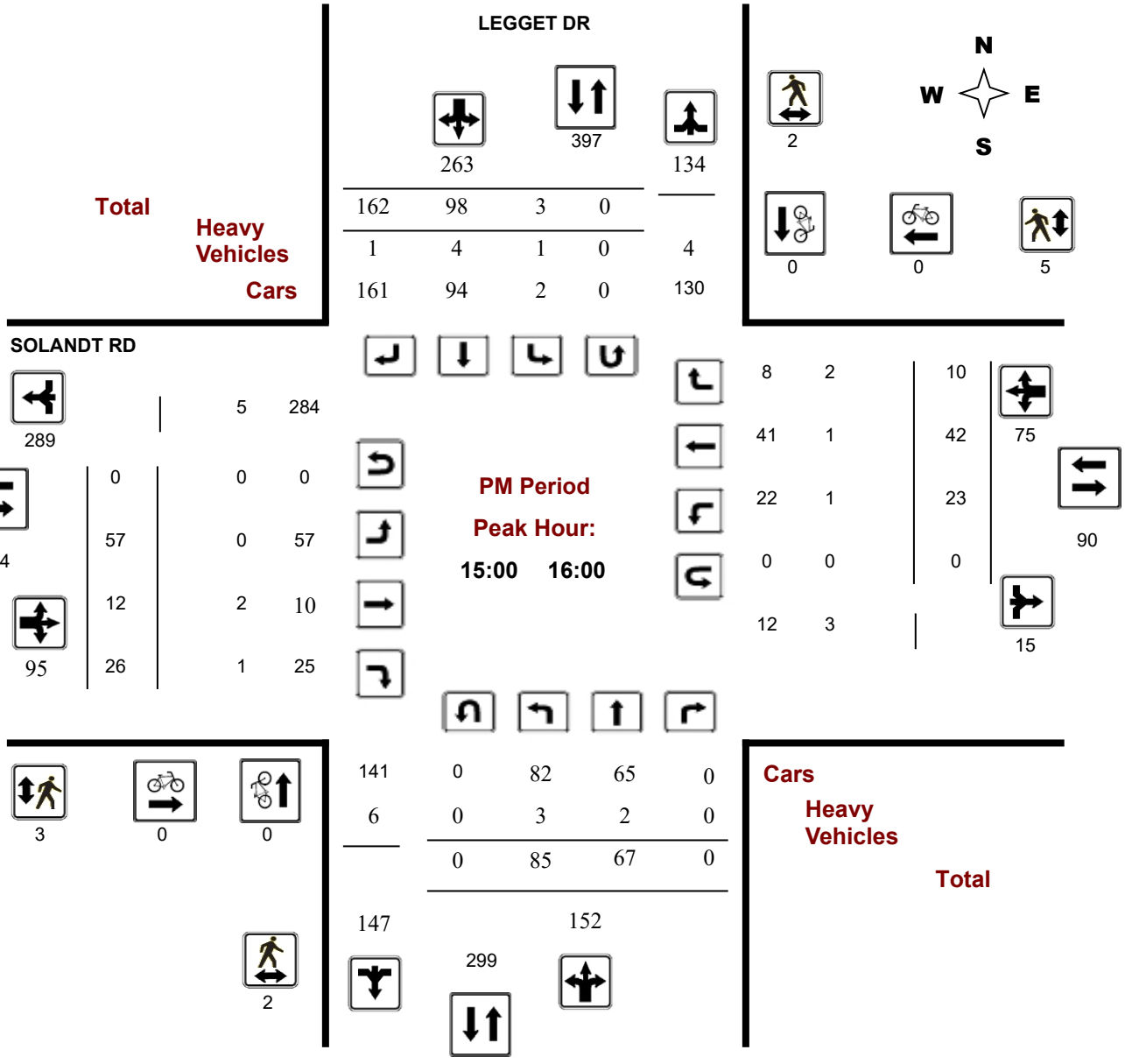
Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, January 09, 2024 **WO No:** 41499

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

PM Period Peak Hour Diagram



Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, January 09, 2024 **WO No:** 41499

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

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, January 09, 2024

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor

1.10

	LEGGET DR									SOLANDT 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	20	44	7	**71**	5	51	22	**78**	**149**	166	44	50	**260**	2	5	0	**7**	**267**	**416**
08:00 09:00	29	68	17	**114**	9	87	40	**136**	**250**	259	78	138	**475**	3	14	2	**19**	**494**	**744**
09:00 10:00	38	50	10	**98**	4	67	29	**100**	**198**	206	77	113	**396**	0	20	2	**22**	**418**	**616**
11:30 12:30	75	66	2	**143**	4	43	86	**133**	**276**	54	9	40	**103**	6	41	10	**57**	**160**	**436**
12:30 13:30	55	30	5	**90**	7	62	80	**149**	**239**	58	21	43	**122**	5	40	2	**47**	**169**	**408**
15:00 16:00	85	67	0	**152**	3	98	162	**263**	**415**	57	12	26	**95**	23	42	10	**75**	**170**	**585**
16:00 17:00	83	61	2	**146**	1	98	160	**259**	**405**	29	5	20	**54**	10	26	5	**41**	**95**	**500**
17:00 18:00	44	49	1	**94**	3	54	98	**155**	**249**	20	6	13	**39**	3	11	5	**19**	**58**	**307**
Sub Total	429	435	44	**908**	36	560	677	**1273**	**2181**	849	252	443	**1544**	52	199	36	**287**	**1831**	**4012**
U Turns				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	429	435	44	**908**	36	560	677	**1273**	**2181**	849	252	443	**1544**	52	199	36	**287**	**1831**	**4012**
EQ 12Hr	596	605	61	**1262**	50	778	941	**1769**	**3032**	1180	350	616	**2146**	72	277	50	**399**	**2545**	**5577**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	656	666	67	**1388**	55	1122	1356	**1946**	**3335**	1298	385	678	**2361**	79	305	55	**439**	**2800**	**6135**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1.10**					
AVG 24Hr	859	872	88	**1818**	72	1470	1776	**2549**	**4369**	1700	504	888	**3093**	103	400	72	**575**	**3668**	**8037**
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

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, January 09, 2024 **WO No:** 41499

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

Full Study 15 Minute Increments

		LEGGET DR									SOLANDT 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	5	5	1	11	1	12	1	14	25	28	7	8	43	0	1	0	1	44	69
07:15	07:30	5	12	1	18	1	8	3	12	30	33	9	6	48	0	2	0	2	50	80
07:30	07:45	5	15	1	21	1	14	11	26	47	36	8	15	59	2	0	0	2	61	108
17:45	18:00	8	8	0	16	2	10	16	28	44	4	0	2	6	0	2	1	3	9	53
07:45	08:00	5	12	4	21	2	17	7	26	47	69	20	21	110	0	2	0	2	112	159
08:00	08:15	6	12	4	22	4	19	12	35	57	56	12	21	89	2	5	0	7	96	153
08:15	08:30	5	17	4	26	1	18	8	27	53	52	22	30	104	0	1	2	3	107	160
08:30	08:45	7	15	3	25	1	23	12	36	61	67	13	38	118	1	5	0	6	124	185
08:45	09:00	11	24	6	41	3	27	8	38	79	84	31	49	164	0	3	0	3	167	246
09:00	09:15	8	14	3	25	2	24	5	31	56	81	27	35	143	0	2	1	3	146	202
09:15	09:30	9	15	4	28	1	19	7	27	55	57	24	43	124	0	7	1	8	132	187
09:30	09:45	12	12	1	25	0	16	11	27	52	34	14	19	67	0	3	0	3	70	122
09:45	10:00	9	9	2	20	1	8	6	15	35	34	12	16	62	0	8	0	8	70	105
11:30	11:45	9	16	1	26	0	6	17	23	49	13	2	3	18	1	8	2	11	29	78
11:45	12:00	15	14	0	29	2	10	17	29	58	10	1	12	23	4	5	0	9	32	90
12:00	12:15	25	17	0	42	0	11	27	38	80	14	3	11	28	1	12	3	16	44	124
12:15	12:30	26	19	1	46	2	16	25	43	89	17	3	14	34	0	16	5	21	55	144
12:30	12:45	8	4	0	12	2	19	17	38	50	10	3	13	26	1	6	0	7	33	83
12:45	13:00	20	5	3	28	3	20	19	42	70	17	10	16	43	1	12	0	13	56	126
13:00	13:15	17	9	2	28	1	10	28	39	67	17	4	9	30	2	11	1	14	44	111
13:15	13:30	10	12	0	22	1	13	16	30	52	14	4	5	23	1	11	1	13	36	88
15:00	15:15	31	17	0	48	1	34	54	89	137	15	6	3	24	5	14	3	22	46	183
15:15	15:30	19	19	0	38	1	14	33	48	86	13	3	9	25	9	16	3	28	53	139
15:30	15:45	20	16	0	36	1	31	41	73	109	12	1	4	17	6	6	1	13	30	139
15:45	16:00	15	15	0	30	0	19	34	53	83	17	2	10	29	3	6	3	12	41	124
16:00	16:15	27	18	0	45	0	31	64	95	140	6	0	3	9	4	7	0	11	20	160
16:15	16:30	22	20	0	42	1	24	34	59	101	8	2	3	13	3	13	2	18	31	132
16:30	16:45	16	17	1	34	0	21	34	55	89	5	2	7	14	1	3	2	6	20	109
16:45	17:00	18	6	1	25	0	22	28	50	75	10	1	7	18	2	3	1	6	24	99
17:00	17:15	15	22	1	38	0	13	36	49	87	6	2	3	11	1	3	0	4	15	102
17:15	17:30	10	11	0	21	0	14	28	42	63	3	1	2	6	1	5	2	8	14	77
17:30	17:45	11	8	0	19	1	17	18	36	55	7	3	6	16	1	1	2	4	20	75
Total:		429	435	44	908	36	560	677	1273	2181	849	252	443	1544	52	199	36	287	1831	4,012

Note: U-Turns are included in Totals, cyclist volume is not included in totals. For cycliste volumes reffer to Cyclist Volume report.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, January 09, 2024 **WO No:** 41499

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

Full Study Cyclist Volume

Time Period		LEGGET DR			SOLANDT 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
17:45	18:00	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	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	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
Total		0	0	**0**	0	0	0	0

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, January 09, 2024 **WO No:** 41499

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

Full Study Pedestrian Volume

	LEGGET DR			SOLANDT 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	1	**1**	0	0	**0**	**1**
07:15 07:30	0	0	**0**	0	0	**0**	**0**
07:30 07:45	0	0	**0**	0	1	**1**	**1**
17:45 18:00	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**	0	3	**3**	**3**
08:15 08:30	1	1	**2**	0	3	**3**	**5**
08:30 08:45	0	0	**0**	0	0	**0**	**0**
08:45 09:00	0	1	**1**	0	4	**4**	**5**
09:00 09:15	0	2	**2**	0	3	**3**	**5**
09:15 09:30	1	1	**2**	0	2	**2**	**4**
09:30 09:45	0	0	**0**	0	2	**2**	**2**
09:45 10:00	2	0	**2**	1	2	**3**	**5**
11:30 11:45	0	0	**0**	0	2	**2**	**2**
11:45 12:00	0	0	**0**	0	5	**5**	**5**
12:00 12:15	0	2	**2**	1	5	**6**	**8**
12:15 12:30	2	0	**2**	0	8	**8**	**10**
12:30 12:45	2	0	**2**	0	13	**13**	**15**
12:45 13:00	0	0	**0**	0	10	**10**	**10**
13:00 13:15	0	1	**1**	0	1	**1**	**2**
13:15 13:30	0	1	**1**	0	0	**0**	**1**
15:00 15:15	0	0	**0**	0	1	**1**	**1**
15:15 15:30	0	0	**0**	0	0	**0**	**0**
15:30 15:45	0	1	**1**	1	2	**3**	**4**
15:45 16:00	2	1	**3**	2	2	**4**	**7**
16:00 16:15	0	3	**3**	0	0	**0**	**3**
16:15 16:30	0	0	**0**	0	1	**1**	**1**
16:30 16:45	0	0	**0**	0	2	**2**	**2**
16:45 17:00	0	1	**1**	1	0	**1**	**2**
17:00 17:15	0	0	**0**	0	0	**0**	**0**
17:15 17:30	0	0	**0**	0	1	**1**	**1**
17:30 17:45	1	1	**2**	1	1	**2**	**4**
Total	11	17	**28**	7	74	**81**	**109**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, January 09, 2024 **WO No:** 41499

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

Full Study Heavy Vehicles

		LEGGET DR									SOLANDT 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	2	1	0	**3**	1	2	0	**3**	**6**	1	0	0	**1**	0	0	0	**0**	**1**	**7**
07:15	07:30	1	2	0	**3**	0	0	0	**0**	**3**	0	0	0	**0**	0	1	0	**1**	**1**	**4**
07:30	07:45	2	4	0	**6**	0	2	0	**2**	**8**	0	1	2	**3**	0	0	0	**0**	**3**	**11**
17:45	18:00	0	1	0	**1**	0	0	0	**0**	**1**	1	0	1	**2**	0	0	1	**1**	**3**	**4**
07:45	08:00	2	2	0	**4**	0	0	1	**1**	**5**	0	0	0	**0**	0	0	0	**0**	**0**	**5**
08:00	08:15	0	1	0	**1**	0	1	0	**1**	**2**	1	0	0	**1**	0	1	0	**1**	**2**	**4**
08:15	08:30	2	3	1	**6**	0	0	1	**1**	**7**	1	0	0	**1**	0	0	0	**0**	**1**	**8**
08:30	08:45	2	0	0	**2**	1	1	0	**2**	**4**	1	0	0	**1**	0	2	0	**2**	**3**	**7**
08:45	09:00	2	1	0	**3**	1	0	0	**1**	**4**	0	0	0	**0**	0	1	0	**1**	**1**	**5**
09:00	09:15	0	1	0	**1**	0	1	0	**1**	**2**	0	1	0	**1**	0	0	0	**0**	**1**	**3**
09:15	09:30	3	3	0	**6**	1	1	0	**2**	**8**	2	0	1	**3**	0	0	0	**0**	**3**	**11**
09:30	09:45	1	1	0	**2**	0	1	0	**1**	**3**	0	0	0	**0**	0	1	0	**1**	**1**	**4**
09:45	10:00	2	0	0	**2**	1	0	1	**2**	**4**	0	0	0	**0**	0	1	0	**1**	**1**	**5**
11:30	11:45	1	2	0	**3**	0	1	1	**2**	**5**	0	0	0	**0**	0	0	0	**0**	**0**	**5**
11:45	12:00	1	1	0	**2**	2	0	0	**2**	**4**	0	0	2	**2**	1	0	0	**1**	**3**	**7**
12:00	12:15	2	2	0	**4**	0	1	0	**1**	**5**	1	0	0	**1**	1	0	0	**1**	**2**	**7**
12:15	12:30	1	2	0	**3**	0	0	2	**2**	**5**	0	1	0	**1**	0	0	0	**0**	**1**	**6**
12:30	12:45	0	1	0	**1**	0	1	2	**3**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**4**
12:45	13:00	1	0	1	**2**	0	0	0	**0**	**2**	0	0	1	**1**	0	1	0	**1**	**2**	**4**
13:00	13:15	0	1	0	**1**	0	1	0	**1**	**2**	0	0	0	**0**	0	0	0	**0**	**0**	**2**
13:15	13:30	0	1	0	**1**	0	1	0	**1**	**2**	1	0	0	**1**	0	0	0	**0**	**1**	**3**
15:00	15:15	1	0	0	**1**	0	2	0	**2**	**3**	0	1	0	**1**	1	0	0	**1**	**2**	**5**
15:15	15:30	1	1	0	**2**	0	0	0	**0**	**2**	0	0	0	**0**	0	0	1	**1**	**1**	**3**
15:30	15:45	1	0	0	**1**	1	2	0	**3**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**4**
15:45	16:00	0	1	0	**1**	0	0	1	**1**	**2**	0	1	1	**2**	0	1	1	**2**	**4**	**6**
16:00	16:15	0	0	0	**0**	0	3	0	**3**	**3**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
16:15	16:30	0	1	0	**1**	0	0	0	**0**	**1**	1	2	0	**3**	0	0	1	**1**	**4**	**5**
16:30	16:45	0	1	0	**1**	0	3	1	**4**	**5**	0	0	1	**1**	0	1	0	**1**	**2**	**7**
16:45	17:00	1	0	0	**1**	0	1	0	**1**	**2**	0	0	1	**1**	0	0	0	**0**	**1**	**3**
17:00	17:15	0	0	0	**0**	0	0	0	**0**	**0**	1	2	0	**3**	0	1	0	**1**	**4**	**4**
17:15	17:30	0	1	0	**1**	0	1	0	**1**	**2**	1	0	1	**2**	1	0	0	**1**	**3**	**5**
17:30	17:45	0	1	0	**1**	1	2	0	**3**	**4**	1	3	1	**5**	0	0	2	**2**	**7**	**11**
Total:	None	29	36	2	**67**	9	28	10	**47**	**114**	13	12	12	**37**	4	11	6	**21**	**58**	**172**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, January 09, 2024 **WO No:** 41499

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

Full Study 15 Minute U-Turn Total

		LEGGET DR		SOLANDT 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
17:45	18:00	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	0	0
08:45	09:00	0	0	0	0	0
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	0	0
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	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
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	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
Total		0	0	0	0	0

APPENDIX B SIGNAL TIMING DATA

Traffic Signal Timing

City of Ottawa, Public Works & Environmental Services Department

Traffic Signal Operations Unit

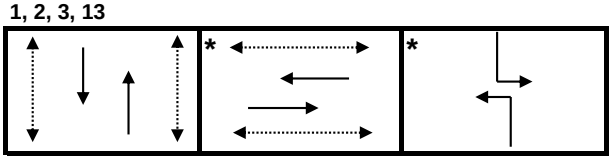
Intersection:	***Main:*** March	***Side:***	Morgans Grant / Shirleys Brook
Controller:	**ATC3**	**TSD:**	**5767**
Author:	Matthew Anderson	**Date:**	03-Feb-2022

Existing Timing Plans†

	Plan					**Ped Minimum Time**		
	AM Peak	**Off Peak**	**PM Peak**	**Night**	**PM Heavy**	***Walk***	***DW***	***A+R***
	1	2	3	4	13			
Cycle	130	110	120	95	130			
Offset	95	90	89	X	105			
NB Thru	70	51	61	41	70	7	11	4.6+1.5
SB Thru	70	51	61	41	70	7	11	4.6+1.5
EB Thru	39	39	39	39	39	7	24	3.0+4.5
WB Thru	39	39	39	39	39	7	24	3.0+4.5
NB Left (fp)	21	20	20	15	21	-	-	4.6+1.8
SB Left (fp)	21	20	20	15	21	-	-	4.6+1.8

Phasing Sequence‡

Plan: 1, 2, 3, 13



Schedule

Weekday

Time	Plan
0:10	4
6:30	1
9:30	2
15:00	3
16:30	13
18:00	3
18:30	2
23:00	4

Saturday

Time	Plan
0:10	4
8:00	2
22:30	4

Sunday

Time	Plan
0:10	4
8:00	2
22:30	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 $61.16 ($54.12 + HST)

Traffic Signal Timing

City of Ottawa, Public Works & Environmental Services Department

Traffic Signal Operations Unit

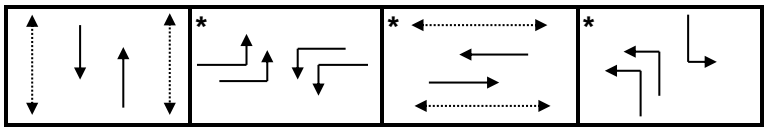
Intersection:	***Main:*** March	***Side:***	Terry Fox
Controller:	**MS 3200**	**TSD:**	**5920**
Author:	Matthew Anderson	**Date:**	03-Feb-2022

Existing Timing Plans†

	Plan					**Ped Minimum Time**		
	AM Peak	**Off Peak**	**PM Peak**	**Night**	**PM Heavy**	***Walk***	***DW***	***A+R***
	1	2	3	4	13			
Cycle	130	110	120	105	130			
Offset	114	80	72	X	96			
NB Thru	47	38	38	38	41	7	19	4.6+2.1
SB Thru	47	38	38	38	41	7	19	4.6+2.1
EB Left (fp)	16	15	19	13	24	-	-	3.7+3.1
WB Left (fp)	16	15	19	13	24	-	-	3.7+3.1
EB Thru	42	42	42	42	42	7	28	3.7+3.3
WB Thru	42	42	42	42	42	7	28	3.7+3.3
NB Left (fp)	25	15	21	12	23	-	-	4.6+2.3
SB Left (fp)	25	15	21	12	23	-	-	4.6+2.3

Phasing Sequence‡

Plan: **All**



Notes: 1) For plans 2,3 & 13, if the EW pedestrian phase is not actuated, the EW thru movements will force off 20s early

Schedule

Weekday

Time	Plan
0:10	4
6:30	1
9:30	2
15:00	3
16:30	13
18:00	3
18:30	2
22:00	4

Weekend

Time	Plan
0:10	4
8:00	2
22:00	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 $61.16 ($54.12 + HST)

Traffic Signal Timing

City of Ottawa, Public Works & Environmental Services Department

Traffic Signal Operations Unit

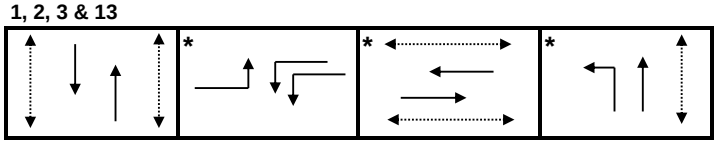
Intersection:	***Main:*** March	***Side:***	Solandt
Controller:	**MS 3200**	**TSD:**	**5359**
Author:	Matthew Anderson	**Date:**	03-Feb-2022

Existing Timing Plans†

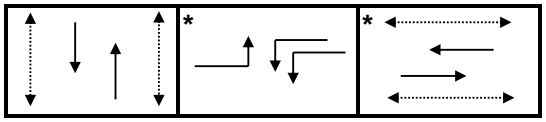
	Plan					**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**PM Heavy** 13	***Walk***	***DW***	***A+R***
Cycle	130	110	120	85	130			
Offset	15	16	21	X	30			
NB Thru	85	60	59	38	64	7	12	4.6+1.7
SB Thru	46	47	47	38	52	7	12	4.6+1.7
EB Left (fp)	13	18	29	16	34	-	-	3.3+2.6
WB Left (fp)	13	18	29	16	34	-	-	3.3+2.6
EB Thru	32	32	32	31	32	7	18	3.3+3.2
WB Thru	32	32	32	31	32	7	18	3.3+3.2
NB Left	39	13	12	-	12	-	-	4.6+1.7

Phasing Sequence‡

Plan: 1, 2, 3 & 13



Plan: 4



Notes: 1) In plan 1; If the EW Pedestrian phase is not actuated, the EW phases will force off after 10s
2) In plan 1; any unused time in the cycle will go to the NS Thru phases

Schedule

Weekday

Time	Plan
0:10	4
6:30	1
9:30	2
15:00	3
16:30	13
18:00	3
18:30	2
22:00	4

Weekend

Time	Plan
0:10	4
8:00	2
22:00	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 $61.16 ($54.12 + HST)

Traffic Signal Timing

City of Ottawa, Public Works & Environmental Services Department

Traffic Signal Operations Unit

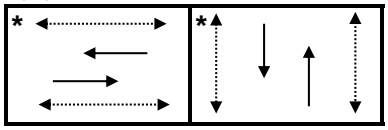
Intersection:	***Main:***	Legget	***Side:***	Solandt
Controller:	**ATC3**		**TSD:**	**6537**
Author:	Matthew Anderson		**Date:**	03-Feb-2022

Existing Timing Plans†

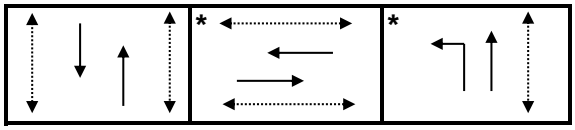
	Plan				**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	***Walk***	***DW***	***A+R***
Cycle	Free	Free	Free	Free			
Offset	X	X	X	X			
NB Thru	max 46.2	max 46.2	max 71.2	max 25.2	7	12	3.3+2.9
SB Thru	max 46.2	max 46.2	max 46.2	max 25.2	7	12	3.3+2.9
EB Thru	max 66.2	max 46.2	max 41.2	max 25.2	7	12	3.3+2.9
WB Thru	max 66.2	max 46.2	max 41.2	max 25.2	7	12	3.3+2.9
NB Left	-	-	max 31.2	-	-	-	3.3+2.9

Phasing Sequence‡

Plan: 1, 2, 4



Plan: 3



Notes: 1) For plans 1, 2 and 4, the EW movements have a min recall of 15 seconds green
2) For plan 3, the NS movement has a ped recall

Schedule

Weekday

Time	Plan
0:10	4
6:00	1
9:50	2
15:00	3
19:00	4

Saturday

Time	Plan
0:10	4

Sunday

Time	Plan
0:10	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 $61.16 ($54.12 + HST)

APPENDIX C COLLISION DATA

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: HELMSDALE DR @ TERRY FOX DR

Traffic Control: Stop sign **Total Collisions:** 4

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Feb-15, Sun,13:18	Clear	Angle	Non-fatal injury	Loose snow	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Feb-04, Mon,15:08	Clear	Angle	P.D. only	Slush	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Feb-14, Thu,08:11	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	
2019-Jun-28, Fri,15:00	Rain	Angle	P.D. only	Wet	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: LEGGET DR @ SOLANDT RD

Traffic Control: Traffic signal **Total Collisions:** 4

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Nov-02, Thu,17:32	Rain	Angle	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jan-31, Wed,17:44	Snow	Rear end	P.D. only	Loose snow	South	Slowing or stopping	Automobile, station wagon	Skidding/sliding	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Feb-03, Sat,02:08	Clear	SMV other	P.D. only	Dry	West	Unknown	Automobile, station wagon	Ran off road	0
2018-May-29, Tue,17:20	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	
					South	Unknown	Unknown	Other motor vehicle	

Location: LEGGET DR @ TERRY FOX DR

Traffic Control: Stop sign **Total Collisions:** 7

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: LEGGET DR @ TERRY FOX DR

Traffic Control: Stop sign **Total Collisions:** 7

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-09, Fri,08:33	Snow	Rear end	P.D. only	Ice	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Pick-up truck	Other motor vehicle	
2016-Apr-05, Tue,16:14	Clear	Angle	Non-fatal injury	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2016-Jun-13, Mon,12:31	Clear	Rear end	P.D. only	Dry	North	Going ahead	Passenger van	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Oct-25, Wed,00:02	Rain	Rear end	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-May-24, Thu,17:14	Clear	Angle	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jan-29, Tue,16:15	Snow	Angle	P.D. only	Slush	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Aug-21, Wed,17:27	Rain	Angle	P.D. only	Wet	North	Turning left	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	

Location: LEGGET DR btwn TERRY FOX DR & SOLANDT RD

Traffic Control: No control **Total Collisions:** 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Oct-23, Fri,16:44	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2016-Sep-20, Tue,14:39	Clear	SMV unattended vehicle	P.D. only	Dry	North	Going ahead	Passenger van	Unattended vehicle	0
2016-Dec-23, Fri,09:35	Clear	Angle	Non-fatal injury	Dry	North	Turning right	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: MARCH RD @ SOLANDT RD

Traffic Control: Traffic signal

Total Collisions: 53

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-12, Mon,07:20	Snow	Turning movement	P.D. only	Loose snow	South	Turning left	Automobile, station wagon	Skidding/sliding	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Jan-21, Wed,17:08	Clear	Rear end	P.D. only	Packed snow	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Pick-up truck	Other motor vehicle	
2015-Feb-04, Wed,14:30	Snow	Rear end	P.D. only	Loose snow	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Pick-up truck	Other motor vehicle	
2015-Mar-18, Wed,13:23	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Jun-18, Thu,08:04	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2015-Jul-15, Wed,20:15	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Passenger van	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
2015-Jul-17, Fri,17:30	Rain	Turning movement	P.D. only	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2015-Aug-27, Thu,13:56	Clear	Turning movement	P.D. only	Dry	South	Turning left	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Oct-19, Mon,08:52	Clear	Angle	P.D. only	Dry	East	Turning left	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Dec-09, Wed,10:31	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2015-Dec-29, Tue,20:29	Snow	Sideswipe	P.D. only	Loose snow	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Snow plow	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: MARCH RD @ SOLANDT RD

Traffic Control: Traffic signal **Total Collisions:** 53

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Feb-16, Tue,11:02	Snow	Turning movement	P.D. only	Loose snow	West	Turning left	Passenger van	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2016-Feb-23, Tue,15:50	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2016-Mar-02, Wed,19:35	Clear	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Passenger van	Other motor vehicle	
2016-Mar-14, Mon,10:46	Rain	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-May-03, Tue,16:55	Clear	Rear end	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Aug-17, Wed,10:51	Clear	Rear end	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Sep-16, Fri,11:14	Clear	Rear end	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Passenger van	Debris falling off vehicle	
2016-Oct-20, Thu,16:28	Rain	Rear end	P.D. only	Wet	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Passenger van	Other motor vehicle	
2016-Oct-31, Mon,08:05	Clear	Rear end	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Nov-20, Sun,20:27	Drifting Snow	SMV other	P.D. only	Ice	North	Turning left	Automobile, station wagon	Pole (utility, power)	0
2016-Nov-28, Mon,12:27	Clear	Turning movement	P.D. only	Dry	East	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Feb-16, Thu,19:15	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: MARCH RD @ SOLANDT RD

Traffic Control: Traffic signal **Total Collisions:** 53

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Mar-22, Wed,09:35	Clear	Turning movement	Non-fatal injury	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Apr-18, Tue,15:58	Clear	Rear end	Non-fatal injury	Dry	West	Turning right	Motorcycle	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2017-May-09, Tue,09:30	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	
2017-Jun-02, Fri,07:58	Clear	Turning movement	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Jun-13, Tue,17:30	Clear	Turning movement	P.D. only	Dry	South	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2017-Sep-12, Tue,07:13	Clear	Rear end	P.D. only	Dry	East	Going ahead	Passenger van	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Oct-24, Tue,07:37	Rain	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Oct-31, Tue,15:47	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-20, Wed,15:51	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Dec-21, Thu,10:30	Clear	Angle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Jan-31, Wed,17:54	Snow	Rear end	P.D. only	Loose snow	South	Going ahead	Automobile, station wagon	Skidding/sliding	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Feb-26, Mon,19:50	Clear	Turning movement	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: MARCH RD @ SOLANDT RD

Traffic Control: Traffic signal **Total Collisions:** 53

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Mar-14, Wed,08:56	Snow	Turning movement	Non-fatal injury	Slush	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Apr-06, Fri,16:40	Rain	Rear end	P.D. only	Wet	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-May-28, Mon,20:50	Clear	Rear end	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Jun-06, Wed,20:24	Clear	Turning movement	P.D. only	Dry	South	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Aug-09, Thu,09:19	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Aug-24, Fri,15:53	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Oct-09, Tue,06:53	Clear	Rear end	P.D. only	Wet	East	Unknown	Unknown	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Oct-26, Fri,13:38	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-Oct-31, Wed,15:43	Rain	Rear end	P.D. only	Wet	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Passenger van	Other motor vehicle	
2019-Jan-11, Fri,07:27	Clear	Turning movement	P.D. only	Dry	South	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jan-28, Mon,17:24	Clear	Turning movement	Non-fatal injury	Packed snow	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	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: MARCH RD @ SOLANDT RD

Traffic Control: Traffic signal **Total Collisions:** 53

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Apr-01, Mon,12:40	Clear	Rear end	P.D. only	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Jun-08, Sat,10:11	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-10, Wed,10:24	Clear	Turning movement	P.D. only	Dry	North	Turning left	Truck and trailer	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jul-27, Sat,21:52	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Sep-24, Tue,08:59	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-19, Thu,10:15	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Dec-30, Mon,20:00	Freezing Rain	Rear end	P.D. only	Ice	North	Going ahead	Automobile, station wagon	Skidding/sliding	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	

Location: MARCH RD @ TERRY FOX DR

Traffic Control: Traffic signal **Total Collisions:** 56

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-14, Wed,15:14	Clear	Rear end	P.D. only	Dry	North	Turning left	Passenger van	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2015-Jan-17, Sat,08:31	Clear	Rear end	P.D. only	Ice	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Pick-up truck	Other motor vehicle	
2015-Feb-01, Sun,17:48	Clear	Turning movement	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: MARCH RD @ TERRY FOX DR

Traffic Control: Traffic signal **Total Collisions:** 56

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Apr-07, Tue,19:00	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	
2015-Jun-03, Wed,15:30	Clear	Rear end	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2015-Jun-28, Sun,14:51	Rain	Rear end	P.D. only	Wet	North	Slowing or stopping	Delivery van	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Jul-13, Mon,10:34	Clear	Rear end	P.D. only	Dry	West	Turning right	Pick-up truck	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2015-Jul-13, Mon,17:45	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	
2015-Aug-05, Wed,18:00	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Sep-28, Mon,06:25	Clear	Turning movement	Non-fatal injury	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Truck - dump	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Oct-23, Fri,20:05	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	
2015-Oct-29, Thu,09:39	Rain	Rear end	P.D. only	Wet	North	Going ahead	Passenger van	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2015-Dec-14, Mon,17:20	Clear	Rear end	P.D. only	Dry	West	Turning right	Pick-up truck	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Jan-12, Tue,17:18	Clear	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	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: MARCH RD @ TERRY FOX DR

Traffic Control: Traffic signal **Total Collisions:** 56

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Apr-05, Tue,08:26	Clear	Rear end	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle	0
					East	Turning right	Pick-up truck	Other motor vehicle	
2016-Apr-14, Thu,07:40	Clear	Rear end	Non-fatal injury	Dry	East	Turning right	Pick-up truck	Other motor vehicle	0
					East	Turning right	Pick-up truck	Other motor vehicle	
2016-Jul-26, Tue,16:23	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2016-Oct-02, Sun,13:23	Rain	Sideswipe	P.D. only	Wet	West	Turning left	Pick-up truck	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Dec-14, Wed,11:30	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Dec-22, Thu,09:33	Snow	Sideswipe	P.D. only	Slush	North	Changing lanes	Automobile, station wagon	Skidding/sliding	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Jan-08, Sun,14:48	Clear	Rear end	P.D. only	Wet	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Pick-up truck	Other motor vehicle	
2017-Apr-24, Mon,14:47	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-May-18, Thu,09:47	Clear	Rear end	P.D. only	Dry	North	Going ahead	Passenger van	Other motor vehicle	0
					North	Stopped	Truck and trailer	Other motor vehicle	
2017-Jun-13, Tue,20:15	Clear	Rear end	P.D. only	Dry	North	Changing lanes	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2017-Jun-14, Wed,18:47	Clear	Rear end	Non-fatal injury	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					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: MARCH RD @ TERRY FOX DR

Traffic Control: Traffic signal **Total Collisions:** 56

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Jun-29, Thu,11:53	Rain	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jul-24, Mon,15:37	Rain	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Passenger van	Other motor vehicle	
2017-Aug-24, Thu,17:49	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	
2017-Sep-03, Sun,10:39	Rain	Sideswipe	Non-fatal injury	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Sep-20, Wed,16:15	Clear	Rear end	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Sep-27, Wed,14:43	Clear	Rear end	Non-fatal injury	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Oct-04, Wed,17:45	Clear	Sideswipe	P.D. only	Dry	West	Overtaking	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Oct-14, Sat,08:00	Rain	SMV other	P.D. only	Wet	North	Merging	Automobile, station wagon	Curb	0
2017-Oct-20, Fri,19:04	Clear	Other	P.D. only	Dry	West	Reversing	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Dec-02, Sat,18:19	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Passenger van	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Dec-19, Tue,08:32	Clear	SMV other	P.D. only	Loose snow	North	Turning right	Automobile, station wagon	Snowbank/drift	0
2017-Dec-27, Wed,14:55	Clear	SMV other	P.D. only	Ice	South	Going ahead	Automobile, station wagon	Other	0
2018-Jan-14, Sun,12:37	Clear	Rear end	P.D. only	Ice	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: MARCH RD @ TERRY FOX DR

Traffic Control: Traffic signal **Total Collisions:** 56

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Jan-21, Sun,21:32	Clear	Angle	P.D. only	Dry	East	Reversing	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Feb-09, Fri,23:12	Snow	Turning movement	Non-fatal injury	Loose snow	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Feb-11, Sun,18:56	Freezing Rain	SMV other	P.D. only	Ice	East	Turning right	Automobile, station wagon	Skidding/sliding	0
2018-Feb-22, Thu,17:20	Clear	Rear end	P.D. only	Wet	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Feb-28, Wed,13:53	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jun-06, Wed,17:35	Clear	Rear end	P.D. only	Dry	North	Unknown	Motorcycle	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jun-09, Sat,17:11	Clear	SMV other	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Curb	0
2018-Jun-22, Fri,15:38	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	
2018-Jul-14, Sat,11:41	Clear	Rear end	P.D. only	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jul-24, Tue,09:30	Rain	Rear end	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-14, Wed,19:00	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Dec-18, Tue,08:59	Clear	Rear end	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Dec-21, Fri,16:20	Rain	Rear end	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: MARCH RD @ TERRY FOX DR

Traffic Control: Traffic signal **Total Collisions:** 56

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Feb-26, Tue,16:30	Snow	Sideswipe	P.D. only	Ice	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Mar-10, Sun,14:45	Snow	Rear end	P.D. only	Slush	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jun-26, Wed,09:46	Rain	Approaching	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Skidding/sliding	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Nov-05, Tue,18:17	Clear	Sideswipe	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Truck and trailer	Other motor vehicle	
2019-Dec-24, Tue,22:58	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	

Location: MARCH RD btwn TERRY FOX DR & SOLANDT RD

Traffic Control: No control **Total Collisions:** 20

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Jan-16, Fri,16:08	Clear	SMV other	P.D. only	Slush	South	Going ahead	Automobile, station wagon	Skidding/sliding	0
2015-Apr-13, Mon,07:29	Clear	SMV other	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Skidding/sliding	0
2015-May-09, Sat,13:17	Clear	SMV other	Non-fatal injury	Wet	South	Changing lanes	Motorcycle	Skidding/sliding	0
2015-May-25, Mon,21:57	Rain	Sideswipe	Non-fatal injury	Wet	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Nov-15, Sun,21:40	Clear	SMV other	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Animal - wild	0
2015-Nov-15, Sun,23:58	Clear	SMV other	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Animal - wild	0

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: MARCH RD btwn TERRY FOX DR & SOLANDT RD

Traffic Control: No control **Total Collisions:** 20

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Jan-15, Fri,17:54	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Jun-17, Fri,06:36	Clear	SMV other	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Animal - wild	0
2016-Jun-30, Thu,16:46	Clear	Angle	Non-fatal injury	Dry	North	Going ahead	Bicycle	Other motor vehicle	0
					East	Turning right	Pick-up truck	Cyclist	
2016-Dec-19, Mon,23:58	Clear	Sideswipe	P.D. only	Loose snow	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2017-Feb-14, Tue,11:55	Snow	Rear end	Non-fatal injury	Wet	North	Merging	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-May-20, Sat,07:57	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Jun-05, Mon,08:55	Clear	Rear end	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Truck and trailer	Other motor vehicle	
2018-Oct-30, Tue,17:12	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	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Apr-18, Thu,03:22	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2019-May-23, Thu,16:30	Rain	Rear end	P.D. only	Wet	South	Unknown	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Aug-04, Sun,11:40	Clear	SMV other	Non-fatal injury	Dry	North	Going ahead	Motorcycle	Skidding/sliding	0

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: MARCH RD btwn TERRY FOX DR & SOLANDT RD

Traffic Control: No control **Total Collisions:** 20

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Nov-16, Sat,19:07	Clear	SMV other	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Debris on road	0
2019-Nov-26, Tue,07:00	Clear	SMV other	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Animal - wild	0
2019-Dec-31, Tue,07:57	Snow	Rear end	P.D. only	Slush	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	

Location: MCKINLEY DR @ TERRY FOX DR

Traffic Control: Stop sign **Total Collisions:** 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Jan-10, Wed,07:14	Clear	Angle	P.D. only	Wet	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Feb-15, Fri,16:45	Clear	Angle	Non-fatal injury	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Delivery van	Other motor vehicle	

Location: SOLANDT RD btwn MARCH RD & LEGGET DR

Traffic Control: No control **Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Oct-02, Tue,16:24	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	

Location: TERRY FOX DR btwn LEGGET DR & HELMSDALE DR

Traffic Control: No control **Total Collisions:** 10

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Feb-12, Thu,10:28	Snow	SMV other	P.D. only	Loose snow	East	Going ahead	Passenger van	Cable guide rail	0
2015-Feb-12, Thu,13:37	Snow	SMV unattended vehicle	P.D. only	Loose snow	East	Going ahead	Automobile, station wagon	Unattended vehicle	0

Transportation Services - Traffic Services

Collision Details Report - Public Version

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

Location: TERRY FOX DR btwn LEGGET DR & HELMSDALE DR

Traffic Control: No control **Total Collisions:** 10

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Feb-27, Fri,09:12	Clear	Rear end	P.D. only	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Stopped	Municipal transit bus	Other motor vehicle	
2015-Apr-30, Thu,18:22	Clear	Sideswipe	P.D. only	Dry	West	Going ahead	Unknown	Other motor vehicle	0
					West	Stopped	Municipal transit bus	Other motor vehicle	
2016-Apr-16, Sat,03:37	Clear	SMV other	P.D. only	Dry	East	Unknown	Pick-up truck	Ran off road	0
2017-Aug-22, Tue,11:03	Rain	Angle	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-18, Fri,09:20	Snow	Rear end	P.D. only	Packed snow	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Jan-23, Wed,08:45	Snow	Rear end	Non-fatal injury	Packed snow	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Mar-03, Sun,17:00	Clear	Angle	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Nov-26, Tue,13:29	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	

Location: TERRY FOX DR btwn MARCH RD & MCKINLEY DR

Traffic Control: No control **Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-May-21, Thu,09:09	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	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: TERRY FOX DR btwn MCKINLEY DR & LEGGET DR

Traffic Control: No control **Total Collisions:** 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-May-26, Sat,06:15	Clear	SMV other	P.D. only	Wet	West	Going ahead	Pick-up truck	Ran off road	0
2019-Aug-24, Sat,15:35	Clear	SMV other	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Curb	0

Location: MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Traffic Control: Traffic signal **Total Collisions:** 38

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Jan-21, Tue,18:07	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

2014-Feb-14, Fri,08:30	Snow	Turning movement	P.D. only	Slush	West	Turning left	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-Mar-28, Fri,16:45	Rain	SMV other	Non-fatal injury	Wet	West	Turning left	Pick-up truck	Pedestrian	1
2014-Apr-20, Sun,14:24	Clear	Rear end	P.D. only	Dry	West	Turning right	Pick-up truck	Other motor vehicle	
					West	Turning right	Passenger van	Other motor vehicle	
2014-Jun-26, Thu,18:32	Clear	Turning movement	P.D. only	Dry	North	Turning left	Pick-up truck	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-Aug-05, Tue,00:36	Clear	SMV other	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Pole (sign, parking meter)	
2014-Nov-07, Fri,17:47	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Turning right	Pick-up truck	Other motor vehicle	
2015-Jan-30, Fri,09:00	Snow	Rear end	P.D. only	Slush	East	Turning right	Automobile, station wagon	Other motor vehicle	
					East	Turning right	Passenger van	Other motor vehicle	
2015-Jan-30, Fri,07:38	Snow	Rear end	P.D. only	Packed snow	North	Going ahead	Pick-up truck	Other motor vehicle	
					North	Stopped	Passenger van	Other motor vehicle	

2014-Nov-27, Thu,19:05	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Passenger van	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2015-Apr-15, Wed,13:55	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Pick-up truck	Other motor vehicle
2015-Jun-27, Sat,13:45	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle
					North	Stopped	Automobile, station wagon	Other motor vehicle
2015-Jan-16, Fri,09:33	Clear	Turning movement	P.D. only	Slush	North	Turning left	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2015-Aug-09, Sun,18:53	Clear	Turning movement	P.D. only	Dry	South	Turning left	Pick-up truck	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2016-Aug-04, Thu,09:12	Clear	Angle	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle
					West	Going ahead	Automobile, station wagon	Other motor vehicle
2016-Mar-06, Sun,12:03	Clear	Turning movement	Non-fatal injury	Dry	South	Going ahead	Pick-up truck	Other motor vehicle
					North	Turning left	Passenger van	Other motor vehicle

2015-Nov-13, Fri,22:05	Rain	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2016-Jun-17, Fri,13:40	Clear	Rear end	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Pick-up truck	Other motor vehicle
2016-Nov-16, Wed,17:43	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Delivery van	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
					East	Stopped	Automobile, station wagon	Debris falling off vehicle
2017-Jun-28, Wed,13:14	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle
					North	Stopped	Automobile, station wagon	Other motor vehicle
2017-Apr-27, Thu,12:53	Clear	Rear end	P.D. only	Dry	West	Turning right	Pick-up truck	Other motor vehicle
					West	Turning right	Automobile, station wagon	Other motor vehicle
2017-Apr-18, Tue,09:31	Clear	Turning movement	P.D. only	Dry	South	Turning left	Passenger van	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2017-May-17, Wed,16:47	Clear	Turning movement	P.D. only	Dry	South	Turning left	Pick-up truck	Other motor vehicle
					North	Going ahead	Pick-up truck	Other motor vehicle

2017-Jun-09, Fri,22:27	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Dec-26, Tue,14:33	Clear	Rear end	P.D. only	Dry	West	Stopped	Automobile, station wagon	Other motor vehicle
					West	Turning left	Delivery van	Other motor vehicle
2017-Sep-28, Thu,08:21	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Passenger van	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Sep-21, Thu,17:33	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Nov-28, Tue,17:07	Clear	Turning movement	P.D. only	Dry	North	Turning left	Truck and trailer	Other motor vehicle
					South	Going ahead	Pick-up truck	Other motor vehicle
					East	Turning left	Automobile, station wagon	Other motor vehicle
2018-Jan-30, Tue,15:35	Clear	Rear end	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle
					South	Stopped	Unknown	Other motor vehicle
2018-Feb-28, Wed,09:47	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle
					East	Merging	Automobile, station wagon	Other motor vehicle

2018-Apr-22, Sun,15:30	Clear	Rear end	Non-fatal injury	Dry	North	Slowing or stopping	Motorcycle	Skidding/sliding
					North	Stopped	Automobile, station wagon	Other motor vehicle
2018-May-17, Thu,07:35	Clear	Turning movement	P.D. only	Dry	South	Turning left	Passenger van	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2018-May-25, Fri,17:46	Rain	Sideswipe	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle
2018-Nov-23, Fri,07:54	Clear	Rear end	P.D. only	Ice	South	Going ahead	Automobile, station wagon	Other motor vehicle
					South	Stopped	Pick-up truck	Other motor vehicle
2018-Dec-06, Thu,06:21	Snow	Angle	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle
					West	Going ahead	Municipal transit bus	Other motor vehicle
2018-Sep-22, Sat,12:00	Clear	Rear end	P.D. only	Dry	West	Merging	Passenger van	Other motor vehicle
					West	Merging	Automobile, station wagon	Other motor vehicle
2018-Dec-20, Thu,09:55	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Unknown	Other motor vehicle

2018-Aug-15, Wed,22:13	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle

APPENDIX D TDM-SUPPORTIVE DEVELOPMENT DESIGN AND INFRASTRUCTURE CHECKLIST

TDM-Supportive Development Design and Infrastructure Checklist:
Non-Residential Developments (office, institutional, retail or industrial)

Legend

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

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

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

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	2.	**WALKING & CYCLING: END-OF-TRIP FACILITIES**	
	2.1	**Bicycle parking**	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)*	☑
REQUIRED	2.1.2	Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)*	☑
REQUIRED	2.1.3	Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)*	☑
BASIC	2.1.4	Provide bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met), plus the expected peak number of customer/visitor cyclists	☑
BETTER	2.1.5	Provide bicycle parking spaces equivalent to the expected number of commuter and customer/visitor cyclists, plus an additional buffer (e.g. 25 percent extra) to encourage other cyclists and ensure adequate capacity in peak cycling season	☐
	2.2	**Secure bicycle parking**	
REQUIRED	2.2.1	Where more than 50 bicycle parking spaces are provided for a single office building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers *(see Zoning By-law Section 111)*	☑
BETTER	2.2.2	Provide secure bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met)	☑
	2.3	**Shower & change facilities**	
BASIC	2.3.1	Provide shower and change facilities for the use of active commuters	☑
BETTER	2.3.2	In addition to shower and change facilities, provide dedicated lockers, grooming stations, drying racks and laundry facilities for the use of active commuters	☐
	2.4	**Bicycle repair station**	
BETTER	2.4.1	Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☐

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	3.	**TRANSIT**	
	3.1	**Customer amenities**	
BASIC	3.1.1	Provide shelters, lighting and benches at any on-site transit stops	☐
BASIC	3.1.2	Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☐
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐
	4.	**RIDESHARING**	
	4.1	**Pick-up & drop-off facilities**	
BASIC	4.1.1	Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☑
	4.2	**Carpool parking**	
BASIC	4.2.1	Provide signed parking spaces for carpools in a priority location close to a major building entrance, sufficient in number to accommodate the mode share target for carpools	☐
BETTER	4.2.2	At large developments, provide spaces for carpools in a separate, access-controlled parking area to simplify enforcement	☐
	5.	**CARSHARING & BIKESHARING**	
	5.1	**Carshare parking spaces**	
BETTER	5.1.1	Provide carshare parking spaces in permitted non-residential zones, occupying either required or provided parking spaces *(see Zoning By-law Section 94)*	☐
	5.2	**Bikeshare station location**	
BETTER	5.2.1	Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☐

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	6.	**PARKING**	
	6.1	**Number of parking spaces**	
REQUIRED	6.1.1	Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☑
BASIC	6.1.2	Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☐
BASIC	6.1.3	Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly *(see Zoning By-law Section 104)*	☐
BETTER	6.1.4	Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking *(see Zoning By-law Section 111)*	☐
	6.2	**Separate long-term & short-term parking areas**	
BETTER	6.2.1	Separate short-term and long-term parking areas using signage or physical barriers, to permit access controls and simplify enforcement (i.e. to discourage employees from parking in visitor spaces, and vice versa)	☐
	7.	**OTHER**	
	7.1	**On-site amenities to minimize off-site trips**	
BETTER	7.1.1	Provide on-site amenities to minimize mid-day or mid-commute errands	☑

APPENDIX E TDM MEASURES CHECKLIST

Introduction

The City of Ottawa's *Transportation Impact Assessment (TIA) Guidelines* (specifically Module 4.3—Transportation Demand Management) requires proponents of qualifying developments to assess the context, need and opportunity for transportation demand management (TDM) measures at their development. The guidelines require that proponents complete the City's **TDM Measures Checklist**, at a minimum, to identify any TDM measures being proposed.

The remaining sections of this document are:

- Using the Checklist
- Glossary
- TDM Measures Checklist: Non-Residential Developments
- TDM Measures Checklist: Residential developments

Readers are encouraged to contact the City of Ottawa's TDM Officer for any guidance and assistance they require to complete this checklist.

Using the Checklist

The City's *TIA Guidelines* are designed so that *Module 3.1—Development-Generated Travel Demand*, *Module 4.1—Development Design*, and *Module 4.2—Parking* are complete before a proponent begins *Module 4.3—Transportation Demand Management*.

Within Module 4.3, *Element 4.3.1—Context for TDM* and *Element 4.3.2—Need and Opportunity* are intended to create an understanding of the need for any TDM measures, and of the results they are expected to achieve or support. Once those two elements are complete, proponents begin *Element 4.3.3—TDM Program* that requires proponents to identify proposed TDM measures using the **TDM Measures Checklist**, at a minimum. The *TIA Guidelines* note that the City may require additional analysis for large or complex development proposals, or those that represent a higher degree of performance risk; as well, proponents proposing TDM measures for a new development must also propose an implementation plan that addresses planning and coordination, funding and human resources, timelines for action, performance targets and monitoring requirements.

This **TDM Measures Checklist** document includes two actual checklists, one for non-residential developments (office, institutional, retail or industrial) and one for residential developments (multi-family, condominium or subdivision). Readers may download the applicable checklist in electronic format and complete it electronically, or print it out and complete it by hand. As an alternative, they may create a freestanding document that lists the TDM measures being proposed and provides additional detail on them, including an implementation plan as required by the City's *TIA Guidelines*.

Each measure in the checklist is numbered for easy reference. Each measure is also flagged as:

- 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.

Glossary

This glossary defines and describes the following measures that are identified in the **TDM Measures Checklist**:

TDM program management
- Program coordinator
- Travel surveys

Parking
- Priced parking

Walking & cycling
- Information on walking/cycling routes & destinations
- Bicycle skills training
- Valet bike parking

Transit
- Transit information
- Transit fare incentives
- Enhanced public transit service
- Private transit service

Ridesharing
- Ridematching service
- Carpool parking price incentives
- Vanpool service

Carsharing & bikesharing
- Bikeshare stations & memberships
- Carshare vehicles & memberships

TDM marketing & communications
- Multimodal travel information
- Personalized trip planning
- Promotions

Other incentives & amenities
- Emergency ride home
- Alternative work arrangements
- Local business travel options
- Commuter incentives
- On-site amenities

For further information on selecting and implementing TDM measures (particularly as they apply to non-residential developments, with a focus on workplaces), readers may find it helpful to consult Transport Canada's *Workplace Travel Plans: Guidance for Canadian Employers*, which can be downloaded in English and French from the ACT Canada website at www.actcanada.com/resources/act-resources.

▶ *TDM program management*

While some TDM measures can be implemented with a minimum of effort through routine channels (e.g. parking or human resources), more complex measures or a larger development site may warrant assigning responsibility for TDM program coordination to a designated person either inside or outside the implementing organization. Similarly, some TDM measures are more effective if they are targeted or customized for specific audiences, and would benefit from the collection of related information.

Program coordinator. This person is charged with day-to-day TDM program development and implementation. Only in very large employers with thousands of workers is this likely to be a full-time, dedicated position. Usually, it is added to an existing role in parking, real estate, human resources or environmental management. In practice, this role may be called TDM coordinator, commute trip reduction coordinator or employee transportation coordinator. The City of Ottawa can identify external resources (e.g. non-profit organizations or consultants) that could provide these services.

Travel surveys. Travel surveys are most commonly conducted at workplaces, but can be helpful in other settings. They identify how and why people travel the way they do, and what barriers and opportunities exist for different behaviours. They usually capture the following information:

- *Personal data* including home address or postal code, destination, job type or function, employment status (full-time, part-time and/or teleworker), gender, age and hours of work
- *Commute information* including distance or time for the trip between home and work, usual methods of commuting, and reasons for choosing them
- *Barriers and opportunities* including why other commuting methods are unattractive, willingness to consider other options, and what improvements to other options could make them more attractive

▶ *Parking*

Priced parking. Charging for parking is typically among the most effective ways of getting drivers to consider other travel options. While drivers may not support parking fees, they can be more accepting if the revenues are used to improve other travel options (e.g. new showers and change rooms, improved bicycle parking or subsidized transit passes). At workplaces or daytime destinations, parking discounts (e.g. early bird specials, daily passes that cost significantly less than the equivalent hourly charge, monthly passes that cost significantly less than the equivalent daily charge) encourage long-term parking and discourage the use of other travel options. For residential uses, unbundling parking costs from dwelling purchase, lease or rental costs provides an incentive for residents to own fewer cars, and can reduce car use and the costs of parking provision.

▶ *Walking & cycling*

Active transportation options like cycling and walking are particularly attractive for short trips (typically up to 5 km and 2 km, respectively). Other supportive factors include an active, health-conscious audience, and development proximity to high-quality walking and cycling networks. Common challenges to active transportation include rain, darkness, snowy or icy conditions, personal safety concerns, the potential for bicycle theft, and a lack of shower and change facilities for those making longer trips.

Information on walking/cycling routes & destinations. Ottawa, Gatineau and the National Capital Commission all publish maps to help people identify the most convenient and comfortable walking or cycling routes.

Bicycle skills training. Potential cyclists can be intimidated by the need to ride on roads shared with motor vehicles. This barrier can be reduced or eliminated by offering cycling skills training to interested cyclists (e.g. CAN-BIKE certification courses).

Valet bike parking. For large events, temporary “valet parking” areas can be easily set up to maximize convenience and security for cyclists. Experienced local non-profit groups can help.

▶ *Transit*

Transit information. Difficulty in finding or understanding basic information on transit fares, routes and schedules can prevent people from trying transit. Employers can help by providing online links to OC Transpo and STO websites. Transit users also appreciate visible maps and schedules of transit routes that serve the site; even better, a screen that shows real-time transit arrival information is particularly useful at sites with many transit users and an adjacent transit stop or station.

Transit fare incentives. Free or subsidized transit fares are an attractive incentive for non-transit riders to try transit. Many non-users are unsure of how to pay a fare, and providing tickets or a preloaded PRESTO card (or, for special events, pre-arranging with OC Transpo that transit fares are included with event tickets) overcome that barrier.

Enhanced public transit service. OC Transpo may adjust transit routes, stop locations, service hours or frequencies for an agreed fee under contract, or at no cost where warranted by the potential ridership increase. Information provided by a survey of people who travel to a given development can support these decisions.

Private transit service. At remote suburban or rural workplaces, a poor transit connection to the nearest rapid transit station can be an obstacle for potential transit users, and an employer in this situation could initiate a private shuttle service to make transit use more feasible or attractive. Other circumstances where a shuttle makes sense include large special events, or a residential development for people with limited independent mobility who still require regular access to shops and services.

▶ *Ridesharing*

Ridesharing's potential is greatest in situations where transit ridership is low, where parking costs are high, and/or where large numbers of car commuters (e.g. employees or full-time students) live reasonably far from the workplace.

Ridematching service. Potential carpoolers in Ottawa are served by www.OttawaRideMatch.com, an online service to help people find carpool partners. Employers can arrange for a dedicated portal where their employees can search for potential carpool partners only among their colleagues, if they desire. Some very large employers may establish internal ridematching services, to maximize employee uptake and corporate control. Ridematching service providers typically include a waiver to relieve employers of liability when their employees start carpooling through a ridematching service. Ridesharing with co-workers also tends to eliminate security concerns.

Carpool parking price incentives. Discounted parking fees for carpools can be an extra incentive to rideshare.

Vanpool service. Vanpools operate in the Toronto and Vancouver metropolitan areas, where vans that carry up to about ten occupants are driven by one of the vanpool members. Vanpools tend to operate on a cost-recovery basis, and are most practical for long-distance commutes where transit is not an option. Current legislation in Ontario does not permit third-party (i.e. private or non-profit) vanpool services, but does permit employers to operate internal vanpools.

▶ *Carsharing & bikesharing*

Bikeshare station & memberships. VeloGO Bike Share and Right Bike both operate bikesharing services in Ottawa. Developments that would benefit from having a bikeshare station installed at or near their development may negotiate directly with either service provider.

Carshare vehicles & memberships. VRTUCAR and Zipcar both operate carsharing services in Ottawa, for use by the general public or by businesses as an alternative to corporate fleets. Carsharing services offer 24-hour access, self-serve reservation systems, itemized monthly billings, and outsourcing of all financing, insurance, maintenance and administrative responsibilities.

▶ *TDM marketing & communications*

Multimodal travel information. Aside from mode-specific information discussed elsewhere in this document, multimodal information that identifies and explains the full range of travel options available to people can be very influential—especially when provided at times and locations where individuals are actively choosing among those options. Examples include: employees when their employer is relocating, or when they are joining a new employer; students when they are starting a program at a new institution; visitors or customers travelling to an unfamiliar destination, or when faced with new options (e.g. shuttle services or parking restrictions); and residents when they purchase or occupy a residence that is new to them.

Personalized trip planning. As an extension to the simple provision of information, this technique (also known as *individualized marketing*) is effective in helping people make more sustainable travel choices. The approach involves identifying who is most likely to change their travel choices (notably relocating employees, students or residents) giving them customized information, training and incentives to support them in making that change. It may be conducted with assistance from an external service provider with the necessary skills, and delivered in a variety of settings including workplaces and homes.

Promotions. Special events and incentives can raise awareness and encourage individuals to examine and try new travel options.

- *Special events* can help attract attention, build participation and celebrate successes. Events that have been held in Ottawa include Earth Day (in April) Bike to Work Month (in May), Environment Week (early June), International Car Free Day (September 22), and Canadian Ridesharing Week (October). At workplaces or educational institutions, similarly effective internal events could include workshops, lunch-and-learns, inter-departmental challenges, pancake breakfasts, and so on.
- *Incentives* can encourage trial of sustainable modes, and might include loyalty rewards for duration or consistency of activity (e.g. 1,000 km commuted by bicycle), participation prizes (e.g. for completing a survey or joining a special event), or personal recognition that highlights individual accomplishments.

▶ *Other incentives & amenities*

Emergency ride home. This measure assures non-driving commuters that they will be able to get home quickly and conveniently in case of family emergency (or in some workplaces, in case of unexpected overtime, severe weather conditions, or the early departure of a carpool driver) by offering a chit or reimbursement for taxi, carshare or rental car usage. Limits on annual usage or cost per employee may be set, although across North America the actual rates of usage are typically very low.

Alternative work arrangements. A number of alternatives to the standard 9-to-5, Monday-to-Friday workweek can support sustainable commuting (and work-life balance) at workplaces:

- *Flexible working hours* allow transit commuters to take advantage of the fastest and most convenient transit services, and allow potential carpoolers to include people who work slightly different schedules in their search for carpool partners. They also allow active commuters to travel at least one direction in daylight, either in the morning or the afternoon, during the winter.
- *Compressed workweeks* allow employees to work their required hours over fewer days (e.g. five days in four, or ten days in nine), eliminating the need to commute on certain days. For employees, this can promote work-life balance and gives flexibility for appointments. For employers, this can permit extended service hours as well as reduced parking demands if employees stagger their days off.
- *Telework* is a normal part of many workplaces. It helps reduce commuting activity, and can lead to significant cost savings through workspace sharing. Telework initiatives involve many stakeholders, and may face as much resistance as support within an organization. Consultation, education and training are helpful.

Local business travel options. A common obstacle for people who might prefer to not drive to work is that their employer requires them to bring a car to work so they can make business trips during the day. Giving employees convenient alternatives to private cars for local business travel during the workday makes walking, cycling, transit or carpooling in someone else's car more practical.

- *Walking and cycling*—Active transportation can be a convenient and enjoyable way to make short business trips. They can also reduce employer expenses, although they may require extra travel time. Providing a fleet of shared bikes, or reimbursing cyclists for the kilometres they ride, are inexpensive ways to validate their choice.
- *Public transit*—Transit can be convenient and inexpensive compared to driving. OC Transpo's PRESTO cards are transferable among employees and automatically reloadable, making them the perfect tool for enabling transit use during the day.
- *Ridesharin*g—When multiple employees attend the same off-site meeting or event, they can be reminded to carpool whenever possible.
- *Taxis or ride-hailing*—Taxis and ride-hailing can eliminate parking costs, save time and eliminate collision liability concerns. Taxi chits eliminate cash transactions and minimize paperwork.
    - *Fleet vehicles or carsharing*—Fleet vehicles can be cost-effective for high travel volumes, while carsharing is a great option for less frequent trips.
    - *Interoffice shuttles*—Employers with multiple worksites in the region could use a shuttle service to move people as well as mail or supplies.
    - *Videoconferencing*—New technologies mean that staying in the office to hold meetings electronically is more viable, affordable and productive than ever.

Commuter incentives. Financial incentives can help create a level playing field and support commuting by sustainable modes. A "commuting allowance" given to all employees as a taxable benefit is one such incentive; employees who choose to drive could then be charged for parking, while other employees could use the allowance for transit fares or cycling equipment, or for spending or saving. (Note that in the United States this practice is known as "parking cash-out," and is popular because commuting allowances are not taxable up to a certain limit). Alternatively, a monthly commuting allowance for non-driving employees would give drivers an incentive to choose a different commuting mode. Another practical incentive for active commuters or transit users is to offer them discounted "rainy day" parking passes for a small number of days each month.

On-site amenities. Developments that offer services to limit employees' need for a car during their commute (e.g. to drop off clothing at the dry cleaners) or during their workday (e.g. to buy lunch) can free employees to make the commuting decision that otherwise works best for them.

TDM Measures Checklist:
Non-Residential Developments (office, institutional, retail or industrial)

Legend

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

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

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

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
	1.	**TDM PROGRAM MANAGEMENT**	
	1.1	**Program coordinator**	
BASIC ★	1.1.1	Designate an internal coordinator, or contract with an external coordinator	☑
	1.2	**Travel surveys**	
BETTER	1.2.1	Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☑
	2.	**WALKING AND CYCLING**	
	2.1	**Information on walking/cycling routes & destinations**	
BASIC	2.1.1	Display local area maps with walking/cycling access routes and key destinations at major entrances	☑
	2.2	**Bicycle skills training**	
		Commuter travel	
BETTER ★	2.2.1	Offer on-site cycling courses for commuters, or subsidize off-site courses	☐
	2.3	**Valet bike parking**	
		Visitor travel	
BETTER	2.3.1	Offer secure valet bike parking during public events when demand exceeds fixed supply (e.g. for festivals, concerts, games)	☐

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

			TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		4.	**RIDESHARING**	
		4.1	**Ridematching service**	
			Commuter travel	
BASIC	★	4.1.1	Provide a dedicated ridematching portal at OttawaRideMatch.com	☐
		4.2	**Carpool parking price incentives**	
			Commuter travel	
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	☐

APPENDIX F MMLOS ANALYSIS

Multi-Modal Level of Service - Segments Form

Project: Nokia TIA - 570 March Road
Consultant: Morrison Hershfield now Stantec
Date: Sep 24, 2024
Scenario: Boundary Streets in Future Background 2027

	Segment Name	**March Rd, Terry Fox to Solandt**				**Legget Dr, Terry Fox to Solandt**			
	OP Transect / Policy Area	**Downtown Core, Inner Urban,Hub and/or Special District**				**Downtown Core, Inner Urban,Hub and/or Special District**			
	Segment Component	**Majority (>50%)**		**Critical**		**Majority (>50%)**		**Critical**	
	Side of Street	**W or N**	**E or S**	**W or N**	**E or S**	**W or N**	**E or S**	**W or N**	**E or S**
Pedestrian	**PLOS Inputs**								
	Posted Speed (km/h)	80 km/h		80 km/h		50 km/h		50 km/h	
	Two-Way ADT	26,878		26,878		5,000		5,000	
	Pedestrian Facility	Sidewalk	Sidewalk			None	Sidewalk		
	Does the facility meet the TMP Sidewalk or MUP Policy? If not, for MUPs, is it outside of an anticipated high-volume area and does it have a low-to-moderate volume of pedestrians relative to cyclists (≤ 20%)?	Yes	Yes			No	Yes		
	Facility Width (m)	2.10m	2.10m			-	2.00m		
	Offset from Motor Vehicle Travel Lanes (m)	1.5-2.99m	1.5-2.99m			-	≥ 3.0m		
	Presence of Adjacent Parking?	-	-			-	No		
	General Purpose Curb Lane ADT	> 3000	> 3000			-	-		
	Max. Distance between Controlled Crossings (m)	> 400m	> 400m			> 400m	> 400m		
	PLOS	**D**	**D**	**-**	**-**	**F**	**B**	**-**	**-**
	Target PLOS	**A**				**A**			
Bicycle	**BLOS Inputs**								
	Cycling Route Classification	**Cross-Town Bikeway**				**Elsewhere**			
	Cycling Facility	Painted and Physically Separated Bike Lanes	Painted and Physically Separated Bike Lanes	Input PLOS First	Input PLOS First	Painted and Physically Separated Bike Lanes	Painted and Physically Separated Bike Lanes	Input PLOS First	Input PLOS First
	Is the minimum level of separation provided according to OTM Book 18 Pre-Selection Nomograph - Rural Context (Figure 5.6)? (for paved shoulders)	-	-			-	-		
	Facility Operation	Unidirectional	Unidirectional			Unidirectional	Unidirectional		
	Pedestrian/Cyclist Volume	-	-			-	-		
	Facility Width	1.8-1.99m	1.8-1.99m			1.8-1.99m	1.8-1.99m		
	Boulevard/Buffer Width (excluding curb)	-	-			< 0.3m with one vehicle lane per direction	< 0.3m with one vehicle lane per direction		
	Unsignalized Roadway Crossing Type (where cyclists are required to yield)	None	None			None	None		
	Number of Travel Lanes at Crossing	-	-			-	-		
	Crossing includes Median Refuge (≥ 2.7m)	-	-			-	-		
	Cross-street Posted Speed (km/h)	-	-			-	-		
	Cycling Path Blockages (e.g. bus stops and/or loading zones)	Rare	Rare			Rare	Rare		
	BLOS	**D**	**D**	**-**	**-**	**C**	**C**	**-**	**-**
	Target BLOS	**A**				**B**			
Transit	**TLOS Inputs**								
	Transit Facility	**TP - Isolated Measures**				**Mixed Traffic**			
	Facility Type	Mixed Traffic	Mixed Traffic			Mixed Traffic	Mixed Traffic		
	Transit Travel Speed (Mixed Traffic Only)	70 km/h	70 km/h			40 km/h	40 km/h		
	TLOS	**C**	**C**			**C**	**C**		
	Target TLOS	**C**				**E**			
Public Realm	**PRLOS Inputs**								
	Context	Mainstreet or active frontage street within a Hub, Special District, or Village	Mainstreet or active frontage street within a Hub, Special District, or Village			Other Streets	Other Streets		
	Inner Boulevard Width	≤ 0.6m	≤ 0.6m			≤ 0.6m	≤ 0.6m		
	Middle Boulevard Width	≤ 0.5m	≤ 0.5m			2.0-2.99m	2.0-2.99m		
	Outer Boulevard (Frontage) Width	-	-			≥ 3.0m	≥ 3.0m		
	Transit Route on Segment?	Yes	Yes			Yes	Yes		
	Bus Stop Elements	Curbside landing zone with shelter behind sidewalk	Curbside landing zone with shelter behind sidewalk			Curbside landing zone with shelter behind sidewalk	Curbside platform with shelter (island style)		
	Number of Midblock Traffic Lanes (both travel directions)	4				≤ 2			
	Design Speed (km/h)	90 km/h				60 km/h			
	PRLOS	**E**	**E**			**E**	**C**		
		E				**C**			

Multi-Modal Level of Service - Segments Form

Project: Nokia TIA - 570 March Road
Consultant: Morrison Hershfield now Stantec
Date: Apr 1, 2024
Scenario: Boundary Streets in Future Total 2027 with proposed improvements

	Segment Name	**March Rd, Terry Fox to Solandt**				**Legget Dr, Terry Fox to Solandt**			
	OP Transect / Policy Area	**Downtown Core, Inner Urban,Hub and/or Special District**				**Downtown Core, Inner Urban,Hub and/or Special District**			
	Segment Component	**Majority (>50%)**		**Critical**		**Majority (>50%)**		**Critical**	
	Side of Street	**W or N**	**E or S**	**W or N**	**E or S**	**W or N**	**E or S**	**W or N**	**E or S**
Pedestrian	**PLOS Inputs**								
	Posted Speed (km/h)	80 km/h		80 km/h		50 km/h		50 km/h	
	Two-Way ADT	26,878		26,878		5,000		5,000	
	Pedestrian Facility	Sidewalk	Sidewalk			Sidewalk	Sidewalk		
	Does the facility meet the TMP Sidewalk or MUP Policy? If not, for MUPs, is it outside of an anticipated high-volume area and does it have a low-to-moderate volume of pedestrians relative to cyclists (≤ 20%)?	Yes	Yes			Yes	Yes		
	Facility Width (m)	2.10m	2.10m			2.00m	2.00m		
	Offset from Motor Vehicle Travel Lanes (m)	1.5-2.99m	≥ 3.0m			1.5-2.99m	≥ 3.0m		
	Presence of Adjacent Parking?	-	No			-	No		
	General Purpose Curb Lane ADT	> 3000	-			≤ 3000	-		
	Max. Distance between Controlled Crossings (m)	> 400m	> 400m			> 400m	> 400m		
	PLOS	**D**	**C**	**-**	**-**	**B**	**B**	**-**	**-**
	Target PLOS	**A**				**A**			
Bicycle	**BLOS Inputs**								
	Cycling Route Classification	**Cross-Town Bikeway**				**Elsewhere**			
	Cycling Facility	Painted and Physically Separated Bike Lanes	Cycle Track	Input PLOS First	Input PLOS First	Painted and Physically Separated Bike Lanes	Painted and Physically Separated Bike Lanes	Input PLOS First	Input PLOS First
	Is the minimum level of separation provided according to OTM Book 18 Pre-Selection Nomograph - Rural Context (Figure 5.6)? (for paved shoulders)	-	-			-	-		
	Facility Operation	Unidirectional	Unidirectional			Unidirectional	Unidirectional		
	Pedestrian/Cyclist Volume	-	-			-	-		
	Facility Width	1.8-1.99m	1.5m-1.79m			1.8-1.99m	1.8-1.99m		
	Boulevard/Buffer Width (excluding curb)	-	Inside clear zone			< 0.3m with one vehicle lane per direction	< 0.3m with one vehicle lane per direction		
	Unsignalized Roadway Crossing Type (where cyclists are required to yield)	None	None			None	None		
	Number of Travel Lanes at Crossing	-	-			-	-		
	Crossing includes Median Refuge (≥ 2.7m)	-	-			-	-		
	Cross-street Posted Speed (km/h)	-	-			-	-		
	Cycling Path Blockages (e.g. bus stops and/or loading zones)	Rare	-			Rare	Rare		
	BLOS	**D**	**D**	**-**	**-**	**C**	**C**	**-**	**-**
	Target BLOS	**A**				**B**			
Transit	**TLOS Inputs**								
	Transit Facility	**TP - Isolated Measures**				**Mixed Traffic**			
	Facility Type	Mixed Traffic	Mixed Traffic			Mixed Traffic	Mixed Traffic		
	Transit Travel Speed (Mixed Traffic Only)	70 km/h	70 km/h			40 km/h	40 km/h		
	TLOS	**C**	**C**			**C**	**C**		
	Target TLOS	**C**				**E**			
Public Realm	**PRLOS Inputs**								
	Context	Mainstreet or active frontage street within a Hub, Special District, or Village	Mainstreet or active frontage street within a Hub, Special District, or Village			Other Streets	Other Streets		
	Inner Boulevard Width	≤ 0.6m	1.5-1.99m			≤ 0.6m	≤ 0.6m		
	Middle Boulevard Width	≤ 0.5m	≤ 0.5m			2.0-2.99m	2.0-2.99m		
	Outer Boulevard (Frontage) Width	-	-			≥ 3.0m	≥ 3.0m		
	Transit Route on Segment?	Yes	Yes			Yes	Yes		
	Bus Stop Elements	Curbside landing zone with shelter behind sidewalk	Curbside platform with shelter (island style)			Curbside landing zone with shelter behind sidewalk	Curbside platform with shelter (island style)		
	Number of Midblock Traffic Lanes (both travel directions)	4				≤ 2			
	Design Speed (km/h)	90 km/h				60 km/h			
	PRLOS	**E**	**D**			**C**	**C**		
		E				**C**			

Multi-Modal Level of Service - Intersections Form

Project: Nokia TIA
Consultant: Morrison Hershfield now Stantec
Date: Sep 26, 2024
Scenario: Existing 2024

	Intersection Name	March Rd / Terry Fox Dr				March Rd / Solandt Rd				Legget Dr / Solandt Rd			
	OP Transect / Policy Area	Downtown Core, Inner Urban,Hub and/or Special District				Downtown Core, Inner Urban,Hub and/or Special District				Downtown Core, Inner Urban,Hub and/or Special District			
Pedestrian	PLOS Inputs												
	Pedestrians Crossing the	North Leg	South Leg	East Leg	West Leg	North Leg	South Leg	East Leg	West Leg	North Leg	South Leg	East Leg	West Leg
	Number of Travel Lanes Crossed	≥ 9	≥ 9	8	8	7	7	5	5	1-3	1-3	1-3	1-3
	Median Refuge (>2.7m)	No	No	No	No	No	No	No	No	No	No	No	No
	Crosswalk Treatment	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings
	Signal Cycle Length (sec)	> 120				106-120				106-120			
	Conflict with Right-Turn Vehicles (For PLOS & BLOS)	WBR	EBR	NBR	SBR	WBR	EBR	NBR	SBR	WBR	EBR	NBR	SBR
	Right-Turn Geometry	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Right-Turn With No Channel	Right-Turn With No Channel	Right-Turn With No Channel	Right-Turn With No Channel
	Right-Turn Signal Phasing	-	-	-	-	-	-	-	-	Permissive	Permissive	Permissive	Permissive
	Right-Turn Volume	≤ 150 veh/h	> 150 to 300 veh/h	≤ 150 veh/h	> 150 to 300 veh/h	≤ 150 veh/h	≤ 150 veh/h	> 300 veh/h	≤ 150 veh/h	≤ 150 veh/h	> 150 to 300 veh/h	≤ 150 veh/h	≤ 150 veh/h
	Right-Turn Effective Corner Radius	-	-	-	-	-	-	-	-	> 8m	> 8m	> 8m	> 8m
	Cross-street Posted Speed (km/h)	60 km/h		80 km/h		50 km/h		80 km/h		50 km/h		50 km/h	
	Conflict with Left-Turn Vehicles (For PLOS & BLOS)	EBL	WBL	SBL	NBL	EBL	WBL	SBL	NBL	EBL	WBL	SBL	NBL
	Left-Turn Signal Phasing	Fully Protected	Fully Protected	Fully Protected	Fully Protected	Fully Protected	Fully Protected	Perm or Prot+Perm	Perm or Prot+Perm	Perm or Prot+Perm	Perm or Prot+Perm	Perm or Prot+Perm	Perm or Prot+Perm
	Left-Turn Volume	-	-	-	-	-	-	> 50 to 100 veh/h	> 100 veh/h	> 100 veh/h	≤ 50 veh/h	≤ 50 veh/h	≤ 50 veh/h
	Left-Turn Opposing Lanes	-	-	-	-	-	-	≥ 2	-	-	-	-	-
	Score	0.55	0.55	0.55	0.55	1.30	1.30	1.95	2.10	3.55	3.30	3.75	3.75
	PLOS	E	E	E	E	E	E	D	D	B	C	B	B
		E				D				B			
	Target PLOS	A				A				A			
Bicycle	BLOS Inputs												
	Cycling Route Classification	Cross-Town Bikeway				Cross-Town Bikeway				Elsewhere			
	Cyclists Crossing the	North Leg	South Leg	East Leg	West Leg	North Leg	South Leg	East Leg	West Leg	North Leg	South Leg	East Leg	West Leg
	Type of Cycling Facility Across Leg	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Two-Way ADT on Adjacent Roadway	10,567		26,878		26,878		9,252		5,000		9,252	
	Floating Bike Lane or Right-Turn Lane Crossover Approaching the Crossing?	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No	No	No
	Crossride Operation	-	-	-	-	-	-	-	-	-	-	-	-
	Target Crossride Setback Met?	-	-	-	-	-	-	-	-	-	-	-	-
	Right-Turn Vehicle Volume from Adjacent Roadway > 100 veh/h?	-	-	-	-	-	-	-	-	-	-	-	-
	Cyclist Left-Turn Operation	WBL	EBL	NBL	SBL	WBL	EBL	NBL	SBL	WBL	EBL	NBL	SBL
	Cyclist Left-Turn Treatment Type	General Purpose Dual Left-Turn Lanes	General Purpose Dual Left-Turn Lanes	General Purpose Dual Left-Turn Lanes	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Dual Left-Turn Lanes	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane
	Vehicle Lanes Crossed by Cyclists	-	-	-	Two or More Lanes Crossed	-	No Lane Crossed	Two or More Lanes Crossed	Two or More Lanes Crossed	No Lane Crossed	No Lane Crossed	No Lane Crossed	One Lane Crossed
	Score	0	0	0	0	10	30	-40	-40	20	30	60	50
	BLOS	F	F	F	F	F	E	F	F	E	E	D	D
		F				-				D			
	Target BLOS	A				A				B			
Transit	TLOS Inputs												
	Transit Facility	TP - Isolated Measures				TP - Isolated Measures				Mixed Traffic			
	Vehicles Travelling	Southbound	Northbound	Westbound	Eastbound	Southbound	Northbound	Westbound	Eastbound	Southbound	Northbound	Westbound	Eastbound
	Average Transit Delay		36-55 sec	36-55 sec	56-80 sec	> 80 sec	21-35 sec	36-55 sec	56-80 sec	11-20 sec	11-20 sec		11-20 sec
	Example Transit Priority Treatment		-	-	-	-	-	-	-	-	-		-
	TLOS	-	D	D	E	F	C	D	E	B	B	-	B
		D				D				B			
	Target TLOS	C				C				E			
Auto	AutoLOS Inputs												
	Overall Intersection Volume to Capacity Ratio	0 to 0.60				0.81 to 0.90				0 to 0.60			
	AutoLOS	A				D				A			
	Target AutoLOS	E				E				E			

Multi-Modal Level of Service - Intersections Form

Project: Nokia TIA
Consultant: Morrison Hershfield now Stantec
Date: Sep 26, 2024
Scenario: Future Background 2027

	Intersection Name	March Rd / Terry Fox Dr				March Rd / Solandt Rd				Legget Dr / Solandt Rd			
	OP Transect / Policy Area	**Downtown Core, Inner Urban,Hub and/or Special District**				**Downtown Core, Inner Urban,Hub and/or Special District**				**Downtown Core, Inner Urban,Hub and/or Special District**			
Pedestrian	**PLOS Inputs**												
	Pedestrians Crossing the	**North Leg**	**South Leg**	**East Leg**	**West Leg**	**North Leg**	**South Leg**	**East Leg**	**West Leg**	**North Leg**	**South Leg**	**East Leg**	**West Leg**
	Number of Travel Lanes Crossed	≥ 9	≥ 9	8	8	7	7	5	5	1-3	1-3	1-3	1-3
	Median Refuge (>2.7m)	No	No	No	No	No	No	No	No	No	No	No	No
	Crosswalk Treatment	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings
	Signal Cycle Length (sec)	> 120				106-120				106-120			
	Conflict with Right-Turn Vehicles (For PLOS & BLOS)	**WBR**	**EBR**	**NBR**	**SBR**	**WBR**	**EBR**	**NBR**	**SBR**	**WBR**	**EBR**	**NBR**	**SBR**
	Right-Turn Geometry	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Right-Turn With No Channel	Right-Turn With No Channel	Right-Turn With No Channel	Right-Turn With No Channel
	Right-Turn Signal Phasing	-	-	-	-	-	-	-	-	Permissive	Permissive	Permissive	Permissive
	Right-Turn Volume	≤ 150 veh/h	> 150 to 300 veh/h	≤ 150 veh/h	> 150 to 300 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h
	Right-Turn Effective Corner Radius	-	-	-	-	-	-	-	-	> 8m	> 8m	> 8m	> 8m
	Cross-street Posted Speed (km/h)	60 km/h		80 km/h		50 km/h		80 km/h		50 km/h		50 km/h	
	Conflict with Left-Turn Vehicles (For PLOS & BLOS)	**EBL**	**WBL**	**SBL**	**NBL**	**EBL**	**WBL**	**SBL**	**NBL**	**EBL**	**WBL**	**SBL**	**NBL**
	Left-Turn Signal Phasing	Fully Protected	Fully Protected	Fully Protected	Fully Protected	Fully Protected	Fully Protected	Perm or Prot+Perm	Perm or Prot+Perm	Perm or Prot+Perm	Perm or Prot+Perm	Perm or Prot+Perm	Perm or Prot+Perm
	Left-Turn Volume	-	-	-	-	-	-	> 100 veh/h	> 100 veh/h	> 100 veh/h	≤ 50 veh/h	≤ 50 veh/h	≤ 50 veh/h
	Left-Turn Opposing Lanes	-	-	-	-	-	-	-	-	-	-	-	-
	Score	**0.55**	**0.55**	**0.55**	**0.55**	**1.30**	**1.30**	**2.10**	**2.10**	**3.55**	**3.75**	**3.75**	**3.75**
	PLOS	**E**	**E**	**E**	**E**	**E**	**E**	**D**	**D**	**B**	**B**	**B**	**B**
		E				**D**				**B**			
	Target PLOS	**A**				**A**				**A**			
Bicycle	**BLOS Inputs**												
	Cycling Route Classification	**Cross-Town Bikeway**				**Cross-Town Bikeway**				**Elsewhere**			
	Cyclists Crossing the	**North Leg**	**South Leg**	**East Leg**	**West Leg**	**North Leg**	**South Leg**	**East Leg**	**West Leg**	**North Leg**	**South Leg**	**East Leg**	**West Leg**
	Type of Cycling Facility Across Leg	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Two-Way ADT on Adjacent Roadway	10,567		26,878		26,878		9,252		5,000		9,252	
	Floating Bike Lane or Right-Turn Lane Crossover Approaching the Crossing?	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No	No	No
	Crossride Operation	-	-	-	-	-	-	-	-	-	-	-	-
	Target Crossride Setback Met?	-	-	-	-	-	-	-	-	-	-	-	-
	Right-Turn Vehicle Volume from Adjacent Roadway > 100 veh/h?	-	-	-	-	-	-	-	-	-	-	-	-
	Cyclist Left-Turn Operation	**WBL**	**EBL**	**NBL**	**SBL**	**WBL**	**EBL**	**NBL**	**SBL**	**WBL**	**EBL**	**NBL**	**SBL**
	Cyclist Left-Turn Treatment Type	General Purpose Dual Left-Turn Lanes	General Purpose Dual Left-Turn Lanes	General Purpose Dual Left-Turn Lanes	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Dual Left-Turn Lanes	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane
	Vehicle Lanes Crossed by Cyclists	-	-	-	Two or More Lanes Crossed	-	No Lane Crossed	Two or More Lanes Crossed	Two or More Lanes Crossed	No Lane Crossed	No Lane Crossed	No Lane Crossed	One Lane Crossed
	Score	**0**	**0**	**0**	**0**	**10**	**30**	**-40**	**-40**	**20**	**60**	**60**	**50**
	BLOS	**F**	**F**	**F**	**F**	**F**	**E**	**F**	**F**	**E**	**D**	**D**	**D**
		F				**-**				**D**			
	Target BLOS	**A**				**A**				**B**			
Transit	**TLOS Inputs**												
	Transit Facility	**TP - Isolated Measures**				**TP - Isolated Measures**				**Mixed Traffic**			
	Vehicles Travelling	**Southbound**	**Northbound**	**Westbound**	**Eastbound**	**Southbound**	**Northbound**	**Westbound**	**Eastbound**	**Southbound**	**Northbound**	**Westbound**	**Eastbound**
	Average Transit Delay		21-35 sec	36-55 sec	56-80 sec	> 80 sec	≤ 10 sec	36-55 sec	56-80 sec	11-20 sec	11-20 sec		≤ 10 sec
	Example Transit Priority Treatment		-	-	-	-	-	-	-	-	-		-
	TLOS	**-**	**C**	**D**	**E**	**F**	**A**	**D**	**E**	**B**	**B**	**-**	**A**
		D				**D**				**B**			
	Target TLOS	**C**				**C**				**E**			
Auto	**AutoLOS Inputs**												
	Overall Intersection Volume to Capacity Ratio	0.71 to 0.80				> 1.00				0 to 0.60			
	AutoLOS	**C**				**F**				**A**			
	Target AutoLOS	**E**				**E**				**E**			

Multi-Modal Level of Service - Intersections Form

Project: Nokia TIA
Consultant: Morrison Hershfield now Stantec
Date: Sep 26, 2024
Scenario: Future Total 2027

	Intersection Name	March Rd / Terry Fox Dr				March Rd / Solandt Rd				Legget Dr / Solandt Rd			
	OP Transect / Policy Area	Downtown Core, Inner Urban,Hub and/or Special District				Downtown Core, Inner Urban,Hub and/or Special District				Downtown Core, Inner Urban,Hub and/or Special District			
Pedestrian	PLOS Inputs												
	Pedestrians Crossing the	North Leg	South Leg	East Leg	West Leg	North Leg	South Leg	East Leg	West Leg	North Leg	South Leg	East Leg	West Leg
	Number of Travel Lanes Crossed	≥ 9	≥ 9	8	8	7	7	5	5	1-3	1-3	1-3	1-3
	Median Refuge (>2.7m)	No	No	No	No	No	No	No	No	No	No	No	No
	Crosswalk Treatment	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings	Std Transverse Markings
	Signal Cycle Length (sec)	> 120				106-120				106-120			
	Conflict with Right-Turn Vehicles (For PLOS & BLOS)	WBR	EBR	NBR	SBR	WBR	EBR	NBR	SBR	WBR	EBR	NBR	SBR
	Right-Turn Geometry	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Conventional Right-Turn Channel	Right-Turn With No Channel	Right-Turn With No Channel	Right-Turn With No Channel	Right-Turn With No Channel
	Right-Turn Signal Phasing	-	-	-	-	-	-	-	-	Permissive	Permissive	Permissive	Permissive
	Right-Turn Volume	≤ 150 veh/h	> 150 to 300 veh/h	≤ 150 veh/h	> 150 to 300 veh/h	≤ 150 veh/h	≤ 150 veh/h	> 150 to 300 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h
	Right-Turn Effective Corner Radius	-	-	-	-	-	-	-	-	> 8m	> 8m	> 8m	> 8m
	Cross-street Posted Speed (km/h)	60 km/h		80 km/h		50 km/h		80 km/h		50 km/h		50 km/h	
	Conflict with Left-Turn Vehicles (For PLOS & BLOS)	EBL	WBL	SBL	NBL	EBL	WBL	SBL	NBL	EBL	WBL	SBL	NBL
	Left-Turn Signal Phasing	Fully Protected	Fully Protected	Fully Protected	Fully Protected	Fully Protected	Fully Protected	Perm or Prot+Perm	Perm or Prot+Perm	Perm or Prot+Perm	Perm or Prot+Perm	Perm or Prot+Perm	Perm or Prot+Perm
	Left-Turn Volume	-	-	-	-	-	-	> 100 veh/h	> 100 veh/h	> 50 to 100 veh/h	≤ 50 veh/h	≤ 50 veh/h	≤ 50 veh/h
	Left-Turn Opposing Lanes	-	-	-	-	-	-	-	-	≤ 1	-	-	-
	Score	0.55	0.55	0.55	0.55	1.30	1.30	2.10	2.10	3.75	3.75	3.75	3.75
	PLOS	E	E	E	E	E	E	D	D	B	B	B	B
		E				D				B			
	Target PLOS	A				A				A			
Bicycle	BLOS Inputs												
	Cycling Route Classification	Cross-Town Bikeway				Cross-Town Bikeway				Elsewhere			
	Cyclists Crossing the	North Leg	South Leg	East Leg	West Leg	North Leg	South Leg	East Leg	West Leg	North Leg	South Leg	East Leg	West Leg
	Type of Cycling Facility Across Leg	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Two-Way ADT on Adjacent Roadway	10,567		26,878		26,878		9,252		5,000		9,252	
	Floating Bike Lane or Right-Turn Lane Crossover Approaching the Crossing?	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No	No	No
	Crossride Operation	-	-	-	-	-	-	-	-	-	-	-	-
	Target Crossride Setback Met?	-	-	-	-	-	-	-	-	-	-	-	-
	Right-Turn Vehicle Volume from Adjacent Roadway > 100 veh/h?	-	-	-	-	-	-	-	-	-	-	-	-
	Cyclist Left-Turn Operation	WBL	EBL	NBL	SBL	WBL	EBL	NBL	SBL	WBL	EBL	NBL	SBL
	Cyclist Left-Turn Treatment Type	General Purpose Dual Left-Turn Lanes	General Purpose Dual Left-Turn Lanes	General Purpose Dual Left-Turn Lanes	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Dual Left-Turn Lanes	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane	General Purpose Through-Left or Single Left-Turn Lane
	Vehicle Lanes Crossed by Cyclists	-	-	-	Two or More Lanes Crossed	-	No Lane Crossed	Two or More Lanes Crossed	Two or More Lanes Crossed	No Lane Crossed	No Lane Crossed	No Lane Crossed	One Lane Crossed
	Score	0	0	0	0	10	30	-40	-40	60	60	60	50
	BLOS	F	F	F	F	F	E	F	F	D	D	D	D
		F				-				D			
	Target BLOS	A				A				B			
Transit	TLOS Inputs												
	Transit Facility	TP - Isolated Measures				TP - Isolated Measures				Mixed Traffic			
	Vehicles Travelling	Southbound	Northbound	Westbound	Eastbound	Southbound	Northbound	Westbound	Eastbound	Southbound	Northbound	Westbound	Eastbound
	Average Transit Delay		36-55 sec	36-55 sec	56-80 sec	> 80 sec	≤ 10 sec	56-80 sec	56-80 sec	≤ 10 sec	≤ 10 sec		≤ 10 sec
	Example Transit Priority Treatment		-	-	-	-	-	-	-	-	-		-
	TLOS	-	D	D	E	F	A	E	E	A	A	-	A
		D				D				A			
	Target TLOS	C				C				E			
Auto	AutoLOS Inputs												
	Overall Intersection Volume to Capacity Ratio	0.71 to 0.80				> 1.00				0 to 0.60			
	AutoLOS	C				F				A			
	Target AutoLOS	E				E				E			

Project: Nokia TIA - 570 March Rd
Consultant: Morrison Hershfield now Stantec
Date: Sep 26, 2024
Scenario: Future Total 2027

	Intersection Name	**Lifestyle St / March Rd**			
	OP Transect / Policy Area	**Downtown Core, Inner Urban,Hub and/or Special District**			
Pedestrian	**PLOS Inputs**				
	Pedestrians Crossing the	**North Leg**	**South Leg**	**East Leg**	**West Leg**
	Number of Travel Lanes Crossed	6	5	1-3	1-3
	Median Refuge (>2.7m)	Yes	Yes	No	No
	Crosswalk Treatment	Zebra Stripe Hi-Vis Markings	Zebra Stripe Hi-Vis Markings	Zebra Stripe Hi-Vis Markings	Zebra Stripe Hi-Vis Markings
	Signal Cycle Length (sec)	> 120			
	Conflict with Right-Turn Vehicles (For PLOS & BLOS)	**WBR**	**EBR**	**NBR**	**SBR**
	Right-Turn Geometry	Right-Turn With No Channel	Right-Turn With No Channel	Right-Turn With No Channel	Right-Turn With No Channel
	Right-Turn Signal Phasing	Permissive (with LPI/LBI)	Permissive (with LPI/LBI)	Protected-Permissive (with LPI/LBI)	Protected-Permissive (with LPI/LBI)
	Right-Turn Volume	≤ 150 veh/h	> 150 to 300 veh/h	≤ 150 veh/h	≤ 150 veh/h
	Right-Turn Effective Corner Radius	≤ 8m	≤ 8m	> 8m	≤ 8m
	Cross-street Posted Speed (km/h)	30 km/h		80 km/h	
	Conflict with Left-Turn Vehicles (For PLOS & BLOS)	**EBL**	**WBL**	**SBL**	**NBL**
	Left-Turn Signal Phasing	Perm or Prot+Perm (with centreline hardening and/or LPI)	Perm or Prot+Perm (with centreline hardening and/or LPI)	Perm or Prot+Perm (with centreline hardening and/or LPI)	Perm or Prot+Perm (with centreline hardening and/or LPI)
	Left-Turn Volume	> 50 to 100 veh/h	≤ 50 veh/h	> 50 to 100 veh/h	> 100 veh/h
	Left-Turn Opposing Lanes	≥ 2	-	≥ 2	-
	Score	**2.55**	**3.05**	**3.55**	**3.55**
	PLOS	**C**	**C**	**B**	**B**
		C			
	Target PLOS	**A**			
Bicycle	**BLOS Inputs**				
	Cycling Route Classification	**Cross-Town Bikeway**			
	Cyclists Crossing the	**North Leg**	**South Leg**	**East Leg**	**West Leg**
	Type of Cycling Facility Across Leg	Crossride	Crossride	Crossride	Crossride
	Two-Way ADT on Adjacent Roadway	1,000		28,000	
	Floating Bike Lane or Right-Turn Lane Crossover Approaching the Crossing?	No	No	No	No
	Crossride Operation	Unidirectional	Unidirectional	Unidirectional	Unidirectional
	Target Crossride Setback Met?	Yes	Yes	Yes	Yes
	Right-Turn Vehicle Volume from Adjacent Roadway > 100 veh/h?	-	-	-	-
	Cyclist Left-Turn Operation	**WBL**	**EBL**	**NBL**	**SBL**
	Cyclist Left-Turn Treatment Type	Protected Corner	Protected Corner	Protected Corner	Protected Corner
	Vehicle Lanes Crossed by Cyclists	-	-	-	-
	Score	**115**	**140**	**120**	**120**
	BLOS	**B**	**A**	**B**	**B**
		A			
	Target BLOS	**A**			
Transit	**TLOS Inputs**				
	Transit Facility	**TP - Isolated Measures**			
	Vehicles Travelling	**Southbound**	**Northbound**	**Westbound**	**Eastbound**
	Average Transit Delay	11-20 sec	≤ 10 sec		
	Example Transit Priority Treatment	-	-		
	TLOS	**B**	**A**	**-**	**-**
		A			
	Target TLOS	**C**			
Auto	**AutoLOS Inputs**				
	Overall Intersection Volume to Capacity Ratio	0.61 to 0.70			
	AutoLOS	**B**			
	Target AutoLOS	**E**			

APPENDIX G DESIGN DRAWINGS

DRAWING FRAME: 790mm x 534mm City of Ottawa 2019

Drawing Number 001

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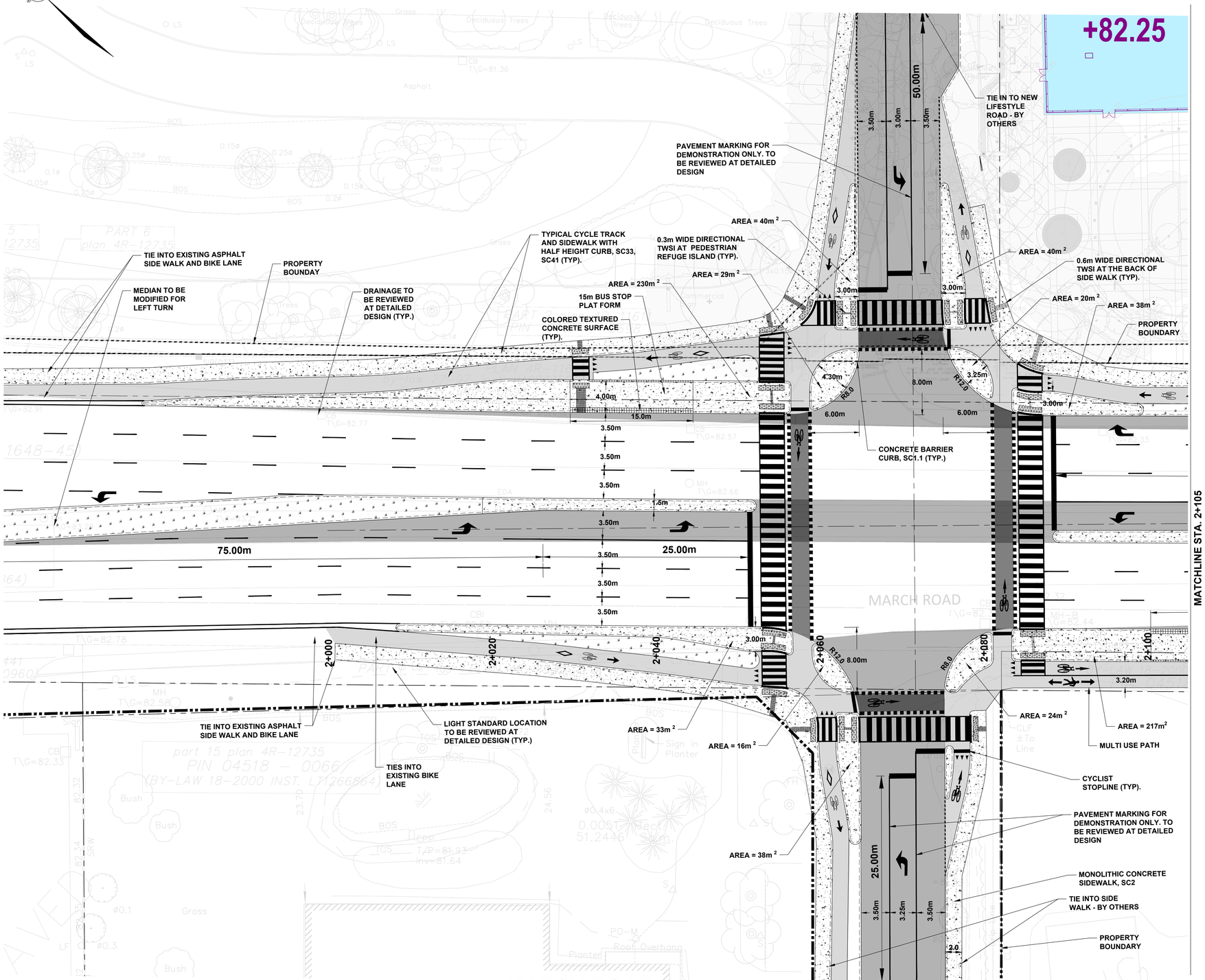

MARCH ROAD

LEGEND

- CONCRETE SURFACE
- TWSI'S
- GRASSED AREA
- DIRECTIONAL TWSI'S
- NEW ROADWAY ASPHALT CONCRETE
- CYCLE TRACK
- DEPRESSED CONCRETE BARRIER CURB

NOKIA OTTAWA CAMPUS

PRELIMINARY DESIGN
ROADWAY DESIGN CONCEPT
MARCH ROAD
STA. 1+917 TO 2+420

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Contract No. CP000000 | Dwg. No. 001

Sheet 001 of

Asset No.

Asset Group

Des. | Chk'd.

Dwn. | Chk'd.

Utility Circ. No. | Index No.

Const. Inspector

Scale: HORIZONTAL 1:250
0m 2.5 5 10

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

REVISIONS	No.	Description	By	Date (dd/mm/yyyy)
				26/05/2025

PRELIMINARY
(NOT FOR CONSTRUCTION)

DRAWING FRAME: 790mm x 534mm City of Ottawa 2019

Drawing Number 002

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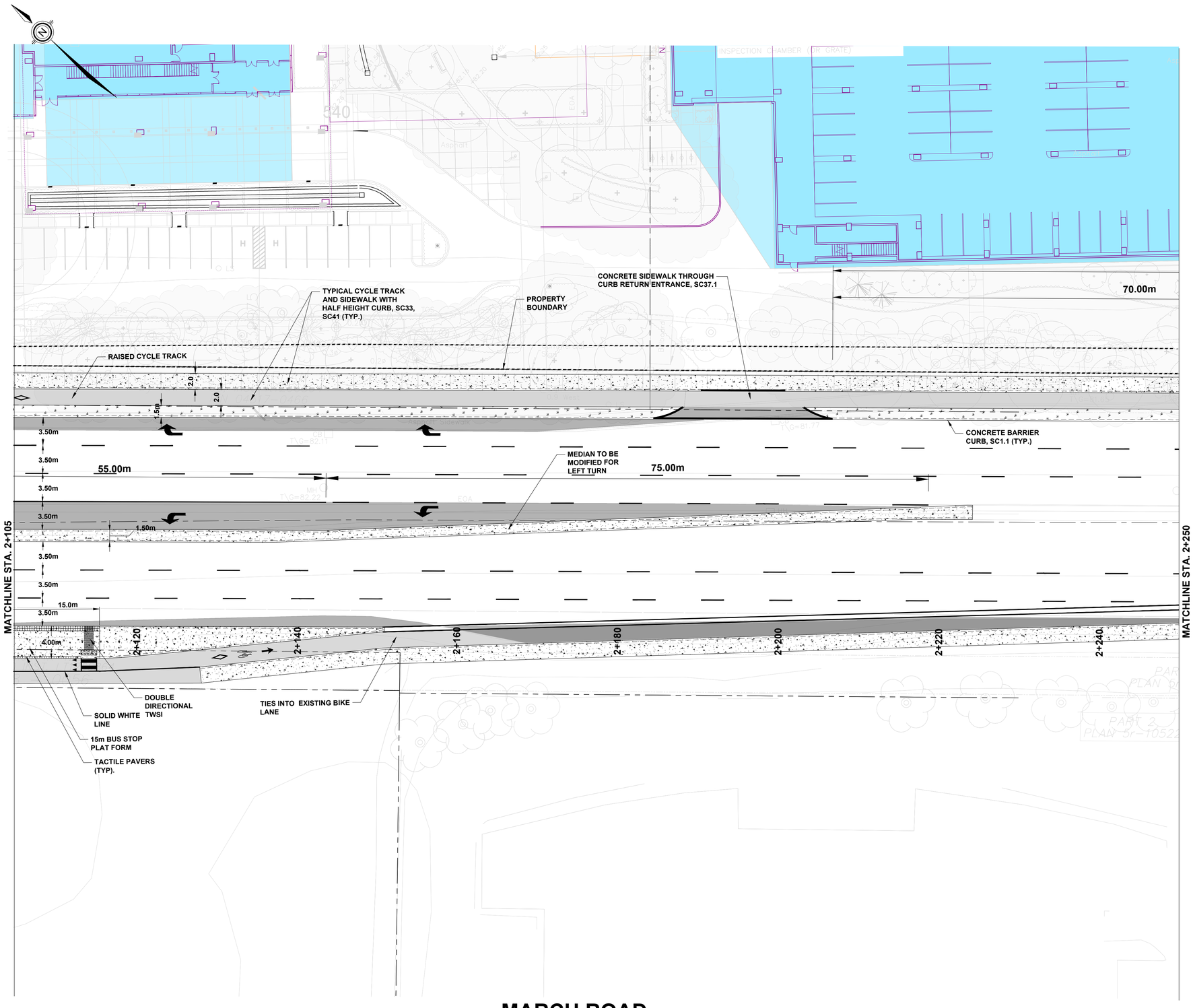

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Sheet 002 of

Asset No.

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Dwn.	Chk'd.
Utility Circ. No.	Index No.

Const. Inspector

Scale: HORIZONTAL 1:250
0m 2.5 5 10

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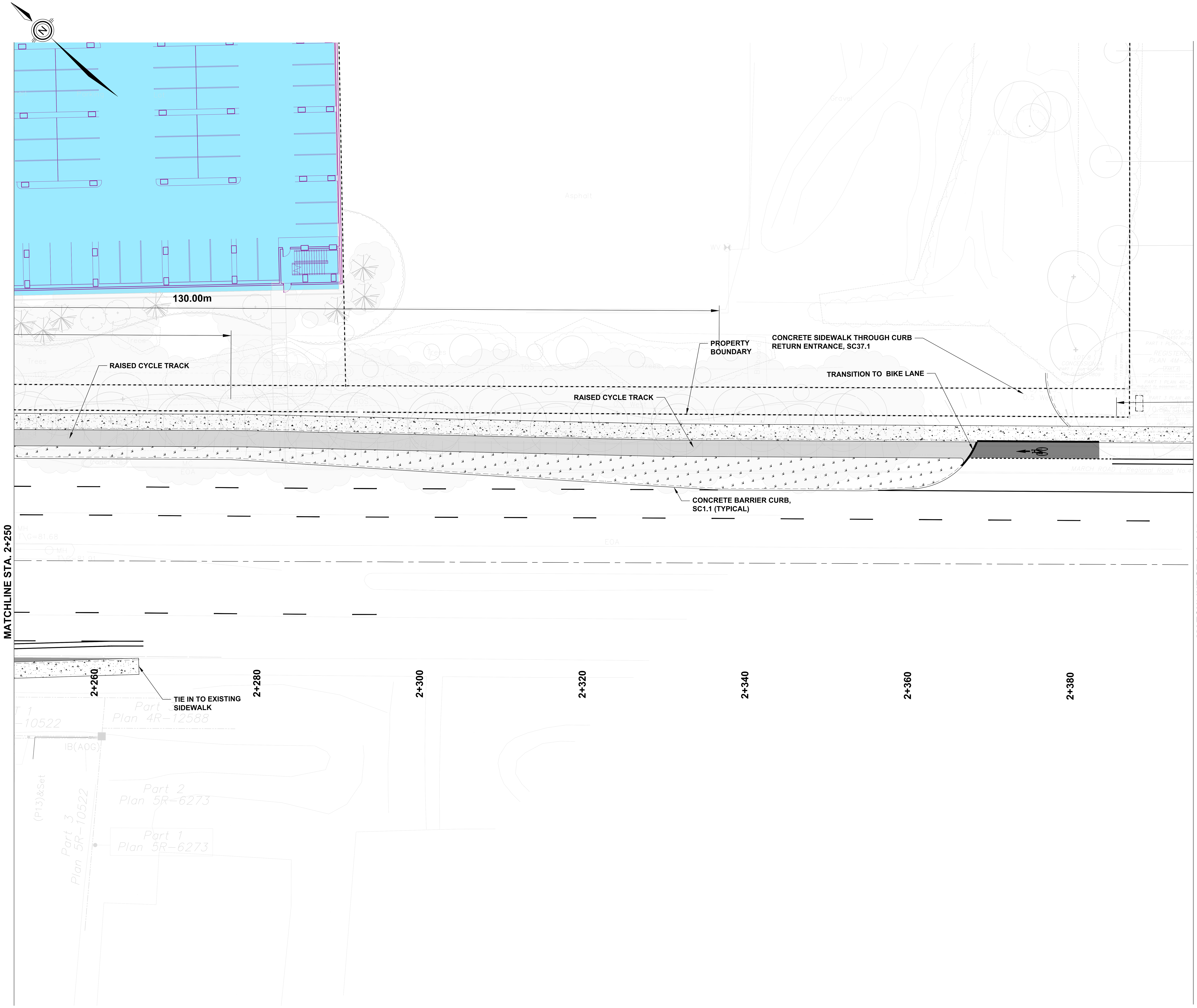
REVISIONS

No.	Description	By	Date (dd/mm/yyyy)
			26/05/2025

LEGEND

- CONCRETE SURFACE
- GRASSED AREA
- NEW ROADWAY ASPHALT CONCRETE
- CYCLE TRACK
- DEPRESSED CONCRETE BARRIER CURB

PRELIMINARY
(NOT FOR CONSTRUCTION)



MARCH ROAD

NOKIA OTTAWA CAMPUS

PRELIMINARY DESIGN
ROADWAY DESIGN CONCEPT
MARCH ROAD
STA. 1+917 TO 2+420

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Contract No. **CP000000** | Dwg. No. **003**

Sheet 003 of

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Asset Group

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Utility Circ. No. | Index No.

Const. Inspector

Scale:
HORIZONTAL 1:250
0m 2.5 5 10

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

REVISIONS

No.	Description	By	Date (dd/mm/yyyy)
			06/05/2025

LEGEND

- CONCRETE SURFACE
- GRASSED AREA
- NEW ROADWAY ASPHALT CONCRETE
- CYCLE TRACK
- DEPRESSED CONCRETE BARRIER CURB

PRELIMINARY
(NOT FOR CONSTRUCTION)

DRAWING FRAME: 790mm x 534mm City of Ottawa 2019

Drawing Number 003

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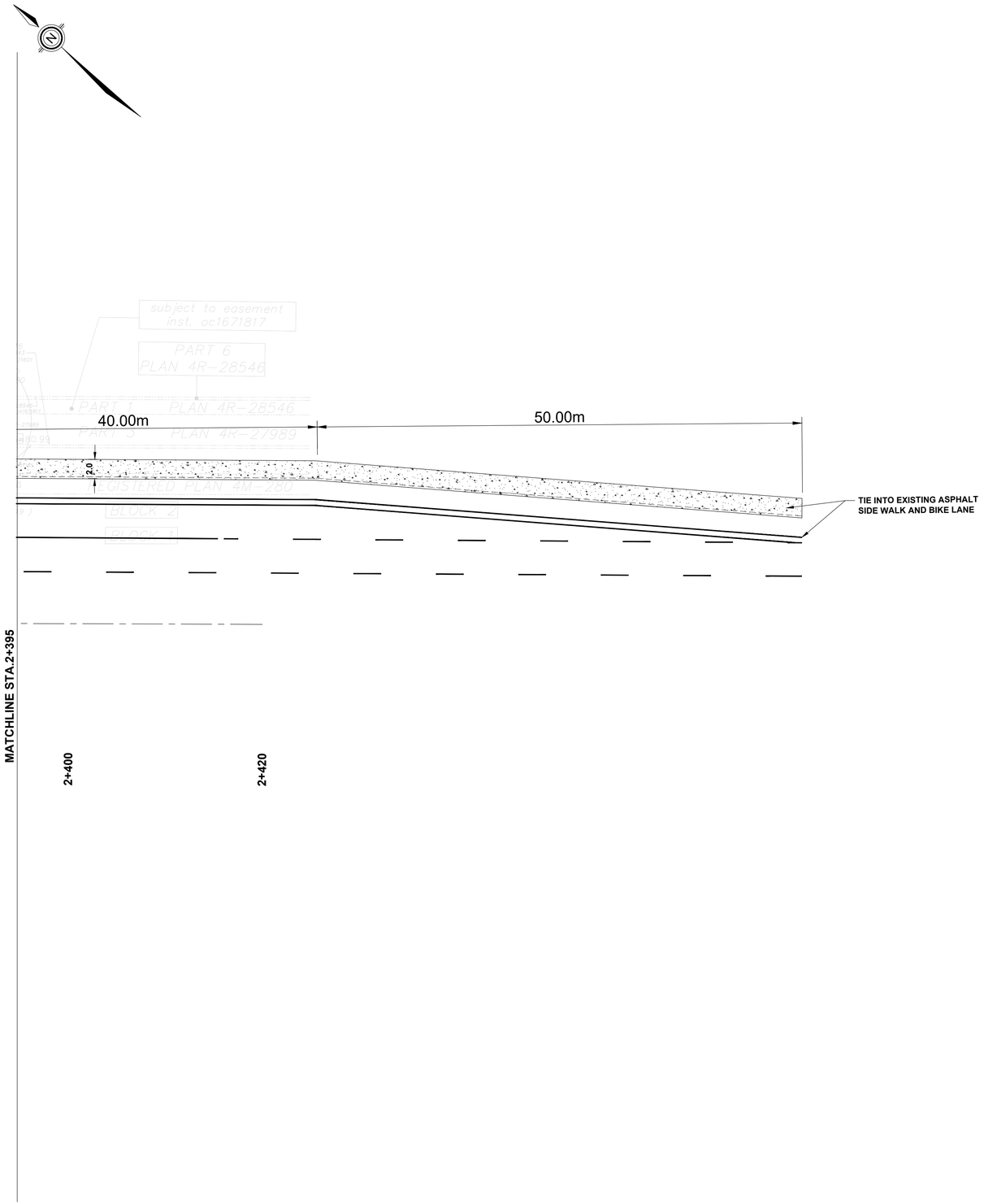
DRAWING FRAME: 790mm x 534mm City of Ottawa 2019



NOKIA OTTAWA CAMPUS

PRELIMINARY DESIGN
ROADWAY DESIGN CONCEPT
MARCH ROAD
STA. 1+917 TO 2+420

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Sheet 004 of

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Des.	Chk'd.
Dwn.	Chk'd.
Utility Circ. No.	Index No.
Const. Inspector	

Scale: HORIZONTAL 1:250
0m 2.5 5 10

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REVISIONS

No.	Description	By	Date (dd/mm/yyyy)
			06/05/2025

LEGEND

- CONCRETE SURFACE
- GRASSED AREA
- NEW ROADWAY ASPHALT CONCRETE
- CYCLE TRACK
- DEPRESSED CONCRETE BARRIER CURB

MARCH ROAD

PRELIMINARY
(NOT FOR CONSTRUCTION)

2025-05-29 3:36 PM \\ca0218-ppfss01\01-638\active\163801640\06_design\drawings\01640_001 _ plan_interim.dwg

Drawing Number 004

DRAWING FRAME: 790mm x 534mm City of Ottawa 2019

NOKIA OTTAWA CAMPUS

PRELIMINARY DESIGN
ROADWAY DESIGN CONCEPT
MARCH ROAD
STA. 1+917 TO 2+420

CARINA DUCLOS, P. ENG
Director
Infrastructure Services

A. ARSENEAULT, P. ENG
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Contract No.	Dwg. No.
CP000000	005

Sheet 005 of

Asset No.	
Asset Group	
Des.	Chk'd.
Dwn.	Chk'd.
Utility Circ. No.	Index No.
Const. Inspector	

Scale: HORIZONTAL 1:250
0m 2.5 5 10

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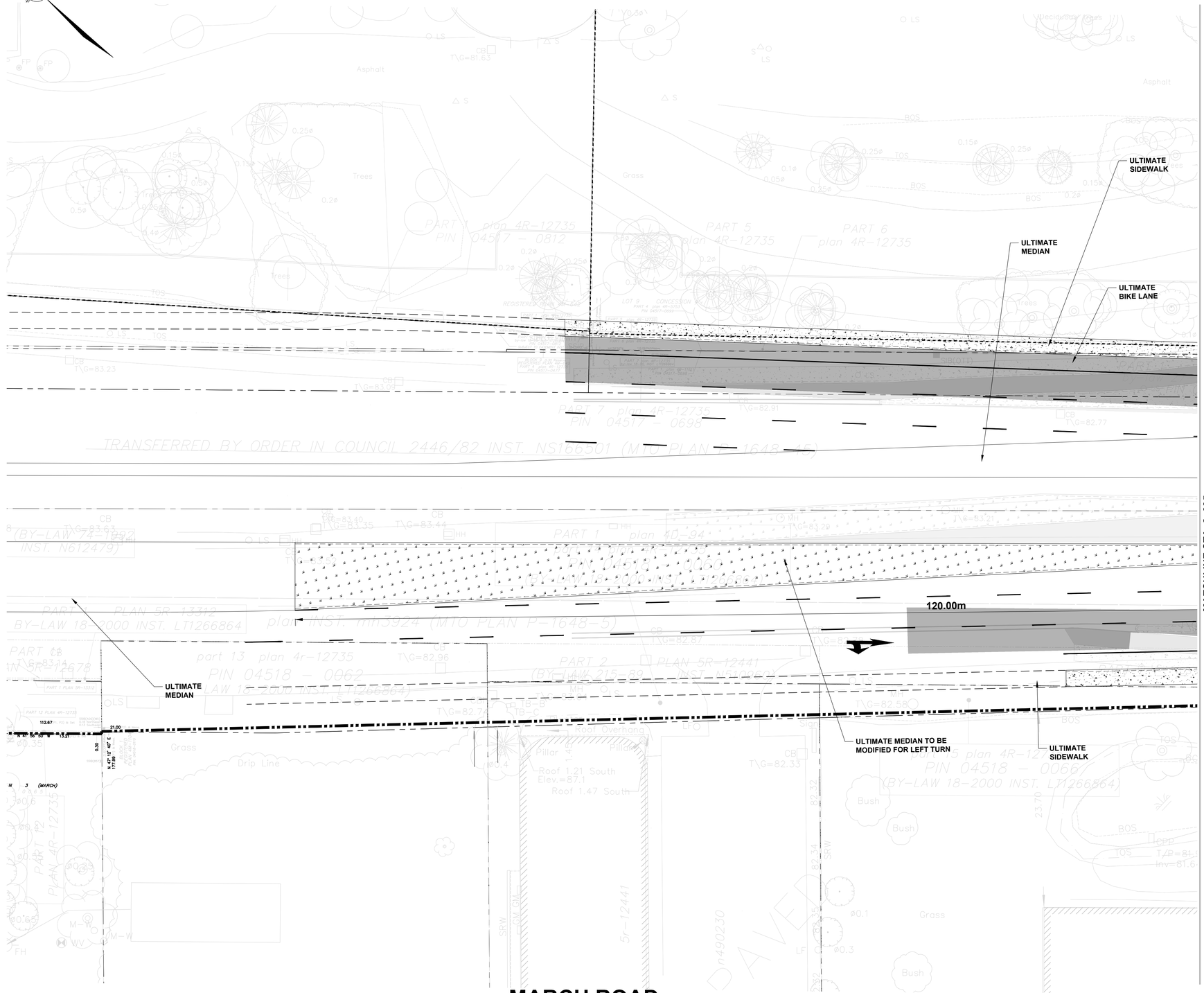
REVISIONS

No.	Description	By	Date (dd/mm/yyyy)
			26/05/2025



LEGEND

- CONCRETE SURFACE
- GRASSED AREA
- NEW ROADWAY ASPHALT CONCRETE
- CYCLE TRACK
- DEPRESSED CONCRETE BARRIER CURB

PRELIMINARY
(NOT FOR CONSTRUCTION)

Drawing Number 005
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DRAWING FRAME: 790mm x 534mm City of Ottawa 2019

NOKIA OTTAWA CAMPUS

PRELIMINARY DESIGN
ROADWAY DESIGN CONCEPT
MARCH ROAD
STA. 1+917 TO 2+420

CARINA DUCLOS, P. ENG
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Contract No.	Dwg. No.
CP000000	006

Sheet 006 of

Asset No.	
Asset Group	
Des.	Chk'd.
Dwn.	Chk'd.
Utility Circ. No.	Index No.
Const. Inspector	

Scale: HORIZONTAL 1:250
0m 2.5 5 10

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REVISIONS

No.	Description	By	Date (dd/mm/yyyy)
##	##	##	26/05/2025
##	##	##	##
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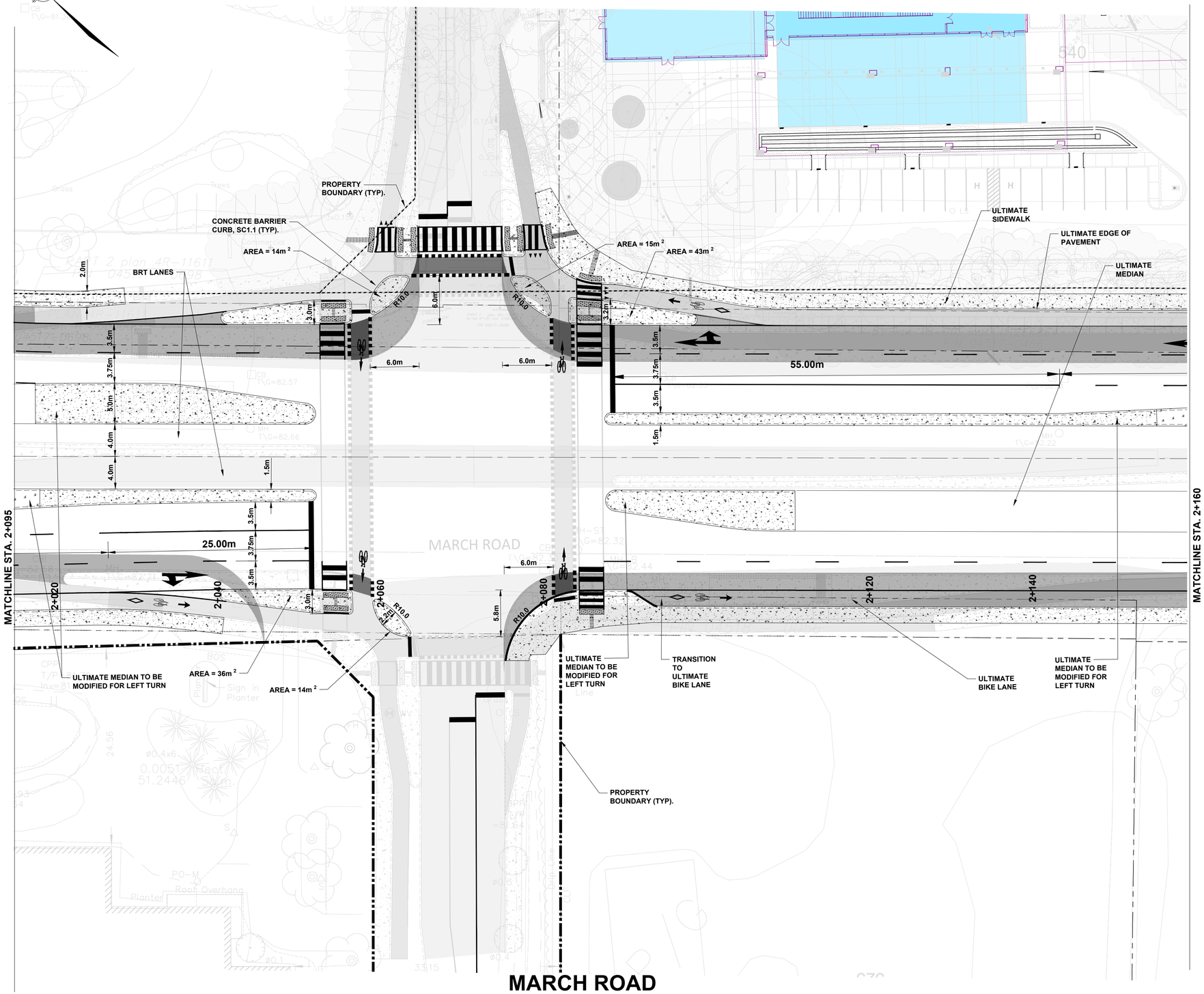

LEGEND

- CONCRETE SURFACE
- TWSI'S
- GRASSED AREA
- DIRECTIONAL TWSI'S
- NEW ROADWAY ASPHALT CONCRETE
- CYCLE TRACK
- DEPRESSED CONCRETE BARRIER CURB

PRELIMINARY
(NOT FOR CONSTRUCTION)

Drawing Number 006
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DRAWING FRAME: 790mm x 534mm City of Ottawa 2019

NOKIA OTTAWA CAMPUS

PRELIMINARY DESIGN
ROADWAY DESIGN CONCEPT
MARCH ROAD
STA. 1+917 TO 2+420

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Contract No.	Dwg. No.
CP000000	007

Sheet 007 of

Asset No.

Asset Group

Des.	Chk'd.
Dwn.	Chk'd.
Utility Circ. No.	Index No.

Const. Inspector

Scale: HORIZONTAL 1:250
0m 2.5 5 10

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REVISIONS	No.	Description	By	Date (dd/mm/yyyy)
	##	##	##	26/05/2025
	##	##	##	##
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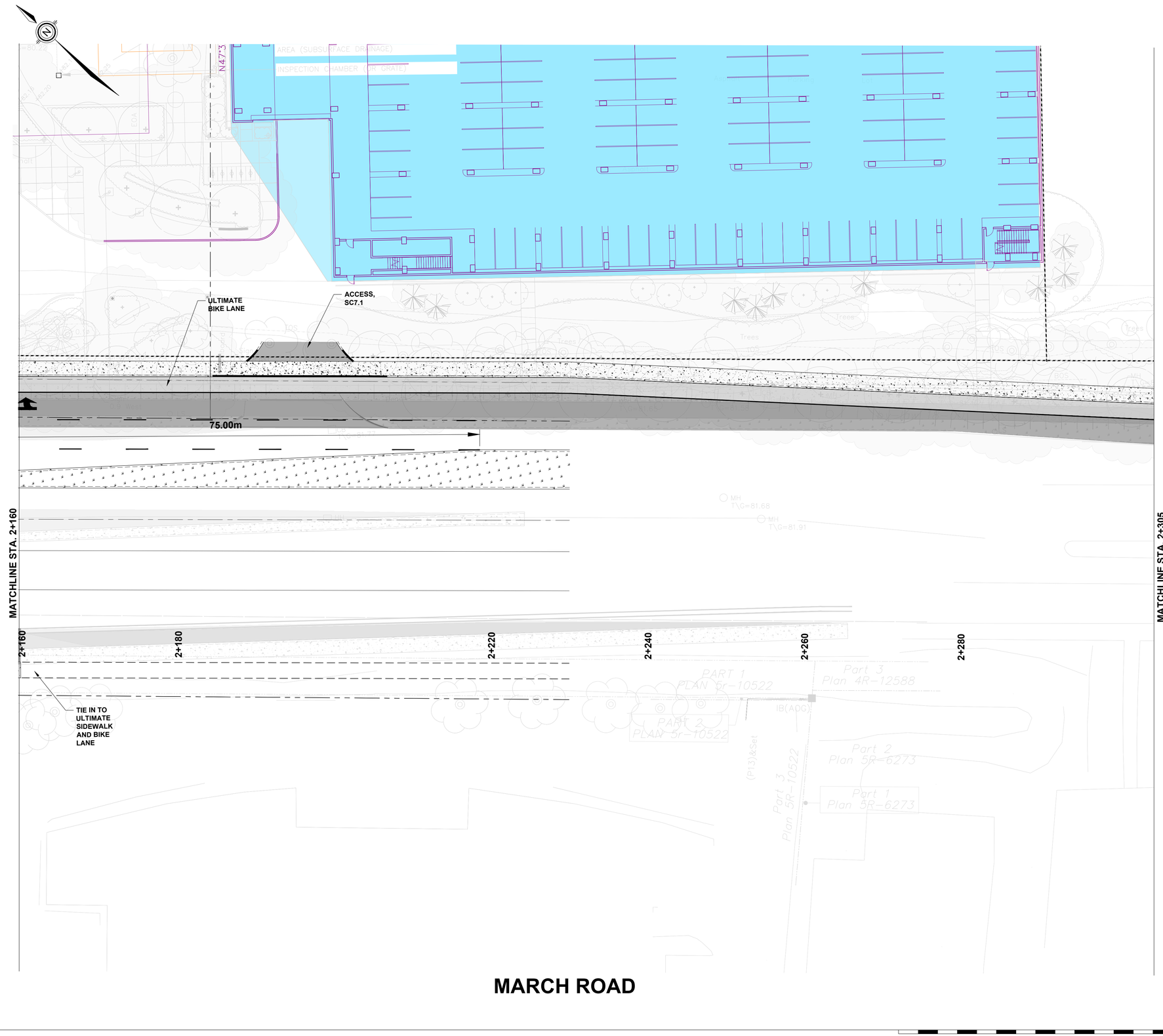

LEGEND

- CONCRETE SURFACE
- GRASSED AREA
- NEW ROADWAY ASPHALT CONCRETE
- CYCLE TRACK
- DEPRESSED CONCRETE BARRIER CURB

MARCH ROAD

PRELIMINARY
(NOT FOR CONSTRUCTION)

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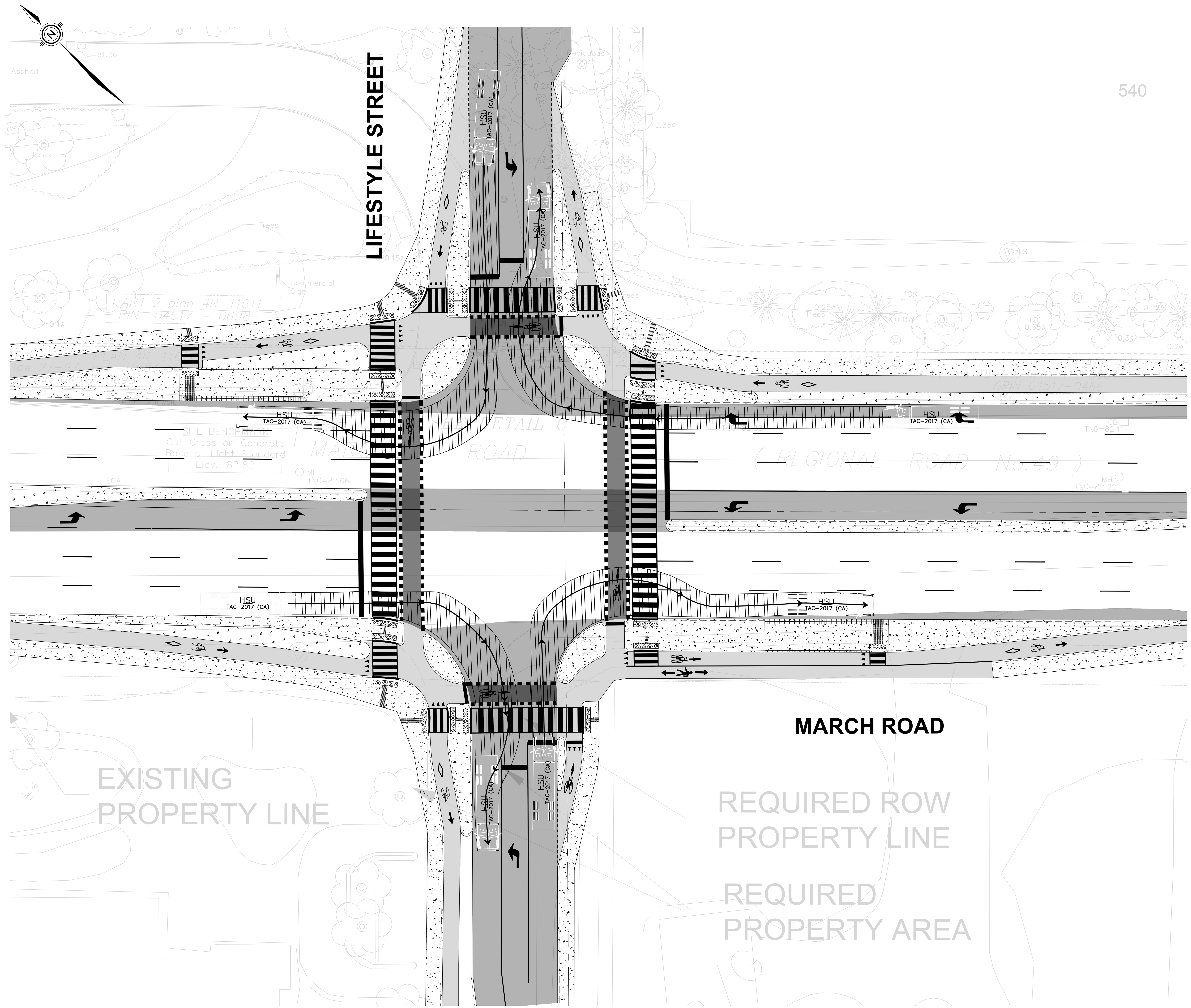
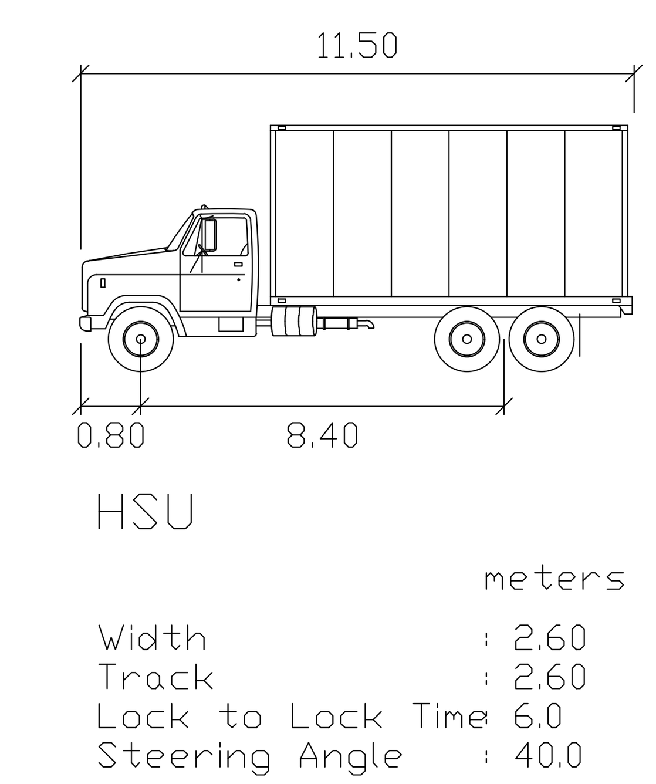
Drawing Number 007





NOKIA OTTAWA CAMPUS

PRELIMINARY DESIGN
ROADWAY DESIGN CONCEPT
LIFESTYLE STREET
STA. 1+917 TO 2+420

CARINA DUCLOS, P. ENG. *Director Infrastructure Services*	**A. ARSENEAULT, P. ENG.** *Project Manager Infrastructure Services*

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Contract No. **CP000000**	Dwg. No. **008**
Sheet 008 of	
Asset No.	
Asset Group	
Des.	Chk'd.
Dwn.	Chk'd.
Utility Circ. No.	Index No.
Const. Inspector	
Scale: HORIZONTAL 1:250 (0m 2.5 5 10)	

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REVISIONS

No.	Description	By	Date (dd/mm/yyyy)
			26/05/2025

PRELIMINARY
(NOT FOR CONSTRUCTION)

DRAWING FRAME: 790mm x 534mm City of Ottawa 2019
Drawing Number 008
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DRAWING FRAME: 790mm x 534mm City of Ottawa 2019

Drawing Number 009

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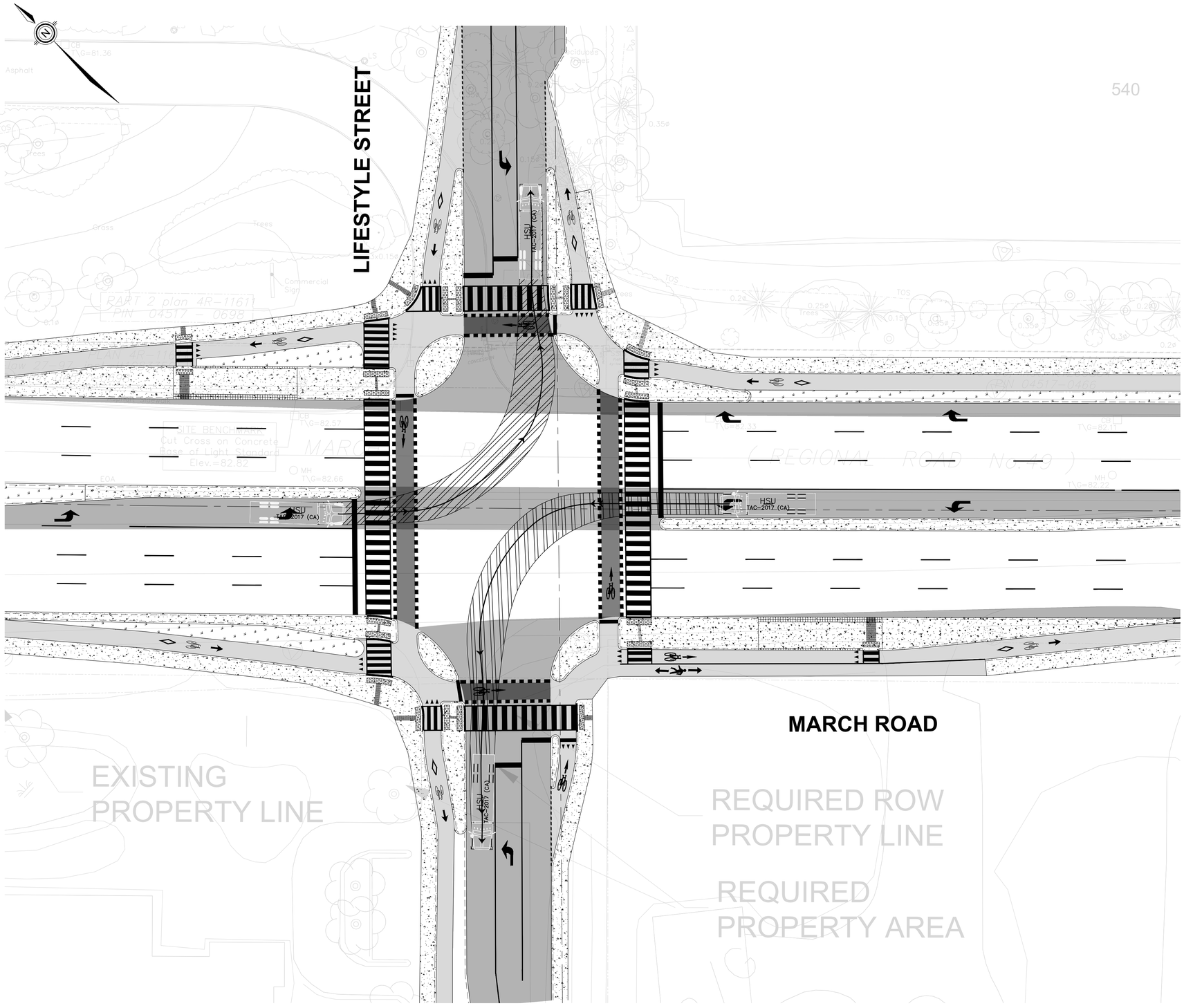

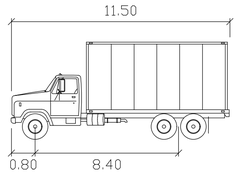

HSU

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Track	: 2.60
Lock to Lock Time	6.0
Steering Angle	: 40.0

NOKIA OTTAWA CAMPUS

PRELIMINARY DESIGN
ROADWAY DESIGN CONCEPT
LIFESTYLE STREET
STA. 1+917 TO 2+420

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Contract No.	Dwg. No.
CP000000	**009**

Sheet 009 of

Asset No.	
Asset Group	
Des.	Chk'd.
Dwn.	Chk'd.
Utility Circ. No.	Index No.
Const. Inspector	

Scale: HORIZONTAL 1:250
0m 2.5 5 10

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REVISIONS	No.	Description	By	Date (dd/mm/yyyy)
				06/05/2025

PRELIMINARY
(NOT FOR CONSTRUCTION)

DRAWING FRAME: 790mm x 534mm City of Ottawa 2019

Drawing Number 010

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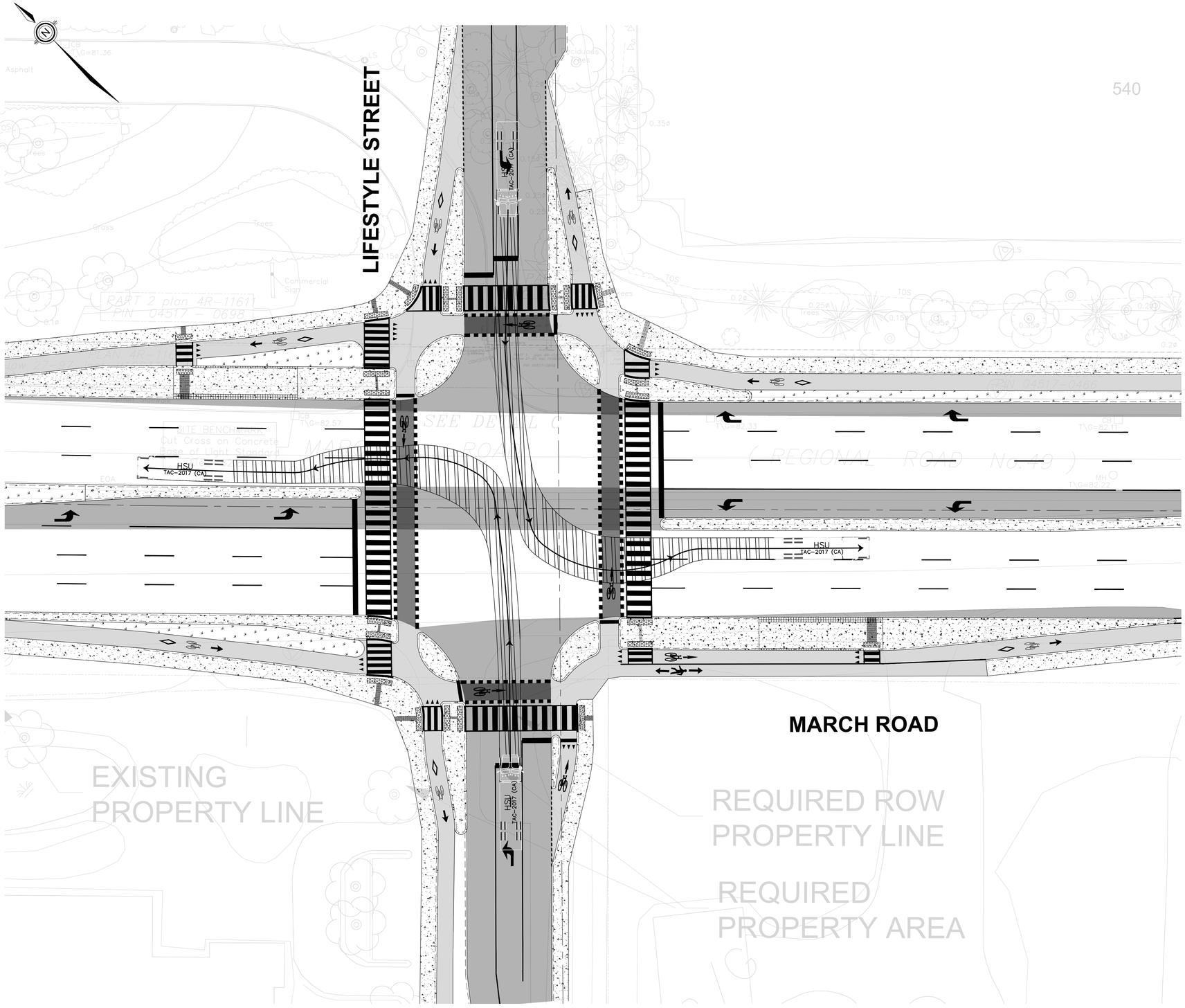

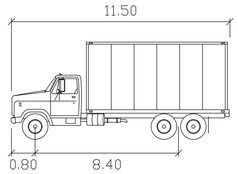

HSU

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Track	: 2.60
Lock to Lock Time	6.0
Steering Angle	: 40.0

NOKIA OTTAWA CAMPUS

PRELIMINARY DESIGN
ROADWAY DESIGN CONCEPT
LIFESTYLE STREET
STA. 1+917 TO 2+420

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Contract No.	Dwg. No.
CP000000	**010**

Sheet 010 of

Asset No.	
Asset Group	
Des.	Chk'd.
Dwn.	Chk'd.
Utility Circ. No.	Index No.
Const. Inspector	

Scale: HORIZONTAL 1:250
0m 2.5 5 10

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No.	Description	By	Date (dd/mm/yyyy)
			06/05/2025

PRELIMINARY
(NOT FOR CONSTRUCTION)

DRAWING FRAME: 790mm x 534mm City of Ottawa 2019

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NOKIA OTTAWA CAMPUS

PRELIMINARY DESIGN
ROADWAY DESIGN CONCEPT
LIFESTYLE STREET
STA. 1+917 TO 2+420

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Contract No.	Dwg. No.
CP000000	**011**

Sheet 011 of

Asset No.	
Asset Group	
Des.	Chk'd.
Dwn.	Chk'd.
Utility Circ. No.	Index No.
Const. Inspector	

Scale: HORIZONTAL 1:250
0m 2.5 5 10

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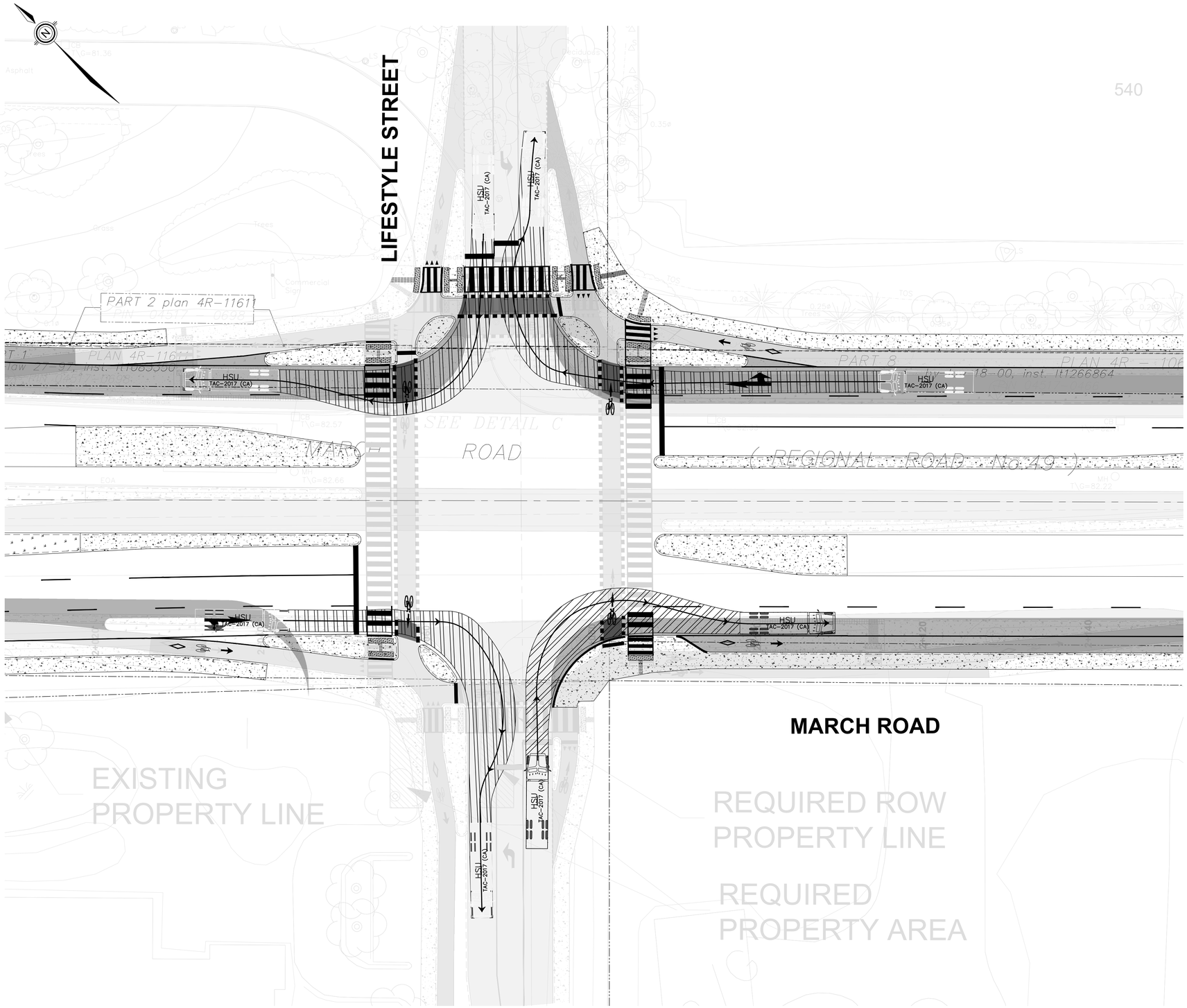
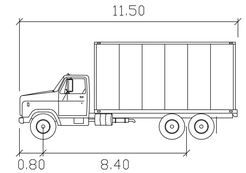
REVISIONS

No.	Description	By	Date (dd/mm/yyyy)
			26/05/2025





HSU

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Track	: 2.60
Lock to Lock Time	6.0
Steering Angle	: 40.0

PRELIMINARY
(NOT FOR CONSTRUCTION)

DRAWING FRAME: 790mm x 534mm City of Ottawa 2019

Drawing Number 012

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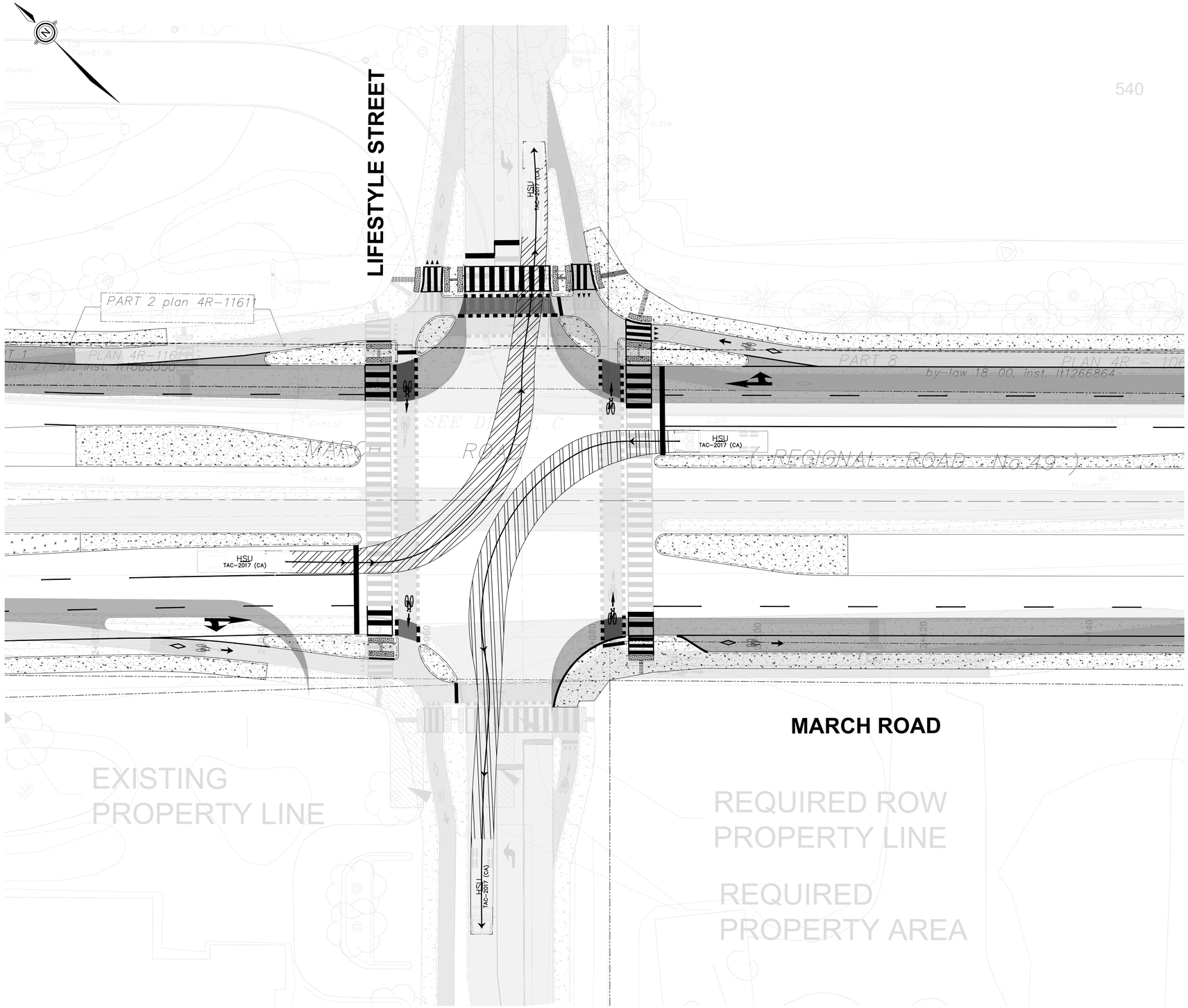

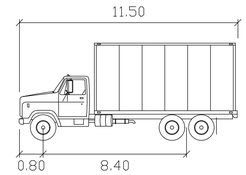

HSU

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Width	: 2.60
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Lock to Lock Time	6.0
Steering Angle	: 40.0

NOKIA OTTAWA CAMPUS

PRELIMINARY DESIGN
ROADWAY DESIGN CONCEPT
LIFESTYLE STREET
STA. 1+917 TO 2+420

CARINA DUCLOS, P. ENG.
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A. ARSENEAULT, P. ENG.
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Contract No.	Dwg. No.
CP000000	**012**

Sheet 012 of

Asset No.	
Asset Group	
Des.	Chk'd.
Dwn.	Chk'd.
Utility Circ. No.	Index No.
Const. Inspector	

Scale: HORIZONTAL 1:250
0m 2.5 5 10

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REVISIONS	No.	Description	By	Date (dd/mm/yyyy)
				06/05/2025

PRELIMINARY
(NOT FOR CONSTRUCTION)

DRAWING FRAME: 790mm x 534mm City of Ottawa 2019

Drawing Number 013

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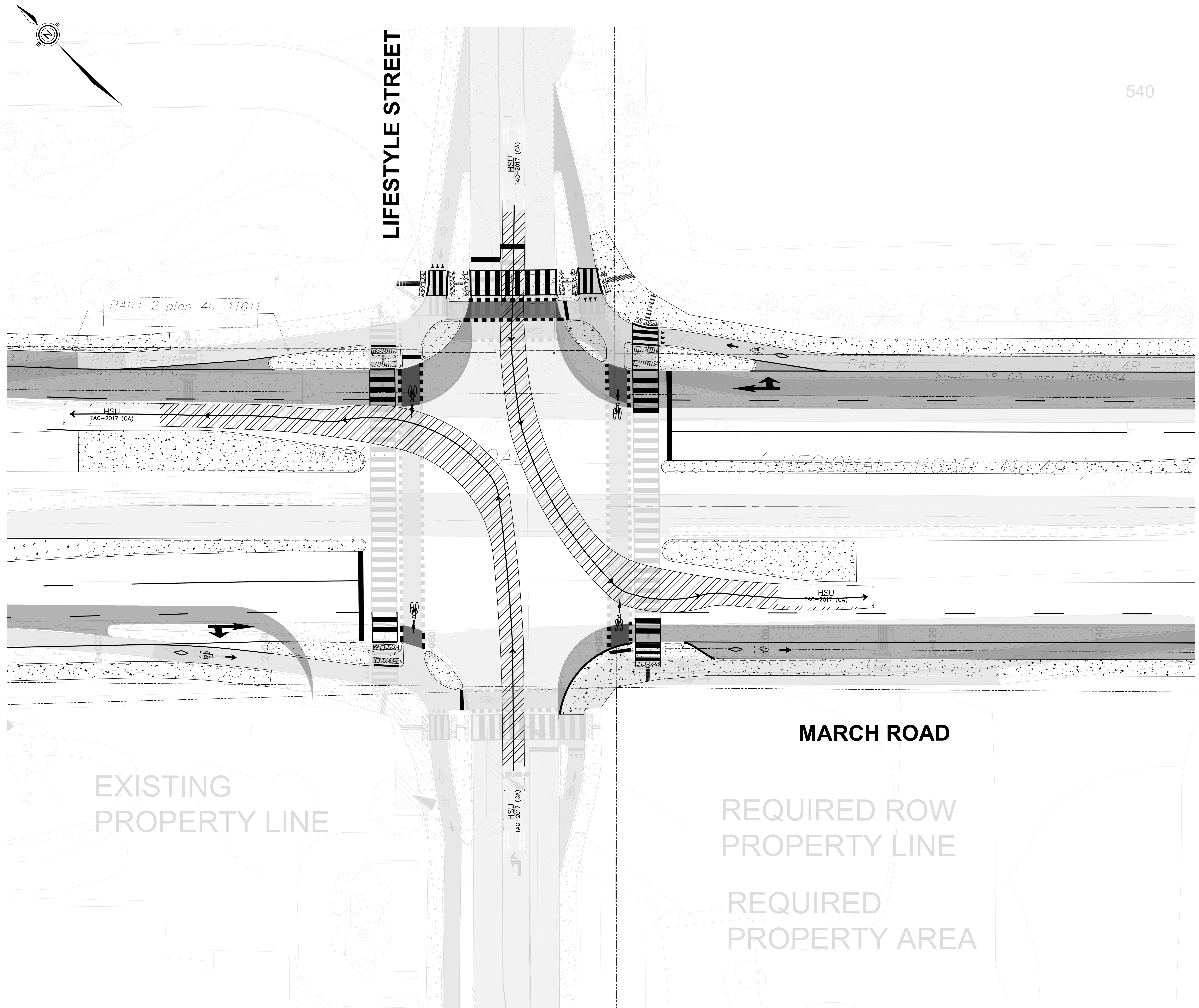

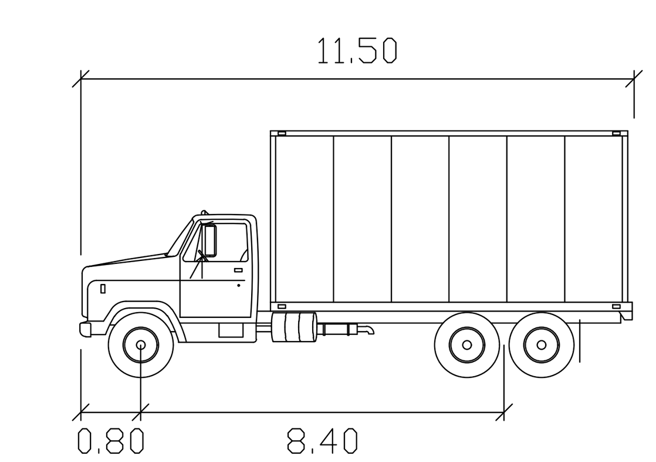

HSU

meters

Width : 2.60
Track : 2.60
Lock to Lock Time 6.0
Steering Angle : 40.0

NOKIA OTTAWA CAMPUS

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PRELIMINARY DESIGN
ROADWAY DESIGN CONCEPT
LIFESTYLE STREET
STA. 1+917 TO 2+420

CARINA DUCLOS, P. ENG. *Director* *Infrastructure Services*	A. ARSENEAULT, P. ENG. *Project Manager* *Infrastructure Services*

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Contract No.	Dwg. No.
CP000000	**013**

Sheet 013 of

Asset No.	
Asset Group	
Des.	Chk'd.
Dwn.	Chk'd.
Utility Circ. No.	Index No.
Const. Inspector	

Scale:
HORIZONTAL 1:250
0m 2.5 5 10

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REVISIONS	No.	Description	By	Date (dd/mm/yyyy)
				06/05/2025

PRELIMINARY
(NOT FOR CONSTRUCTION)