



570 March Road
Transportation Impact Assessment

Prepared for:

Nokia Canada Inc.

Prepared by:

Stantec Consulting Ltd.

570 March Road Transportation Impact Assessment

November 15, 2024

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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)	<u>Gross Building Area</u> 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, Two (2) 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 31,948 m² gross building area of labs, 20,665 m² gross building area of office space and 1,339 m² 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 two 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.

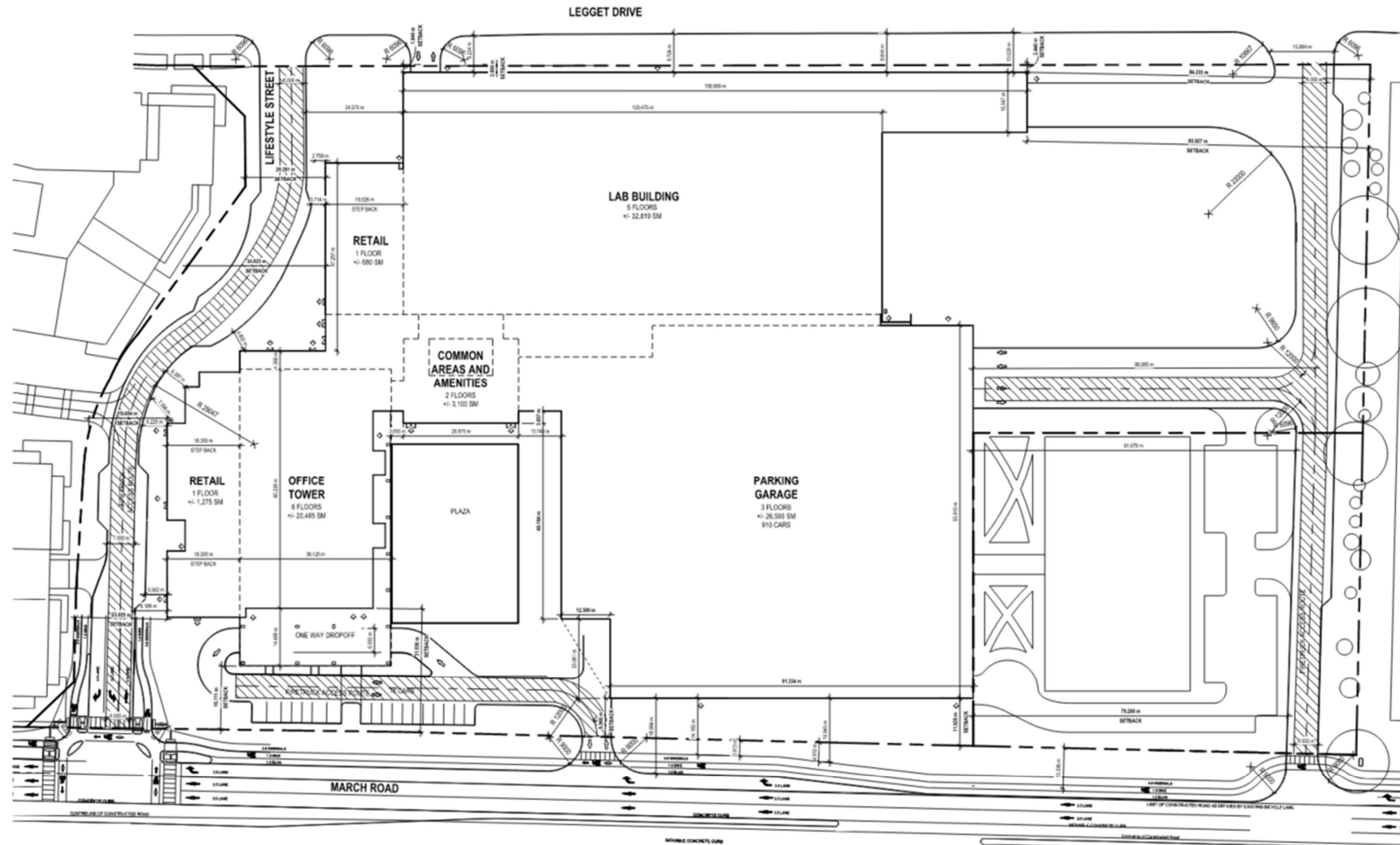
Figure 2 illustrates the proposed development site plan.



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.

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



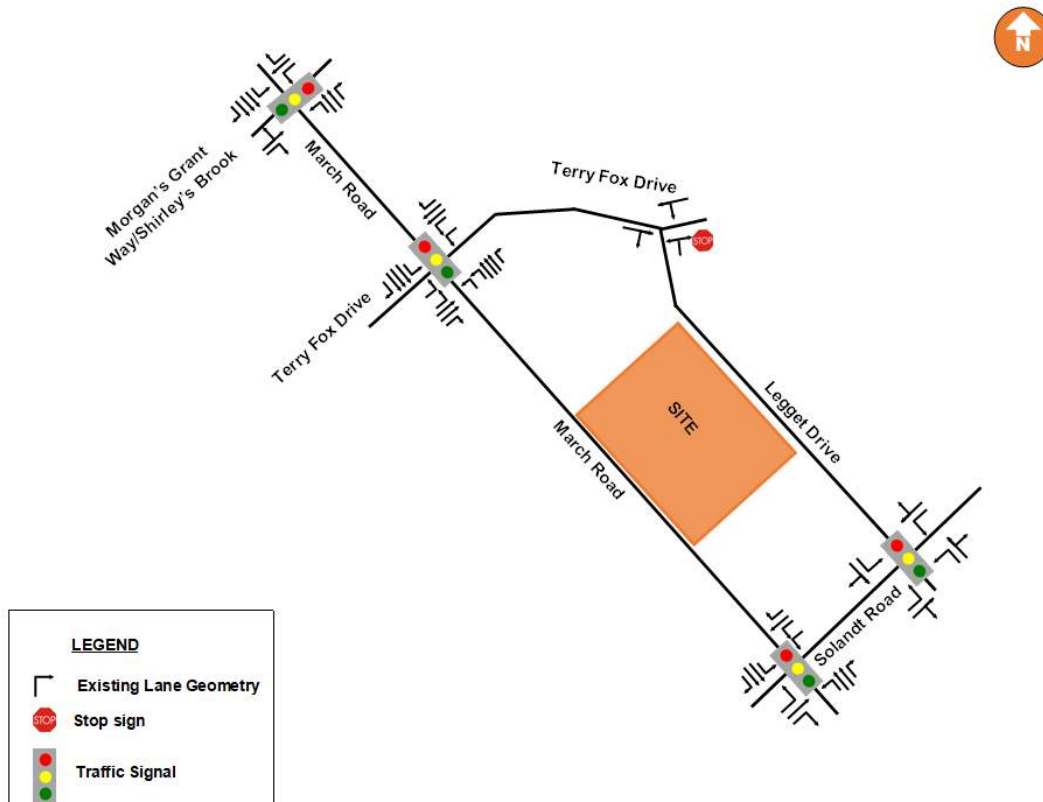
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- On the east side of March Road:
 - One driveway approximately 280m south of Terry Fox Drive (existing Nokia access)
 - One driveway approximately 200m north of Solandt Road (office)
- On the west side of March Road:
 - Four driveways approximately 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)

Figure 3 - Existing Lane Configuration and Traffic Control



2.1.2.2 Walking and Cycling

The study area is currently generally well-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.



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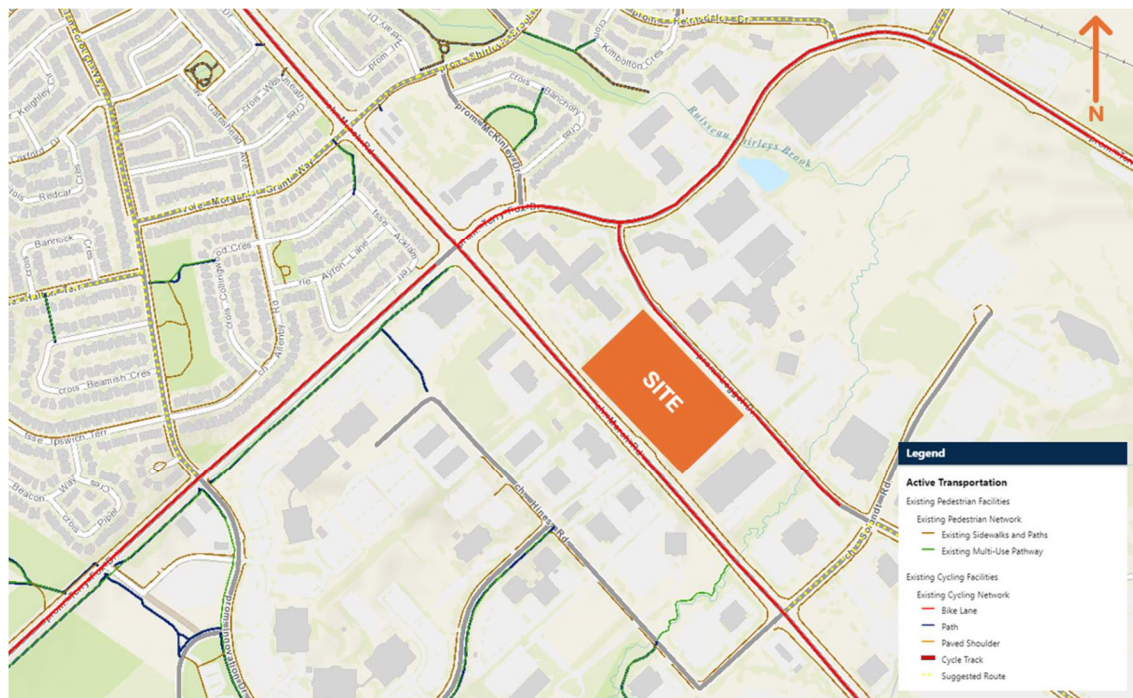
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The current cycling network in the study area consists of bike lanes on March Road, Terry Fox Drive, and Legget Drive. There is also a pathway on the south side of Terry Fox Drive west of March Road that provides a connection to the pathway network 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.

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



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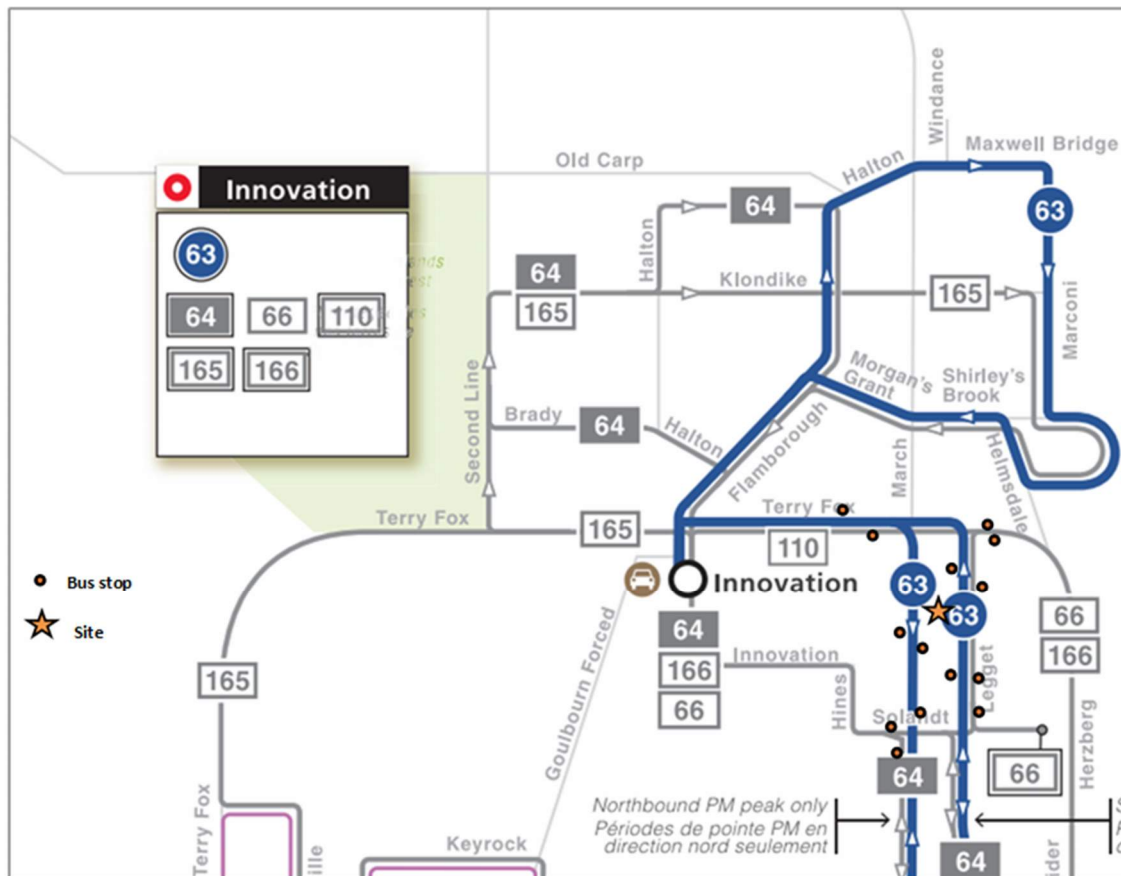
2.1.2.3 Transit

OC Transpo service is currently provided in the vicinity of the subject site via routes 63, 66, 110, and 166.

- Route 63 is a Rapid Route that runs 7 days per week between Innovation Station 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. This will be maintained in the future New Ways to Bus Network.
- Route 66 is a Local Route that runs Monday to Friday between Kanata and Gatineau. It runs with 15-minute headways during both peak periods. It will only travel on Terry Fox Road / Herzberg Road within the study area in the future New Ways to Bus Network, with a 30-min headway in the weekday peak period.
- Route 110 is a Local Route that runs Monday to Friday between Innovation and Fallowfield. It runs with 30-minute headways during both peak periods. It will only travel on Solandt Road within the study area in the future New Ways to Bus Network, and run 7 days per week with a 30-min headway in the weekday and weekend peak periods.
- Route 166 is a Local Route that runs Monday to Friday between Innovation and Eagleson. It runs only one bus in each direction during the morning peak hour. It will be eliminated in the future New Ways to Bus Network.

Figure 5 illustrates the transit routes and stops.

Figure 5 - Study Area Transit Routes and Stops



2.1.2.4 Traffic Management Measures

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

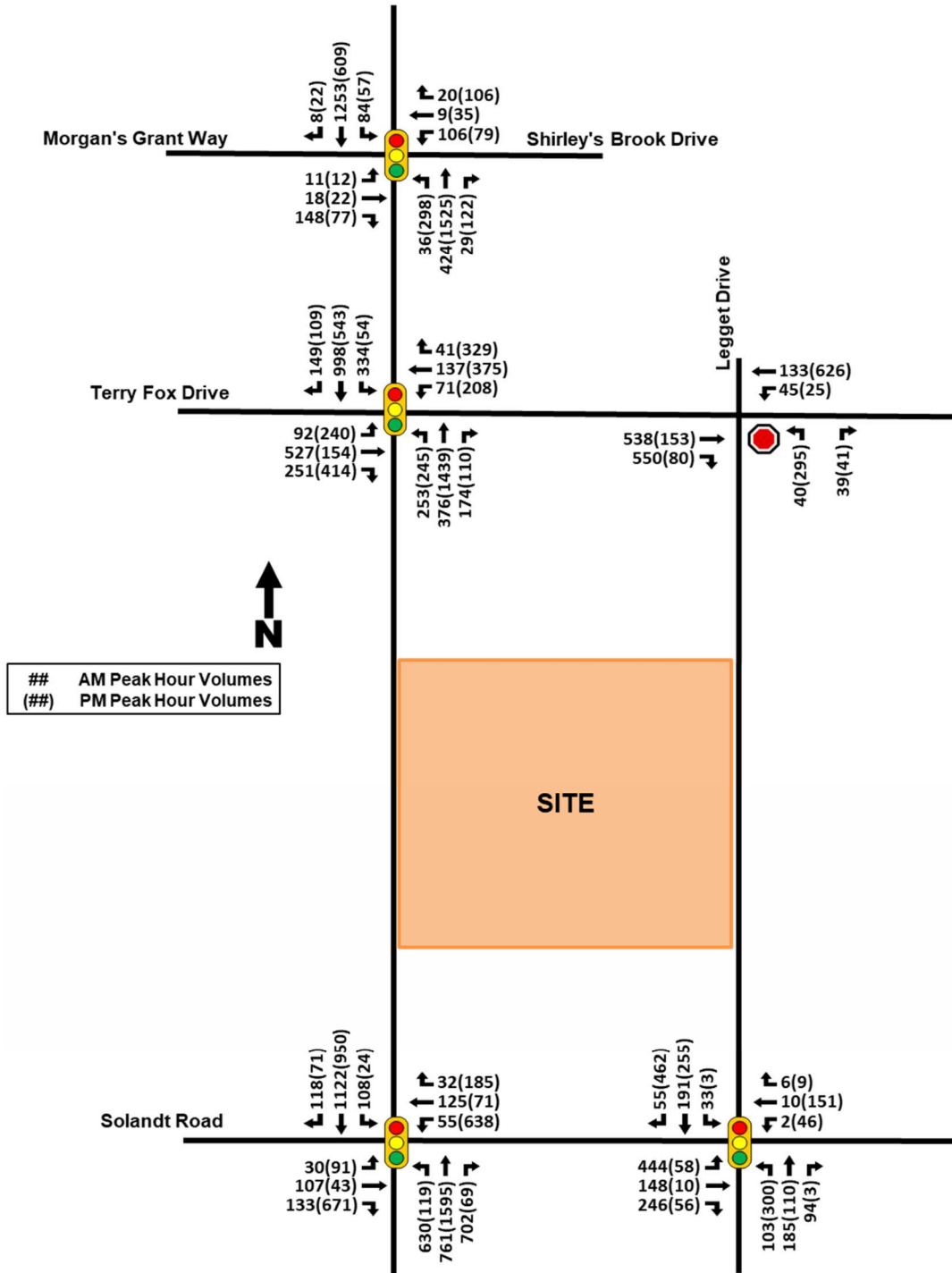
2.1.2.5 Traffic Volumes

Traffic volumes at the study area intersections received from the City of Ottawa were collected in 2016 to 2019. Using the City of Ottawa's long-range 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 studies, therefore a reduced background growth rate of 0.5% per year was felt to be more appropriate. The annual growth rate was applied to the traffic counts to represent the 2024 existing traffic volumes. A volume balancing exercise was conducted as the data was collected in different years. It should be noted that there is an imbalance between the intersections of Legget Drive at Terry Fox Drive and Legget Drive at Solandt Road, which was felt to be reasonable due to the high number of accesses to offices, the access to the Brookstreet Hotel, and their respective parking lots.

The 2024 existing traffic volumes can be seen in **Figure 6** for the AM and PM peak hours.



Figure 6 - 2024 Existing Traffic 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 1** below.

At the intersection of Terry Fox Drive at 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 2** 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 could have been factors.

At the intersection of March Road at 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 3** 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. Similar to the findings of the Terry Fox Drive at March Road intersection, as there are no geometric issues that could contribute to these rear end and angle collisions, they are likely due to the combination of the high volume of traffic with the high posted speed limit.



Table 1 - 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	--	--	--	--	--	--

Table 2 - Terry Fox at March Rear-End Collisions

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

Table 3 - March at Solandt Rear-End and Angle/Turning movement and Sideswipe Collisions

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



2.1.3 Planned Conditions

2.1.3.1 Road Network Modifications

Table 4 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 release 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 4. Additionally, Part 1 of the new TMP includes an active transportation project to implement bike lanes where feasible on Legget, Solandt, and Hines.

Figure 7 illustrates planned network modifications near the proposed development from the 2013 TMP.

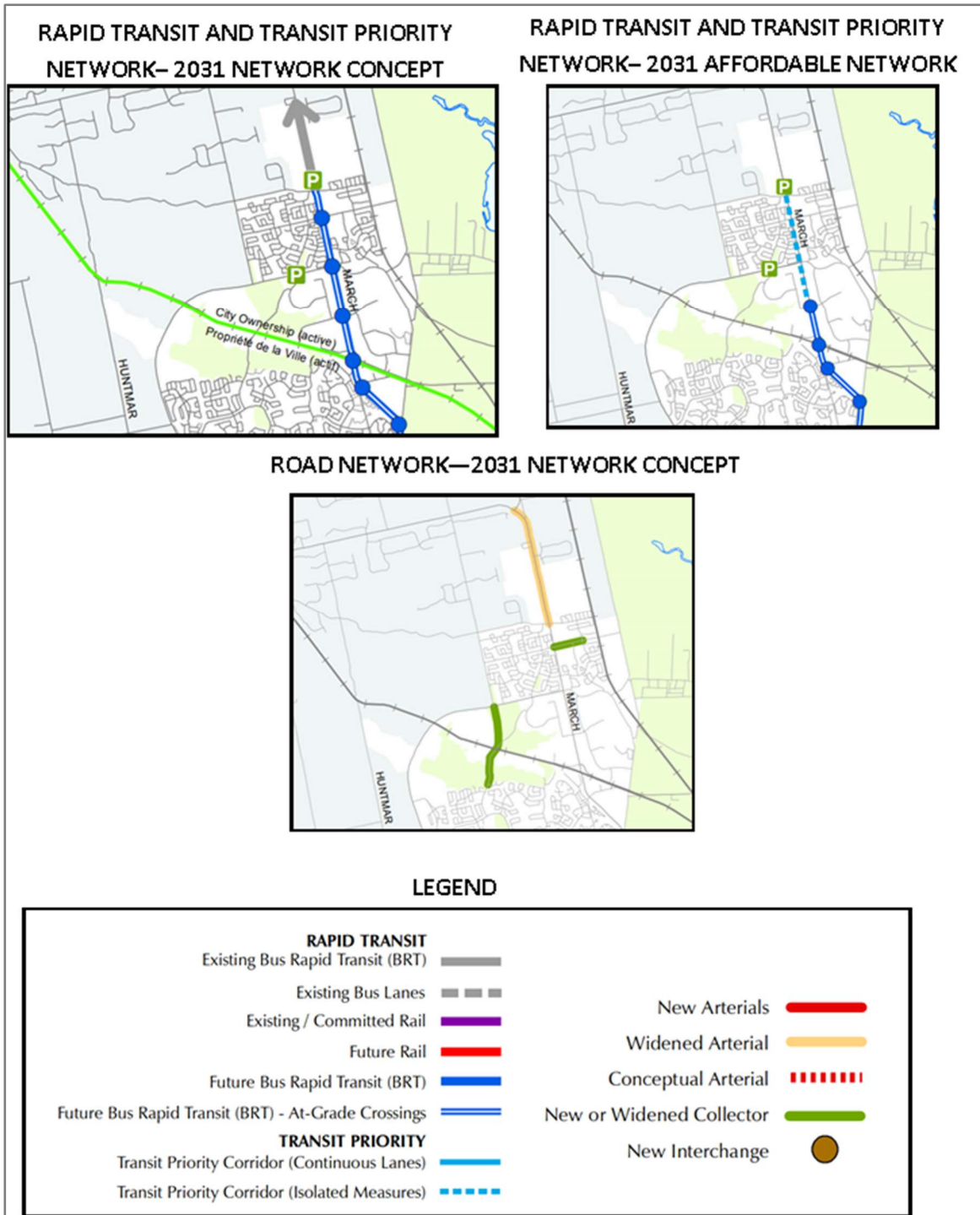
Table 4 - City of Ottawa 2013 Transportation Master Plan Projects

Project	Description	TMP Phase
Kanata North Transitway	Affordable: At-grade March Road BRT between Solandt Road and Hwy. 417	Affordable Network
	Concept: At-grade March Road BRT between Maxwell Bridge Road and Highway 417	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 the Part 2 of the new TMP, likely for the 2046 horizon year. Therefore, for the purposes of this TIA, it is assumed that none of the above noted projects will be completed within the horizon of this study.



Figure 7 - 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 5**.

Table 5 - Background Developments

Development	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*	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-leveled mixed-use building with 390 residential units and 501 m ² of ground floor commercial space.
KNUEA**	North of the established urban area of Kanata	960 single-detached homes, 1282 townhomes, 2,170 multi-unit residential units, and 145,600 ft ² 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 with 154,178 sq ft. of office space

* Traffic for these developments have not been added.

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

- 2024 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.

The following **Table 6** summarizes appropriate vehicle trip generation rates for estimating projected site-generated traffic by land use, derived from the ITE Trip General Manual. 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 6 - Trip Generation Rates

Land Use	Land Use Code (ITE)	AM Peak Hour	PM Peak Hour
Lab - General Light Industrial ($X = 1,000 \text{ ft}^2 \text{ GFA}$)	ITE 110 General Urban/Suburban	$T = 0.74(X)$ $T = 0.68(X) + 3.81$	$T = 0.65(X)$ $\text{Ln}(T) = 0.72 \text{ Ln}(X) + 0.38$
Office - Corporate Headquarters Building ($X = 1,000 \text{ ft}^2 \text{ GFA}$)	ITE 714 General Urban/Suburban	$T = 1.45(X)$ $\text{Ln}(T) = 0.89 \text{ Ln}(X) + 0.91$	$T = 1.30(X)$ $\text{Ln}(T) = 0.94 \text{ Ln}(X) + 0.58$
Retail - High-Turnover (Sit-Down) Restaurant ($X = 1,000 \text{ ft}^2 \text{ GFA}$)	ITE 932 General Urban/Suburban	$T = 9.57(X)$	$T = 9.05(X)$

Note: T = Average Person Trip Ends

General Light Industrial (ITE Code 110), Corporate Headquarters Building (ITE Code 714), and High-Turnover Restaurant (ITE Code 932) only includes vehicular trip generation. To properly consider multi-modal trips, projected site traffic is converted to projected site-generated person trips. To convert projected ITE vehicle trips to person trips, an auto occupancy factor and non-auto factor is applied to the ITE trip generation rates. According to the City's TIA Guidelines, and based on available American Census data, the typical modal share of non-auto person trips is approximately 10% and the typical auto occupancy is 1.15. When combined/solving for "person trips" (i.e., $\text{Persons} = 1.15 \times \text{Autos} + 0.10 \times \text{Persons}$), a factor of 1.28 is used to convert vehicle trips to person trips. These person trips are then broken down into trips for different modes (vehicle, transit, cycling and walking) by using the mode split from the City of Ottawa's TRANS Trip Generation Manual (2020).



Table 7 - Projected Site Person Trip Generation by Land Use Type

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
General Light Industrial	268	36	304	18	108	125
Corporate Headquarters Building	363	27	390	33	335	368
High-Turnover (Sit-Down) Restaurant	49*	40*	89*	102	65	167
Total Person Trips	680	103	783	153	508	661

*A 50% reduction of trips was applied to the AM peak hour for the high-turnover restaurant, based on the likelihood 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.

As shown in **Table 7**, the subject development is projected to generate approximately 783 and 661 trips per hour during weekday morning and afternoon peak hours, respectively.

2.3.2 Travel Mode Shares

The total projected person trips are subdivided by mode share values to determine the number of person trips arriving and departing by travel mode. The subject site falls within the 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 8**.

Table 8 - 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 BRT on March Road, it is considered beyond the horizon of this



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study and no significant increases will be made to the transit mode targets. Therefore, 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 9 - Proposed Lab - 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%	214	29	243	14	86	100
Auto Passenger	4%	11	1	12	1	4	5
Transit	9%	24	3	27	2	10	12
Active	7%	19	3	22	1	8	9
Total Person Trips	100%	268	36	304	18	108	126

The proposed lab is estimated to generate approximately 304 and 126 person trips in the AM and PM peak hour respectively.

Table 10 - Proposed 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%	290	22	312	26	268	294
Auto Passenger	4%	15	1	16	1	13	14
Transit	9%	33	2	35	3	30	33
Active	7%	25	2	27	2	23	25
Total Person Trips	100%	363	27	390	33	335	368

The proposed office is estimated to generate approximately 390 and 368 person trips in the AM and PM peak hour respectively.



Table 11 - 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	32	70	71	45	116
Auto Passenger	11%	21%	5	4	9	21	14	35
Transit	6%	2%	3	2	5	2	1	3
Active	5%	7%	2	2	4	7	5	12
Total Person Trips	100%	100%	49	40	89	102	65	167

The proposed retail is estimated to generate approximately 89 and 167 trips in the AM and PM peak hour respectively.

Table 12 - Projected Site Auto, Transit, and Active Trips

Travel Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto Driver						
General Light Industrial	214	29	243	14	86	100
Corporate Headquarters	290	22	312	26	268	294
High-Turnover Restaurant	38	32	70	71	45	116
Total	542	83	625	111	399	510
Auto Passenger						
General Light Industrial	11	1	12	1	4	5
Corporate Headquarters	15	1	16	1	13	14
High-Turnover Restaurant	5	4	9	21	14	35
Total	31	6	37	23	31	54
Transit						
General Light Industrial	24	3	27	2	10	12
Corporate Headquarters	33	2	35	3	30	33
High-Turnover Restaurant	3	2	5	2	1	3
Total	60	7	67	7	41	48
Active						
General Light Industrial	19	3	22	1	8	9
Corporate Headquarters	25	2	27	2	23	25
High-Turnover Restaurant	2	2	4	7	5	12
Total	46	7	53	10	36	46

Table 12 summarizes the projected trips by mode for the subject site. In sum, the proposed development is estimated to generate:

- 625 and 510 two-way auto driver trips in the AM and PM peak hour respectively,



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- 37 and 54 two-way auto passenger trips in the AM and PM peak hour respectively,
- 67 and 48 two-way transit trips in the AM and PM peak hour respectively, and
- 53 and 46 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), 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. The following approximate distribution of projected site-generated traffic was assumed.

Proposed Lab and Office

- 70% to/from the south via March Road and Highway 417
- 5% to/from the east via Terry Fox Drive and Legget Drive
- 15% to/from the north via March Road
- 10% to/from the west via Terry Fox Drive

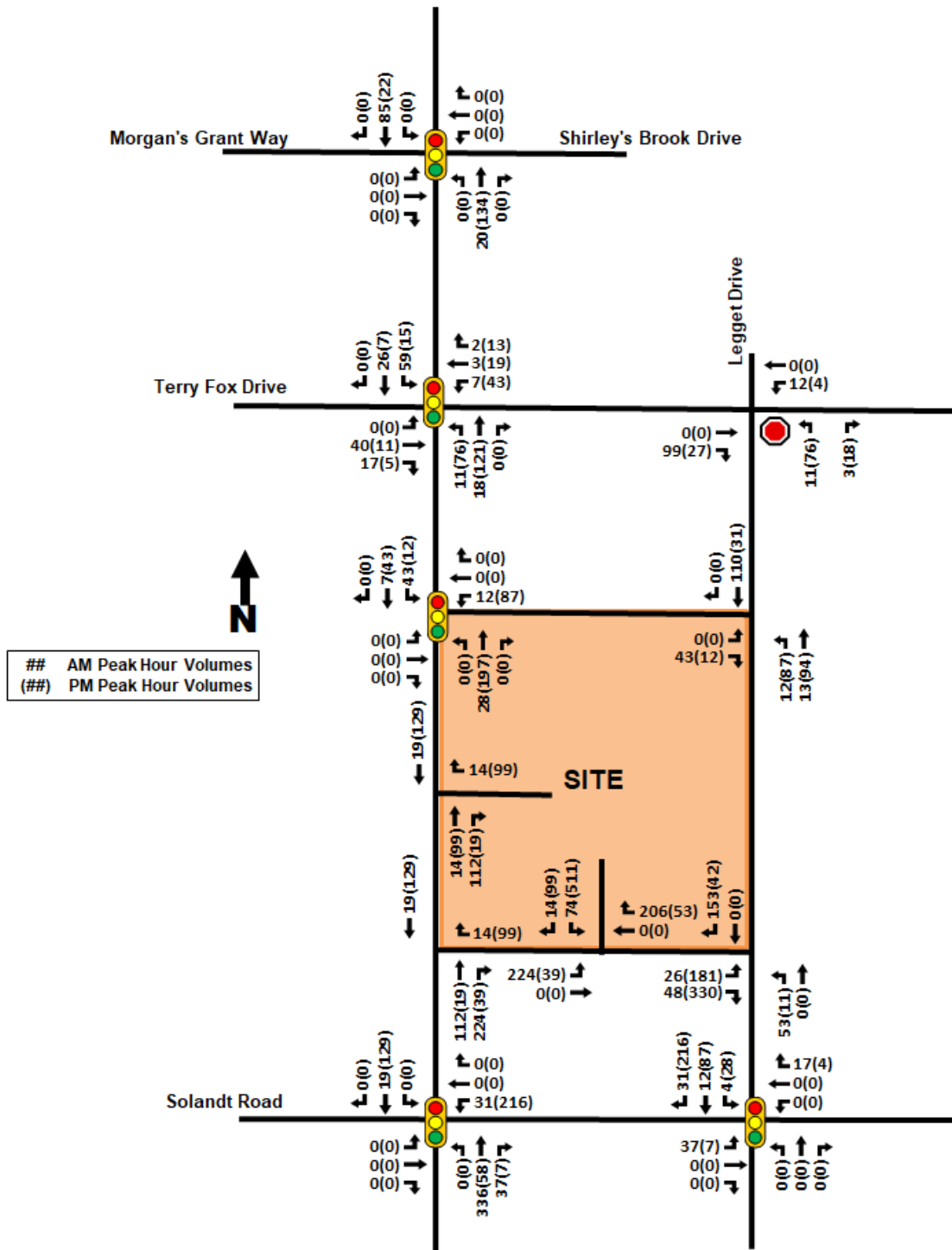
Proposed Retail (Food Hall)

- 52% to/from the south via March Road and Highway 417
- 8% to/from the east via Terry Fox Drive and Legget Drive
- 23% to/from the north via March Road
- 17% to/from the west via Terry Fox Drive

Based on the above assumed distribution, projected site-generated traffic was assigned to the study area network, as shown below in **Figure 8**.



Figure 8 - Projected Site-Generated Traffic



2.4 EXEMPTIONS REVIEW

Table 13 summarizes the Exemptions Review table from the City of Ottawa's 2017 Transportation Impact Assessment Guidelines with revisions effective June 2023.

Table 13 - 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 mentioned previously, there are no timelines for transit priority measures on March Road or 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. Part 2 of the City's New TMP may shed light on the timing of this project, but until such a time, this project has not been included in the analysis. 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
- 706-714 March
- 788 March
- 910 March
- 936 March
- 1053, 1075, 1145 March
- 359 Terry Fox & 525 Legget
- 415 Legget & 2700 Solandt
- 2707 Solandt
- 1055 Klondike

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

Based on the foregoing information, **Figure 9 and Figure 10** below show the 2027 Future Background and 2032 Future Background traffic volumes.



Figure 9 - 2027 Future Background Volumes

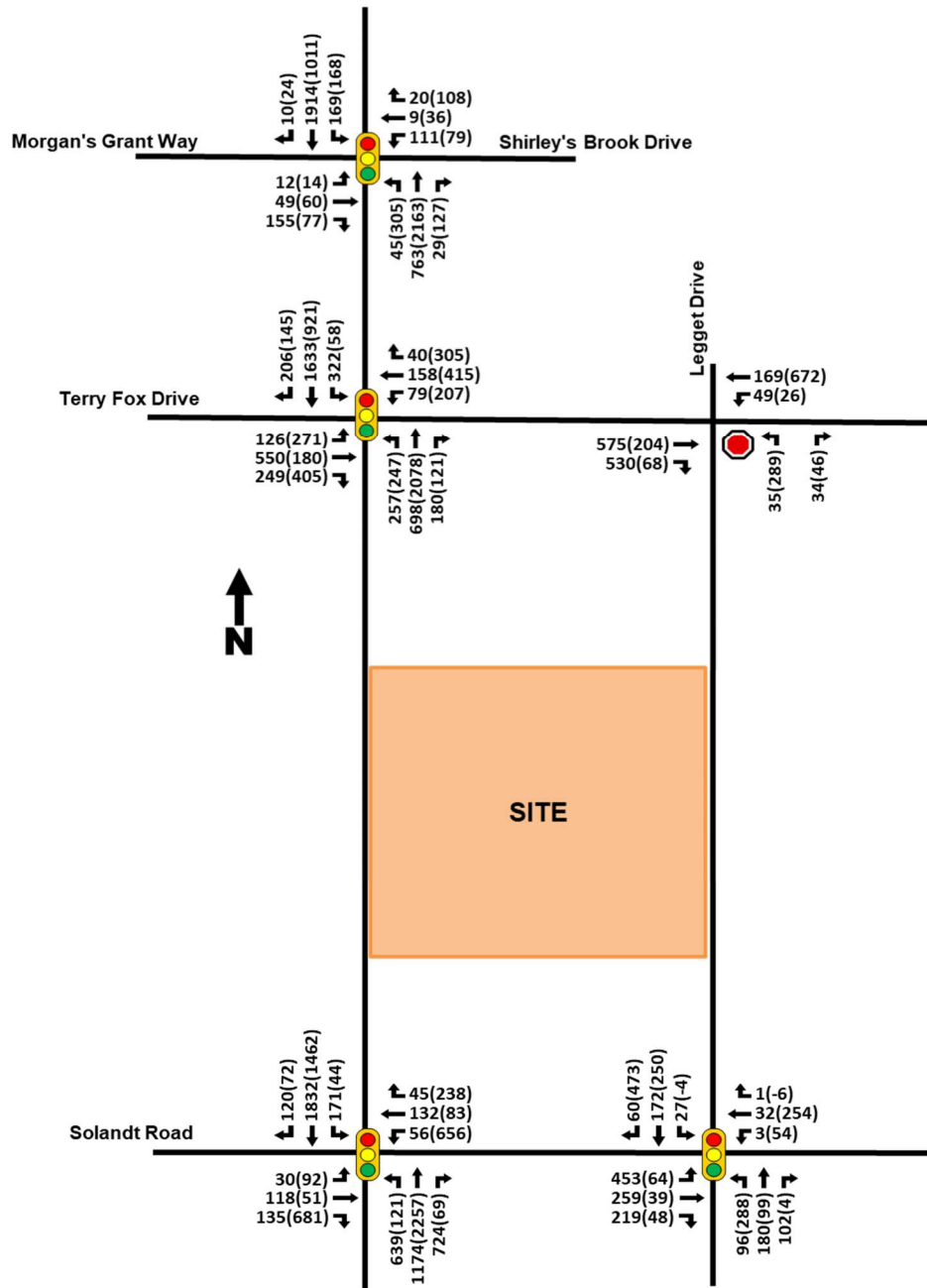
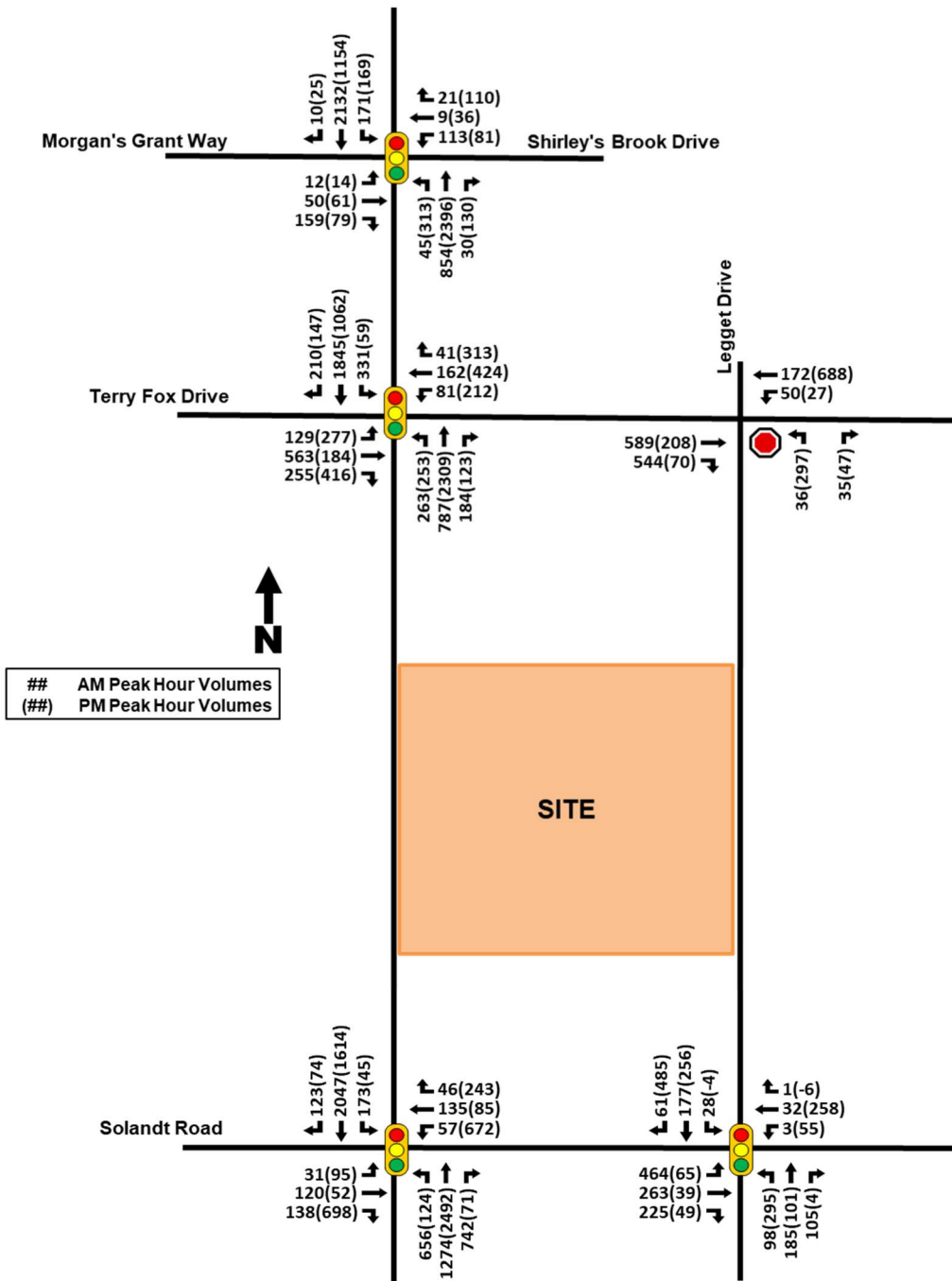


Figure 10 - 2032 Future Background Volumes



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. Generally, the northern side of the site along Lifestyle Street, the roadway itself, and the drop-off loop are all hardscaped areas to indicate a pedestrianized environment. Lifestyle Street has been designed to prioritize cyclists as well, as the pavement markings include sharrow to indicate that it is a shared space between cars and bikes. Cycle tracks are proposed on the March Road frontage of the site which provide a connection to cycling facilities on Lifestyle Street, the outdoor bike parking areas, and access to the bike parking room through the Private Driveway.

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 primarily 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 bus stop #1820 on March Road will be relocated to farside of the protected intersection of Lifestyle Street at March Road, which should mitigate delays to buses. Improvements to the bus stop will be made with the relocation as the design integrates a bus landing zone and the proposed cycle tracks on March Road. 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 extend to the limits of the site, improving access to the southbound bus stop #4972 and bus stop #6150 on Legget Drive.

There are two outdoor bike parking areas proposed on the site, geared towards visitors or short-term parking. One is located near the hardscaped seating area on the northeast corner of the site, and the other near the main landscaped/hardscaped plaza on the March frontage. An indoor bike parking room with lockers and showers is available through the Private Drive/south entrance of the parking structure.

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

3.3.2 Circulation and Access

Fire routes are provided at the drop-off loop from March Road, Lifestyle Street, and the Private Drive from 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 at 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.

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 928 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 able to be justified or the parking stalls may be shared with adjacent businesses.

Table 14 - Minimum Auto Parking Zoning Bylaw Provisions

Use	Parking Rate	Area	Required	Provided
Lab	0.8/100m ² for the first 5000m ²	21,042m ²	40	
	0.4/100m ² above 5000m ²		64	
Office	2.4/100m ²	31,948m ²	766	
Retail	5/100m ²	2,120m ²	105	
Total			975	928

The bicycle parking spaces provided by the site meet and exceed the bicycle parking provisions as per the zoning bylaw, as shown in **Table 15**.

Table 15 - Minimum Bike Parking Zoning Bylaw Provisions

Use	Parking Rate	Area	Required	Provided
Lab	1/250m ²	21,042m ²	85	85
Office	1/1500m ²	31,948m ²	22	26
Retail	1/250m ²	2,120m ²	9	9
Total			116	120

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 16** 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 16 - 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 D** and summarized in **Table 17** below.

Table 17 - 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	E		D		E
Legget, Terry Fox to Solandt	F (west side) B (east side)		D		D	D

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, Terry Fox to Solandt

High traffic volumes, the high speed limit, long distances between controlled crossings, and the shared operating space for bikes result in the PLOS and BLOS failing to meet targets. The proposed cycle tracks on the March frontage of the site and the new intersection at Lifestyle Street at March Road with a protected intersection treatment 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.

Legget, Terry Fox to Solandt

There is a significant gap in the pedestrian network on the west side of Legget Drive resulting in PLOS 'F' on the west side, which the subject development aims to address. 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 shared operating space for bikes results in BLOS 'D'. 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 as proposed by the subject development and upgrading bus stops to be curbside platforms on the west side of Legget Drive.

3.5.2 Road Safety

As discussed in **Section 2.1.2.6**, there were no concerning trends in historical collision data. However, the high volume of cars in combination with the high posted speed limit on March Road was highlighted as a potential factor for rear-end collisions in this corridor.

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 share 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 through 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



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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 walk or bike.

3.6.3 TDM Program

The Transportation Demand Management (TDM) – Supportive Development Design and Infrastructure 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.
- 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 parking or offer discounts for carpooling parking. Charges for monthly parking passes should 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.

The completed TDM checklist is included in **Appendix C**.

3.7 TRANSIT

3.7.1 Transit Priority

Timelines for the planned transit priority measures by the City of Ottawa which include transit signal priority, queue jump lanes, and the ultimate establishment of a BRT, are not confirmed. Such transit priority measures are supported to accommodate the anticipated growth on the March Road corridor, projected network traffic volumes, the new proposed intersection at Lifestyle Street at March Road, and two additional site accesses on March Road.



3.8 INTERSECTION DESIGN

3.8.1 Intersection Controls

A new, signalized intersection at March Road and 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. The two driveways on Legget Drive will also be stop-controlled. The stop-controlled accesses can adequately accommodate anticipated traffic volumes.

3.8.2 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 D** and summarized below.

Table 18 - Intersection MMLOS, Existing

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

Intersection MMLOS for Existing conditions are shown in **Table 18**.

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 meets the target at March & Terry Fox but falls a grade below the target at March & Solandt. Similarly, AutoLOS is shown to operate above the target at Terry Fox, but failing at Solandt Road.

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 limits 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 19 - Intersection MMLOS, Future Background

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

Intersection MMLOS for Future Background conditions are summarized in **Table 19**. There is minimal variation of MMLOS results from Existing to Future Background conditions as there are no major changes to these intersections from known, committed projects.

Table 20 - Intersection MMLOS, Future Total

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

Intersection MMLOS for Future Total conditions are summarized in **Table 20**.

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 at a poor level 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 a smart channels with a raised crosswalk, protected intersection treatments, and providing a median refuge.

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 design. PLOS target 'A' is not achieved at this intersection, due to the number of lanes and signal cycle



length. As previously discussed, measures to improve PLOS may include providing a median refuge for pedestrians and/or including protected turning movements. The design of the west leg of the intersection has not been confirmed at the time of writing, but if assuming that all four protected corners will be built with crossrides on all legs during the construction of the intersection, BLOS 'A' will be achieved. The TLOS meets the target with TLOS 'C' which may be further improved with transit priority measures as part of the March Road BRT. AutoLOS operates at an acceptable LOS.

3.8.3 Existing Conditions

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

Using the intersection capacity analysis software Synchro, study area intersections were assessed in terms of vehicle delay, volume-to-capacity ratio (v/c) and the corresponding Level of Service (LOS). It should be noted that the overall performance of a signalized intersection is calculated as a weighted v/c ratio and assigned a corresponding LOS, with critical movements assigned a LOS based on their respective v/c ratio. Unsignalized intersections are given an LOS based on delay. **Table 21** shows the vehicular level of service that corresponds to each v/c ratio.

Table 21 - 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 22 and Table 23 below summarize the results of the Synchro traffic analysis in Existing conditions for AM and PM peak hours.

Table 22 – Signalized Intersection Operations, Existing Conditions 2024, 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	49 (52)	0.15 (0.27)	A (A)	16 (18)
	EBR	12 (14)	0.48 (0.34)	A (A)	19 (14)
	WBL	74 (65)	0.69 (0.58)	B (A)	47 (35)
	WBTR	25 (22)	0.15 (0.55)	A (A)	11 (28)
	NBL	51 (66)	0.37 (0.76)	A (C)	22 (m#122)
	NBT	31 (4)	0.17 (0.54)	A (A)	57 (19)
	NBR	13 (1)	0.03 (0.13)	A (A)	m7 (m0)
	SBL	70 (63)	0.58 (0.46)	A (A)	39 (28)
	SBT	13 (22)	0.44 (0.31)	A (A)	89 (45)
	SBR	0 (1)	0.01 (0.03)	A (A)	0 (0)



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	Overall	22 (18)	0.31 (0.46)	A (A)	-
March Road & Terry Fox Drive	EBL	67 (73)	0.48 (0.81)	A (D)	22 (#52)
	EBT	54 (40)	0.76 (0.26)	C (A)	90 (25)
	EBR	9 (29)	0.51 (0.84)	A (D)	24 (71)
	WBL	65 (66)	0.41 (0.72)	A (C)	18 (41)
	WBT	42 (48)	0.22 (0.62)	A (B)	25 (57)
	WBR	1 (19)	0.11 (0.70)	A (B)	0 (46)
	NBL	63 (58)	0.47 (0.40)	A (A)	48 (m26)
	NBT	28 (15)	0.29 (0.80)	A (C)	33 (m#131)
	NBR	6 (2)	0.32 (0.17)	A (A)	13 (m2)
	SBL	107 (57)	1.06 (0.45)	F (A)	#197 (28)
	SBT	46 (71)	0.70 (0.48)	B (A)	115 (67)
	SBR	17 (26)	0.28 (0.24)	A (A)	34 (23)
	Overall	46 (36)	0.68 (0.80)	B (C)	-
	March Road & Solandt Road	EBL	75 (64)	0.41 (0.58)	A (A)
EBT		65 (40)	0.57 (0.13)	A (A)	47 (20)
EBR		14 (368)	0.49 (1.74)	A (F)	18 (#308)
WBL		66 (120)	0.36 (1.12)	A (F)	15 (#136)
WBT		63 (34)	0.58 (0.15)	A (A)	54 (27)
WBR		1 (9)	0.11 (0.35)	A (A)	0 (22)
NBL		98 (99)	1.09 (0.98)	F (E)	#291 (#57)
NBT		10 (131)	0.37 (1.21)	A (F)	65 (#310)
NBR		5 (4)	0.63 (0.11)	B (A)	45 (7)
SBL		84 (50)	0.67 (0.46)	B (A)	m48 (m11)
SBT		171 (45)	1.23 (0.93)	F (E)	#257 (#168)
SBR		32 (6)	0.24 (0.13)	A (A)	m31 (m8)
Overall	76 (132)	1.13 (1.36)	F (F)	-	
Legget Drive & Solandt Road	EBL	22 (46)	0.74 (0.45)	C (A)	99 (23)
	EBTR	11 (14)	0.51 (0.26)	A (A)	56 (13)
	WBL	9 (37)	0.01 (0.26)	A (A)	1 (18)
	WBTR	8 (47)	0.03 (0.64)	A (B)	4 (50)
	NBL	30 (38)	0.45 (0.79)	A (C)	35 (#90)
	NBTR	28 (5)	0.62 (0.10)	B (A)	76 (14)
	SBL	24 (17)	0.17 (0.01)	A (A)	13 (2)
	SBTR	26 (78)	0.55 (1.07)	A (F)	67 (#235)
	Overall	21 (55)	0.66 (0.92)	B (E)	-



Table 23 - Unsignalized Intersection Operations, Existing Conditions 2024, 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)	0.71 (0.15)	C (A)	0 (0)
	WBLT	5 (1)	A (A)	0.11 (0.02)	A (A)	3 (1)
	NBLR	31 (171)	D (F)	0.39 (1.24)	A (F)	13 (131)
	Overall	2 (47)	A (E)	-	-	-

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 March & Solandt, which is overcapacity in both peak hours with an overall v/c ratio of 1.13 and 1.36 in the AM and PM peak respectively. There are several movements that are over capacity at this intersection, including: northbound left and southbound through in the AM peak, and the eastbound right, westbound left, northbound through in the PM peak.

Other movements in the study area that are over capacity include the southbound left at March & Terry Fox in the AM peak, the southbound through/right at Legget & Solandt in the PM peak, and the northbound left/right at Legget & Terry Fox in the PM peak.

3.8.4 Future Background

Table 24 and Table 25 below summarize the results of the Synchro traffic analysis in Future Background 2027 conditions.

Table 24 – 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	53 (62)	0.28 (0.51)	A (A)	26 (31)
	EBR	12 (12)	0.47 (0.31)	A (A)	18 (11)
	WBL	74 (66)	0.68 (0.56)	B (A)	45 (32)
	WBTR	25 (23)	0.14 (0.53)	A (A)	11 (26)
	NBL	58 (62)	0.40 (0.69)	A (B)	m25 (m81)
	NBT	15 (12)	0.30 (0.79)	A (C)	27 (m196)
	NBR	1 (1)	0.03 (0.14)	A (A)	m0 (m0)
	SBL	66 (60)	0.68 (0.65)	B (B)	64 (58)
	SBT	15 (24)	0.60 (0.46)	A (A)	142 (71)
	SBR	0 (1)	0.01 (0.03)	A (A)	0 (0)
	Overall	20 (22)	0.40 (0.76)	A (C)	-
March Road & Terry Fox Drive	EBL	70 (74)	0.58 (0.82)	A (D)	27 (#53)
	EBT	54 (42)	0.74 (0.29)	C (A)	84 (27)
	EBR	8 (24)	0.48 (0.78)	A (C)	20 (58)



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	WBL	65 (64)	0.41 (0.66)	A (B)	18 (37)
	WBT	43 (50)	0.24 (0.66)	A (B)	26 (58)
	WBR	1 (13)	0.10 (0.61)	A (B)	0 (29)
	NBL	47 (57)	0.37 (0.37)	A (A)	49 (m19)
	NBT	44 (23)	0.49 (1.00)	A (E)	67 (m#136)
	NBR	14 (1)	0.31 (0.16)	A (A)	28 (m1)
	SBL	77 (54)	0.88 (0.44)	D (A)	#165 (28)
	SBT	91 (77)	1.11 (0.70)	F (B)	#206 (98)
	SBR	5 (33)	0.36 (0.27)	A (A)	10 (32)
	Overall	60 (40)	0.93 (0.92)	E (E)	-
March Road & Solandt Road	EBL	73 (64)	0.37 (0.56)	A (A)	18 (36)
	EBT	66 (40)	0.58 (0.14)	A (A)	47 (21)
	EBR	14 (302)	0.47 (1.59)	A (F)	18 (#274)
	WBL	65 (94)	0.34 (1.04)	A (F)	14 (#122)
	WBT	62 (33)	0.56 (0.15)	A (A)	51 (28)
	WBR	1 (10)	0.14 (0.40)	A (A)	0 (29)
	NBL	69 (80)	0.99 (0.90)	E (D)	#254 (#50)
	NBT	11 (273)	0.51 (1.54)	A (F)	101 (#434)
	NBR	4 (4)	0.58 (0.10)	A (A)	28 (6)
	SBL	206 (88)	1.34 (0.75)	F (C)	m#62 (m#21)
	SBT	391 (167)	1.81 (1.29)	F (F)	m#340 (#277)
	SBR	5 (4)	0.22 (0.12)	A (A)	m3 (m6)
Overall	161 (198)	1.53 (1.54)	F (F)	-	
Legget Drive & Solandt Road	EBL	20 (52)	0.71 (0.51)	C (A)	84 (25)
	EBTR	13 (21)	0.58 (0.29)	A (A)	69 (20)
	WBL	9 (37)	0.01 (0.23)	A (A)	2 (20)
	WBTR	9 (51)	0.05 (0.73)	A (C)	7 (75)
	NBL	24 (31)	0.34 (0.69)	A (B)	26 (71)
	NBTR	24 (7)	0.57 (0.09)	A (A)	60 (14)
	SBL	21 (0)	0.11 (0.00)	A (I)	10 (0)
	SBTR	22 (69)	0.47 (1.03)	A (F)	50 (#247)
	Overall	19 (50)	0.61 (0.87)	B (D)	-

Table 25 - 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)	0.65 (0.16)	B (A)	0 (0)
	WBLT	4 (1)	A (A)	0.09 (0.02)	A (A)	2 (1)



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	NBLR	25 (119)	C (F)	0.28 (1.10)	A (F)	8 (101)
	Overall	2 (31)	A (D)	-	-	-

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 March & Solandt which continues to be over capacity with an overall v/c ratio of 1.53 and 1.54 in the AM and PM peak respectively. Several movements are over capacity at this intersection, including: the southbound left and southbound through in the AM peak, and the eastbound right, northbound through, and southbound through in the PM peak.

Other movements in the study area that are over capacity include the southbound through at March & Terry Fox in the AM peak, southbound through/right at Legget & Solandt in the PM peak, and northbound left/right at Legget & Terry Fox in the PM peak.

Table 26 and Table 27 below summarize the results of the Synchro traffic analysis in Future Background 2032 conditions.

Table 26 – 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	53 (61)	0.28 (0.51)	A (A)	27 (31)
	EBR	12 (12)	0.47 (0.32)	A (A)	18 (12)
	WBL	74 (66)	0.68 (0.57)	B (A)	46 (33)
	WBTR	25 (22)	0.14 (0.53)	A (A)	11 (27)
	NBL	57 (61)	0.40 (0.71)	A (C)	m23 (m76)
	NBT	14 (14)	0.33 (0.88)	A (D)	28 (m200)
	NBR	1 (1)	0.03 (0.15)	A (A)	m0 (m0)
	SBL	66 (59)	0.68 (0.65)	B (B)	65 (58)
	SBT	17 (25)	0.67 (0.53)	B (A)	171 (83)
	SBR	0 (1)	0.01 (0.03)	A (A)	0 (0)
	Overall	21 (23)	0.41 (0.85)	A (D)	-
March Road & Terry Fox Drive	EBL	71 (75)	0.59 (0.84)	A (D)	27 (#55)
	EBT	54 (41)	0.75 (0.29)	C (A)	86 (27)
	EBR	8 (26)	0.48 (0.79)	A (C)	20 (62)
	WBL	65 (64)	0.41 (0.68)	A (B)	19 (38)
	WBT	43 (50)	0.25 (0.66)	A (B)	26 (59)
	WBR	1 (13)	0.10 (0.61)	A (B)	0 (31)
	NBL	48 (58)	0.43 (0.39)	A (A)	50 (m17)
	NBT	46 (77)	0.55 (1.13)	A (F)	76 (m#147)
	NBR	16 (1)	0.31 (0.17)	A (A)	30 (m1)
	SBL	82 (53)	0.91 (0.45)	E (A)	#170 (m27)
SBT	107 (81)	1.15 (0.81)	F (D)	#242 (112)	



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	SBR	5 (33)	0.35 (0.28)	A (A)	9 (33)
	Overall	68 (63)	0.98 (1.03)	E (F)	-
March Road & Solandt Road	EBL	74 (64)	0.38 (0.57)	A (A)	18 (38)
	EBT	66 (40)	0.59 (0.14)	A (A)	47 (21)
	EBR	14 (319)	0.47 (1.63)	A (F)	18 (#283)
	WBL	65 (101)	0.34 (1.06)	A (F)	14 (#126)
	WBT	62 (33)	0.57 (0.16)	A (A)	53 (29)
	WBR	1 (11)	0.15 (0.41)	A (A)	0 (31)
	NBL	76 (85)	1.02 (0.92)	F (E)	#265 (#52)
	NBT	12 (342)	0.56 (1.70)	A (F)	116 (#493)
	NBR	4 (4)	0.60 (0.10)	A (A)	34 (6)
	SBL	267 (87)	1.49 (0.76)	F (C)	m#62 (m#18)
	SBT	484 (223)	2.02 (1.42)	F (F)	m#378 (#317)
	SBR	4 (4)	0.23 (0.13)	A (A)	m3 (m5)
	Overall	204 (244)	1.70 (1.67)	F (F)	-
Legget Drive & Solandt Road	EBL	20 (49)	0.71 (0.50)	C (A)	88 (24)
	EBTR	13 (19)	0.58 (0.28)	A (A)	71 (18)
	WBL	9 (35)	0.01 (0.23)	A (A)	2 (19)
	WBTR	9 (49)	0.05 (0.73)	A (C)	7 (71)
	NBL	25 (36)	0.36 (0.76)	A (C)	27 (#84)
	NBTR	25 (7)	0.60 (0.09)	A (A)	65 (15)
	SBL	22 (0)	0.12 (0.00)	A (I)	10 (0)
	SBTR	23 (67)	0.49 (1.02)	A (F)	54 (#233)
	Overall	19 (50)	0.62 (0.88)	B (D)	-

Table 27 - 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)	0.67 (0.16)	B (A)	0 (0)
	WBLT	4 (1)	A (A)	0.10 (0.02)	A (A)	3 (1)
	NBLR	27 (143)	D (F)	0.30 (1.17)	A (F)	9 (113)
	Overall	2 (37)	A (E)	-	-	-

In Future Background 2032 conditions, March & Solandt continues to be over capacity with an overall v/c ratio of 1.70 and 1.67 in the AM and PM peak respectively. At this intersection, several movements remain over capacity, including: the northbound left, southbound left, and southbound through in the AM peak, and the eastbound right, westbound left, northbound through, and southbound through in the PM peak.

March & Terry Fox becomes over capacity with an overall v/c ratio of 1.03 in the PM peak. At this intersection, the southbound through in the AM peak and the northbound through in the PM peak are over capacity.



3.8.5 Future Total

Table 28 and Table 29 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 11 and Figure 12.

Table 28 – 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	53 (62)	0.28 (0.51)	A (A)	26 (31)
	EBR	12 (12)	0.47 (0.31)	A (A)	18 (11)
	WBL	74 (66)	0.68 (0.56)	B (A)	45 (32)
	WBTR	25 (23)	0.14 (0.53)	A (A)	11 (26)
	NBL	59 (60)	0.40 (0.69)	A (B)	m24 (m76)
	NBT	10 (14)	0.30 (0.84)	A (D)	21 (m192)
	NBR	1 (1)	0.03 (0.14)	A (A)	m0 (m0)
	SBL	66 (60)	0.68 (0.65)	B (B)	64 (58)
	SBT	16 (24)	0.63 (0.47)	B (A)	152 (73)
	SBR	0 (1)	0.01 (0.03)	A (A)	0 (0)
	Overall	20 (22)	0.39 (0.81)	A (D)	-
March Road & Terry Fox Drive	EBL	70 (74)	0.58 (0.82)	A (D)	27 (#53)
	EBT	55 (42)	0.77 (0.30)	C (A)	90 (28)
	EBR	9 (26)	0.50 (0.79)	A (C)	24 (61)
	WBL	66 (69)	0.43 (0.77)	A (C)	20 (#47)
	WBT	41 (50)	0.22 (0.66)	A (B)	26 (60)
	WBR	1 (14)	0.09 (0.62)	A (B)	0 (33)
	NBL	54 (46)	0.50 (0.47)	A (A)	48 (#56)
	NBT	39 (88)	0.50 (1.10)	A (F)	68 (#305)
	NBR	6 (3)	0.31 (0.17)	A (A)	16 (7)
	SBL	158 (55)	1.19 (0.50)	F (A)	#199 (33)
	SBT	67 (79)	1.04 (0.73)	F (C)	#209 (99)
	SBR	5 (33)	0.34 (0.28)	A (A)	10 (32)
	Overall	58 (65)	0.73 (1.00)	C (E)	-
March Road & Solandt Road	EBL	73 (64)	0.37 (0.56)	A (A)	18 (36)
	EBT	66 (40)	0.59 (0.14)	A (A)	47 (21)
	EBR	14 (302)	0.48 (1.59)	A (F)	18 (#274)
	WBL	71 (219)	0.51 (1.38)	A (F)	20 (#179)
	WBT	59 (33)	0.50 (0.15)	A (A)	51 (28)
	WBR	1 (10)	0.13 (0.40)	A (A)	0 (29)
	NBL	82 (80)	1.04 (0.90)	F (D)	#254 (#50)



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	NBT	15 (290)	0.68 (1.57)	B (F)	154 (#448)
	NBR	5 (4)	0.62 (0.11)	B (A)	38 (7)
	SBL	462 (100)	1.88 (0.75)	F (C)	#112 (#32)
	SBT	406 (219)	1.83 (1.40)	F (F)	#419 (#306)
	SBR	6 (1)	0.22 (0.12)	A (A)	12 (0)
	Overall	167 (231)	1.62 (1.56)	F (F)	-
Legget Drive & Solandt Road	EBL	21 (52)	0.74 (0.55)	C (A)	94 (26)
	EBTR	12 (20)	0.55 (0.29)	A (A)	67 (18)
	WBL	9 (35)	0.01 (0.23)	A (A)	1 (19)
	WBTR	7 (49)	0.07 (0.73)	A (C)	7 (70)
	NBL	29 (35)	0.41 (0.74)	A (C)	30 (#80)
	NBTR	27 (7)	0.59 (0.09)	A (A)	67 (14)
	SBL	24 (20)	0.14 (0.05)	A (A)	12 (8)
	SBTR	27 (217)	0.58 (1.41)	A (F)	65 (#360)
	Overall	20 (132)	0.63 (1.15)	B (F)	-
March Road & Lifestyle Street	EBL	50 (49)	0.23 (0.37)	A (A)	16 (26)
	EBTR	35 (21)	0.65 (0.54)	B (A)	35 (28)
	WBL	51 (115)	0.18 (0.90)	A (D)	8 (#40)
	WBTR	33 (30)	0.05 (0.04)	A (A)	6 (6)
	NBL	36 (13)	0.63 (0.52)	B (A)	35 (23)
	NBT	8 (45)	0.46 (1.04)	A (F)	78 (#431)
	NBR	0 (0)	0.00 (0.00)	A (A)	0 (0)
	SBL	4 (6)	0.11 (0.08)	A (A)	4 (2)
	SBTR	24 (18)	0.90 (0.70)	D (B)	#300 (178)
	Overall	20 (35)	0.86 (1.00)	D (E)	-

Table 29 - 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 & Terry Fox Drive	EBTR	0 (0)	A (A)	0.71 (0.18)	C (A)	0 (0)
	WBLT	6 (1)	A (A)	0.13 (0.02)	A (A)	3 (1)
	NBLR	34 (251)	D (F)	0.40 (1.44)	A (F)	14 (178)
	Overall	3 (76)	A (F)	-	-	-
Legget Drive & Lifestyle Street	EBLR	14 (14)	B (B)	0.10 (0.04)	A (A)	3 (1)
	NBLT	1 (3)	A (A)	0.01 (0.08)	A (A)	0 (2)
	SBTR	0 (0)	A (A)	0.34 (0.27)	A (A)	0 (0)
	Overall	1 (1)	A (A)	-	-	-
March Road & Private Drive	WBR	10 (13)	A (B)	0.02 (0.16)	A (A)	0 (4)



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	NBT	0 (0)	A (A)	0.39 (0.76)	A (C)	0 (0)
	NBT	0 (0)	A (A)	0.39 (0.76)	A (C)	0 (0)
	NBR	0 (0)	A (A)	0.13 (0.02)	A (A)	0 (0)
	SBT	0 (0)	A (A)	0.59 (0.46)	A (A)	0 (0)
	SBL	0 (0)	A (A)	0.59 (0.46)	A (A)	0 (0)
	Overall	0 (1)	A (A)	-	-	-
Legget Drive & Private Drive	EBLR	17 (77)	C (F)	0.19 (1.03)	A (F)	5 (112)
	NBT	2 (1)	A (A)	0.06 (0.01)	A (A)	1 (0)
	SBT	0 (0)	A (A)	0.37 (0.28)	A (A)	0 (0)
	Overall	2 (31)	A (D)	-	-	-
March Road & Drop-Off Loop Access	WBR	14 (72)	B (F)	0.03 (0.68)	A (B)	1 (29)
	NBT	0 (0)	A (A)	0.36 (0.78)	A (C)	0 (0)
	NBT	0 (0)	A (A)	0.36 (0.78)	A (C)	0 (0)
	NBR	0 (0)	A (A)	0.07 (0.01)	A (A)	0 (0)
	SBT	0 (0)	A (A)	0.59 (0.46)	A (A)	0 (0)
	SBT	0 (0)	A (A)	0.59 (0.46)	A (A)	0 (0)
	Overall	0 (2)	A (A)	-	-	-

In Future Total 2027 conditions, many movements remain over capacity from Future Background conditions.

The southbound left and northbound through movements at the intersection of March & Terry Fox become over capacity in the AM and PM peak hour respectively from Future Background 2027 conditions, while southbound through remains over capacity in the AM peak.

The March & Solandt intersection remains over capacity with an overall v/c ratio of 1.62 and 1.56 in the AM and PM peak respectively. Over capacity movements include the southbound left, southbound through, and northbound left in the AM peak, and the eastbound right, northbound through, southbound through, and westbound left in the PM peak. All of these movements are already over capacity in Future Background 2027 conditions with the exception of the northbound left.

Legget & Solandt becomes over capacity in the PM peak with an overall intersection v/c ratio of 1.15, caused by additional southbound right-turning traffic volumes from the development in the PM peak.

The new intersection of March & Lifestyle is shown to operate at an acceptable level of service E or better in both peak hours. The northbound through movement is over capacity in the PM peak with a v/c ratio of 1.04. The northbound through movements at the intersections immediately north (at Terry Fox) and south (at Solandt) on March are also over capacity in the PM peak, indicating a shared issue of high volumes on the corridor.

Table 30 and Table 31 below summarize the results of the Synchro traffic analysis in Future Total 2032 conditions.



Table 30 – 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	53 (61)	0.28 (0.51)	A (A)	27 (31)
	EBR	12 (12)	0.47 (0.32)	A (A)	18 (12)
	WBL	74 (66)	0.68 (0.57)	B (A)	46 (33)
	WBTR	25 (22)	0.14 (0.53)	A (A)	11 (27)
	NBL	42 (60)	0.40 (0.71)	A (C)	m20 (m71)
	NBT	42 (17)	0.34 (0.93)	A (E)	101 (m195)
	NBR	13 (1)	0.03 (0.15)	A (A)	m5 (m0)
	SBL	66 (59)	0.68 (0.65)	B (B)	65 (58)
	SBT	18 (25)	0.70 (0.54)	B (A)	184 (85)
	SBR	0 (1)	0.01 (0.03)	A (A)	0 (0)
	Overall	28 (24)	0.68 (0.89)	B (D)	-
March Road & Terry Fox Drive	EBL	71 (75)	0.59 (0.84)	A (D)	27 (#55)
	EBT	54 (41)	0.78 (0.30)	C (A)	93 (28)
	EBR	10 (27)	0.50 (0.80)	A (C)	26 (65)
	WBL	66 (70)	0.44 (0.78)	A (C)	20 (#49)
	WBT	41 (49)	0.22 (0.66)	A (B)	27 (61)
	WBR	1 (14)	0.10 (0.63)	A (B)	0 (35)
	NBL	55 (47)	0.52 (0.50)	A (A)	49 (#62)
	NBT	40 (143)	0.57 (1.23)	A (F)	77 (#351)
	NBR	6 (3)	0.31 (0.17)	A (A)	16 (7)
	SBL	170 (55)	1.25 (0.51)	F (A)	#205 (34)
	SBT	130 (83)	1.18 (0.84)	F (D)	#256 (112)
	SBR	18 (33)	0.36 (0.28)	A (A)	m52 (33)
	Overall	83 (89)	0.77 (1.10)	C (F)	-
March Road & Solandt Road	EBL	74 (64)	0.38 (0.57)	A (A)	18 (38)
	EBT	66 (40)	0.59 (0.14)	A (A)	47 (21)
	EBR	14 (319)	0.47 (1.63)	A (F)	18 (#283)
	WBL	71 (230)	0.51 (1.41)	A (F)	20 (#183)
	WBT	58 (33)	0.50 (0.16)	A (A)	53 (29)
	WBR	1 (11)	0.14 (0.41)	A (A)	0 (31)
	NBL	93 (85)	1.07 (0.92)	F (E)	#265 (#52)
	NBT	16 (360)	0.72 (1.73)	C (F)	175 (#508)
	NBR	5 (4)	0.64 (0.11)	B (A)	45 (8)
	SBL	564 (104)	2.11 (0.76)	F (C)	#115 (#32)
	SBT	498 (276)	2.04 (1.54)	F (F)	#478 (#345)
	SBR	6 (1)	0.23 (0.13)	A (A)	12 (0)



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	Overall	208 (278)	1.81 (1.70)	F (F)	-
Legget Drive & Solandt Road	EBL	21 (52)	0.75 (0.56)	C (A)	99 (27)
	EBTR	13 (19)	0.56 (0.28)	A (A)	70 (18)
	WBL	9 (35)	0.01 (0.23)	A (A)	1 (19)
	WBTR	7 (49)	0.07 (0.73)	A (C)	7 (71)
	NBL	30 (36)	0.43 (0.76)	A (C)	31 (#84)
	NBTR	28 (7)	0.61 (0.09)	B (A)	71 (15)
	SBL	25 (20)	0.14 (0.05)	A (A)	12 (9)
	SBTR	27 (230)	0.59 (1.44)	A (F)	69 (#369)
	Overall	21 (140)	0.64 (1.17)	B (F)	-
March Road & Lifestyle Street	EBL	50 (49)	0.23 (0.37)	A (A)	16 (26)
	EBTR	35 (28)	0.65 (0.58)	B (A)	34 (32)
	WBL	51 (115)	0.18 (0.90)	A (D)	8 (#39)
	WBTR	33 (30)	0.05 (0.04)	A (A)	6 (6)
	NBL	36 (22)	0.63 (0.57)	B (A)	35 (31)
	NBT	9 (83)	0.50 (1.13)	A (F)	87 (#488)
	NBR	0 (0)	0.00 (0.00)	A (A)	0 (0)
	SBL	4 (6)	0.13 (0.08)	A (A)	4 (2)
	SBTR	40 (21)	1.00 (0.78)	E (C)	#352 (#231)
Overall	29 (58)	0.95 (1.09)	E (F)	-	

Table 31 - 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 & Terry Fox Drive	EBTR	0 (0)	A (A)	0.72 (0.18)	C (A)	0 (0)
	WBLT	6 (1)	A (A)	0.14 (0.02)	A (A)	4 (1)
	NBLR	37 (286)	E (F)	0.43 (1.53)	A (F)	15 (193)
	Overall	3 (86)	A (F)	-	-	-
Legget Drive & Lifestyle Street	EBLR	13 (12)	B (B)	0.09 (0.02)	A (A)	2 (1)
	NBLT	1 (3)	A (A)	0.01 (0.08)	A (A)	0 (2)
	SBTR	0 (0)	A (A)	0.35 (0.28)	A (A)	0 (0)
	Overall	1 (1)	A (A)	-	-	-
March Road & Private Drive	WBR	10 (16)	A (C)	0.02 (0.22)	A (A)	0 (6)
	NBT	0 (0)	A (A)	0.42 (0.83)	A (D)	0 (0)
	NBT	0 (0)	A (A)	0.42 (0.83)	A (D)	0 (0)
	NBR	0 (0)	A (A)	0.13 (0.02)	A (A)	0 (0)
	SBT	0 (0)	A (A)	0.66 (0.51)	B (A)	0 (0)
	SBT	0 (0)	A (A)	0.66 (0.51)	B (A)	0 (0)



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	Overall	0 (0)	A (A)	-	-	-
Legget Drive & Private Drive	EBLR	18 (84)	C (F)	0.20 (1.05)	A (F)	6 (117)
	NBT	2 (1)	A (A)	0.06 (0.01)	A (A)	1 (0)
	SBT	0 (0)	A (A)	0.37 (0.28)	A (A)	0 (0)
	Overall	2 (33)	A (D)	-	-	-
March Road & Drop-Off Loop Access	WBR	15 (108)	B (F)	0.03 (0.82)	A (D)	1 (37)
	NBT	0 (0)	A (A)	0.39 (0.85)	A (D)	0 (0)
	NBT	0 (0)	A (A)	0.39 (0.85)	A (D)	0 (0)
	NBR	0 (0)	A (A)	0.07 (0.01)	A (A)	0 (0)
	SBT	0 (0)	A (A)	0.66 (0.51)	B (A)	0 (0)
	SBT	0 (0)	A (A)	0.66 (0.51)	B (A)	0 (0)
	Overall	0 (2)	D (A)	-	-	-

In Future Total 2032 conditions, the intersections of March & Terry Fox, Legget & Solandt and March & Lifestyle are over capacity in the PM peak with overall intersection v/c ratios of 1.10, 1.17, and 1.09 respectively, and March & Solandt is over capacity in both peak hours with overall intersection v/c ratios of 1.81 and 1.70. March & Terry Fox and March & Solandt remain over capacity from Future Background 2032 conditions. The over capacity movements as identified in Future Total 2027 conditions continue to be overcapacity in Future Total 2032 conditions.

Over capacity movements in Future Total 2032 conditions that see a significant increase in v/c ratios (over 0.1 increase) from Future Background 2032 conditions are as noted:

- March Road & Terry Fox Drive
 - Southbound left in the AM peak
- March Road & Solandt Road
 - Southbound left in the AM peak (remains over capacity from Future Background)
 - Westbound left and southbound through in the PM peak (remains over capacity from Future Background)
- Legget Drive & Solandt Road
 - Southbound through/right in the PM peak (remains over capacity from Future Background)
- March Road & Lifestyle Street
 - Northbound through in the PM peak
- Legget Drive & Terry Fox Drive
 - Northbound left/right in the PM peak (remains over capacity from Future Background)
- Legget Drive & Private Drive
 - Eastbound left/right in the PM peak
- March Road & Drop-off Loop Access



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- Westbound right in the PM peak

At March & Terry Fox, additional time could be given to the southbound left turn phase in the AM peak, with less time for east-west movements as they are operating with better LOS.

March & Solandt sees heavy volumes in all four approaches, in the eastbound right, westbound left, northbound through, and southbound through movements. An additional lane to the eastbound right resulting in a double right, and an additional lane to the northbound through and southbound through resulting in a six-lane cross-section on March, could increase capacity for these movements and improve LOS. These additional lanes may be removed for the March Road BRT in the future. However, additional lanes are not recommended at this point and should rather be investigated within the BRT study.

The LOS of the southbound through/right at Legget & Solandt can be improved by providing an auxiliary right turn lane to separate out the southbound right turning vehicles from the through volumes.

The performance of northbound and southbound through movements at the new intersection of March & Lifestyle can be improved through the addition of a through lane in each direction to a six-lane cross-section that ties into the existing three through lanes on the northbound approach to March & Terry Fox. Similar to March & Solandt, considerations for any additional lanes should be examined in the context of the BRT study.

At Legget & Terry Fox, there is significant delay for northbound left/right traffic in the PM peak. When reviewed against the criteria from Ontario Traffic Manual (OTM) – Book 12 based on the 2032 Future Total traffic volumes, signalization is not warranted. However, this intersection may be monitored to consider signalization in the future given the delays to cross-traffic.

At Legget & Private Drive, the eastbound left/right movement delay in the PM peak can be mitigated by providing a short auxiliary left turn lane to separate out the left turning vehicles from the majority of right turning vehicles.

It is challenging to improve the delays for the westbound right turning vehicles at the Drop-Off Loop Access, given that the vehicles exiting the site must yield to high northbound through volumes on March Road. Given the long cycle length at the upstream intersection, there will likely be opportunities for vehicles to enter the flow of traffic that are not adequately captured by Synchro modelling.

Overall, several over capacity movements and intersections in the Future Background and Future Total conditions project operational and capacity issues on the March Road corridor. Heavy volumes are expected along and near the corridor as growth occurs in the area. Potential traffic mitigation measures include optimizing signal timing and phasing, and additional lanes. These ultimately should be reviewed as part of the other studies, namely March Road BRT for March Road intersections and the KNED Urban Design Guidelines for Leggett intersections, and evaluated against the recommendations from these studies. Additionally, major physical improvements to traffic operations like road widening for additional lanes are contrary to 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.



Figure 11 - 2027 Future Total Traffic Volumes

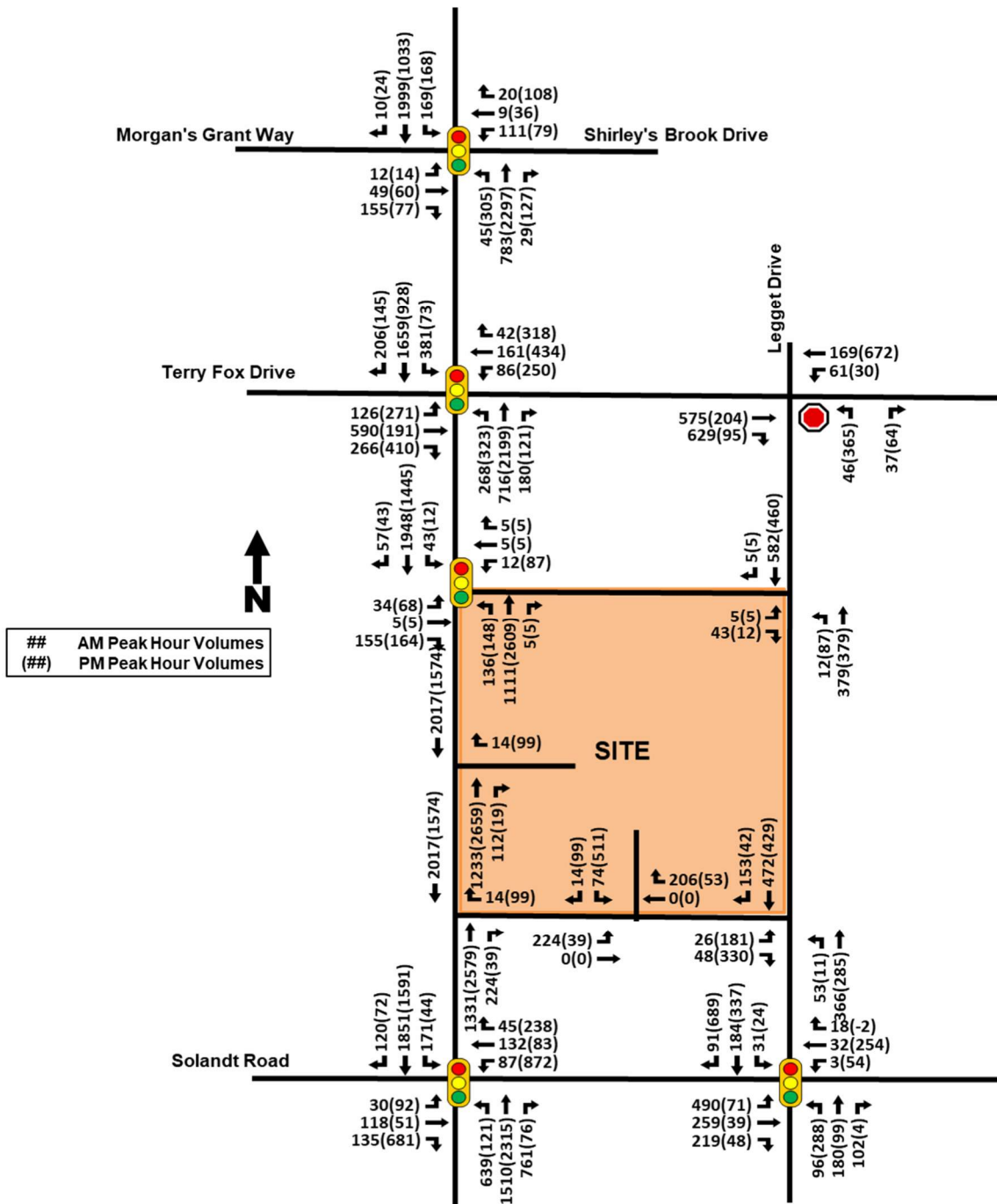
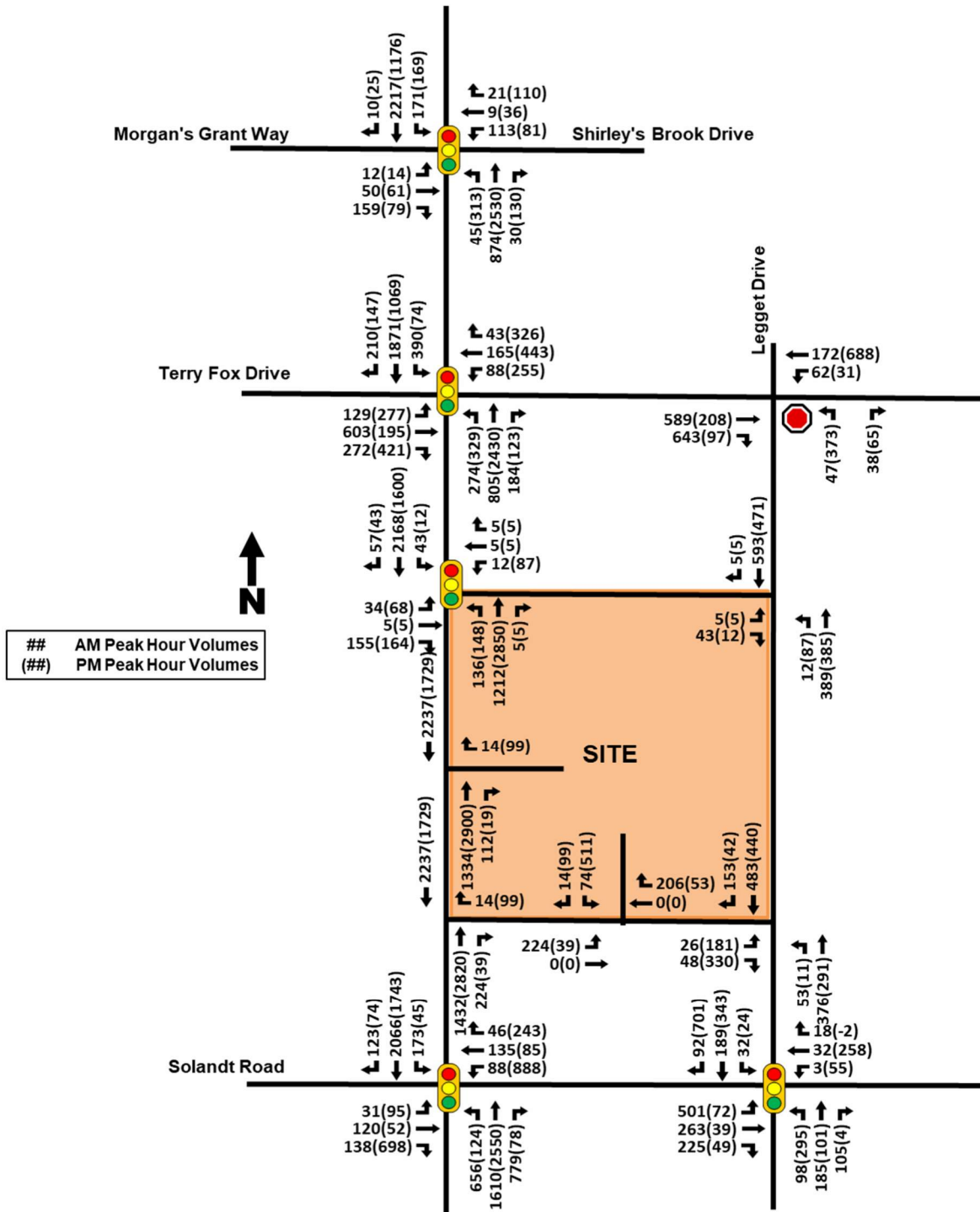


Figure 12 - 2032 Future Total Traffic Volumes



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 783 and 661 two-way person trips per hour during weekday AM and PM peak hours respectively. This includes 625 (AM) and 510 (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 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 planned transit priority measures and the BRT.

Traffic operations analysis for Existing and Future Background conditions show increasing vehicular 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 & Terry Fox Drive and March Road & Solandt Road exceed capacity in Future Background conditions. Legget Drive & Solandt Road and March Road & Lifestyle Street are projected to exceed capacity in the PM peak in Future Total conditions.

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 are not recommended at this point as it should be investigated within the context of the BRT, and weighed against impacts to walking and cycling, and adherence to City policies. The advancement of the BRT is also recommended as it presents the opportunity to efficiently accommodate growth by adding capacity and supporting modal shift, in line with the transformative policy directions for the site and the KNED toward sustainable modes.



APPENDICES



APPENDIX A TRAFFIC COUNT AND SIGNAL TIMING DATA



Turning Movement Count - Study Results

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

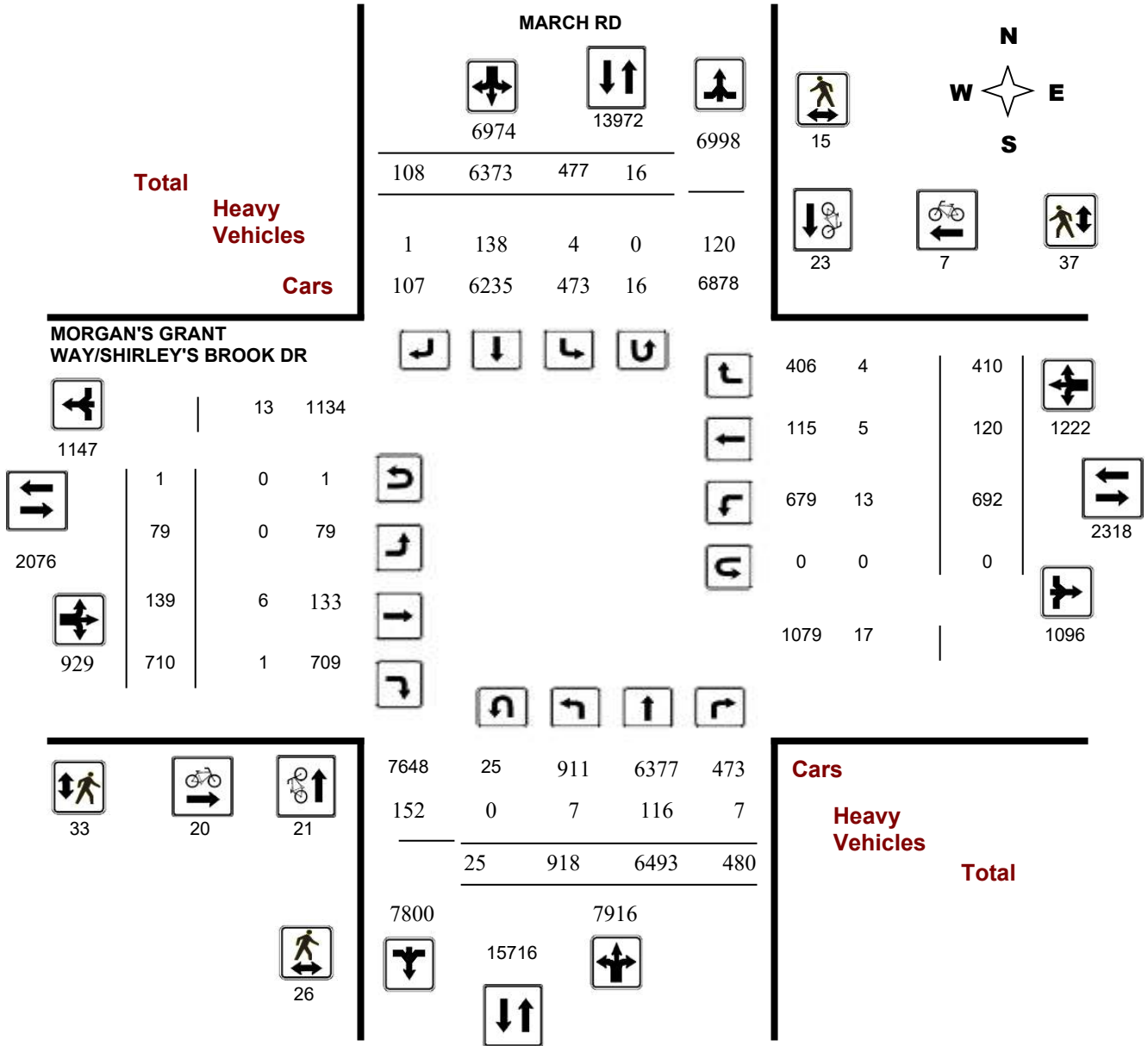
Survey Date: Wednesday, August 10, 2016

WO No: 36160

Start Time: 07:00

Device: Miovision

Full Study Diagram



Turning Movement Count - Study Results

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

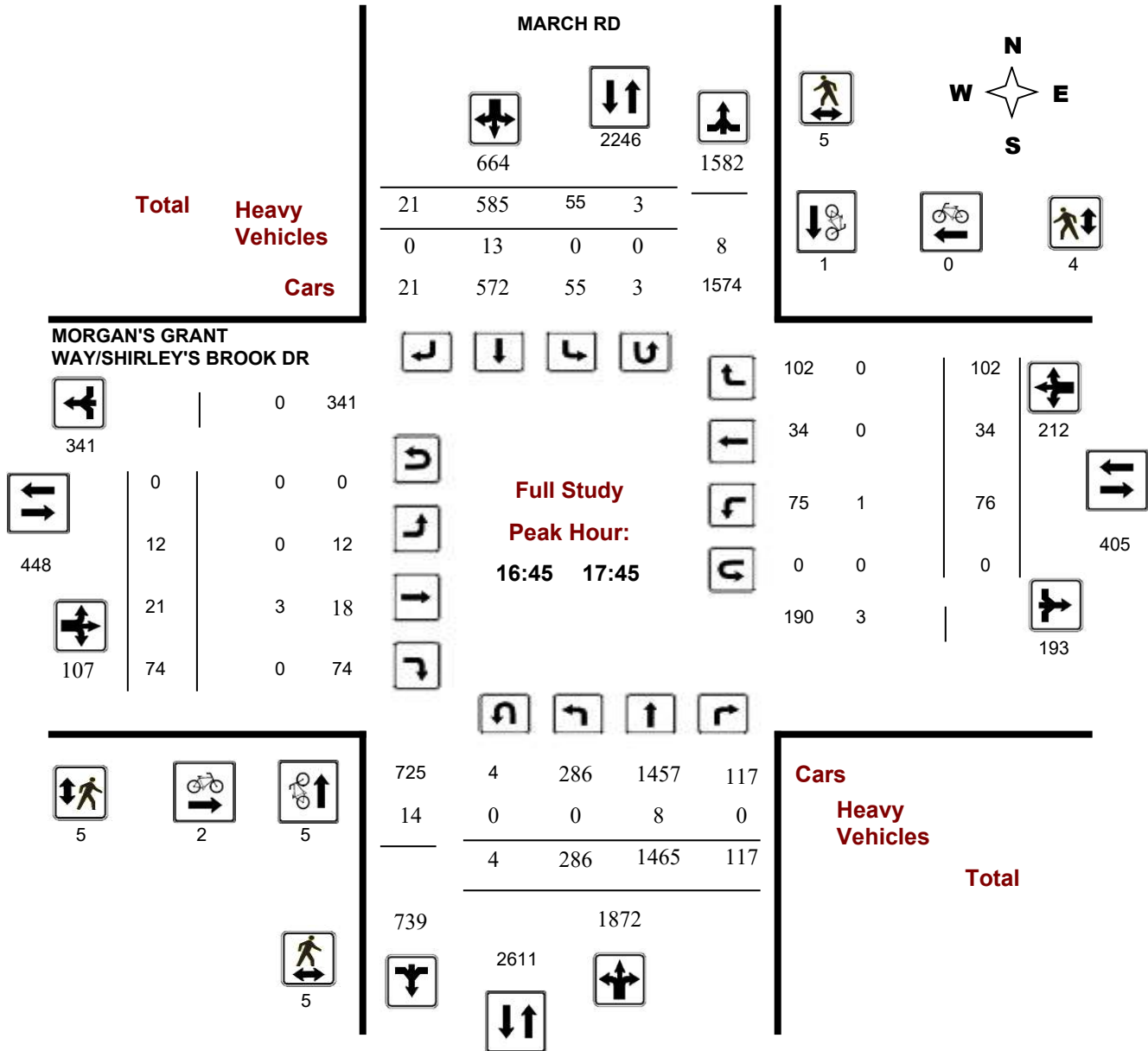
Survey Date: Wednesday, August 10, 2016

WO No: 36160

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

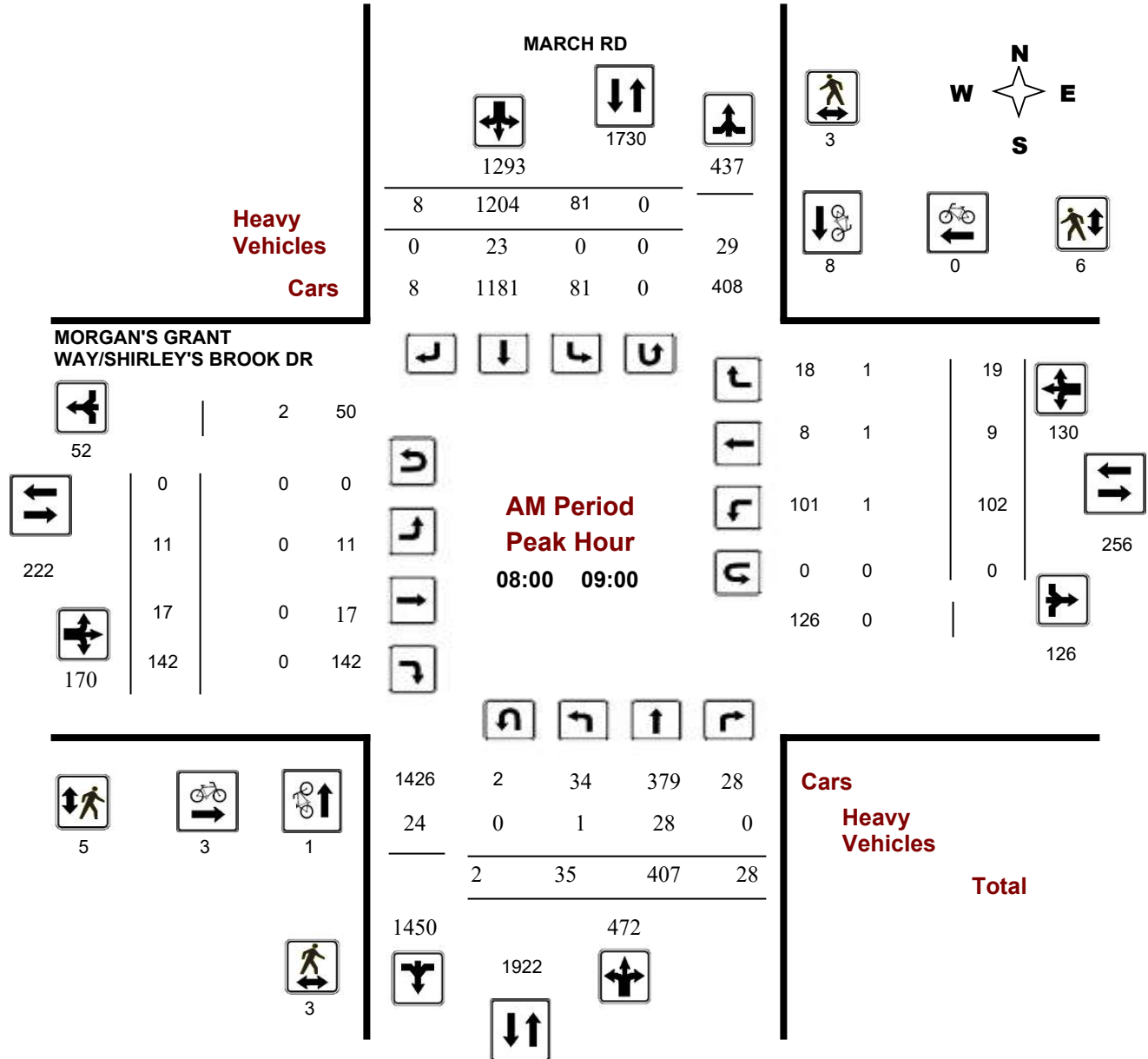
MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016

Start Time: 07:00

WO No: 36160

Device: Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

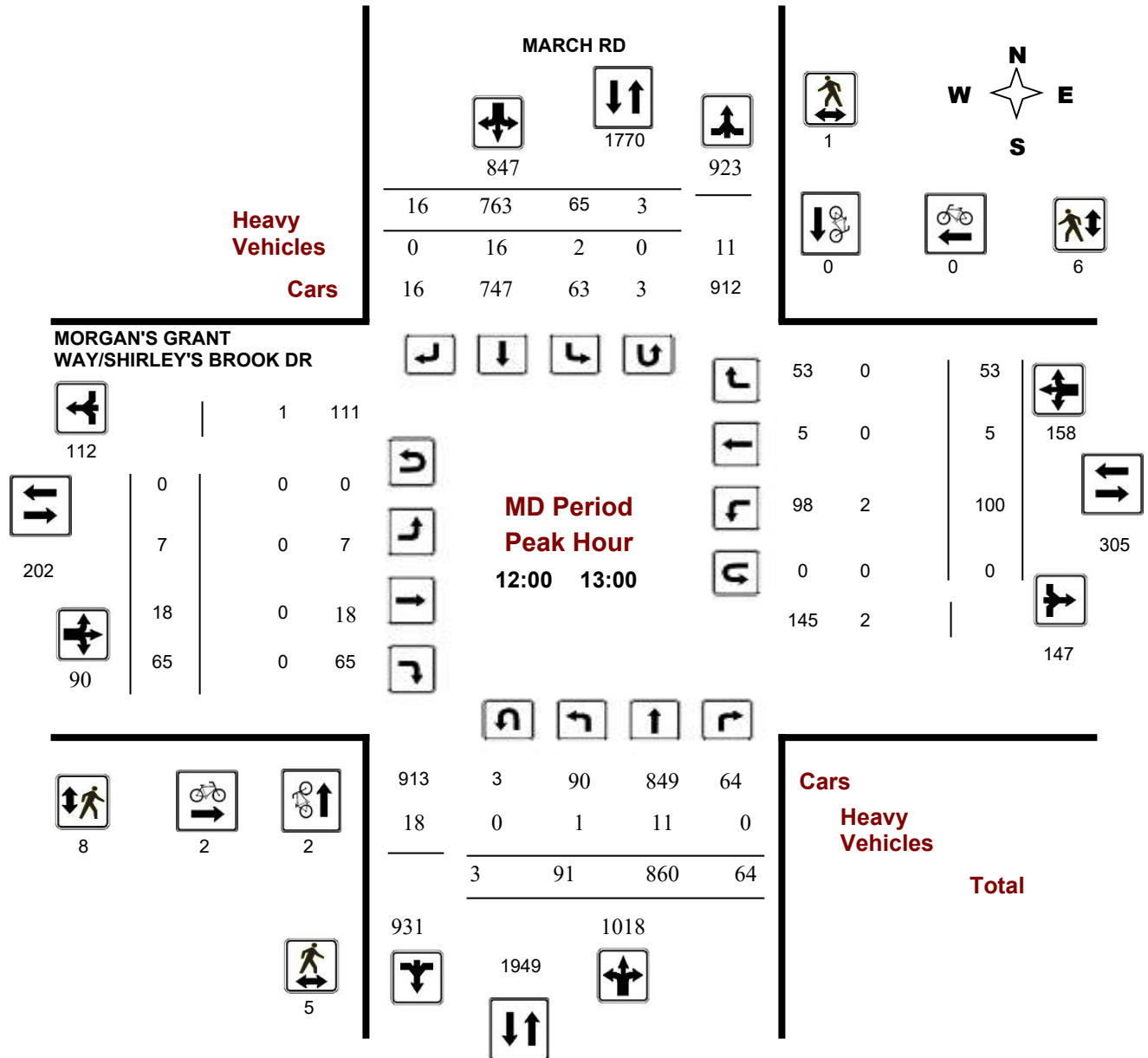
MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016

Start Time: 07:00

WO No: 36160

Device: Miovision



Turning Movement Count - Peak Hour Diagram

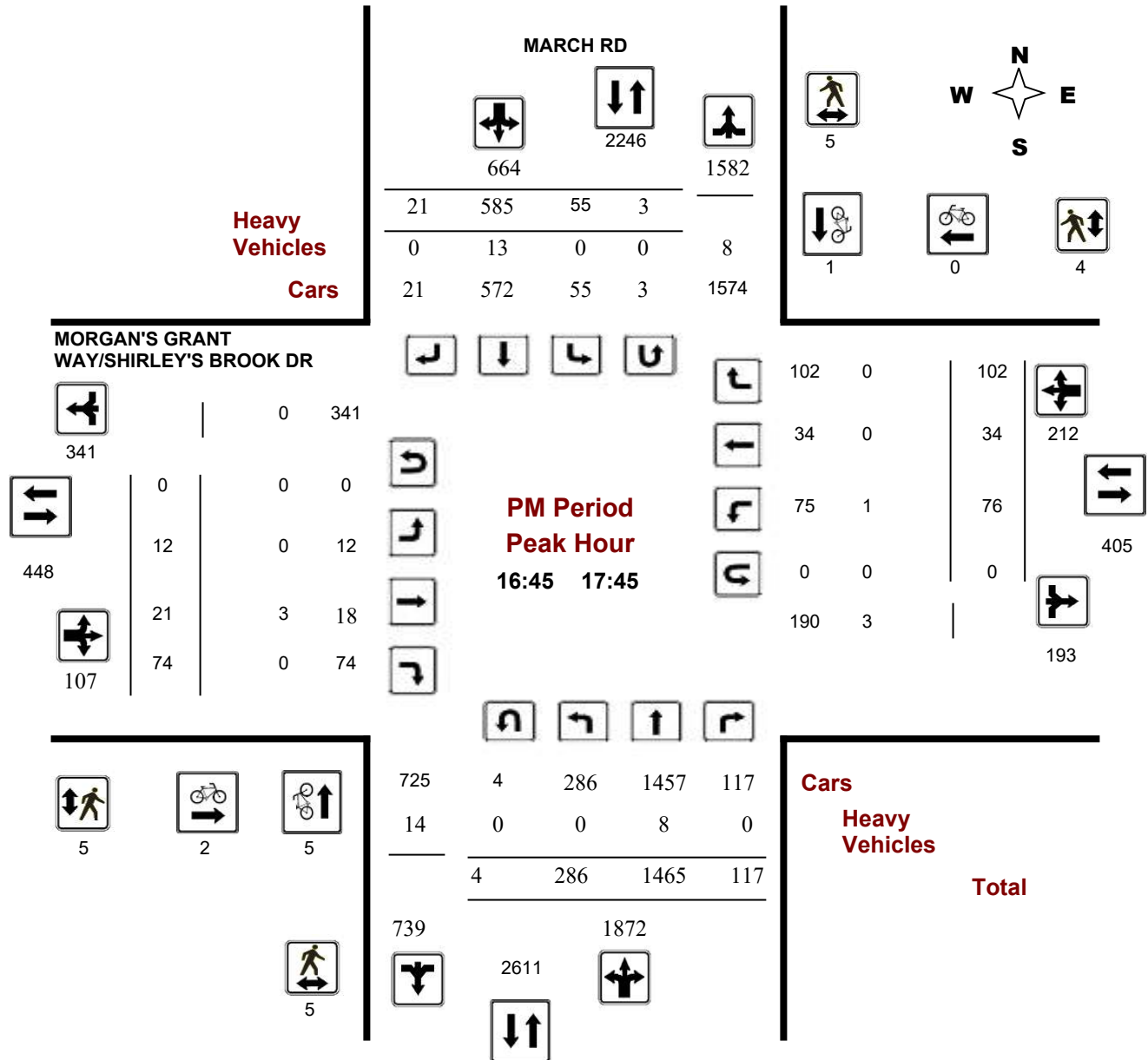
MARCH RD @ MORGAN'S GRANT WAY/SHIRLEY'S BROOK

Survey Date: Wednesday, August 10, 2016

Start Time: 07:00

WO No: 36160

Device: Miovision





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										Grand Total
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

MARCH RD

MORGAN'S GRANT WAY/SHIRLEY'S
BROOK DR

Time Period	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	Northbound			N TOT	Southbound			S TOT	STR TOT	Eastbound			E TOT	Westbound			W TOT	STR TOT	Grand Total
	LT	ST	RT		LT	ST	RT			LT	ST	RT		LT	ST	RT			
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

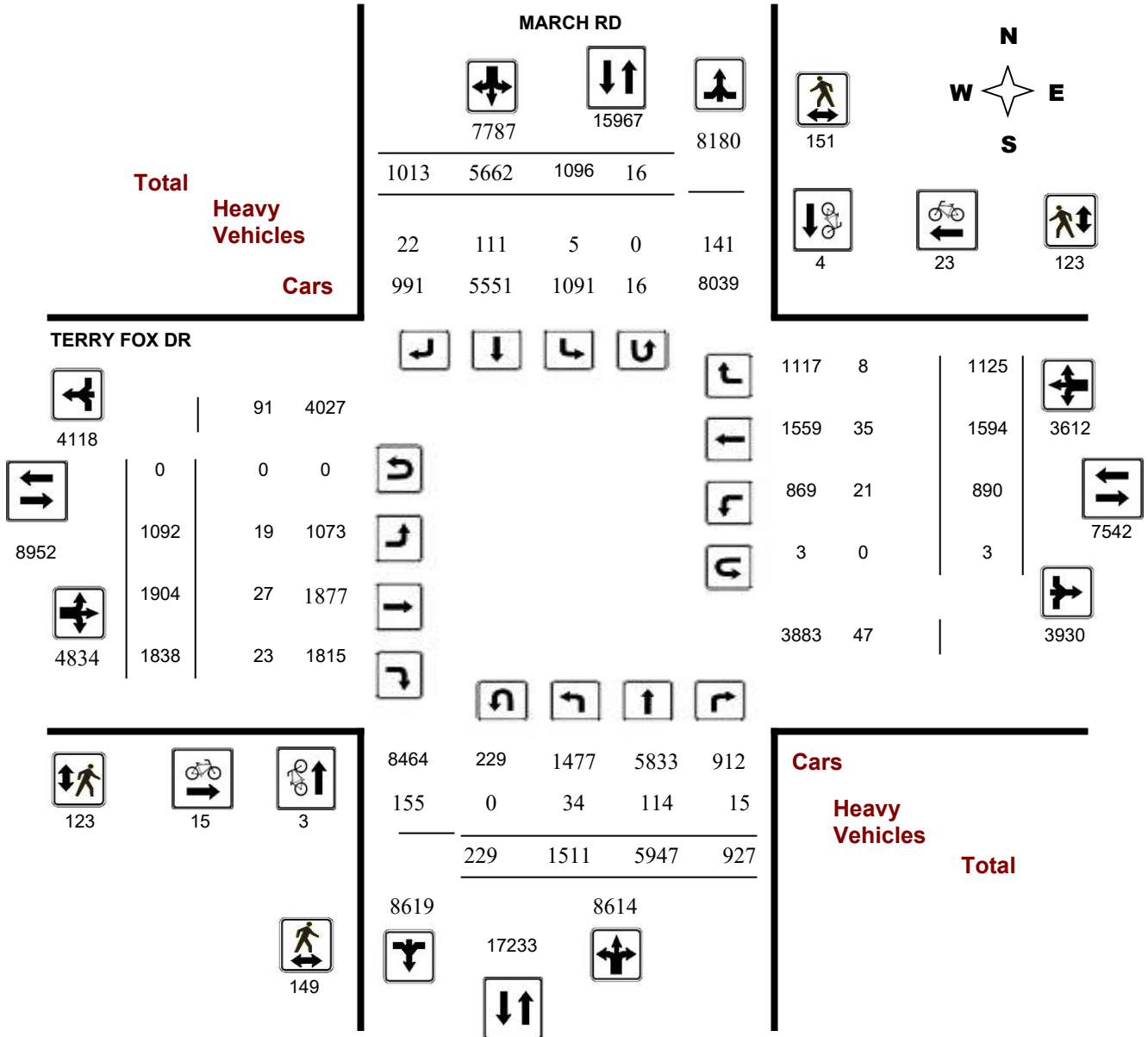
Survey Date: Wednesday, April 11, 2018

WO No: 37663

Start Time: 07:00

Device: Miovision

Full Study Diagram



Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

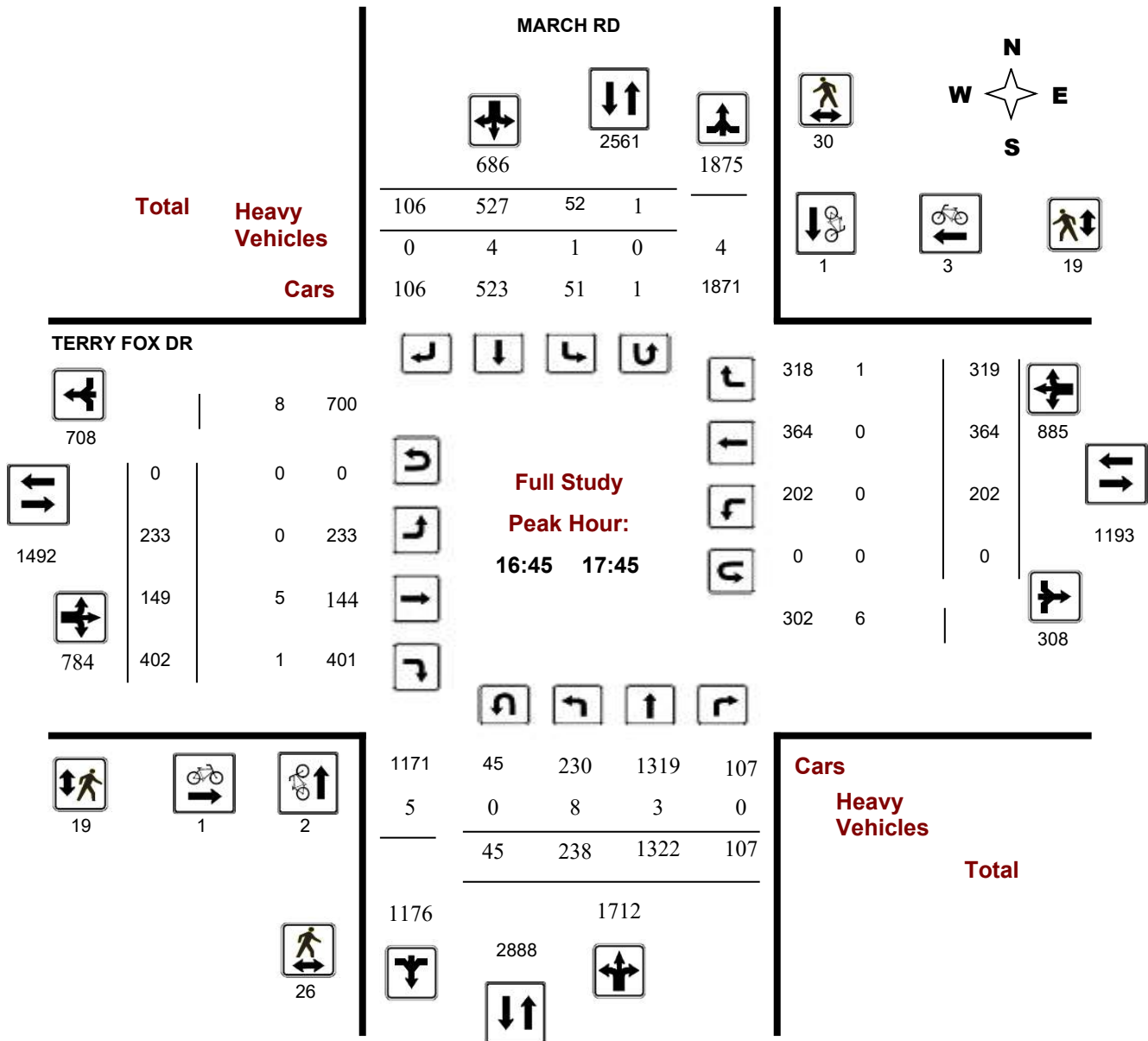
Survey Date: Wednesday, April 11, 2018

WO No: 37663

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

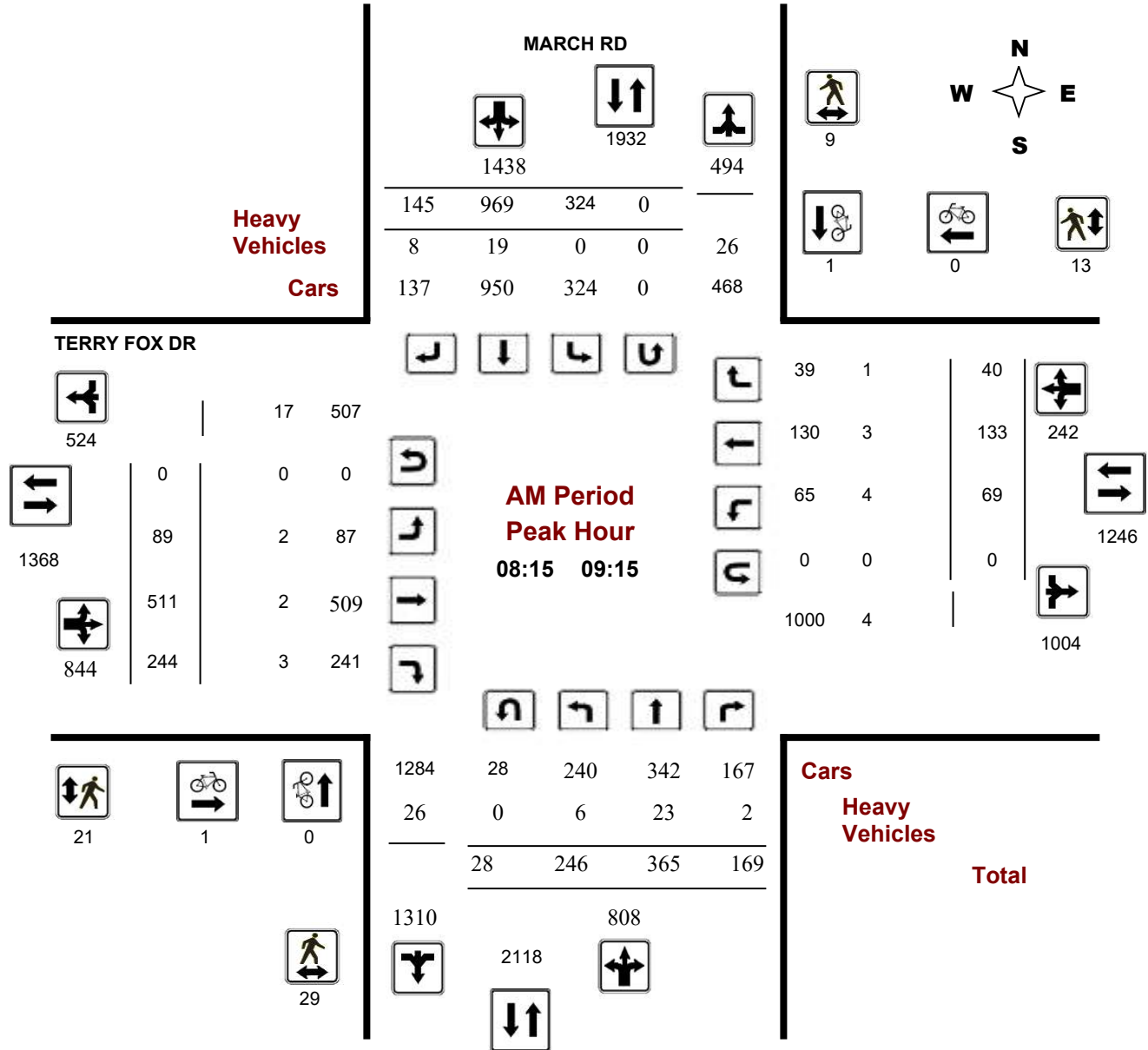
MARCH RD @ TERRY FOX DR

Survey Date: Wednesday, April 11, 2018

Start Time: 07:00

WO No: 37663

Device: Miovision



Turning Movement Count - Peak Hour Diagram

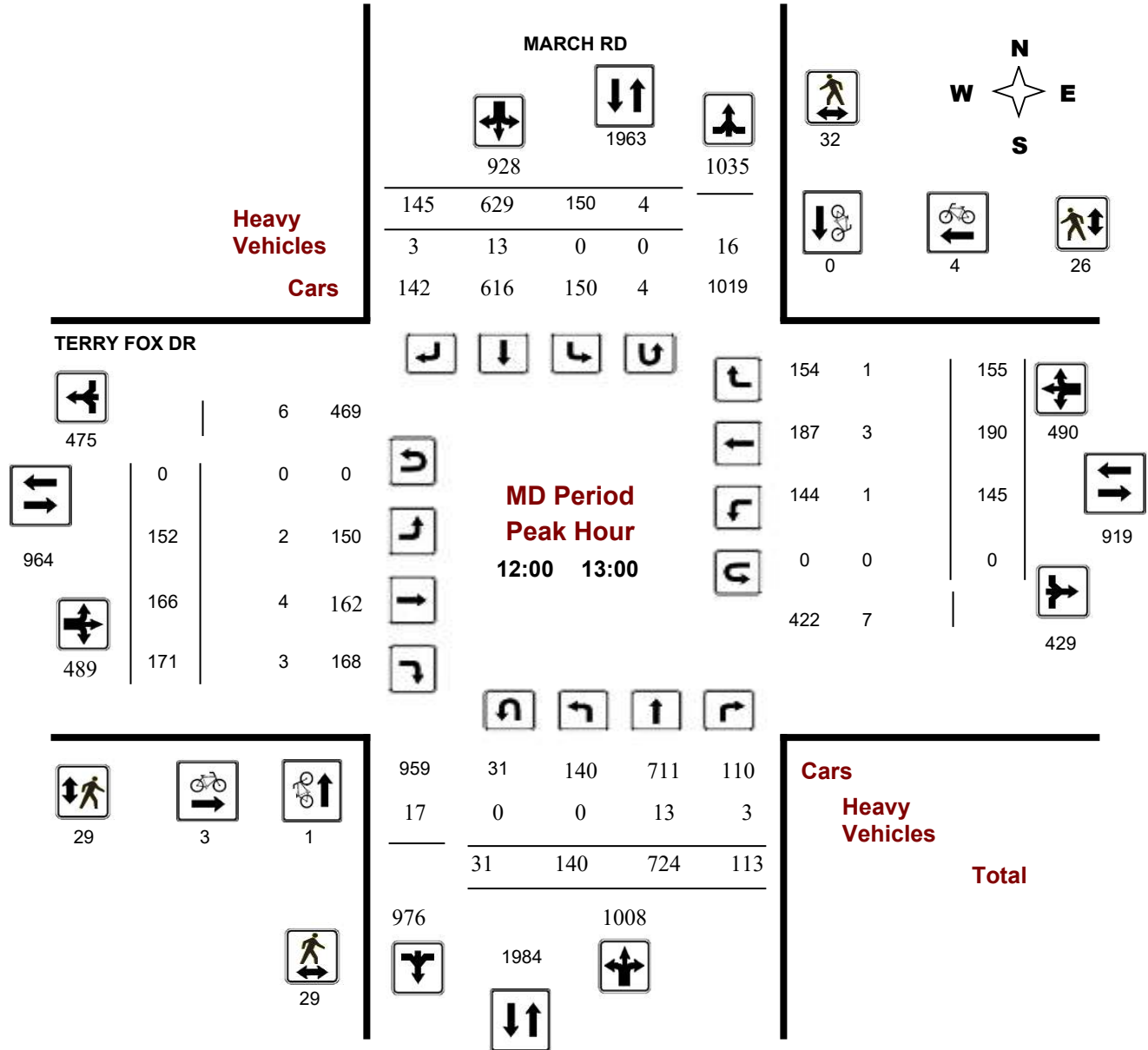
MARCH RD @ TERRY FOX DR

Survey Date: Wednesday, April 11, 2018

Start Time: 07:00

WO No: 37663

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

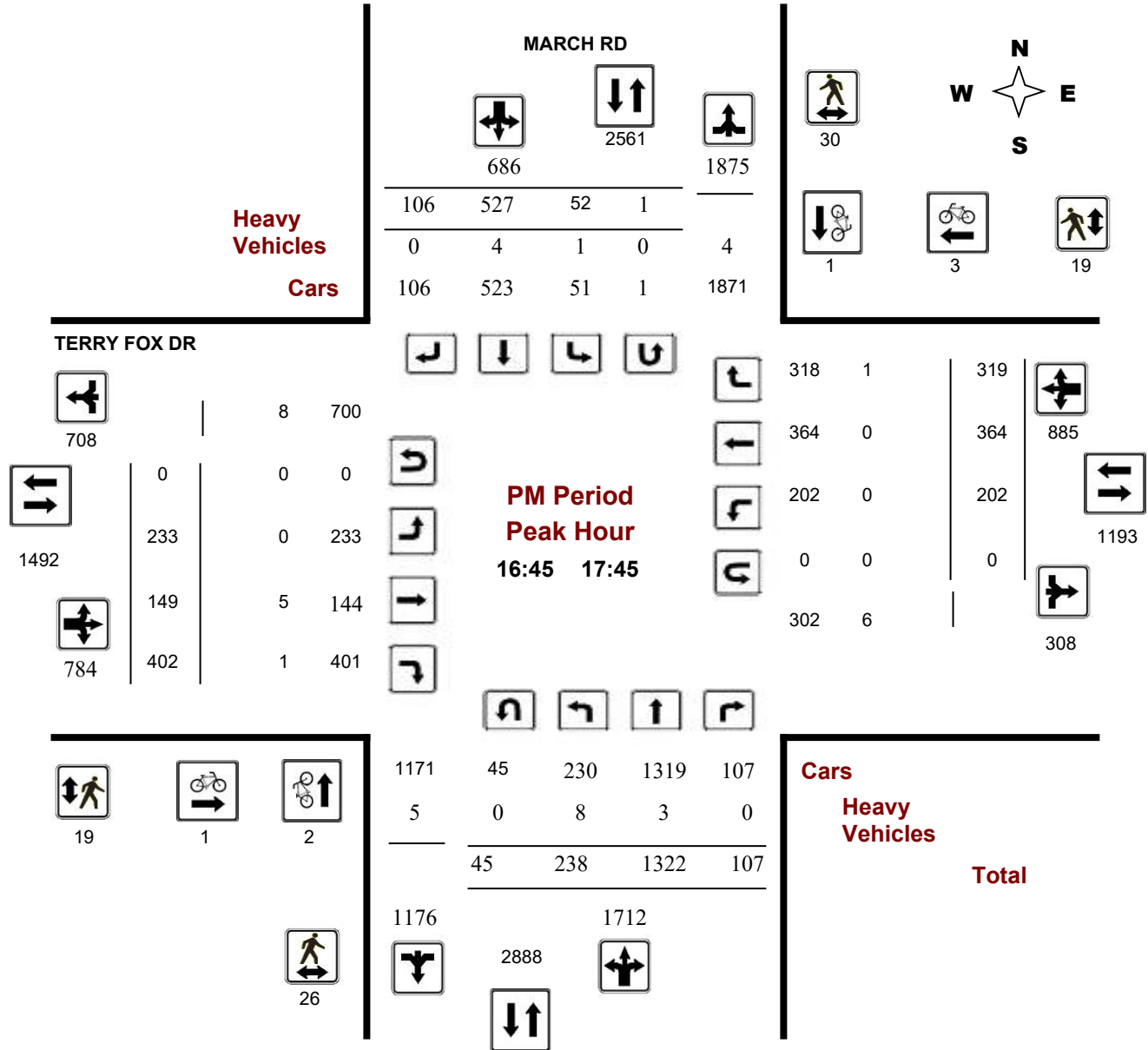
MARCH RD @ TERRY FOX DR

Survey Date: Wednesday, April 11, 2018

Start Time: 07:00

WO No: 37663

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Wednesday, April 11, 2018

WO No: 37663

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, April 11, 2018

Total Observed U-Turns
 Northbound: 229 Southbound: 16
 Eastbound: 0 Westbound: 3

AADT Factor
 .90

Period	MARCH RD									TERRY FOX DR									Grand Total
	Northbound			NB TOT	Southbound			SB TOT	STR TOT	Eastbound			EB TOT	Westbound			WB TOT	STR TOT	
LT	ST	RT	LT		ST	RT	LT			ST	RT	LT		ST	RT	LT			ST
07:00 08:00	135	301	99	535	182	1128	111	1421	1956	49	304	229	582	55	74	20	149	731	2687
08:00 09:00	229	359	167	755	328	966	135	1429	2184	84	480	266	830	55	113	38	206	1036	3220
09:00 10:00	243	357	139	739	192	836	154	1182	1921	83	412	165	660	65	128	35	228	888	2809
11:30 12:30	133	676	123	932	104	593	120	817	1749	143	119	172	434	150	222	170	542	976	2725
12:30 13:30	114	653	106	873	144	625	146	915	1788	134	216	156	506	122	152	99	373	879	2667
15:00 16:00	192	1076	96	1364	51	463	110	624	1988	183	92	153	428	96	213	166	475	903	2891
16:00 17:00	245	1242	105	1592	36	510	125	671	2263	187	126	291	604	132	327	272	731	1335	3598
17:00 18:00	220	1283	92	1595	59	541	112	712	2307	229	155	406	790	215	365	325	905	1695	4002
Sub Total	1511	5947	927	8385	1096	5662	1013	7771	16156	1092	1904	1838	4834	890	1594	1125	3609	8443	24599
U Turns	229			229	16			16	245	0			0	3			3	3	248
Total	1740	5947	927	8614	1112	5662	1013	7787	16401	1092	1904	1838	4834	893	1594	1125	3612	8446	24847
EQ 12Hr	2419	8266	1289	11974	1546	7870	1408	10824	22798	1518	2647	2555	6720	1241	2216	1564	5021	11741	34539
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																1.39			
AVG 12Hr	2177	7439	1160	10776	1391	7083	1267	9741	20517	1366	2382	2300	6048	1117	1994	1408	4519	10567	31084
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																.90			
AVG 24Hr	2852	9745	1520	14117	1822	9279	1660	12761	26878	1789	3120	3013	7922	1463	2612	1844	5919	13841	40719
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: Wednesday, April 11, 2018

WO No: 37663

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	27	58	21	106	26	282	20	328	434	7	42	54	103	11	11	4	26	129	563
07:15	07:30	34	83	21	138	35	274	23	332	470	12	74	62	148	14	16	7	37	185	655
07:30	07:45	37	89	25	151	52	313	28	393	544	10	74	55	139	16	20	7	43	182	726
07:45	08:00	50	71	32	153	71	259	40	370	523	20	114	58	192	15	27	2	44	236	759
08:00	08:15	61	72	46	179	84	259	41	384	563	11	92	68	171	11	24	8	43	214	777
08:15	08:30	59	95	46	200	80	237	22	339	539	26	130	75	231	15	24	15	54	285	824
08:30	08:45	60	96	31	187	86	249	30	365	552	21	124	60	205	13	26	5	44	249	801
08:45	09:00	72	96	44	212	78	221	42	341	553	26	134	63	223	16	39	10	65	288	841
09:00	09:15	83	78	48	209	80	262	51	393	602	16	123	46	185	25	44	10	79	264	866
09:15	09:30	75	90	37	202	58	233	42	333	535	25	135	39	199	13	40	8	61	260	795
09:30	09:45	79	99	27	205	32	183	37	252	457	19	100	45	164	19	27	8	54	218	675
09:45	10:00	41	90	27	158	25	158	24	207	365	23	54	35	112	8	17	9	34	146	511
11:30	11:45	26	149	25	200	26	130	29	185	385	28	19	41	88	31	51	31	113	201	586
11:45	12:00	45	147	34	226	23	163	26	212	438	36	32	45	113	36	59	53	148	261	699
12:00	12:15	54	202	34	290	26	165	29	220	510	44	32	40	116	43	71	41	155	271	781
12:15	12:30	46	178	30	254	34	135	36	205	459	35	36	46	117	40	41	45	126	243	702
12:30	12:45	25	191	21	237	51	176	37	264	501	30	33	39	102	24	35	42	101	203	704
12:45	13:00	46	153	28	227	43	153	43	239	466	43	65	46	154	38	43	27	108	262	728
13:00	13:15	29	175	26	230	32	166	31	229	459	30	63	34	127	32	42	19	93	220	679
13:15	13:30	28	134	31	193	20	130	35	185	378	31	55	37	123	28	32	11	71	194	572
15:00	15:15	54	230	21	305	18	121	27	166	471	45	22	45	112	27	40	22	89	201	672
15:15	15:30	34	238	27	299	11	101	16	128	427	51	18	31	100	28	42	36	106	206	633
15:30	15:45	63	303	21	387	10	120	28	158	545	41	26	34	101	16	66	50	132	233	778
15:45	16:00	67	305	27	399	13	121	39	173	572	46	26	43	115	26	65	58	149	264	836
16:00	16:15	90	285	31	406	16	130	33	179	585	45	34	68	147	30	89	74	193	340	925
16:15	16:30	62	336	23	421	5	131	30	166	587	47	37	65	149	37	51	76	164	313	900
16:30	16:45	61	272	19	352	9	117	36	162	514	52	30	77	159	38	101	59	198	357	871
16:45	17:00	68	349	32	449	8	132	26	166	615	43	25	81	149	27	86	63	176	325	940
17:00	17:15	74	302	29	405	12	145	26	183	588	68	56	111	235	60	127	92	279	514	1102
17:15	17:30	82	373	22	477	17	126	21	164	641	56	36	107	199	65	70	84	219	418	1059
17:30	17:45	59	298	24	381	16	124	33	173	554	66	32	103	201	50	81	80	211	412	966
17:45	18:00	49	310	17	376	15	146	32	193	569	39	31	85	155	41	87	69	197	352	921
Total:		1740	5947	927	8614	1112	5662	1013	7787	16401	1092	1904	1838	4834	893	1594	1125	3612	16401	24,847

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Wednesday, April 11, 2018

WO No: 37663

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

Time Period	MARCH RD			TERRY FOX DR			Grand Total
	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00 07:15	0	1	1	1	0	1	2
07:15 07:30	0	0	0	0	1	1	1
07:30 07:45	0	0	0	1	1	2	2
07:45 08:00	0	1	1	2	1	3	4
08:00 08:15	0	0	0	1	1	2	2
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	0	0	0	0	0	0
09:00 09:15	0	0	0	0	0	0	0
09:15 09:30	0	0	0	1	0	1	1
09:30 09:45	0	0	0	0	0	0	0
09:45 10:00	0	0	0	1	1	2	2
11:30 11:45	0	0	0	0	0	0	0
11:45 12:00	0	0	0	1	6	7	7
12:00 12:15	0	0	0	0	2	2	2
12:15 12:30	0	0	0	0	2	2	2
12:30 12:45	1	0	1	1	0	1	2
12:45 13:00	0	0	0	2	0	2	2
13:00 13:15	0	0	0	1	0	1	1
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	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	1	3	4	4
16:45 17:00	1	1	2	0	1	1	3
17:00 17:15	0	0	0	0	1	1	1
17:15 17:30	1	0	1	0	0	0	1
17:30 17:45	0	0	0	1	1	2	2
17:45 18:00	0	0	0	0	1	1	1
Total	3	4	7	15	23	38	45



Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Wednesday, April 11, 2018

WO No: 37663

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	4	0	4	0	1	1	5
07:15 07:30	0	2	2	0	0	0	2
07:30 07:45	3	1	4	4	3	7	11
07:45 08:00	2	1	3	3	2	5	8
08:00 08:15	3	0	3	1	1	2	5
08:15 08:30	6	1	7	6	2	8	15
08:30 08:45	6	3	9	5	1	6	15
08:45 09:00	10	1	11	4	2	6	17
09:00 09:15	7	4	11	6	8	14	25
09:15 09:30	5	0	5	5	5	10	15
09:30 09:45	1	0	1	1	1	2	3
09:45 10:00	2	0	2	0	1	1	3
11:30 11:45	2	1	3	2	7	9	12
11:45 12:00	14	9	23	9	10	19	42
12:00 12:15	5	7	12	6	2	8	20
12:15 12:30	10	16	26	16	8	24	50
12:30 12:45	7	2	9	0	10	10	19
12:45 13:00	7	7	14	7	6	13	27
13:00 13:15	11	16	27	14	9	23	50
13:15 13:30	7	7	14	7	7	14	28
15:00 15:15	0	4	4	1	0	1	5
15:15 15:30	1	0	1	1	0	1	2
15:30 15:45	1	3	4	0	1	1	5
15:45 16:00	1	3	4	1	3	4	8
16:00 16:15	4	1	5	0	6	6	11
16:15 16:30	0	11	11	2	1	3	14
16:30 16:45	2	14	16	1	4	5	21
16:45 17:00	5	5	10	2	6	8	18
17:00 17:15	12	9	21	8	8	16	37
17:15 17:30	5	9	14	6	4	10	24
17:30 17:45	4	7	11	3	1	4	15
17:45 18:00	2	7	9	2	3	5	14
Total	149	151	300	123	123	246	546



Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Wednesday, April 11, 2018

WO No: 37663

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

MARCH RD

TERRY FOX DR

Northbound

Southbound

Eastbound

Westbound

Time Period	Northbound			N TOT	Southbound			S TOT	STR TOT	Eastbound			E TOT	Westbound			W TOT	STR TOT	Grand Total	
	LT	ST	RT		LT	ST	RT			LT	ST	RT		LT	ST	RT				
07:00 07:15	1	3	1	5	0	3	1	4	9	0	1	1	2	0	1	0	1	3	12	
07:15 07:30	1	2	0	3	1	2	2	5	8	1	1	3	5	0	2	0	2	7	15	
07:30 07:45	2	1	0	3	0	4	1	5	8	0	0	1	1	3	2	0	5	6	14	
07:45 08:00	0	3	0	3	0	0	1	1	4	2	0	2	4	4	0	0	4	8	12	
08:00 08:15	0	2	0	2	0	3	1	4	6	1	0	1	2	0	2	0	2	4	10	
08:15 08:30	2	5	1	8	0	4	0	4	12	1	2	2	5	3	0	1	4	9	21	
08:30 08:45	2	5	1	8	0	5	2	7	15	0	0	0	0	0	2	0	2	2	17	
08:45 09:00	1	10	0	11	0	6	2	8	19	0	0	1	1	1	0	0	1	2	21	
09:00 09:15	1	3	0	4	0	4	4	8	12	1	0	0	1	0	1	0	1	2	14	
09:15 09:30	1	5	1	7	0	1	2	3	10	1	0	0	1	0	2	0	2	3	13	
09:30 09:45	0	7	0	7	1	6	0	7	14	0	1	0	1	0	2	1	3	4	18	
09:45 10:00	1	6	0	7	0	6	0	6	13	0	1	0	1	1	2	0	3	4	17	
11:30 11:45	1	4	0	5	0	5	0	5	10	1	1	0	2	2	3	1	6	8	18	
11:45 12:00	1	3	0	4	0	3	0	3	7	1	2	0	3	0	0	0	0	3	10	
12:00 12:15	0	3	0	3	0	7	1	8	11	2	0	0	2	0	1	1	2	4	15	
12:15 12:30	0	3	1	4	0	1	1	2	6	0	1	1	2	0	0	0	0	2	8	
12:30 12:45	0	6	1	7	0	1	1	2	9	0	1	1	2	0	1	0	1	3	12	
12:45 13:00	0	1	1	2	0	4	0	4	6	0	2	1	3	1	1	0	2	5	11	
13:00 13:15	0	6	2	8	1	5	0	6	14	0	1	1	2	1	1	1	3	5	19	
13:15 13:30	2	2	1	5	0	3	1	4	9	0	1	0	1	1	3	2	6	7	16	
15:00 15:15	1	3	0	4	0	4	0	4	8	0	0	3	3	1	3	0	4	7	15	
15:15 15:30	1	4	1	6	0	5	0	5	11	2	0	0	2	1	1	0	2	4	15	
15:30 15:45	0	6	1	7	0	1	0	1	8	2	2	0	4	0	5	0	5	9	17	
15:45 16:00	2	4	1	7	0	8	0	8	15	2	2	1	5	1	0	0	1	6	21	
16:00 16:15	1	4	1	6	0	5	1	6	12	0	1	0	1	1	0	0	1	2	14	
16:15 16:30	2	5	0	7	0	4	1	5	12	1	1	2	4	0	0	0	0	4	16	
16:30 16:45	2	1	1	4	1	5	0	6	10	1	0	1	2	0	0	0	0	2	12	
16:45 17:00	1	0	0	1	0	2	0	2	3	0	1	0	1	0	0	1	1	2	5	
17:00 17:15	3	0	0	3	1	1	0	2	5	0	2	1	3	0	0	0	0	3	8	
17:15 17:30	2	2	0	4	0	1	0	1	5	0	1	0	1	0	0	0	0	1	6	
17:30 17:45	2	1	0	3	0	0	0	0	3	0	1	0	1	0	0	0	0	1	4	
17:45 18:00	1	4	0	5	0	2	0	2	7	0	1	0	1	0	0	0	0	1	8	
Total:	None	34	114	15	163	5	111	22	138	301	19	27	23	69	21	35	8	64	133	434



Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ TERRY FOX DR

Survey Date: Wednesday, April 11, 2018

WO No: 37663

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

MARCH RD

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	2	0	0	0	2
07:15 - 07:30	4	1	0	0	5
07:30 - 07:45	4	0	0	0	4
07:45 - 08:00	3	1	0	1	5
08:00 - 08:15	6	0	0	0	6
08:15 - 08:30	5	0	0	0	5
08:30 - 08:45	4	0	0	0	4
08:45 - 09:00	8	0	0	0	8
09:00 - 09:15	11	0	0	0	11
09:15 - 09:30	10	2	0	0	12
09:30 - 09:45	10	1	0	0	11
09:45 - 10:00	4	0	0	0	4
11:30 - 11:45	7	0	0	0	7
11:45 - 12:00	10	1	0	0	11
12:00 - 12:15	13	2	0	0	15
12:15 - 12:30	8	2	0	0	10
12:30 - 12:45	3	0	0	0	3
12:45 - 13:00	7	0	0	0	7
13:00 - 13:15	3	1	0	0	4
13:15 - 13:30	1	1	0	0	2
15:00 - 15:15	5	0	0	0	5
15:15 - 15:30	6	0	0	1	7
15:30 - 15:45	8	0	0	0	8
15:45 - 16:00	7	1	0	0	8
16:00 - 16:15	18	2	0	0	20
16:15 - 16:30	6	0	0	0	6
16:30 - 16:45	5	0	0	0	5
16:45 - 17:00	7	0	0	0	7
17:00 - 17:15	14	0	0	0	14
17:15 - 17:30	13	1	0	0	14
17:30 - 17:45	11	0	0	0	11
17:45 - 18:00	6	0	0	1	7
Total	229	16	0	3	248

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

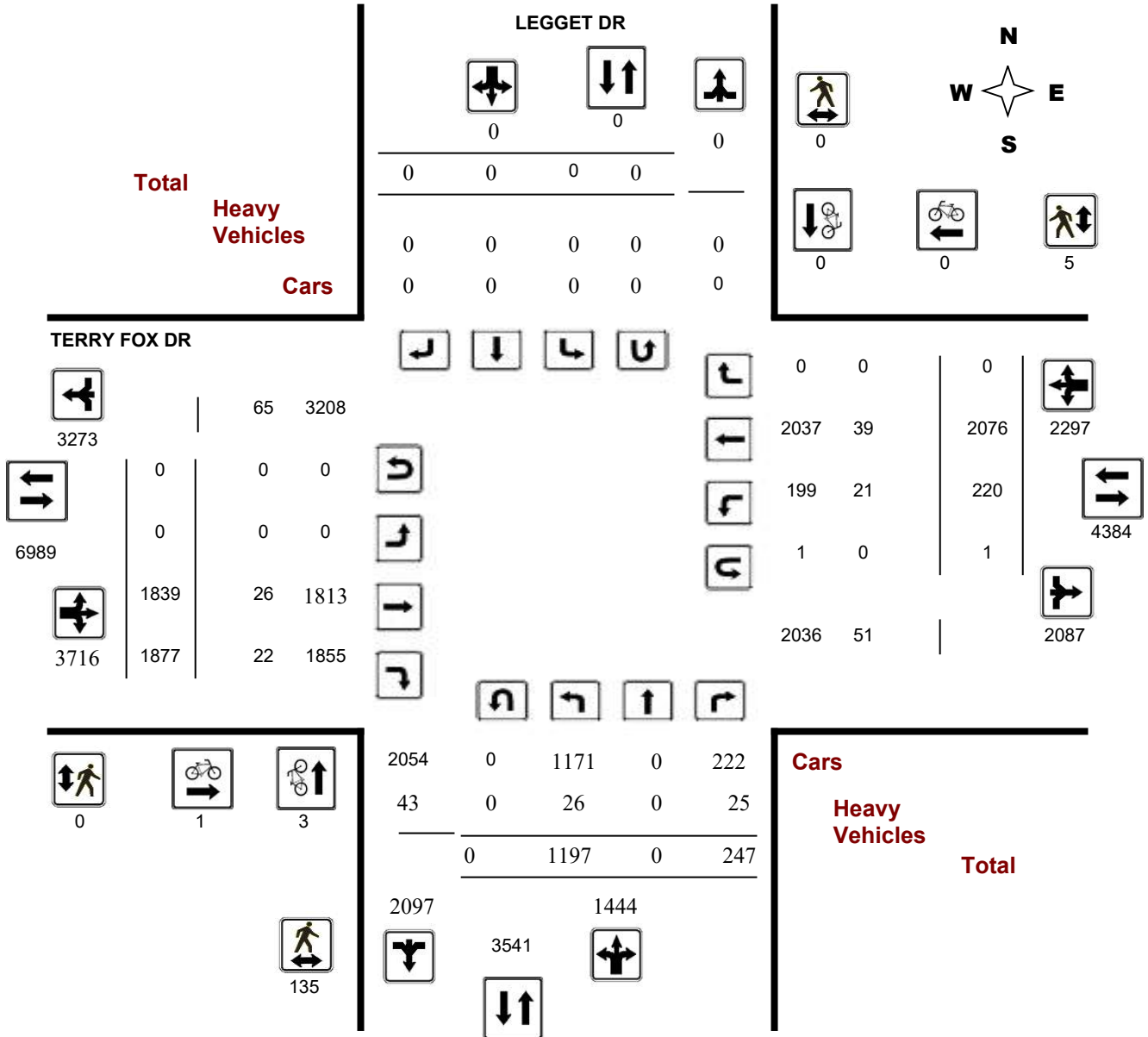
Survey Date: Wednesday, February 20, 2019

WO No: 38360

Start Time: 07:00

Device: Miovision

Full Study Diagram



Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

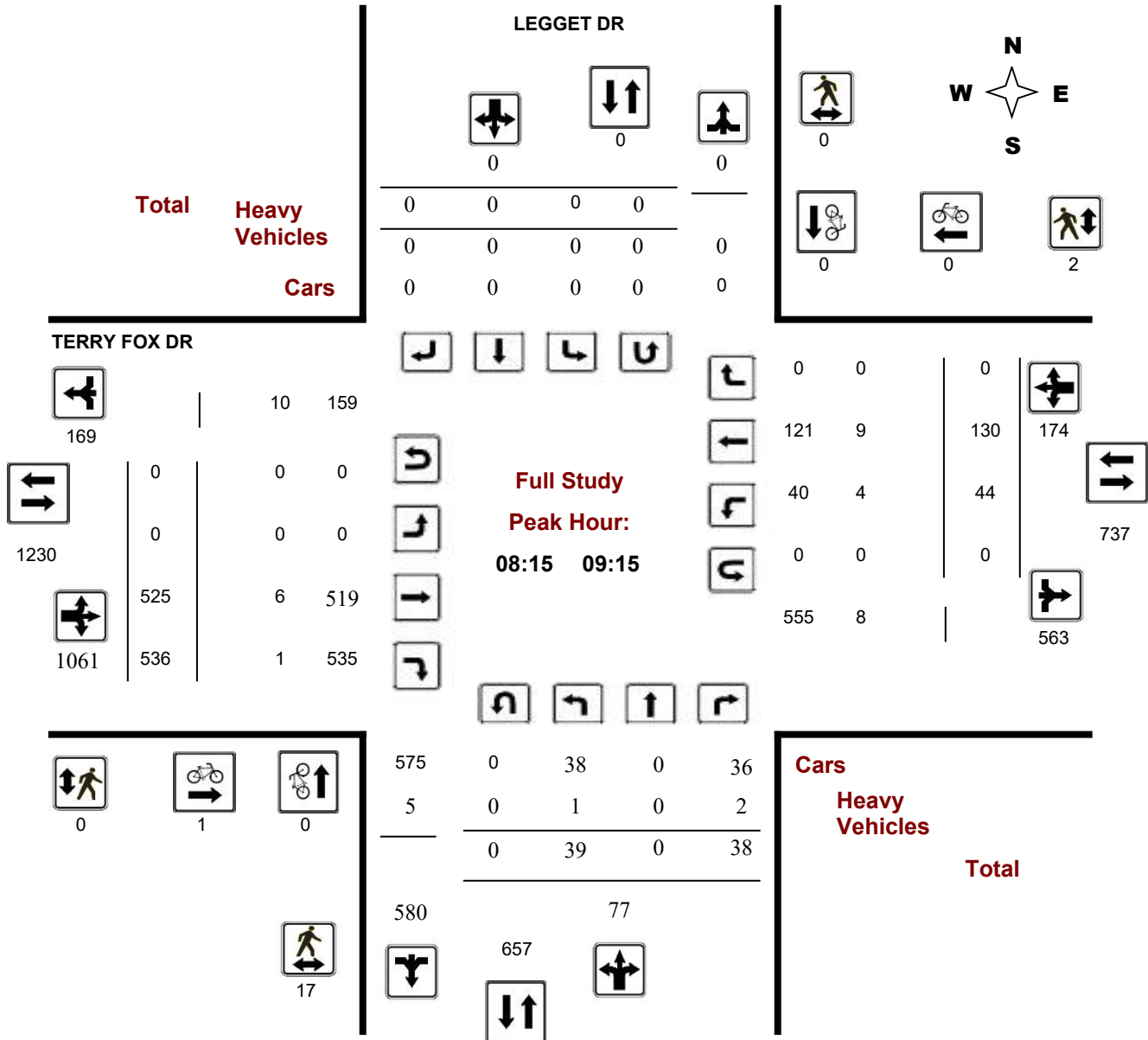
Survey Date: Wednesday, February 20, 2019

WO No: 38360

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

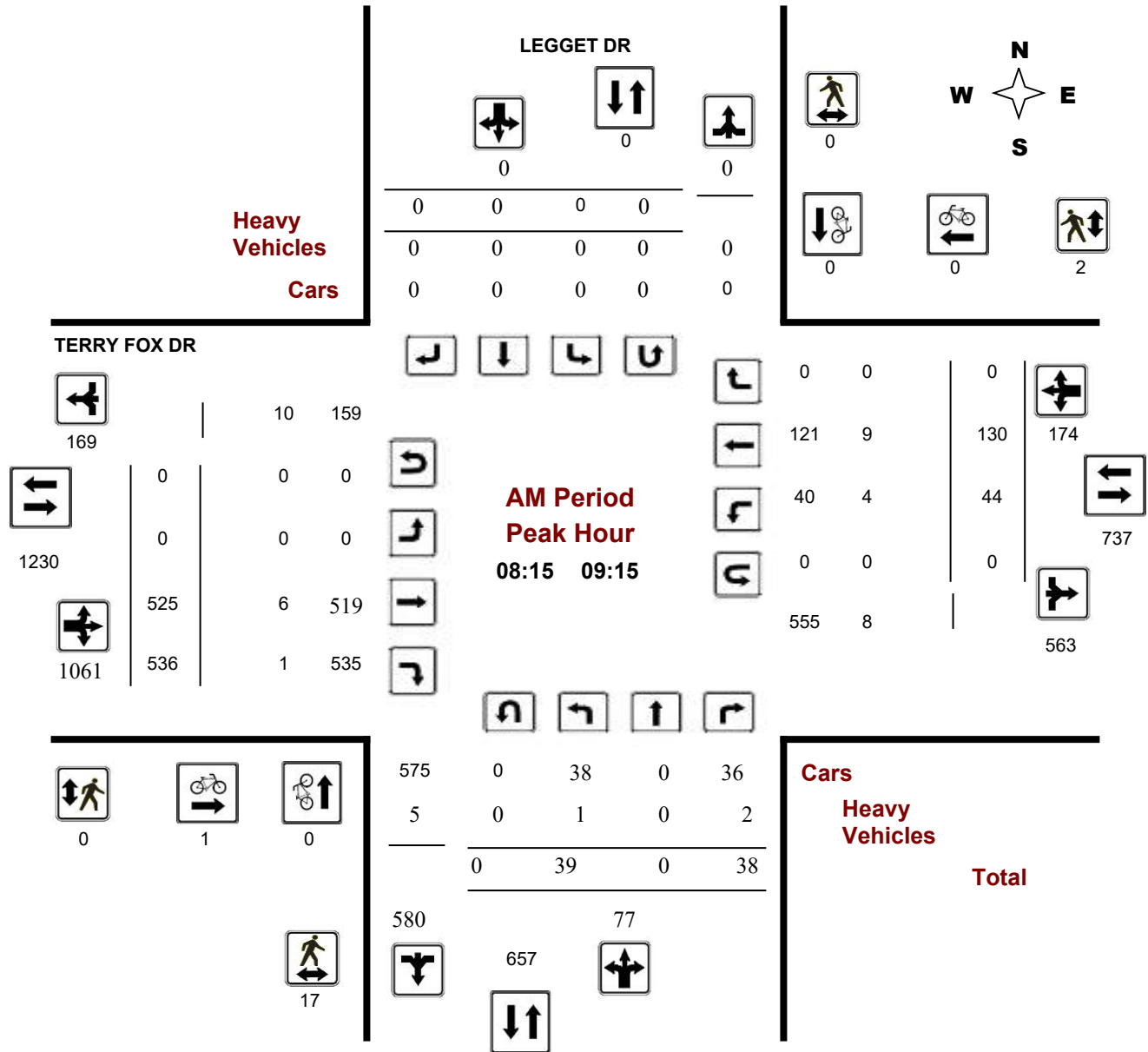
LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, February 20, 2019

Start Time: 07:00

WO No: 38360

Device: Miovision



Turning Movement Count - Peak Hour Diagram

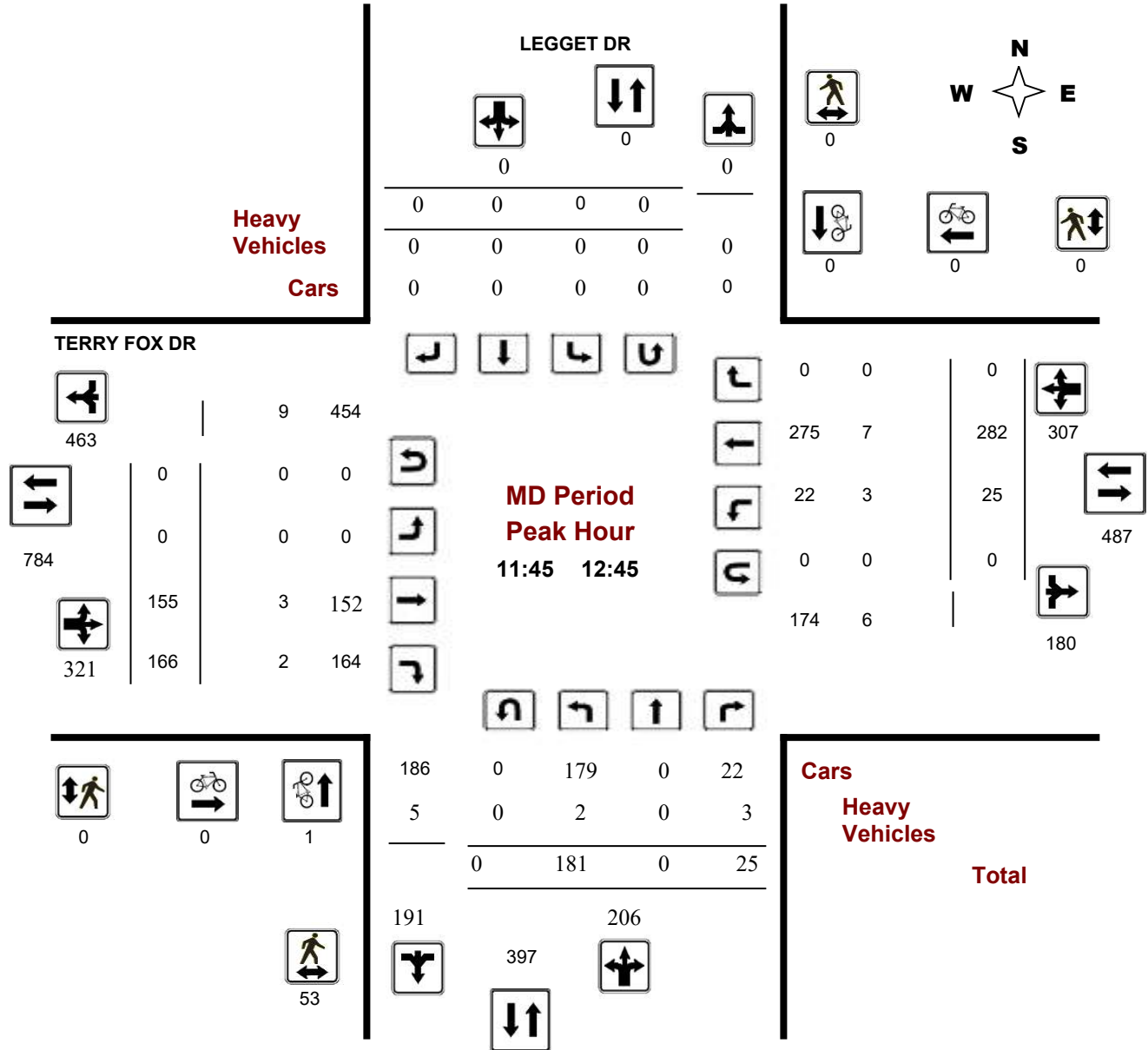
LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, February 20, 2019

Start Time: 07:00

WO No: 38360

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

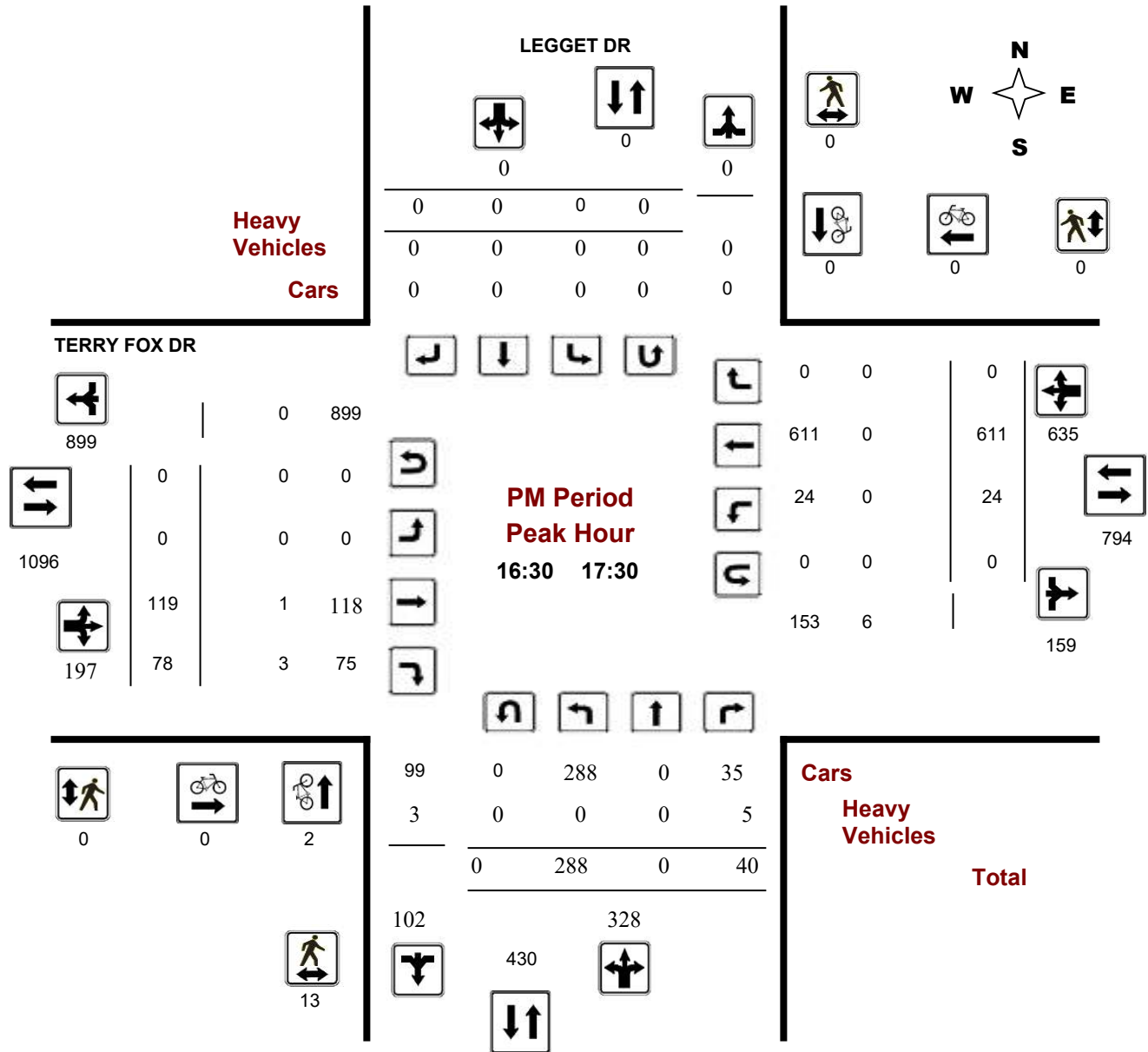
LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, February 20, 2019

Start Time: 07:00

WO No: 38360

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, February 20, 2019

WO No: 38360

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, February 20, 2019

Total Observed U-Turns
 Northbound: 0 Southbound: 0
 Eastbound: 0 Westbound: 1

AADT Factor
 1.00

LEGGET DR

TERRY FOX DR

Period	Northbound					Southbound					Eastbound					Westbound					Grand Total
	LT	ST	RT	NB TOT	STR TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	STR TOT	LT	ST	RT	WB TOT	STR TOT	
07:00 08:00	27	0	21	48	48	0	0	0	0	48	0	324	365	689	689	38	82	0	120	809	857
08:00 09:00	41	0	39	80	80	0	0	0	0	80	0	476	553	1029	1029	37	122	0	159	1188	1268
09:00 10:00	61	0	28	89	89	0	0	0	0	89	0	390	370	760	760	37	105	0	142	902	991
11:30 12:30	208	0	29	237	237	0	0	0	0	237	0	125	144	269	269	22	288	0	310	579	816
12:30 13:30	115	0	21	136	136	0	0	0	0	136	0	228	206	434	434	21	147	0	168	602	738
15:00 16:00	188	0	27	215	215	0	0	0	0	215	0	84	89	173	173	21	239	0	260	433	648
16:00 17:00	301	0	45	346	346	0	0	0	0	346	0	107	81	188	188	18	540	0	558	746	1092
17:00 18:00	256	0	37	293	293	0	0	0	0	293	0	105	69	174	174	26	553	0	579	753	1046
Sub Total	1197	0	247	1444	1444	0	0	0	0	1444	0	1839	1877	3716	3716	220	2076	0	2296	6012	7456
U Turns	0			0	0	0			0	0	0			0	0	1			1	1	1
Total	1197	0	247	1444	1444	0	0	0	0	1444	0	1839	1877	3716	3716	221	2076	0	2297	6013	7457
EQ 12Hr	1664	0	343	2007	2007	0	0	0	0	2007	0	2556	2609	5165	5165	307	2886	0	3193	8358	10365
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																1.39					
AVG 12Hr	1664	0	343	2007	2007	0	0	0	0	2007	0	2556	2609	5165	5165	307	2886	0	3193	8358	10365
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																1.00					
AVG 24Hr	2180	0	449	2629	2629	0	0	0	0	2629	0	3348	3418	6766	6766	402	3781	0	4183	10949	13578
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, February 20, 2019

WO No: 38360

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	6	0	3	9	0	0	0	0	9	0	65	54	119	2	17	0	19	138	147
07:15 07:30	7	0	4	11	0	0	0	0	11	0	99	91	190	7	18	0	25	215	226
07:30 07:45	8	0	7	15	0	0	0	0	15	0	74	89	163	14	18	0	32	195	210
07:45 08:00	6	0	7	13	0	0	0	0	13	0	86	131	217	15	29	0	44	261	274
08:00 08:15	12	0	6	18	0	0	0	0	18	0	83	137	220	6	24	0	30	250	268
08:15 08:30	8	0	11	19	0	0	0	0	19	0	110	141	251	16	31	0	47	298	317
08:30 08:45	12	0	12	24	0	0	0	0	24	0	145	147	292	7	35	0	42	334	358
08:45 09:00	9	0	10	19	0	0	0	0	19	0	138	128	266	8	32	0	40	306	325
09:00 09:15	10	0	5	15	0	0	0	0	15	0	132	120	252	13	32	0	45	297	312
09:15 09:30	25	0	10	35	0	0	0	0	35	0	111	116	227	10	31	0	41	268	303
09:30 09:45	15	0	6	21	0	0	0	0	21	0	79	72	151	5	20	0	25	176	197
09:45 10:00	11	0	7	18	0	0	0	0	18	0	68	62	130	9	22	0	31	161	179
11:30 11:45	57	0	6	63	0	0	0	0	63	0	23	24	47	5	55	0	60	107	170
11:45 12:00	44	0	7	51	0	0	0	0	51	0	22	40	62	6	86	0	92	154	205
12:00 12:15	63	0	10	73	0	0	0	0	73	0	33	34	67	7	87	0	94	161	234
12:15 12:30	44	0	6	50	0	0	0	0	50	0	47	46	93	4	60	0	64	157	207
12:30 12:45	30	0	2	32	0	0	0	0	32	0	53	46	99	8	49	0	57	156	188
12:45 13:00	28	0	5	33	0	0	0	0	33	0	58	57	115	2	43	0	45	160	193
13:00 13:15	30	0	5	35	0	0	0	0	35	0	61	52	113	7	29	0	36	149	184
13:15 13:30	27	0	9	36	0	0	0	0	36	0	56	51	107	4	26	0	30	137	173
15:00 15:15	40	0	0	40	0	0	0	0	40	0	20	17	37	6	50	0	56	93	133
15:15 15:30	38	0	5	43	0	0	0	0	43	0	16	21	37	4	56	0	60	97	140
15:30 15:45	56	0	9	65	0	0	0	0	65	0	24	20	44	7	61	0	68	112	177
15:45 16:00	54	0	13	67	0	0	0	0	67	0	24	31	55	5	72	0	77	132	199
16:00 16:15	87	0	12	99	0	0	0	0	99	0	20	23	43	2	129	0	131	174	273
16:15 16:30	63	0	13	76	0	0	0	0	76	0	34	20	54	5	130	0	135	189	265
16:30 16:45	75	0	13	88	0	0	0	0	88	0	21	18	39	5	142	0	147	186	274
16:45 17:00	76	0	7	83	0	0	0	0	83	0	32	20	52	6	139	0	145	197	280
17:00 17:15	70	0	8	78	0	0	0	0	78	0	35	23	58	5	168	0	173	231	309
17:15 17:30	67	0	12	79	0	0	0	0	79	0	31	17	48	8	162	0	170	218	297
17:30 17:45	72	0	10	82	0	0	0	0	82	0	21	17	38	5	134	0	139	177	259
17:45 18:00	47	0	7	54	0	0	0	0	54	0	18	12	30	8	89	0	97	127	181
Total:	1197	0	247	1444	0	0	0	0	1444	0	1839	1877	3716	221	2076	0	2297	1444	7,457

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, February 20, 2019

WO No: 38360

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

Time Period	LEGGET DR			TERRY FOX DR			Grand Total
	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00 07:15	0	0	0	0	0	0	0
07:15 07:30	0	0	0	0	0	0	0
07:30 07:45	0	0	0	0	0	0	0
07:45 08:00	0	0	0	0	0	0	0
08:00 08:15	0	0	0	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	1	0	1	1
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	1	0	1	0	0	0	1
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	1	0	1	0	0	0	1
17:15 17:30	1	0	1	0	0	0	1
17:30 17:45	0	0	0	0	0	0	0
17:45 18:00	0	0	0	0	0	0	0
Total	3	0	3	1	0	1	4



Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, February 20, 2019

WO No: 38360

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	1	0	1	0	0	0	1
07:15 07:30	1	0	1	0	0	0	1
07:30 07:45	2	0	2	0	0	0	2
07:45 08:00	2	0	2	0	0	0	2
08:00 08:15	5	0	5	0	0	0	5
08:15 08:30	4	0	4	0	2	2	6
08:30 08:45	7	0	7	0	0	0	7
08:45 09:00	3	0	3	0	0	0	3
09:00 09:15	3	0	3	0	0	0	3
09:15 09:30	2	0	2	0	0	0	2
09:30 09:45	3	0	3	0	0	0	3
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	12	0	12	0	0	0	12
12:00 12:15	11	0	11	0	0	0	11
12:15 12:30	19	0	19	0	0	0	19
12:30 12:45	11	0	11	0	0	0	11
12:45 13:00	6	0	6	0	0	0	6
13:00 13:15	4	0	4	0	0	0	4
13:15 13:30	2	0	2	0	0	0	2
15:00 15:15	4	0	4	0	0	0	4
15:15 15:30	1	0	1	0	0	0	1
15:30 15:45	3	0	3	0	0	0	3
15:45 16:00	1	0	1	0	2	2	3
16:00 16:15	0	0	0	0	0	0	0
16:15 16:30	2	0	2	0	1	1	3
16:30 16:45	4	0	4	0	0	0	4
16:45 17:00	2	0	2	0	0	0	2
17:00 17:15	3	0	3	0	0	0	3
17:15 17:30	4	0	4	0	0	0	4
17:30 17:45	6	0	6	0	0	0	6
17:45 18:00	5	0	5	0	0	0	5
Total	135	0	135	0	5	5	140



Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, February 20, 2019

WO No: 38360

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

LEGGET DR

TERRY FOX DR

Northbound

Southbound

Eastbound

Westbound

Time Period	Northbound			N TOT	Southbound			S TOT	STR TOT	Eastbound			E TOT	Westbound			W TOT	STR TOT	Grand Total
	LT	ST	RT		LT	ST	RT			LT	ST	RT		LT	ST	RT			
07:00 07:15	2	0	0	2	0	0	0	0	2	0	2	0	2	1	1	0	2	4	6
07:15 07:30	2	0	0	2	0	0	0	0	2	0	0	0	0	1	1	0	2	2	4
07:30 07:45	2	0	1	3	0	0	0	0	3	0	0	1	1	1	2	0	3	4	7
07:45 08:00	1	0	1	2	0	0	0	0	2	0	1	0	1	2	1	0	3	4	6
08:00 08:15	2	0	0	2	0	0	0	0	2	0	0	0	0	1	1	0	2	2	4
08:15 08:30	0	0	0	0	0	0	0	0	0	0	1	0	1	1	4	0	5	6	6
08:30 08:45	1	0	2	3	0	0	0	0	3	0	3	0	3	1	2	0	3	6	9
08:45 09:00	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	2
09:00 09:15	0	0	0	0	0	0	0	0	0	0	1	1	2	2	2	0	4	6	6
09:15 09:30	1	0	1	2	0	0	0	0	2	0	0	1	1	0	1	0	1	2	4
09:30 09:45	1	0	1	2	0	0	0	0	2	0	1	1	2	1	2	0	3	5	7
09:45 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 11:45	2	0	0	2	0	0	0	0	2	0	2	0	2	0	2	0	2	4	6
11:45 12:00	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	0	4	5	5
12:00 12:15	1	0	1	2	0	0	0	0	2	0	1	0	1	1	2	0	3	4	6
12:15 12:30	0	0	1	1	0	0	0	0	1	0	1	0	1	0	1	0	1	2	3
12:30 12:45	1	0	1	2	0	0	0	0	2	0	1	1	2	1	1	0	2	4	6
12:45 13:00	2	0	0	2	0	0	0	0	2	0	3	0	3	0	1	0	1	4	6
13:00 13:15	2	0	0	2	0	0	0	0	2	0	1	0	1	1	2	0	3	4	6
13:15 13:30	1	0	0	1	0	0	0	0	1	0	1	1	2	2	0	0	2	4	5
15:00 15:15	1	0	0	1	0	0	0	0	1	0	0	0	0	1	0	0	1	1	2
15:15 15:30	1	0	3	4	0	0	0	0	4	0	0	3	3	1	0	0	1	4	8
15:30 15:45	3	0	3	6	0	0	0	0	6	0	2	1	3	0	2	0	2	5	11
15:45 16:00	0	0	1	1	0	0	0	0	1	0	0	1	1	1	2	0	3	4	5
16:00 16:15	0	0	1	1	0	0	0	0	1	0	3	1	4	0	3	0	3	7	8
16:15 16:30	0	0	2	2	0	0	0	0	2	0	0	3	3	1	1	0	2	5	7
16:30 16:45	0	0	1	1	0	0	0	0	1	0	0	1	1	0	0	0	0	1	2
16:45 17:00	0	0	1	1	0	0	0	0	1	0	0	1	1	0	0	0	0	1	2
17:00 17:15	0	0	2	2	0	0	0	0	2	0	0	1	1	0	0	0	0	1	3
17:15 17:30	0	0	1	1	0	0	0	0	1	0	1	0	1	0	0	0	0	1	2
17:30 17:45	0	0	0	0	0	0	0	0	0	0	0	3	3	0	1	0	1	4	4
17:45 18:00	0	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total: None	26	0	25	51	0	0	0	0	51	0	26	22	48	21	39	0	60	108	159



Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ TERRY FOX DR

Survey Date: Wednesday, February 20, 2019

WO No: 38360

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	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	1	1
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	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	0	1	1

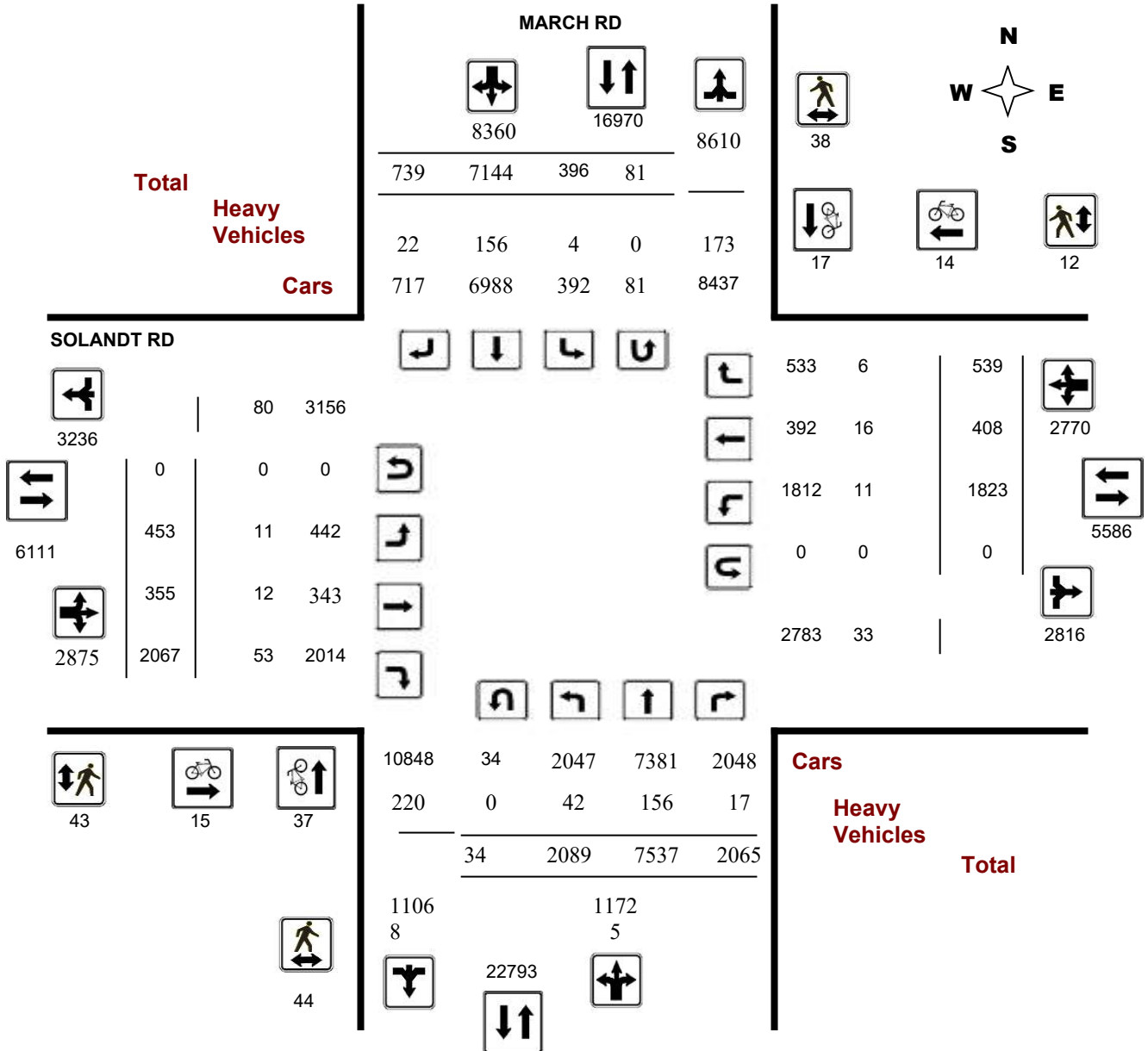
Survey Date: Wednesday, August 10, 2016

WO No: 36153

Start Time: 07:00

Device: Miovision

Full Study Diagram



Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

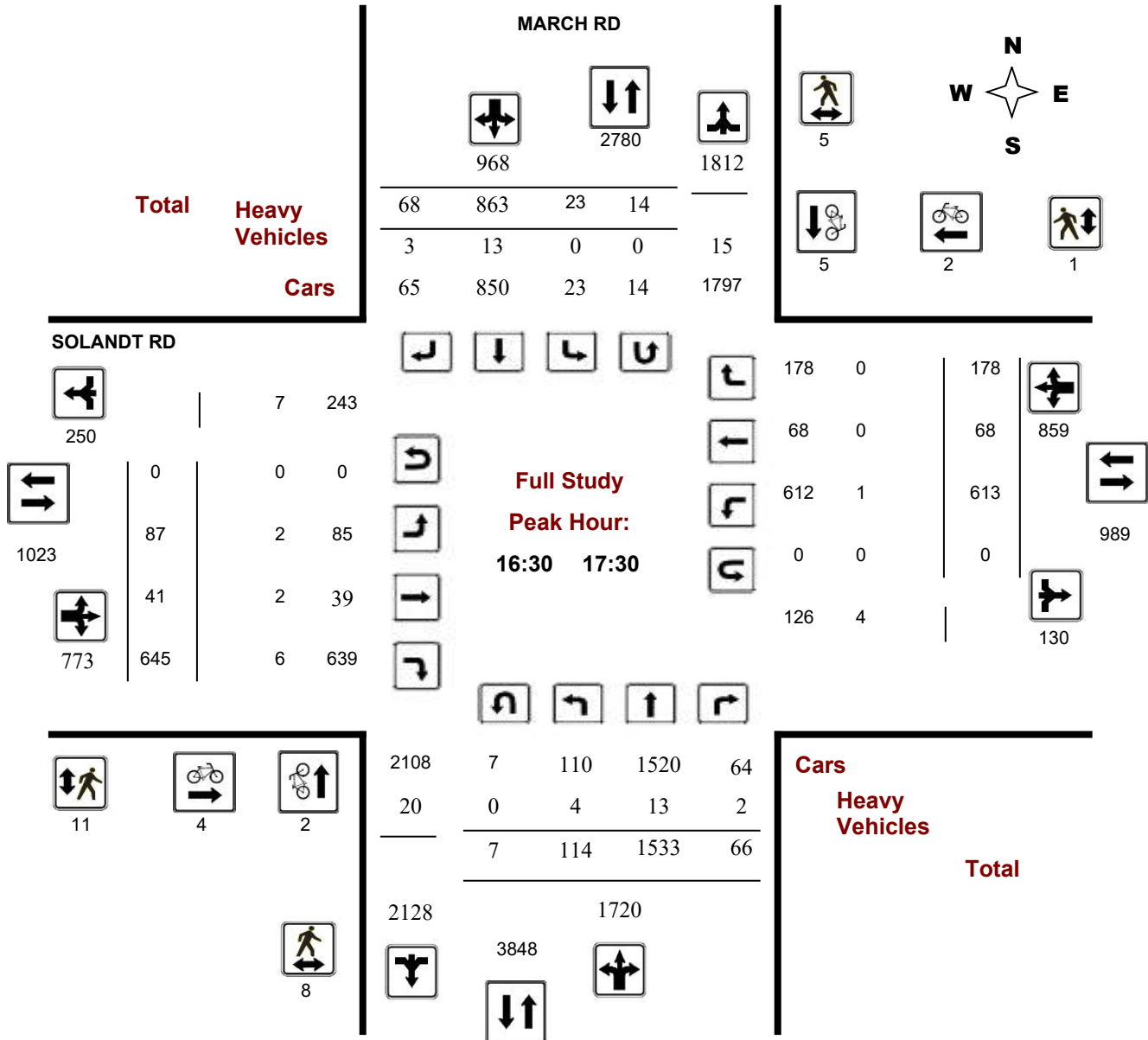
Survey Date: Wednesday, August 10, 2016

WO No: 36153

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

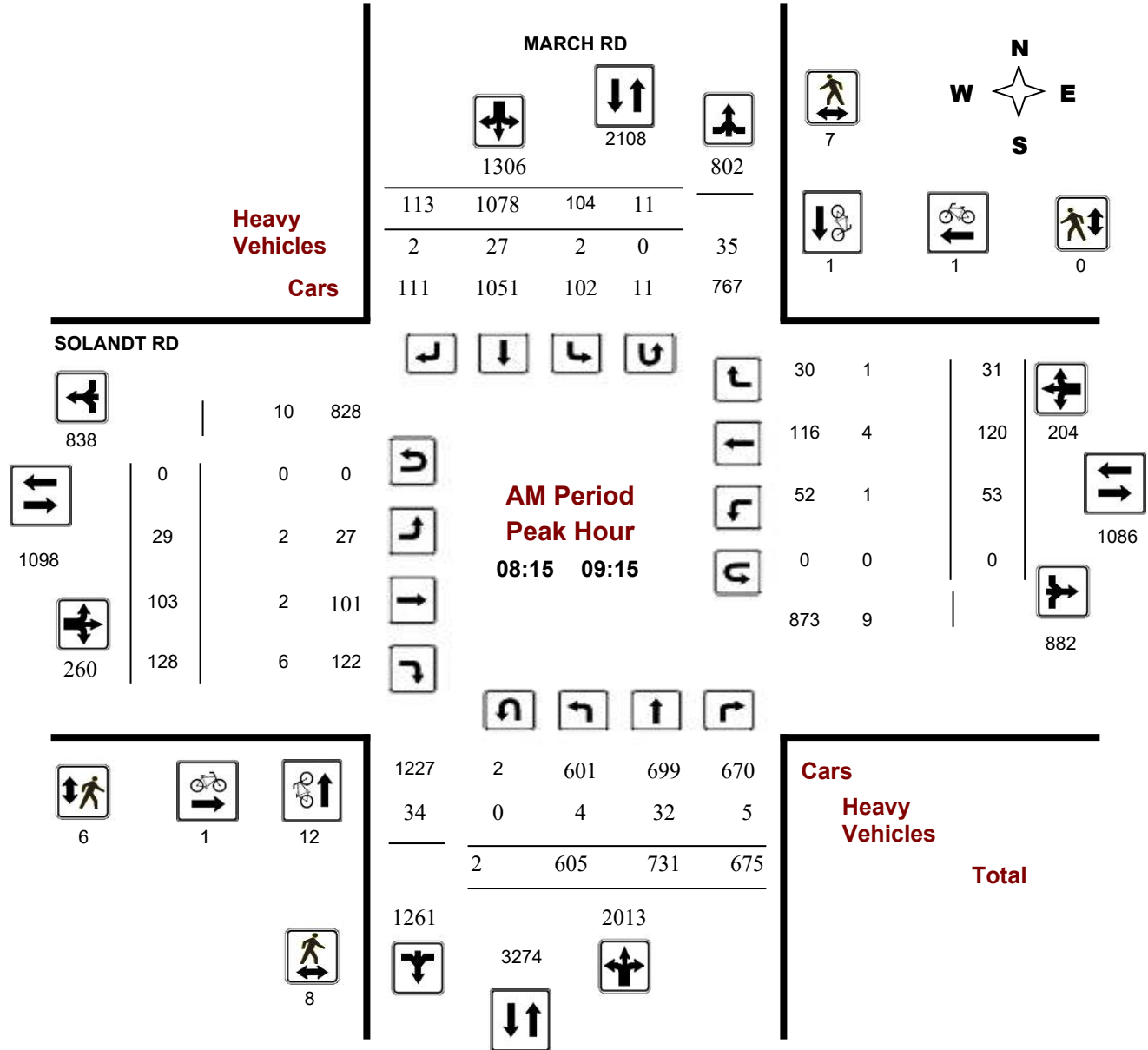
MARCH RD @ SOLANDT RD

Survey Date: Wednesday, August 10, 2016

Start Time: 07:00

WO No: 36153

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

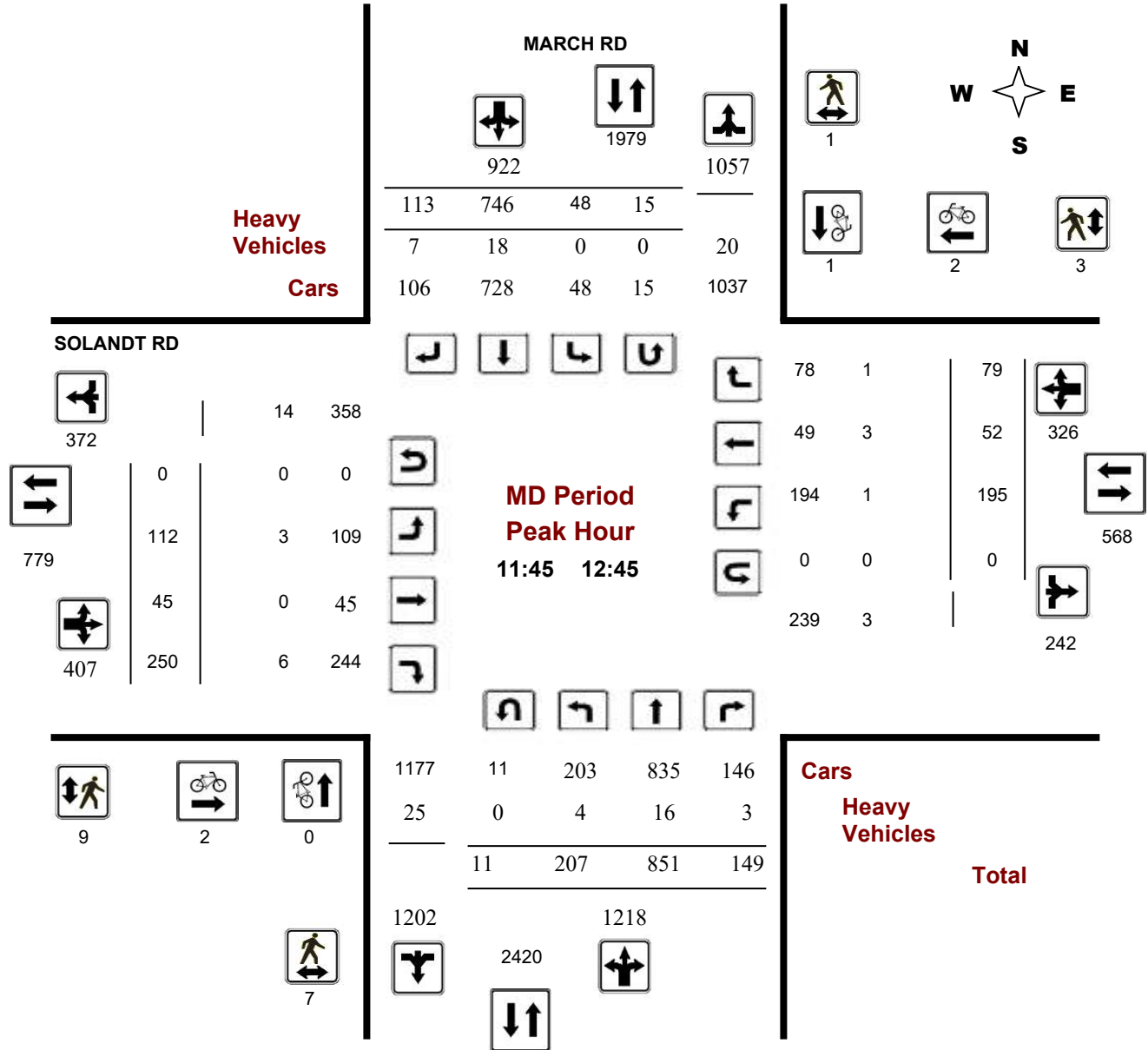
MARCH RD @ SOLANDT RD

Survey Date: Wednesday, August 10, 2016

Start Time: 07:00

WO No: 36153

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

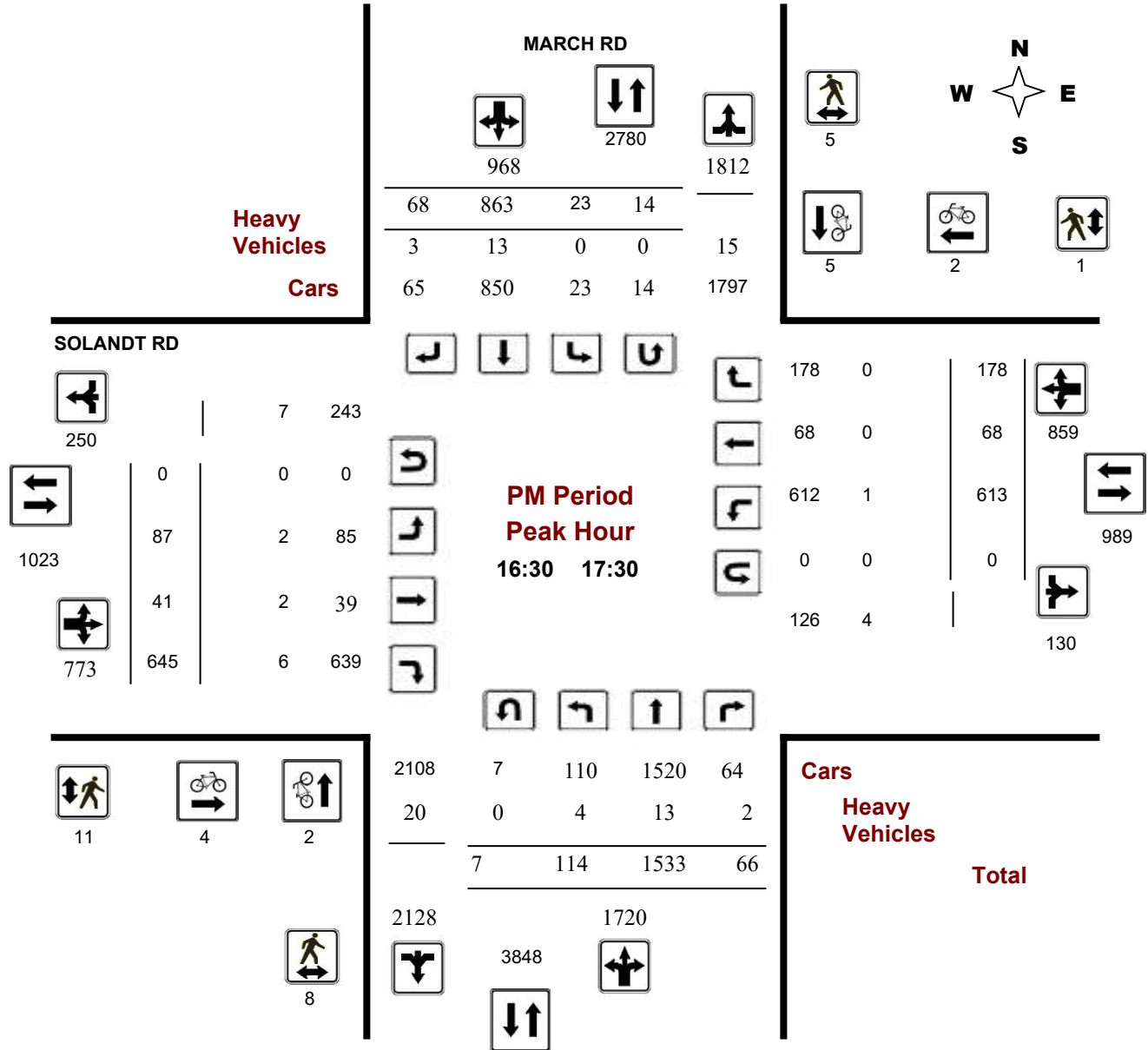
MARCH RD @ SOLANDT RD

Survey Date: Wednesday, August 10, 2016

Start Time: 07:00

WO No: 36153

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Wednesday, August 10, 2016

WO No: 36153

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, August 10, 2016

Total Observed U-Turns

AADT Factor

Northbound: 34 Southbound: 81
 Eastbound: 0 Westbound: 0

.90

Period	MARCH RD										SOLANDT RD										
	Northbound					Southbound					Eastbound					Westbound					Grand Total
	LT	ST	RT	NB TOT	STR TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	STR TOT	LT	ST	RT	WB TOT	STR TOT	
07:00 08:00	301	467	367	1135	2517	65	1214	103	1382	2517	8	29	65	102	2517	56	17	10	83	185	
08:00 09:00	560	685	645	1890	3261	99	1147	125	1371	3261	27	93	132	252	3261	45	91	29	165	417	3678
09:00 10:00	472	736	518	1726	2767	67	891	83	1041	2767	22	52	111	185	2767	67	71	23	161	346	3113
11:30 12:30	178	824	118	1120	1985	35	728	102	865	1985	109	46	257	412	1985	199	51	87	337	749	2734
12:30 13:30	231	776	182	1189	2184	75	771	149	995	2184	70	40	162	272	2184	122	36	49	207	479	2663
15:00 16:00	104	1098	118	1320	2079	13	698	48	759	2079	57	26	280	363	2079	273	18	53	344	707	2786
16:00 17:00	145	1439	71	1655	2534	21	779	79	879	2534	88	46	573	707	2534	541	65	134	740	1447	3981
17:00 18:00	98	1512	46	1656	2643	21	916	50	987	2643	72	23	487	582	2643	520	59	154	733	1315	3958
Sub Total	2089	7537	2065	11691	19970	396	7144	739	8279	19970	453	355	2067	2875	19970	1823	408	539	2770	5645	25615
U Turns	34			34	115	81			81	115	0			0	115	0			0	115	115
Total	2123	7537	2065	11725	20085	477	7144	739	8360	20085	453	355	2067	2875	20085	1823	408	539	2770	5645	25730
EQ 12Hr	2951	10476	2870	16297	27917	663	9930	1027	11620	27917	630	493	2873	3996	27917	2534	567	749	3850	7846	35763
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																1.39					
AVG 12Hr	2656	9428	2583	14667	25125	597	8937	924	10458	25125	567	444	2586	3597	25125	2281	510	674	3465	7062	32187
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																.90					
AVG 24Hr	3479	12351	3384	19214	32913	782	11707	1210	13699	32913	743	582	3388	4713	32913	2988	668	883	4539	9252	42165
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: Wednesday, August 10, 2016

WO No: 36153

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	47	89	48	184	16	268	27	311	495	4	3	13	20	13	1	2	16	36	531
07:15 07:30	51	126	77	254	10	307	28	345	599	3	5	17	25	11	2	1	14	39	638
07:30 07:45	66	110	96	272	24	333	24	381	653	1	4	20	25	19	4	2	25	50	703
07:45 08:00	138	142	146	426	19	306	24	349	775	0	17	15	32	13	10	5	28	60	835
08:00 08:15	107	152	152	411	24	292	37	353	764	7	16	31	54	14	3	9	26	80	844
08:15 08:30	158	154	152	464	29	273	29	331	795	10	25	31	66	14	17	8	39	105	900
08:30 08:45	139	181	171	491	18	312	30	360	851	7	28	35	70	6	19	4	29	99	950
08:45 09:00	157	198	170	525	39	270	29	338	863	3	24	35	62	11	52	8	71	133	996
09:00 09:15	153	198	182	533	29	223	25	277	810	9	26	27	62	22	32	11	65	127	937
09:15 09:30	138	190	154	482	18	222	20	260	742	3	14	24	41	14	23	7	44	85	827
09:30 09:45	97	171	113	381	8	253	25	286	667	3	5	35	43	17	10	3	30	73	740
09:45 10:00	86	177	69	332	13	193	13	219	551	7	7	25	39	14	6	2	22	61	612
11:30 11:45	32	169	27	228	11	189	19	219	447	15	8	58	81	45	9	21	75	156	603
11:45 12:00	59	208	29	296	14	173	18	205	501	33	15	85	133	54	15	20	89	222	723
12:00 12:15	48	228	29	305	14	173	27	214	519	38	11	61	110	50	12	29	91	201	720
12:15 12:30	52	219	33	304	10	193	38	241	545	23	12	53	88	50	15	17	82	170	715
12:30 12:45	59	196	58	313	25	207	30	262	575	18	7	51	76	41	10	13	64	140	715
12:45 13:00	72	192	49	313	24	206	49	279	592	19	15	34	68	30	11	10	51	119	711
13:00 13:15	61	196	43	300	22	192	37	251	551	16	12	49	77	27	12	15	54	131	682
13:15 13:30	41	192	32	265	22	166	33	221	486	17	6	28	51	24	3	11	38	89	575
15:00 15:15	20	207	18	245	9	167	16	192	437	12	7	102	121	51	7	13	71	192	629
15:15 15:30	19	291	29	339	6	178	8	192	531	15	11	49	75	52	2	12	66	141	672
15:30 15:45	33	295	40	368	2	197	10	209	577	13	3	49	65	98	5	15	118	183	760
15:45 16:00	34	305	31	370	4	156	14	174	544	17	5	80	102	72	4	13	89	191	735
16:00 16:15	38	355	17	410	6	192	18	216	626	23	10	122	155	143	20	27	190	345	971
16:15 16:30	40	372	17	429	7	200	22	229	658	27	7	113	147	98	13	30	141	288	946
16:30 16:45	47	328	15	390	14	173	25	212	602	19	19	183	221	164	19	43	226	447	1049
16:45 17:00	25	384	22	431	5	214	14	233	664	19	10	155	184	136	13	34	183	367	1031
17:00 17:15	25	418	16	459	7	219	6	232	691	31	7	185	223	192	19	53	264	487	1178
17:15 17:30	24	403	13	440	11	257	23	291	731	18	5	122	145	121	17	48	186	331	1062
17:30 17:45	25	337	4	366	9	241	10	260	626	16	8	95	119	124	14	29	167	286	912
17:45 18:00	32	354	13	399	8	199	11	218	617	7	3	85	95	83	9	24	116	211	828
Total:	2123	7537	2065	1172	477	7144	739	8360	20085	453	355	2067	2875	1823	408	539	2770	20085	25,730

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Wednesday, August 10, 2016

WO No: 36153

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

Time Period	MARCH RD			SOLANDT RD			Grand Total
	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00 07:15	1	0	1	2	0	2	3
07:15 07:30	2	0	2	1	0	1	3
07:30 07:45	0	0	0	0	0	0	0
07:45 08:00	4	0	4	0	0	0	4
08:00 08:15	3	0	3	0	1	1	4
08:15 08:30	2	1	3	0	0	0	3
08:30 08:45	3	0	3	0	1	1	4
08:45 09:00	5	0	5	1	0	1	6
09:00 09:15	2	0	2	0	0	0	2
09:15 09:30	4	0	4	0	0	0	4
09:30 09:45	2	0	2	0	0	0	2
09:45 10:00	1	4	5	0	0	0	5
11:30 11:45	1	0	1	0	0	0	1
11:45 12:00	0	1	1	2	1	3	4
12:00 12:15	0	0	0	0	0	0	0
12:15 12:30	0	0	0	0	1	1	1
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	1	0	1	0	0	0	1
15:00 15:15	1	1	2	0	1	1	3
15:15 15:30	2	1	3	2	0	2	5
15:30 15:45	0	0	0	0	0	0	0
15:45 16:00	1	1	2	1	2	3	5
16:00 16:15	0	1	1	1	2	3	4
16:15 16:30	0	1	1	0	1	1	2
16:30 16:45	0	3	3	0	1	1	4
16:45 17:00	1	0	1	2	1	3	4
17:00 17:15	1	1	2	1	0	1	3
17:15 17:30	0	1	1	1	0	1	2
17:30 17:45	0	1	1	1	1	2	3
17:45 18:00	0	0	0	0	1	1	1
Total	37	17	54	15	14	29	83



Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Wednesday, August 10, 2016

WO No: 36153

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	0	0	0	0
07:15 07:30	0	0	0	0	1	1	1
07:30 07:45	0	0	0	0	0	0	0
07:45 08:00	1	2	3	0	0	0	3
08:00 08:15	0	3	3	0	0	0	3
08:15 08:30	0	0	0	1	0	1	1
08:30 08:45	7	2	9	2	0	2	11
08:45 09:00	1	0	1	2	0	2	3
09:00 09:15	0	5	5	1	0	1	6
09:15 09:30	0	3	3	2	0	2	5
09:30 09:45	0	1	1	0	0	0	1
09:45 10:00	0	1	1	0	0	0	1
11:30 11:45	1	0	1	3	0	3	4
11:45 12:00	0	0	0	1	0	1	1
12:00 12:15	2	0	2	5	1	6	8
12:15 12:30	3	0	3	1	0	1	4
12:30 12:45	2	1	3	2	2	4	7
12:45 13:00	0	2	2	1	4	5	7
13:00 13:15	6	2	8	3	0	3	11
13:15 13:30	1	5	6	1	2	3	9
15:00 15:15	5	2	7	1	0	1	8
15:15 15:30	0	0	0	1	0	1	1
15:30 15:45	2	0	2	2	0	2	4
15:45 16:00	2	2	4	2	1	3	7
16:00 16:15	1	0	1	0	0	0	1
16:15 16:30	0	0	0	0	0	0	0
16:30 16:45	1	2	3	1	0	1	4
16:45 17:00	7	1	8	4	1	5	13
17:00 17:15	0	2	2	3	0	3	5
17:15 17:30	0	0	0	3	0	3	3
17:30 17:45	2	0	2	1	0	1	3
17:45 18:00	0	2	2	0	0	0	2
Total	44	38	82	43	12	55	137



Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Wednesday, August 10, 2016

WO No: 36153

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

MARCH RD

SOLANDT RD

Northbound

Southbound

Eastbound

Westbound

Time Period	Northbound			N TOT	Southbound			S TOT	STR TOT	Eastbound			E TOT	Westbound			W TOT	STR TOT	Grand Total
	LT	ST	RT		LT	ST	RT			LT	ST	RT		LT	ST	RT			
07:00 07:15	1	7	0	8	0	5	1	6	14	1	0	5	6	0	0	0	0	6	20
07:15 07:30	0	9	0	9	0	4	1	5	14	1	0	2	3	0	0	0	0	3	17
07:30 07:45	2	4	0	6	0	7	0	7	13	0	0	1	1	0	2	0	2	3	16
07:45 08:00	1	4	0	5	0	5	1	6	11	0	1	0	1	0	0	0	0	1	12
08:00 08:15	2	10	0	12	0	5	0	5	17	0	0	2	2	0	1	0	1	3	20
08:15 08:30	2	12	0	14	0	7	0	7	21	2	0	0	2	0	1	0	1	3	24
08:30 08:45	1	4	1	6	0	4	0	4	10	0	1	1	2	0	3	0	3	5	15
08:45 09:00	1	7	1	9	2	8	1	11	20	0	0	4	4	1	0	1	2	6	26
09:00 09:15	0	9	3	12	0	8	1	9	21	0	1	1	2	0	0	0	0	2	23
09:15 09:30	4	4	2	10	0	3	1	4	14	0	0	2	2	1	1	1	3	5	19
09:30 09:45	2	10	0	12	0	5	0	5	17	0	0	6	6	0	1	1	2	8	25
09:45 10:00	1	4	2	7	0	5	0	5	12	0	0	2	2	1	0	0	1	3	15
11:30 11:45	2	0	0	2	0	8	0	8	10	0	0	1	1	0	0	0	0	1	11
11:45 12:00	0	3	0	3	0	5	1	6	9	2	0	3	5	0	0	0	0	5	14
12:00 12:15	2	5	1	8	0	3	1	4	12	0	0	0	0	0	0	0	0	0	12
12:15 12:30	1	7	2	10	0	5	4	9	19	0	0	1	1	1	2	1	4	5	24
12:30 12:45	1	1	0	2	0	5	1	6	8	1	0	2	3	0	1	0	1	4	12
12:45 13:00	4	2	0	6	0	8	1	9	15	0	1	1	2	0	1	0	1	3	18
13:00 13:15	2	10	1	13	1	4	0	5	18	0	1	3	4	1	2	0	3	7	25
13:15 13:30	0	4	1	5	1	4	1	6	11	1	1	3	5	2	0	0	2	7	18
15:00 15:15	0	3	0	3	0	1	1	2	5	0	2	2	4	1	1	0	2	6	11
15:15 15:30	1	6	1	8	0	4	0	4	12	1	2	1	4	0	0	0	0	4	16
15:30 15:45	1	1	0	2	0	6	2	8	10	0	0	0	0	1	0	1	2	2	12
15:45 16:00	2	5	0	7	0	7	0	7	14	0	0	3	3	0	0	0	0	3	17
16:00 16:15	2	5	0	7	0	4	0	4	11	0	0	0	0	1	0	0	1	1	12
16:15 16:30	1	5	0	6	0	7	0	7	13	0	0	1	1	0	0	1	1	2	15
16:30 16:45	1	6	1	8	0	3	1	4	12	0	1	1	2	0	0	0	0	2	14
16:45 17:00	1	2	0	3	0	3	2	5	8	1	0	3	4	1	0	0	1	5	13
17:00 17:15	1	4	0	5	0	2	0	2	7	1	0	1	2	0	0	0	0	2	9
17:15 17:30	1	1	1	3	0	5	0	5	8	0	1	1	2	0	0	0	0	2	10
17:30 17:45	0	2	0	2	0	3	0	3	5	0	0	0	0	0	0	0	0	0	5
17:45 18:00	2	0	0	2	0	3	1	4	6	0	0	0	0	0	0	0	0	0	6
Total: None	42	156	17	215	4	156	22	182	397	11	12	53	76	11	16	6	33	109	506



Transportation Services - Traffic Services

Turning Movement Count - Study Results

MARCH RD @ SOLANDT RD

Survey Date: Wednesday, August 10, 2016

WO No: 36153

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

MARCH RD

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	3	0	0	3
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	1	1	0	0	2
08:00	08:15	0	0	0	0	0
08:15	08:30	1	3	0	0	4
08:30	08:45	0	1	0	0	1
08:45	09:00	0	7	0	0	7
09:00	09:15	1	0	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	0	0	0	0	0
11:30	11:45	2	4	0	0	6
11:45	12:00	3	6	0	0	9
12:00	12:15	6	1	0	0	7
12:15	12:30	2	3	0	0	5
12:30	12:45	0	5	0	0	5
12:45	13:00	0	5	0	0	5
13:00	13:15	0	5	0	0	5
13:15	13:30	2	3	0	0	5
15:00	15:15	1	2	0	0	3
15:15	15:30	0	4	0	0	4
15:30	15:45	0	1	0	0	1
15:45	16:00	1	1	0	0	2
16:00	16:15	0	1	0	0	1
16:15	16:30	3	1	0	0	4
16:30	16:45	1	7	0	0	8
16:45	17:00	1	2	0	0	3
17:00	17:15	0	4	0	0	4
17:15	17:30	5	1	0	0	6
17:30	17:45	1	4	0	0	5
17:45	18:00	2	5	0	0	7
Total		34	81	0	0	115

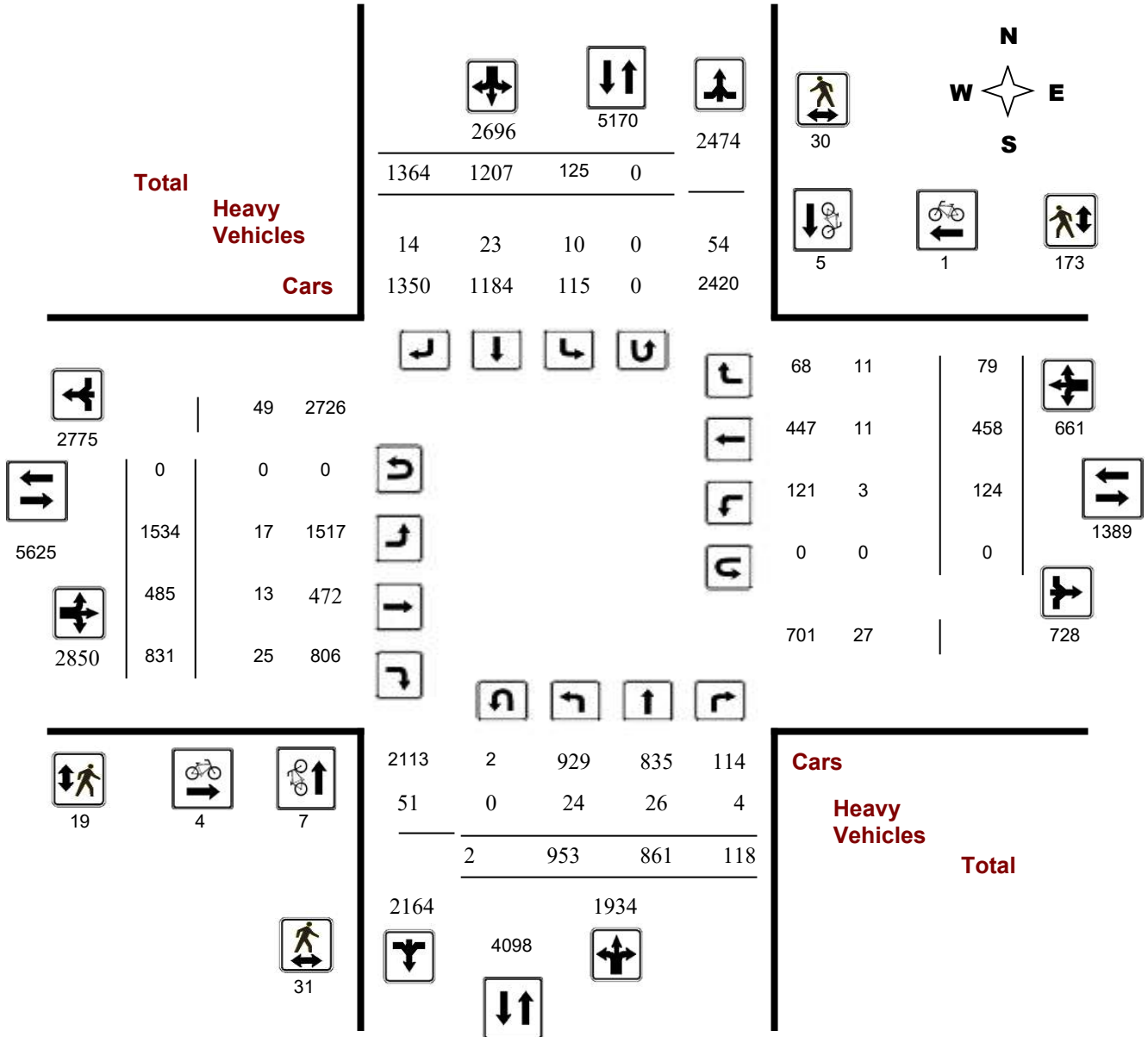
Survey Date: Tuesday, April 11, 2017

WO No: 36905

Start Time: 07:00

Device: Miovision

Full Study Diagram



Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

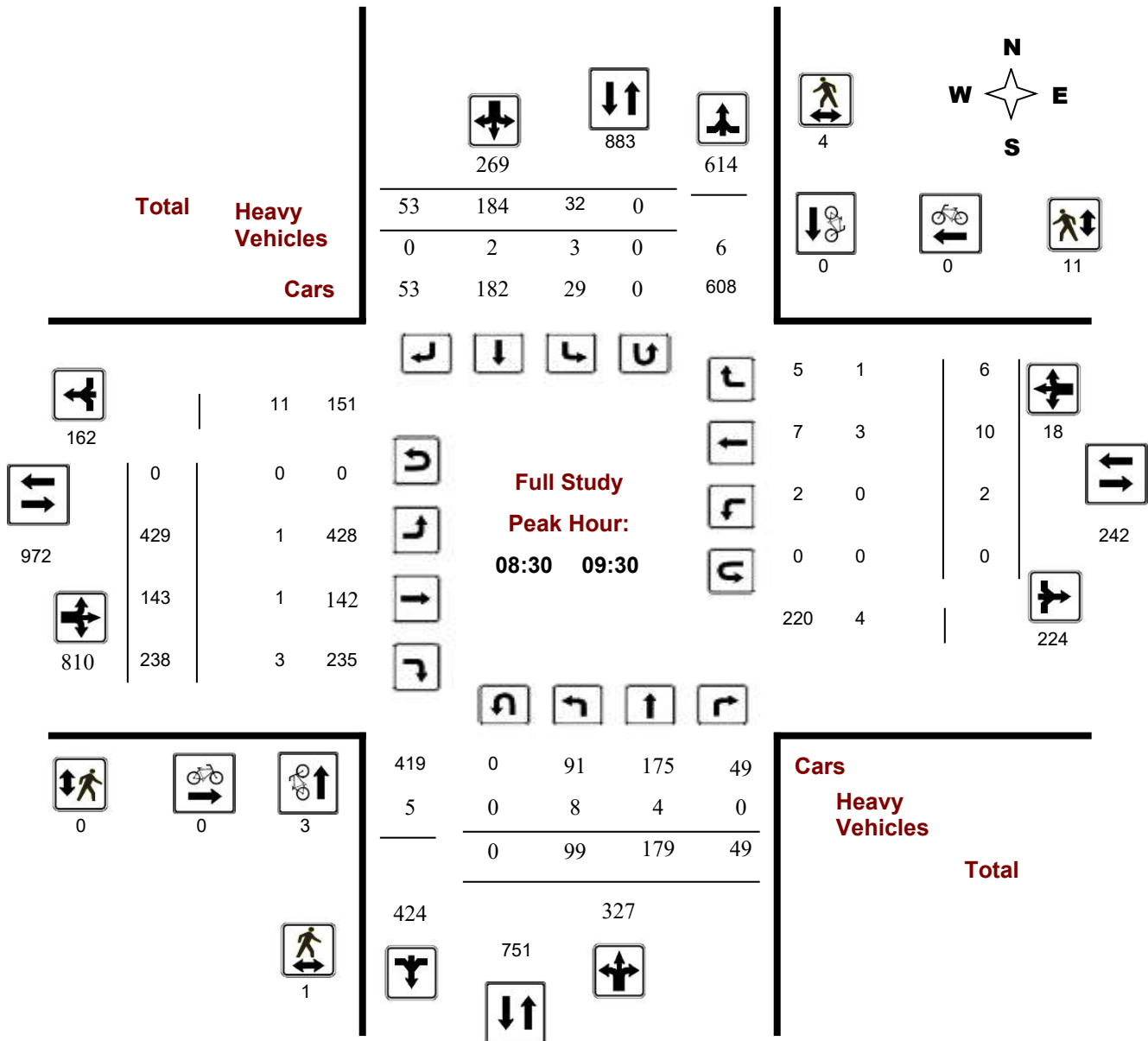
Survey Date: Tuesday, April 11, 2017

WO No: 36905

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

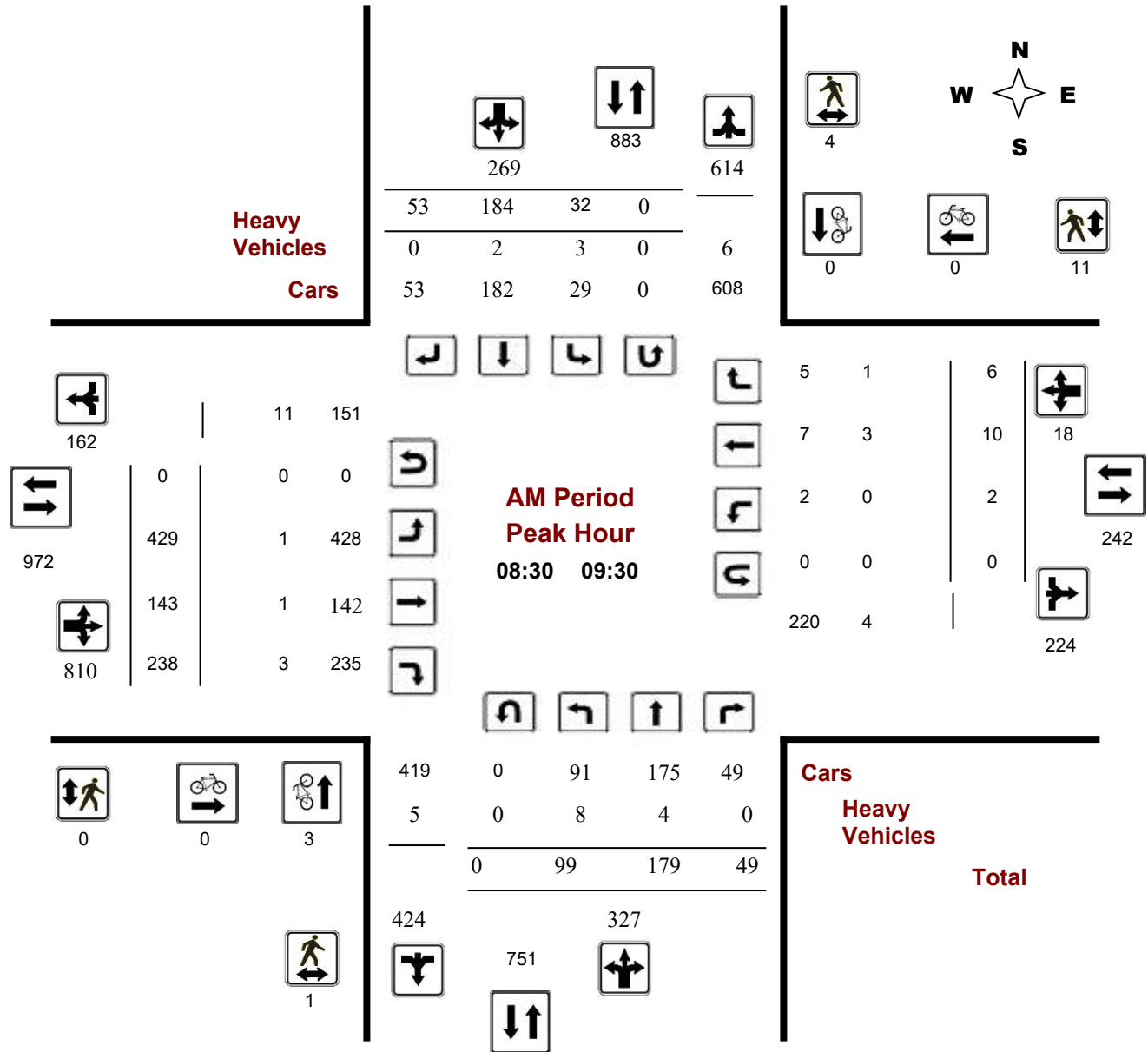
LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, April 11, 2017

Start Time: 07:00

WO No: 36905

Device: Miovision



Comments

Turning Movement Count - Peak Hour Diagram

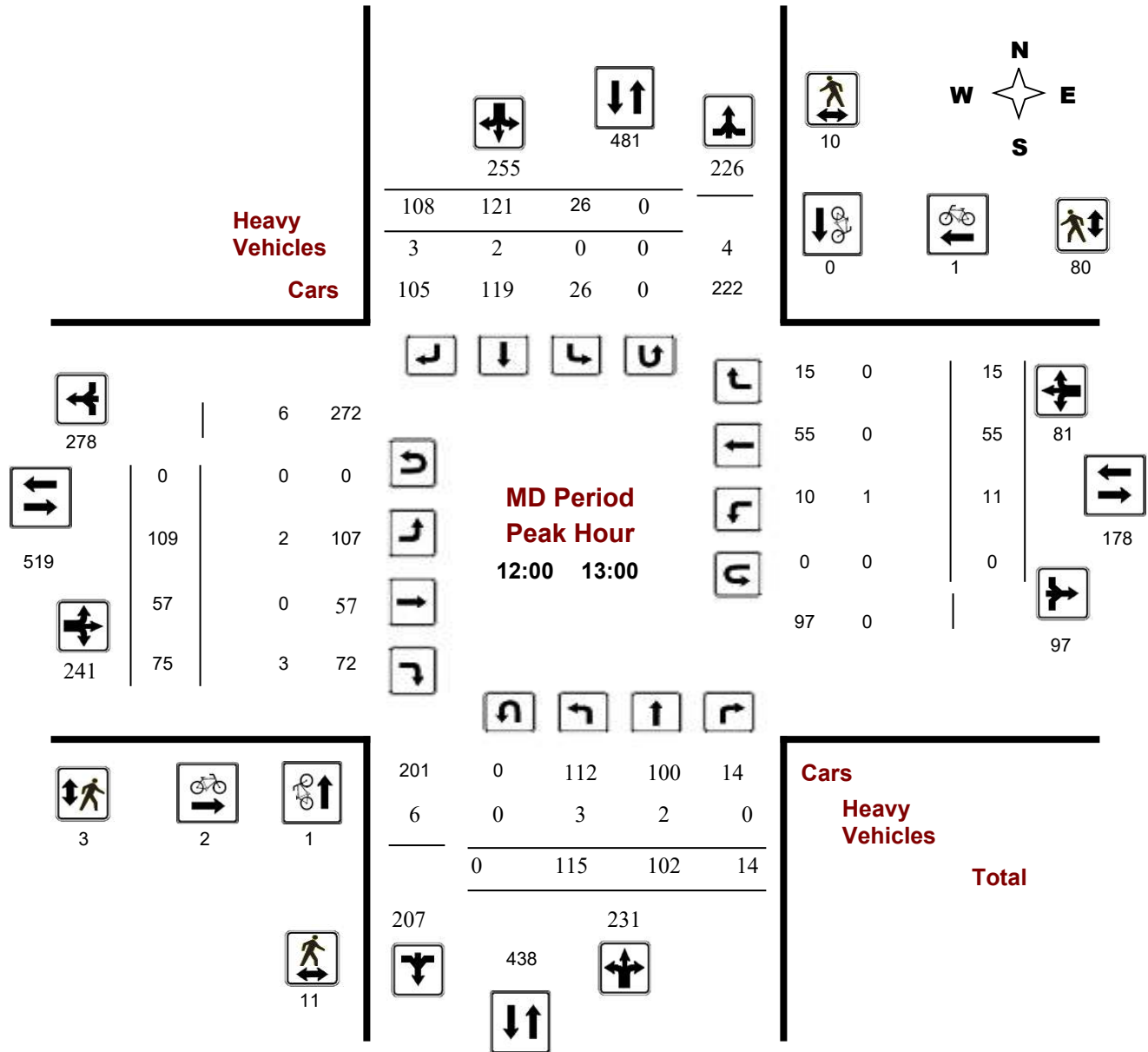
LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, April 11, 2017

Start Time: 07:00

WO No: 36905

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

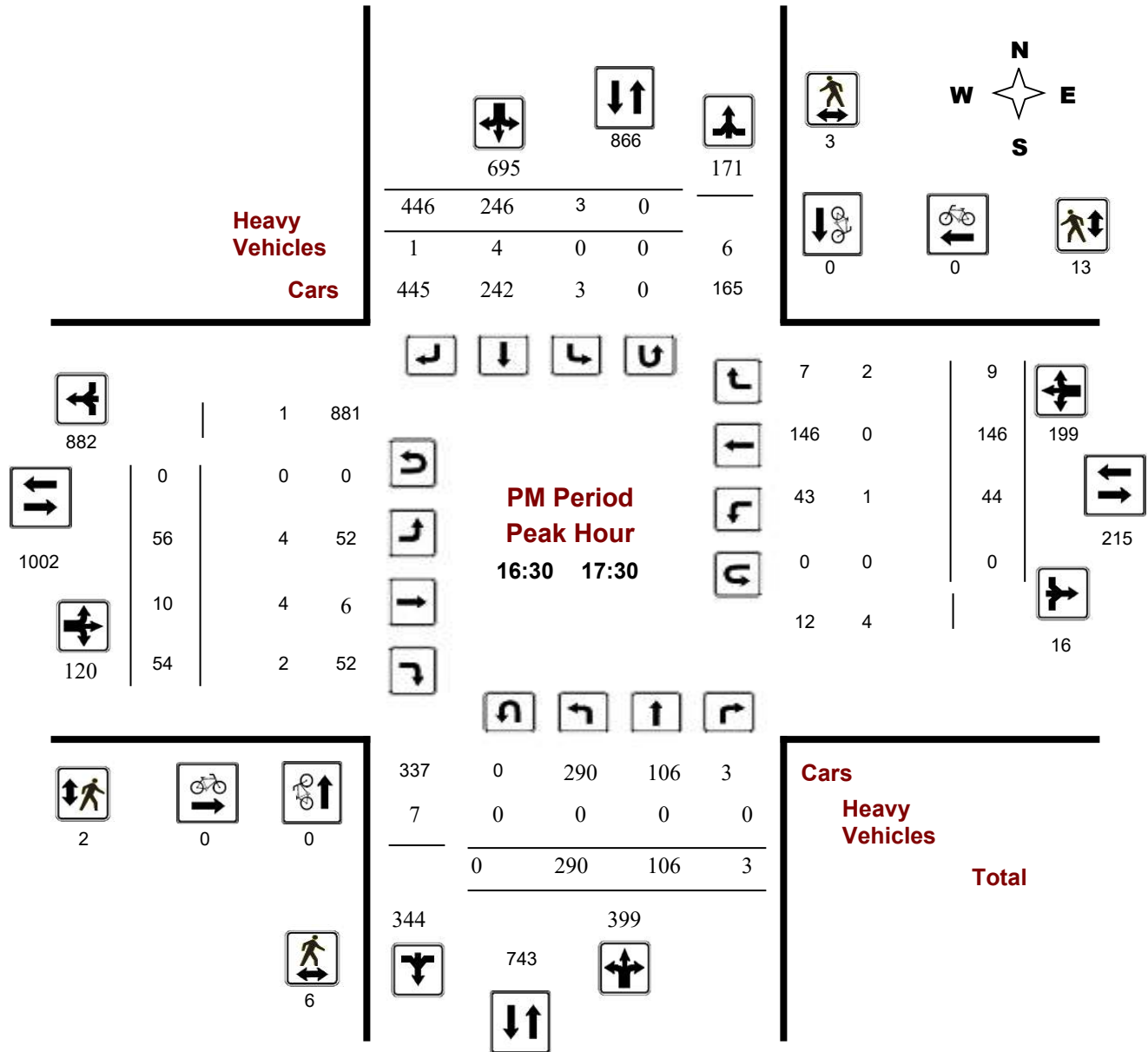
LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, April 11, 2017

Start Time: 07:00

WO No: 36905

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, April 11, 2017

WO No: 36905

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, April 11, 2017

Total Observed U-Turns
 Northbound: 2 Southbound: 0
 Eastbound: 0 Westbound: 0

AADT Factor
 .90

Period	Northbound				Southbound				STR TOT	Eastbound				Westbound				STR TOT	Grand Total
	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT		LT	ST	RT	EB TOT	LT	ST	RT	WB TOT		
07:00 08:00	25	100	12	137	11	98	36	145	282	309	86	137	532	3	6	3	12	544	826
08:00 09:00	84	161	36	281	37	207	59	303	584	427	147	213	787	5	8	3	16	803	1387
09:00 10:00	69	147	37	253	29	132	49	210	463	372	113	173	658	1	17	6	24	682	1145
11:30 12:30	129	116	13	258	14	89	131	234	492	91	37	47	175	13	68	25	106	281	773
12:30 13:30	68	68	12	148	23	117	94	234	382	131	67	110	308	7	35	8	50	358	740
15:00 16:00	96	67	4	167	5	110	201	316	483	90	12	52	154	23	54	12	89	243	726
16:00 17:00	212	96	3	311	5	238	419	662	973	74	12	43	129	35	124	17	176	305	1278
17:00 18:00	270	106	1	377	1	216	375	592	969	40	11	56	107	37	146	5	188	295	1264
Sub Total	953	861	118	1932	125	1207	1364	2696	4628	1534	485	831	2850	124	458	79	661	3511	8139
U Turns	2			2	0			0	2	0			0	0			0	0	2
Total	955	861	118	1934	125	1207	1364	2696	4630	1534	485	831	2850	124	458	79	661	3511	8141
EQ 12Hr	1327	1197	164	2688	174	1678	1896	3748	6436	2132	674	1155	3961	172	637	110	919	4880	11316
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																1.39			
AVG 12Hr	1194	1077	148	2419	157	1510	1706	3373	5792	1919	607	1040	3566	155	573	99	827	4393	10185
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																.90			
AVG 24Hr	1564	1411	194	3169	206	1978	2235	4419	7588	2514	795	1362	4671	203	751	130	1084	5755	13343
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, April 11, 2017

WO No: 36905

Start Time: 07:00

Device: Miovision

Full Study 15 Minute Increments

Time Period	Northbound				Southbound				Eastbound				Westbound				Grand Total		
	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT		W TOT	STR TOT
07:00 07:15	9	19	3	31	2	16	7	25	56	40	11	27	78	1	3	0	4	82	138
07:15 07:30	5	17	6	28	4	23	4	31	59	72	16	22	110	1	2	1	4	114	173
07:30 07:45	7	32	2	41	3	29	8	40	81	77	29	31	137	1	1	1	3	140	221
07:45 08:00	5	32	1	38	2	30	17	49	87	120	30	57	207	0	0	1	1	208	295
08:00 08:15	13	32	13	58	3	45	12	60	118	116	39	43	198	2	3	0	5	203	321
08:15 08:30	17	35	5	57	16	61	15	92	149	104	42	50	196	1	0	1	2	198	347
08:30 08:45	27	47	10	84	10	59	14	83	167	105	35	62	202	1	1	1	3	205	372
08:45 09:00	27	47	8	82	8	42	18	68	150	102	31	58	191	1	4	1	6	197	347
09:00 09:15	23	35	18	76	6	38	11	55	131	108	49	59	216	0	1	0	1	217	348
09:15 09:30	22	50	13	85	8	45	10	63	148	114	28	59	201	0	4	4	8	209	357
09:30 09:45	13	34	4	51	10	27	16	53	104	81	20	35	136	0	8	1	9	145	249
09:45 10:00	11	28	2	41	5	22	12	39	80	69	16	20	105	1	4	1	6	111	191
11:30 11:45	34	19	5	58	0	18	34	52	110	24	5	11	40	4	17	6	27	67	177
11:45 12:00	28	30	1	59	2	17	37	56	115	23	7	16	46	2	18	7	27	73	188
12:00 12:15	39	39	1	79	7	23	38	68	147	22	8	10	40	3	25	4	32	72	219
12:15 12:30	29	28	6	63	5	31	22	58	121	22	17	10	49	4	8	8	20	69	190
12:30 12:45	27	16	1	44	6	30	28	64	108	32	17	25	74	3	17	1	21	95	203
12:45 13:00	20	19	6	45	8	37	20	65	110	33	15	30	78	1	5	2	8	86	196
13:00 13:15	14	15	2	31	4	26	25	55	86	38	24	32	94	2	4	4	10	104	190
13:15 13:30	7	18	3	28	5	24	21	50	78	28	11	23	62	1	9	1	11	73	151
15:00 15:15	23	15	3	41	1	13	32	46	87	13	4	14	31	5	7	3	15	46	133
15:15 15:30	15	17	0	32	3	24	45	72	104	16	1	13	30	2	13	3	18	48	152
15:30 15:45	26	17	0	43	1	31	70	102	145	35	5	10	50	11	24	2	37	87	232
15:45 16:00	32	18	1	51	0	42	54	96	147	26	2	15	43	5	10	4	19	62	209
16:00 16:15	40	26	1	67	1	68	115	184	251	22	5	11	38	7	33	8	48	86	337
16:15 16:30	52	22	0	74	2	49	83	134	208	16	3	11	30	5	28	1	34	64	272
16:30 16:45	52	25	2	79	2	56	104	162	241	21	1	7	29	13	34	4	51	80	321
16:45 17:00	68	23	0	91	0	65	117	182	273	15	3	14	32	10	29	4	43	75	348
17:00 17:15	94	31	1	126	0	66	121	187	313	12	3	13	28	9	46	0	55	83	396
17:15 17:30	76	27	0	103	1	59	104	164	267	8	3	20	31	12	37	1	50	81	348
17:30 17:45	56	26	0	82	0	54	83	137	219	10	3	12	25	10	38	2	50	75	294
17:45 18:00	44	22	0	66	0	37	67	104	170	10	2	11	23	6	25	2	33	56	226
Total:	955	861	118	1934	125	1207	1364	2696	4630	1534	485	831	2850	124	458	79	661	4630	8,141

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, April 11, 2017

WO No: 36905

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00 07:15	1	0	1	0	0	0	1
07:15 07:30	0	0	0	0	0	0	0
07:30 07:45	0	1	1	0	0	0	1
07:45 08:00	1	0	1	0	0	0	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	3	0	3	0	0	0	3
09:15 09:30	0	0	0	0	0	0	0
09:30 09:45	1	0	1	1	0	1	2
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	1	0	1	0	1	1	2
12:15 12:30	0	0	0	0	0	0	0
12:30 12:45	0	0	0	1	0	1	1
12:45 13:00	0	0	0	1	0	1	1
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	3	3	0	0	0	3
17:45 18:00	0	1	1	0	0	0	1
Total	7	5	12	4	1	5	17



Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, April 11, 2017

WO No: 36905

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

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	0	0	0	0	1	1	1
07:30 07:45	0	1	1	1	2	3	4
07:45 08:00	0	0	0	0	0	0	0
08:00 08:15	3	3	6	0	7	7	13
08:15 08:30	2	2	4	2	2	4	8
08:30 08:45	0	1	1	0	1	1	2
08:45 09:00	0	2	2	0	1	1	3
09:00 09:15	1	1	2	0	2	2	4
09:15 09:30	0	0	0	0	7	7	7
09:30 09:45	0	0	0	0	0	0	0
09:45 10:00	0	0	0	0	2	2	2
11:30 11:45	1	2	3	0	5	5	8
11:45 12:00	1	1	2	2	10	12	14
12:00 12:15	0	1	1	1	14	15	16
12:15 12:30	4	0	4	1	23	24	28
12:30 12:45	3	5	8	0	23	23	31
12:45 13:00	4	4	8	1	20	21	29
13:00 13:15	0	2	2	1	11	12	14
13:15 13:30	1	0	1	0	5	5	6
15:00 15:15	2	2	4	0	5	5	9
15:15 15:30	0	0	0	0	4	4	4
15:30 15:45	0	0	0	5	0	5	5
15:45 16:00	0	0	0	0	3	3	3
16:00 16:15	1	0	1	0	1	1	2
16:15 16:30	0	0	0	0	3	3	3
16:30 16:45	1	0	1	0	2	2	3
16:45 17:00	1	1	2	0	3	3	5
17:00 17:15	2	0	2	0	3	3	5
17:15 17:30	2	2	4	2	5	7	11
17:30 17:45	2	0	2	2	7	9	11
17:45 18:00	0	0	0	1	1	2	2
Total	31	30	61	19	173	192	253



Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, April 11, 2017

WO No: 36905

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

Time Period	Northbound				Southbound				Eastbound				Westbound				Grand Total		
	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT		W TOT	STR TOT
07:00 07:15	1	2	1	4	0	1	2	3	7	0	0	1	1	0	0	0	0	1	8
07:15 07:30	1	2	0	3	0	0	1	1	4	0	1	1	2	1	0	0	1	3	7
07:30 07:45	0	3	0	3	1	0	0	1	4	0	0	0	0	0	1	1	2	2	6
07:45 08:00	1	1	0	2	0	0	1	1	3	0	0	1	1	0	0	0	0	1	4
08:00 08:15	0	1	0	1	1	0	0	1	2	1	0	0	1	0	1	0	1	2	4
08:15 08:30	0	0	0	0	1	0	0	1	1	1	0	1	2	0	0	0	0	2	3
08:30 08:45	2	3	0	5	0	0	0	0	5	1	0	0	1	0	1	0	1	2	7
08:45 09:00	3	0	0	3	1	0	0	1	4	0	1	1	2	0	1	0	1	3	7
09:00 09:15	1	1	0	2	0	1	0	1	3	0	0	2	2	0	0	0	0	2	5
09:15 09:30	2	0	0	2	2	1	0	3	5	0	0	0	0	0	1	1	2	2	7
09:30 09:45	0	2	0	2	0	1	1	2	4	0	0	1	1	0	1	0	1	2	6
09:45 10:00	1	2	0	3	1	1	1	3	6	1	0	1	2	0	1	0	1	3	9
11:30 11:45	2	1	2	5	0	2	1	3	8	0	1	1	2	0	2	0	2	4	12
11:45 12:00	1	1	0	2	0	2	0	2	4	0	0	1	1	0	0	0	0	1	5
12:00 12:15	1	0	0	1	0	0	2	2	3	1	0	1	2	1	0	0	1	3	6
12:15 12:30	0	1	0	1	0	1	0	1	2	1	0	0	1	0	0	0	0	1	3
12:30 12:45	1	0	0	1	0	0	1	1	2	0	0	2	2	0	0	0	0	2	4
12:45 13:00	1	1	0	2	0	1	0	1	3	0	0	0	0	0	0	0	0	0	3
13:00 13:15	1	0	0	1	0	0	0	0	1	1	0	1	2	0	0	1	1	3	4
13:15 13:30	0	1	1	2	0	1	0	1	3	0	0	1	1	0	0	0	0	1	4
15:00 15:15	1	0	0	1	0	0	0	0	1	1	1	1	3	0	0	1	1	4	5
15:15 15:30	1	2	0	3	1	2	0	3	6	0	0	0	0	0	1	1	2	2	8
15:30 15:45	2	1	0	3	1	1	1	3	6	1	1	3	5	0	0	0	0	5	11
15:45 16:00	0	0	0	0	0	1	0	1	1	2	0	1	3	0	0	1	1	4	5
16:00 16:15	1	0	0	1	1	1	0	2	3	2	1	0	3	0	1	2	3	6	9
16:15 16:30	0	0	0	0	0	1	2	3	3	0	1	1	2	0	0	0	0	2	5
16:30 16:45	0	0	0	0	0	1	0	1	1	2	0	0	2	0	0	0	0	2	3
16:45 17:00	0	0	0	0	0	1	1	2	2	1	2	1	4	0	0	1	1	5	7
17:00 17:15	0	0	0	0	0	1	0	1	1	1	1	1	3	0	0	0	0	3	4
17:15 17:30	0	0	0	0	0	1	0	1	1	0	1	0	1	1	0	1	2	3	4
17:30 17:45	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2	2
17:45 18:00	0	1	0	1	0	1	0	1	2	0	1	0	1	0	0	1	1	2	4
Total: None	24	26	4	54	10	23	14	47	101	17	13	25	55	3	11	11	25	80	181



Transportation Services - Traffic Services

Turning Movement Count - Study Results

LEGGET DR @ SOLANDT RD

Survey Date: Tuesday, April 11, 2017

WO No: 36905

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	1	0	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	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	1	0	0	0	1
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		2	0	0	0	2

Traffic Signal Timing

City of Ottawa, Public Works & Environmental Services Department

Traffic Signal Operations Unit

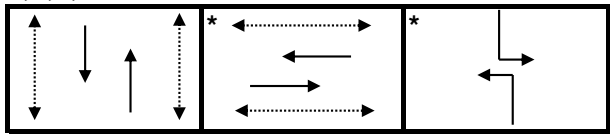
Intersection:	<i>Main:</i> March	<i>Side:</i>	Morgans Grant / Shirleys Brook
Controller:	ATC3	TSD:	5767
Author:	Matthew Anderson	Date:	03-Feb-2022

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	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
<i>NB Left (fp)</i>	21	20	20	15	21	-	-	4.6+1.8
<i>SB Left (fp)</i>	21	20	20	15	21	-	-	4.6+1.8

Phasing Sequence‡

Plan: 1, 2, 3, 13



Schedule

Weekday		Saturday		Sunday	
Time	Plan	Time	Plan	Time	Plan
0:10	4	0:10	4	0:10	4
6:30	1	8:00	2	8:00	2
9:30	2	22:30	4	22:30	4
15:00	3				
16:30	13				
18:00	3				
18:30	2				
23:00	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

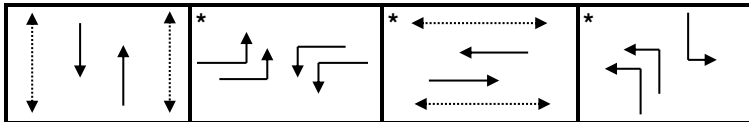
Intersection:	<i>Main:</i> March	<i>Side:</i> Terry Fox
Controller:	MS 3200	TSD: 5920
Author:	Matthew Anderson	Date: 03-Feb-2022

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	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

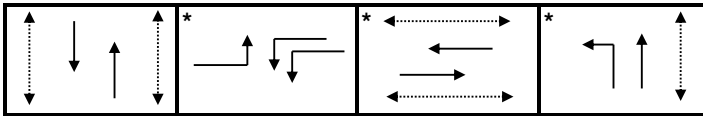
Intersection:	<i>Main:</i> March	<i>Side:</i> Solandt
Controller:	MS 3200	TSD: 5359
Author:	Matthew Anderson	Date: 03-Feb-2022

Existing Timing Plans†

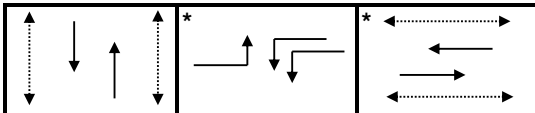
	Plan					Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	PM Heavy 13	Walk	DW	A+R
Cycle	130	110	120	85	130			
Offset	15	16	21	X	30			
NB Thru	85	60	59	38	64	7	12	4.6+1.7
SB Thru	46	47	47	38	52	7	12	4.6+1.7
EB Left (fp)	13	18	29	16	34	-	-	3.3+2.6
WB Left (fp)	13	18	29	16	34	-	-	3.3+2.6
EB Thru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

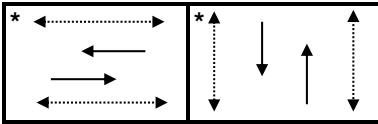
Intersection:	<i>Main:</i> Legget	<i>Side:</i> Solandt
Controller:	ATC3	TSD: 6537
Author:	Matthew Anderson	Date: 03-Feb-2022

Existing Timing Plans†

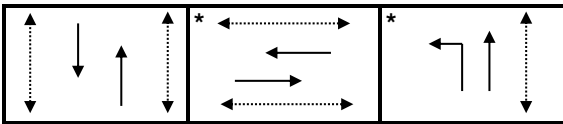
	Plan				Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Walk	DW	A+R
Cycle	Free	Free	Free	Free			
Offset	X	X	X	X			
NB Thru	max 46.2	max 46.2	max 71.2	max 25.2	7	12	3.3+2.9
SB Thru	max 46.2	max 46.2	max 46.2	max 25.2	7	12	3.3+2.9
EB Thru	max 66.2	max 46.2	max 41.2	max 25.2	7	12	3.3+2.9
WB Thru	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		Saturday		Sunday	
Time	Plan	Time	Plan	Time	Plan
0:10	4	0:10	4	0:10	4
6:00	1				
9:50	2				
15:00	3				
19:00	4				

Notes

- †: Time for each direction includes amber and all red intervals
‡: Start of first phase should be used as reference point for offset
Asterisk (*) Indicates actuated phase
(fp): Fully Protected Left Turn
◄.....► Pedestrian signal

Cost is \$61.16 (\$54.12 + HST)

APPENDIX B 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 Manoeuvre	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 Manoeuvre	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 Manoeuvre	Vehicle type	First Event	No. Ped
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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 Manoeuvre	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 Manoeuvre	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 Manoeuvre	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 Manoeuvre	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 Manoeuvre	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	



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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 Manoeuvre	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	



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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	



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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 Manoeuvre	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	



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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 Manoeuvre	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	



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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 Manoeuvre	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 Manoeuvre	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	



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

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3 Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks (<i>see Official Plan policy 4.3.10</i>)	<input checked="" type="checkbox"/>
REQUIRED	1.2.4 Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps (<i>see Official Plan policy 4.3.10</i>)	<input checked="" type="checkbox"/>
REQUIRED	1.2.5 Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians (<i>see Official Plan policy 4.3.11</i>)	<input checked="" type="checkbox"/>
BASIC	1.2.6 Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	<input checked="" type="checkbox"/>
BASIC	1.2.7 Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	<input type="checkbox"/>
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	<input checked="" type="checkbox"/>
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	<input checked="" type="checkbox"/>
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)	<input type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
2. WALKING & CYCLING: END-OF-TRIP FACILITIES		
2.1 Bicycle parking		
REQUIRED	2.1.1 Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible (see <i>Official Plan policy 4.3.6</i>)	<input checked="" type="checkbox"/>
REQUIRED	2.1.2 Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas (see <i>Zoning By-law Section 111</i>)	<input checked="" type="checkbox"/>
REQUIRED	2.1.3 Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored (see <i>Zoning By-law Section 111</i>)	<input checked="" type="checkbox"/>
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	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>
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 <i>Zoning By-law Section 111</i>)	<input checked="" type="checkbox"/>
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)	<input checked="" type="checkbox"/>
2.3 Shower & change facilities		
BASIC	2.3.1 Provide shower and change facilities for the use of active commuters	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>
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)	<input type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		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	<input type="checkbox"/>
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	<input type="checkbox"/>
BETTER	3.1.3 Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	<input type="checkbox"/>
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	<input checked="" type="checkbox"/>
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	<input type="checkbox"/>
BETTER	4.2.2 At large developments, provide spaces for carpools in a separate, access-controlled parking area to simplify enforcement	<input type="checkbox"/>
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 (<i>see Zoning By-law Section 94</i>)	<input type="checkbox"/>
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	<input type="checkbox"/>

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		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	<input type="checkbox"/>
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	<input type="checkbox"/>
BASIC	6.1.3 Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly (<i>see Zoning By-law Section 104</i>)	<input type="checkbox"/>
BETTER	6.1.4 Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking (<i>see Zoning By-law Section 111</i>)	<input type="checkbox"/>
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)	<input type="checkbox"/>
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	<input checked="" type="checkbox"/>

APPENDIX D 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	Shared Operating Space	Shared Operating Space	Input PLOS First	Input PLOS First	Shared Operating Space	Shared Operating Space	Input PLOS First	Input PLOS First
	Is the minimum level of separation provided according to OTM Book 13 Pre-Selection Nomograph - Rural Context (Figure 5.6)? (for paved shoulders)	-	-			-	-		
	Facility Operation	-	-			-	-		
	Pedestrian/Cyclist Volume	-	-			-	-		
	Facility Width	-	-			-	-		
	Boulevard/Buffer Width (excluding curb)	-	-			-	-		
	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	E	E	-	-	D	D	-	-	
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	4			≤ 2	≤ 2		
Design Speed (km/h)	90 km/h	90 km/h			60 km/h	60 km/h			
PRLOS	E	E			E	C			
	E				D				

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	> 300 veh/h	> 300 veh/h	≤ 150 veh/h	≤ 150 veh/h	> 150 to 300 veh/h	> 300 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	> 300 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 veh/h	> 100 veh/h	≤ 50 veh/h	≤ 50 veh/h	≤ 50 veh/h	> 100 veh/h	
Left-Turn Opposing Lanes	-	-	-	-	-	-	-	-	-	-	-	-	
Score	0.40	0.40	0.55	0.55	1.30	1.15	2.30	2.10	3.75	3.75	3.75	2.95	
PLOS	F	F	E	E	E	E	D	D	B	B	B	C	
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
	Crossroad Operation	-	-	-	-	-	-	-	-	-	-	-	-
	Target Crossroad 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	20	0	-40	60	60	60	-30
	BLOS	F	F	F	F	F	E	F	F	D	D	D	F
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	21-35 sec	36-55 sec	> 80 sec	21-35 sec	21-35 sec	56-80 sec	≤ 10 sec	36-55 sec	11-20 sec
	Example Transit Priority Treatment			-	-	-	-	-	-	-	-	-	-
	TLOS	-	-	D	C	D	F	C	C	E	A	D	B
Target TLOS	C				C				E				
Auto	AutoLOS Inputs												
	Overall Intersection Volume to Capacity Ratio	0.61 to 0.70				> 1.00				0.71 to 0.80			
	AutoLOS	B				F				C			
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	> 300 veh/h	> 300 veh/h	≤ 150 veh/h	≤ 150 veh/h	> 150 to 300 veh/h	> 300 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	> 300 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 veh/h	> 100 veh/h	> 50 to 100 veh/h	> 50 to 100 veh/h	≤ 50 veh/h	> 100 veh/h		
Left-Turn Opposing Lanes	-	-	-	-	-	-	-	-	≤ 1	≤ 1	-	-		
Score	0.40	0.40	0.55	0.55	1.30	1.15	2.30	2.10	3.75	3.75	3.75	2.95		
PLOS	F	F	E	E	E	E	D	D	B	B	B	C		
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	
	Crossroad Operation	-	-	-	-	-	-	-	-	-	-	-	-	
	Target Crossroad 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	20	0	-40	60	60	60	-30	
	BLOS	F	F	F	F	F	E	F	F	D	D	D	F	
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	21-35 sec	> 80 sec	> 80 sec	21-35 sec	36-55 sec	56-80 sec	≤ 10 sec			11-20 sec
	Example Transit Priority Treatment			-	-	-	-	-	-	-	-			-
	TLOS	-	-	D	C	F	F	C	D	E	A	-	B	
Target TLOS	C				C				E					
Auto	AutoLOS Inputs													
	Overall Intersection Volume to Capacity Ratio	0.71 to 0.80				> 1.00				0.71 to 0.80				
	AutoLOS	C				F				C				
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	> 300 veh/h	> 300 veh/h	≤ 150 veh/h	≤ 150 veh/h	> 150 to 300 veh/h	> 300 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	≤ 150 veh/h	> 300 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 veh/h	> 100 veh/h	> 50 to 100 veh/h	> 50 to 100 veh/h	≤ 50 veh/h	> 100 veh/h	
Left-Turn Opposing Lanes	-	-	-	-	-	-	-	-	≤ 1	≤ 1	-	-	
Score	0.40	0.40	0.55	0.55	1.30	1.15	2.30	2.10	3.75	3.75	3.75	2.95	
PLOS	F	F	E	E	E	E	D	D	B	B	B	C	
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
	Crossroad Operation	-	-	-	-	-	-	-	-	-	-	-	-
	Target Crossroad 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	20	0	-40	60	60	60	-30
	BLOS	F	F	F	F	F	E	F	F	D	D	D	F
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	21-35 sec	> 80 sec	> 80 sec	21-35 sec	36-55 sec	> 80 sec	≤ 10 sec		
	Example Transit Priority Treatment			-	-	-	-	-	-	-	-		
	TLOS	-	-	D	C	F	F	C	D	F	A	-	B
Target TLOS	C				E				C				
Target TLOS	C				C				E				
Auto	AutoLOS Inputs												
	Overall Intersection Volume to Capacity Ratio	0.81 to 0.90				> 1.00				0.91 to 1.00			
	AutoLOS	D				F				E			
Target AutoLOS	E				E				E				

Multi-Modal Level of Service - Intersections Form

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)	106-120			
	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)	Permissive (with LPI/LBI)	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 veh/h	> 100 veh/h	
Left-Turn Opposing Lanes	≥ 2	-	-	-	
Score	2.80	3.30	3.80	3.80	
PLOS	C	C	B	B	
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	145	115
	BLOS	B	A	A	B
Target BLOS	A				
Transit	TLOS Inputs				
	Transit Facility	TP - Isolated Measures			
	Vehicles Travelling	Southbound	Northbound	Westbound	Eastbound
	Average Transit Delay	11-20 sec	36-55 sec		
	Example Transit Priority Treatment	-	-		
	TLOS	B	D	-	-
Target TLOS	C				
Auto	AutoLOS Inputs				
	Overall Intersection Volume to Capacity Ratio	0.81 to 0.90			
	AutoLOS	D			
Target AutoLOS	E				