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CONSEIL DES ECOLES CATHOLIQUES DU CENTRE-EST

New Catholique Elementary School – Secteur Orleans (Avalon III)

Transportation Impact Assessment

September 2023 – 23-5673

Certification

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

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

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1.0 Screening

1.1 Description of Proposed Development

Municipal Address	2666 Tenth Line Rd, Orléans, ON K4A 3W5
Description of Location	The proposed new Avalon elementary school is to be located on the southwest corner of Sweet Valley Drive and Tenth Line Road in the community of Orleans, within the Orleans district.
Land Use Classification	Permitting and rezoning is required for the new school. The school is currently zoned as Area D: Rural Area. The proposed new zone will be: I1A[2130]– Minor Institutional Zone. This zone: • permits a range of community uses, institutional accommodation and emergency service uses to locate in areas designated as General Urban Area or Central Area in the Official Plan; and • minimize the impact of these minor institutional uses located in close proximity to residential uses by ensuring that the such uses are of a scale and intensity that is compatible with neighbourhood character
Development Size	The new elementary school will provide education for pupils from Kindergarden to Grade 6 and will include a daycare with two separate rooms to accommodate 24 preschoolers, 15 toddlers and 10 infants. The school will also include a simple gymnasium, a library, 17 classrooms and a special education center. In total, the school anticipates providing space for 412 students, and with the future portables the school could accommodate up to 604 students. The building will be constructed of steel structure, spanning 2 floors with load-bearing masonry for the gymnasium. The total area of the building will be ± 3,354 m^2 (36,110 ft^2) on a land of approximately 17,471 m^2, (4.31 acres).
Number of accesses and locations	The staff and student parking lot is accessed via Sweet Valley Drive. Two access points are provided. The west access is an entrance only, while the east access provides full vehicle access in and out for all movements. The school site is located in a very active and growing community known as Avalon.
Phases of development	Single Phase
Build-out year	2025

1.2 Trip Generation Trigger

Land Use Type	Minimum Development Size	Yes	No
Single-family homes	40 units		X
Townhomes or apartments	90 units		X
Office	3,500 sq.m.		X
Industrial	5,000 sq.m.		X
Fast-food restaurant or coffee shop	100 sq.m.		X
Destination retail	1,000 sq.m.		X
Gas station or convenience market	75 sq.m.		X
Other	60 person trips or more during weekday peak hours	X	

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 Spine Bicycle Networks?		X
Is the development in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone?*		X

1.4 Safety Triggers

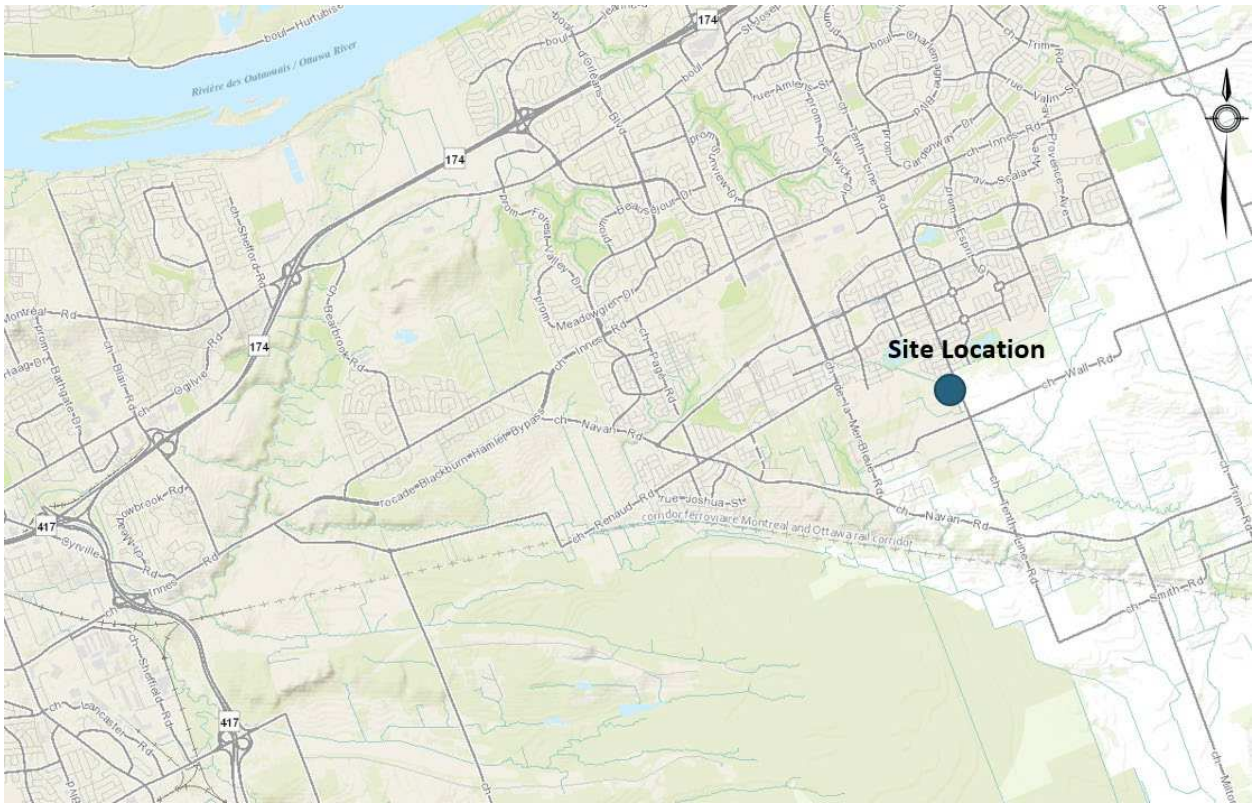
	Yes	No
Are posted speed limits on a boundary street are 80 km/h or greater?		X
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?		X
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e., within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

1.5 Summary

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

The development is anticipated to generate more than 60-person trips and therefore meets the Trip Generation Trigger and therefore a traffic impact study is required. **Figure 1** illustrates the site location.

Figure 1: Site Location



Background image source: geoOttawa

2.0 Scoping

2.1 Existing and Planned Conditions

2.1.1 Proposed Development

The proposed location of the new elementary school is at 2666 Tenth Line Rd, Orléans, ON K4A 3W5, on the southwest corner of Sweet Valley Drive and Tenth Line Road. The school is set to open in 2025 and will be developed in a single phase, accommodating pupils from kindergarten to Grade 6. The school will also include a daycare, gymnasium, library, 17 classrooms, and a special education center. The daycare will have two separate rooms that can accommodate 24 preschoolers, 15 toddlers, and 10 infants.

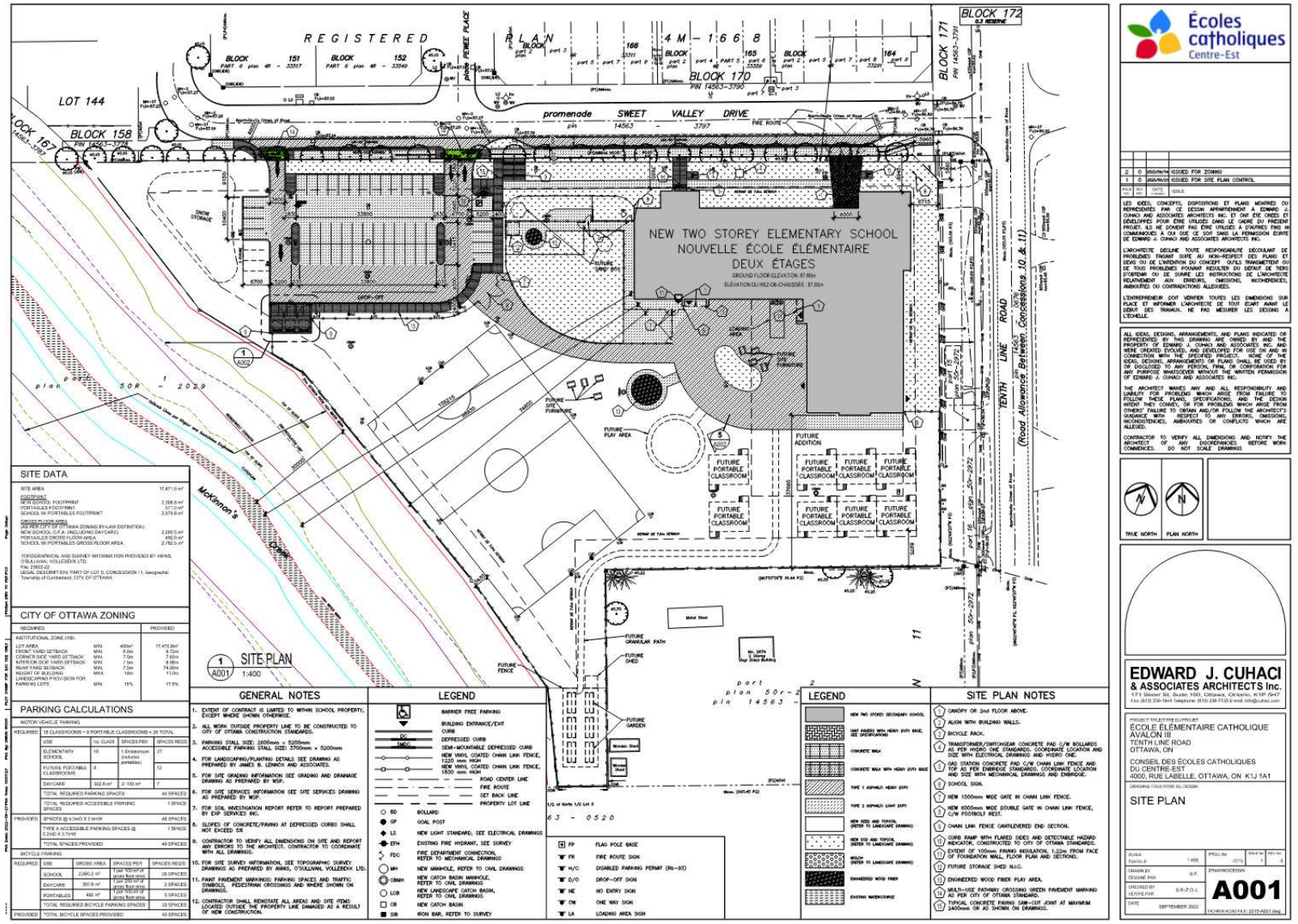
The school day will begin at 8:25 AM and end at 3:10 PM. The school anticipates accommodating 412 students, along with 8 portables and approximately 40 staff members. With the addition of the portables, the school will have space for a total of 604 students. A total of 49 parking spaces will be provided.

Site plan permitting and rezoning are necessary for the proposed new school, as the site is currently zoned as Rural Area (Area D). The required zone for the school is I1A[2130]– Minor Institutional Zone, which permits a range of community uses, institutional accommodation, and emergency service uses in areas designated as General Urban Area or Central Area in the Official Plan.

The proposed new elementary school in Avalon will have a total area of approximately 3,354 m2 (36,110 ft2) on a land of approximately 17,471 m2 (4.31 acres). Transportation for the students will be provided by school buses, and a parking lay-by will be available on Sweet Valley Drive. It is assumed that students will not be using OC Transpo. The parking lot, intended for staff and students, will be accessed via Sweet Valley Drive.

The preliminary site plan is shown in **Figure 2**.

Figure 2: Site Plan



Two access points are provided. The west access is an entrance only, while the east access provides full movement access in and out.

The following intersections have been evaluated as part of this transportation analysis:

- Site Driveways:
  - West Site Entrance and Sweet Valley Drive (unsignalized); and
  - East Site Entrance/Exit and Sweet Valley Drive (unsignalized).
- Network Intersections:
  - Sweet Valley Drive / Harvest Valley Avenue and Tenth Line Road;
  - Sweet Valley Drive and Tenth Line Road;
  - Tenth Line Road and Wall Road; and
  - Promenade Decoeur Drive / Southfield Way and Tenth Line Road.

2.1.2 Existing Conditions

2.1.2.1 Existing Roads

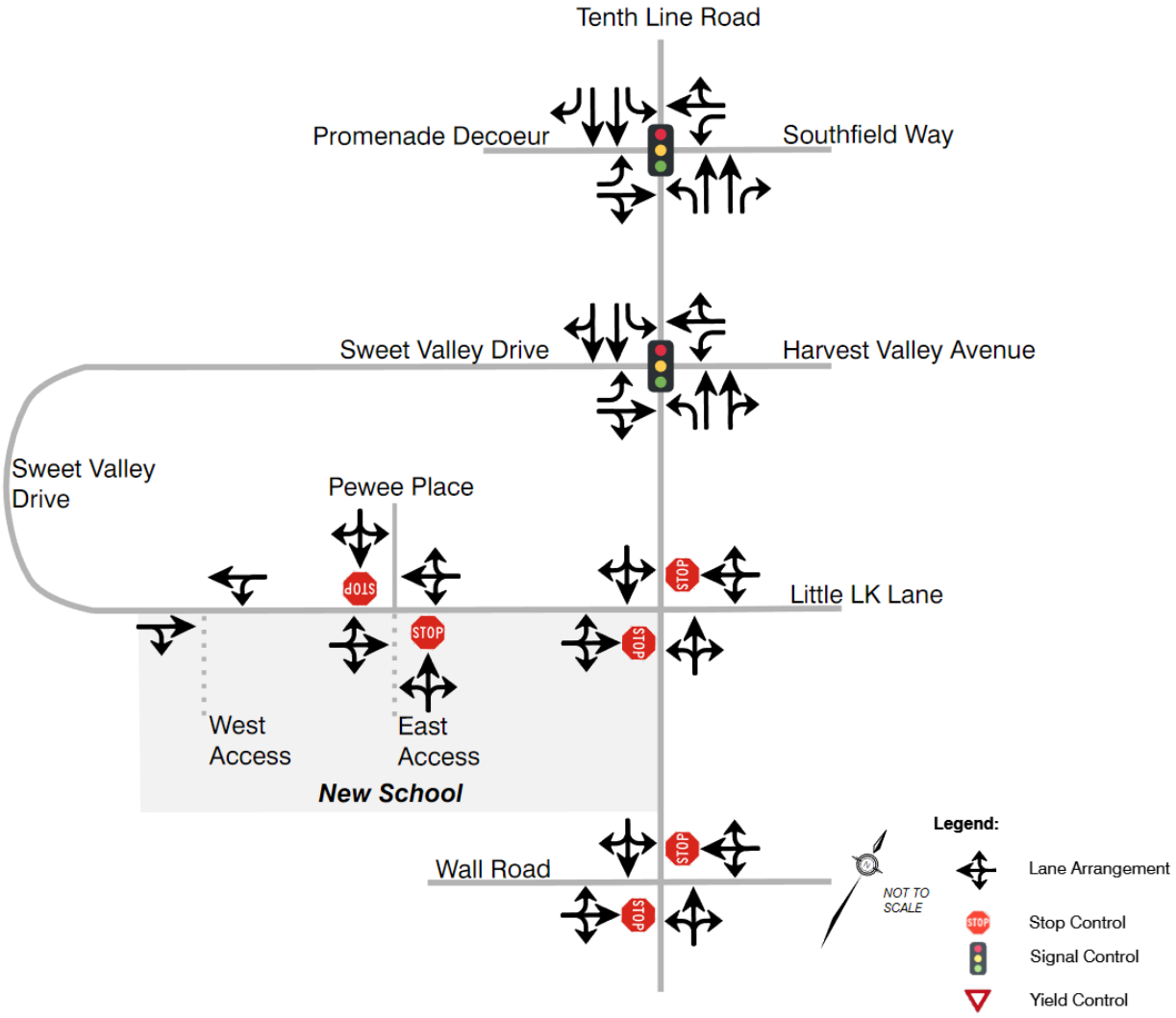
The study area roadways are described as follows:

Sweet Valley Drive	Sweet Valley Drive is a two-lane roadway classified as a Local roadway located on the north edge of the proposed school site. Sweet Valley Drive runs in a loop and connects to Tenth Line Road opposite Little Lake Lane in the south and across from Harvest Valley Avenue in the north. Sweet Valley Drive has a posted speed limit of 40 km/h.
Harvest Valley Drive	Harvest Valley Avenue is classified as a Collector road. It extends from Esprit Drive in the east to Tenth Line Road in the west and has a posted speed limit of 50 km/h. The right-of-way along Harvest Valley Avenue is 26 metres wide. On the west side of Tenth Line Road, Harvest Valley Avenue becomes Sweet Valley Drive.
Tenth Line Road	Tenth Line Road is classified as an Arterial roadway. It runs from Jeanne d'Arc Boulevard in the north and to Smith Road in the south, and has a north-south orientation. In the area surrounding the proposed development, the road has a two-lane configuration with a speed limit of 60 km/h. Between Little Lake Lane and Harvest Valley Drive, the roadway widens to a four-lane cross section with turn lanes. A 37.5 metre right-of-way exists along this road segment.
Promenade Decoeur / Southfield Way	Promenade Decoeur transitions to become Southfield Way at Tenth Line Road. Both roads are designated as Collectors, and are located north of the development. These roads run east to west and have a posted speed limit of 50 km/h.
Wall Road	Wall Road is a two-lane Collector roadway, located south of the proposed school site. It stretches from Mer-Bleue Road in the west to Frank Kenny Road in the east and has a west-east orientation. The speed limit on Wall Road is 50 km/h in the residential area near Mer-Bleue Road and increases to 60 km/h midway between Mer-Bleue Road and Tenth Line Road. To the east of Tenth Line Road, Wall Road is unpaved.

2.1.2.2 Existing Intersections

The lane geometry and traffic control for the study area intersections are shown in **Figure 3**.

Figure 3: Lane Geometry and Traffic Control



2.1.2.3 Existing Driveways

Existing residential driveways that provide access to detached and townhome residences within the neighborhood of the school can be found within a 200-meter radius of the school.

2.1.2.4 Walking and Cycling

Paved shoulders are provided along both sides of Tenth Line Road. A sidewalk is present along the south side of Sweet Valley Drive at the school site. No pedestrian facilities are provided along Tenth Line Road.

Figure 4 shows the street view of Sweet Valley Drive looking east in front of the proposed school site. A multiuse pathway is provided along the school frontage.

Figure 4: View facing east on Sweetvalley Drive, west of Tenth Line (June 2023)

Figure 5 illustrates the existing pedestrian and cycling facilities in the vicinity of the development, as documented by geoOttawa.

Tenth Line Road is designated as a Spine Route in the 2013 TMP, as shown in **Figure 6**. A spine route forms part of a system linking the commercial, employment, institutional, residential and educational nodes throughout the City of Ottawa**.**

Figure 5: Cycling Network

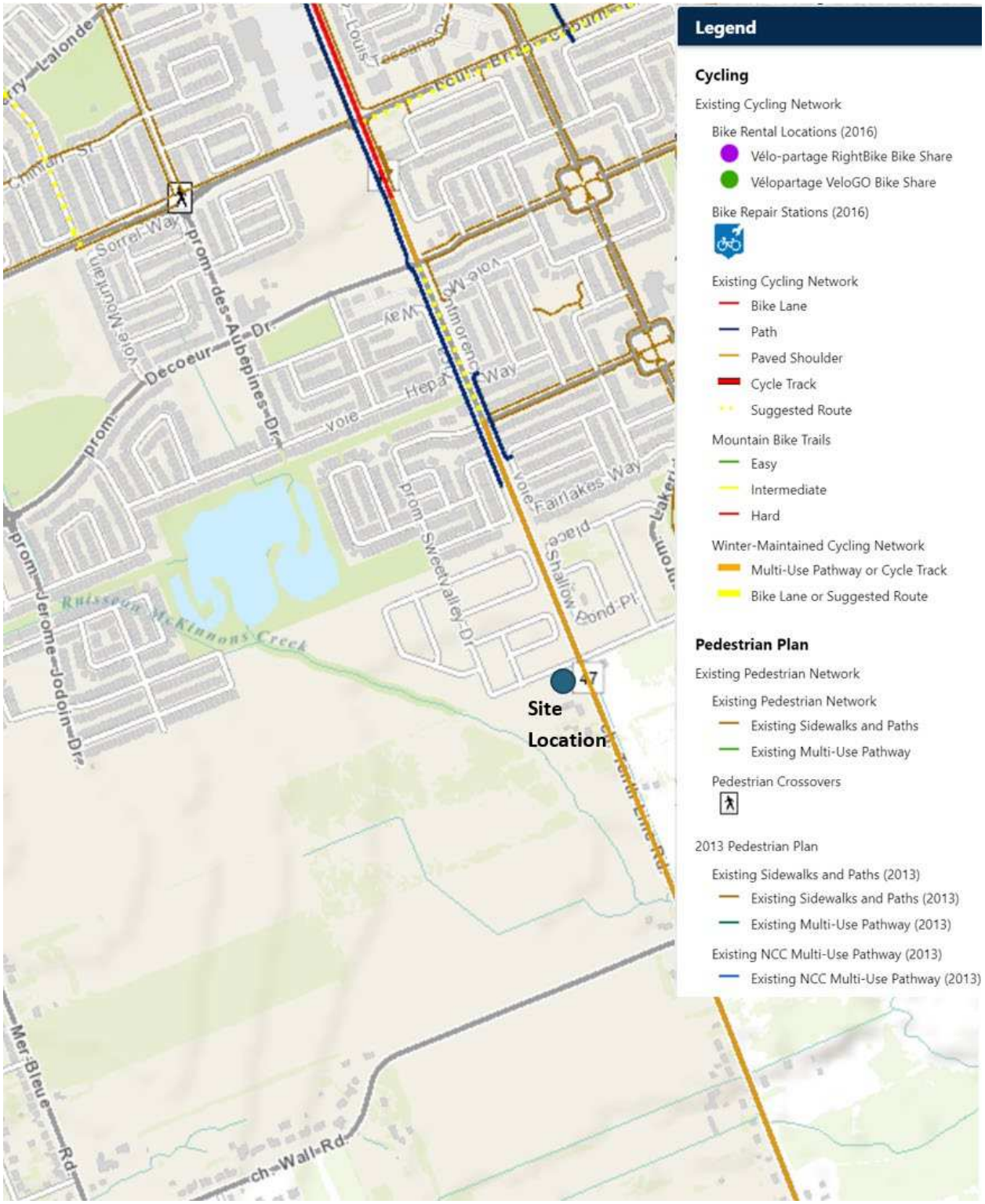
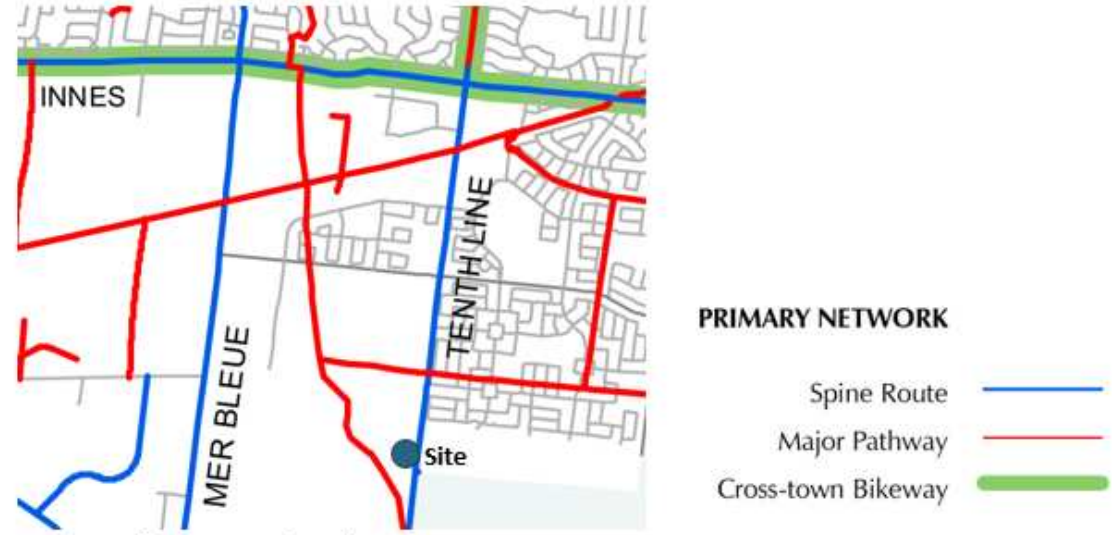


Figure 6: Cycling Spine Routes



Source: City of Ottawa TMP (2013)

2.1.2.5 Transit

There are currently no transit routes serving the study site. The nearest transit route is Route 234 which provides weekday peak period service between Blair Station and Lakeridge Drive and operates on a 30-minute headway. The nearest bus stops providing access to the route are located on Harvest Valley Avenue. **Figure 7** shows the OC Transpo route maps.

Figure 7: Transit Serving Study Site

2.1.2.6 Traffic Management Measures

Sweet Valley Drive currently features traffic calming measures that include both curb bump outs and centreline flex stakes. The curb bump outs are designed to narrow the roadway and slow traffic by providing a visual cue for drivers to reduce their speed. The flex stakes, on the other hand, are yellow signs that are placed in the center of the roadway to create a visual narrowing effect, which can also encourage drivers to slow down.

2.1.2.7 Existing Peak Hour Travel Demands by Mode

Existing traffic volumes are based on a combination of turning movement counts undertaken by the City of Ottawa. **Table 1** summarizes the traffic counts used for this study. Vehicle, pedestrian and cyclist volumes were collected. Full turning movement counts can be found in **Appendix A**.

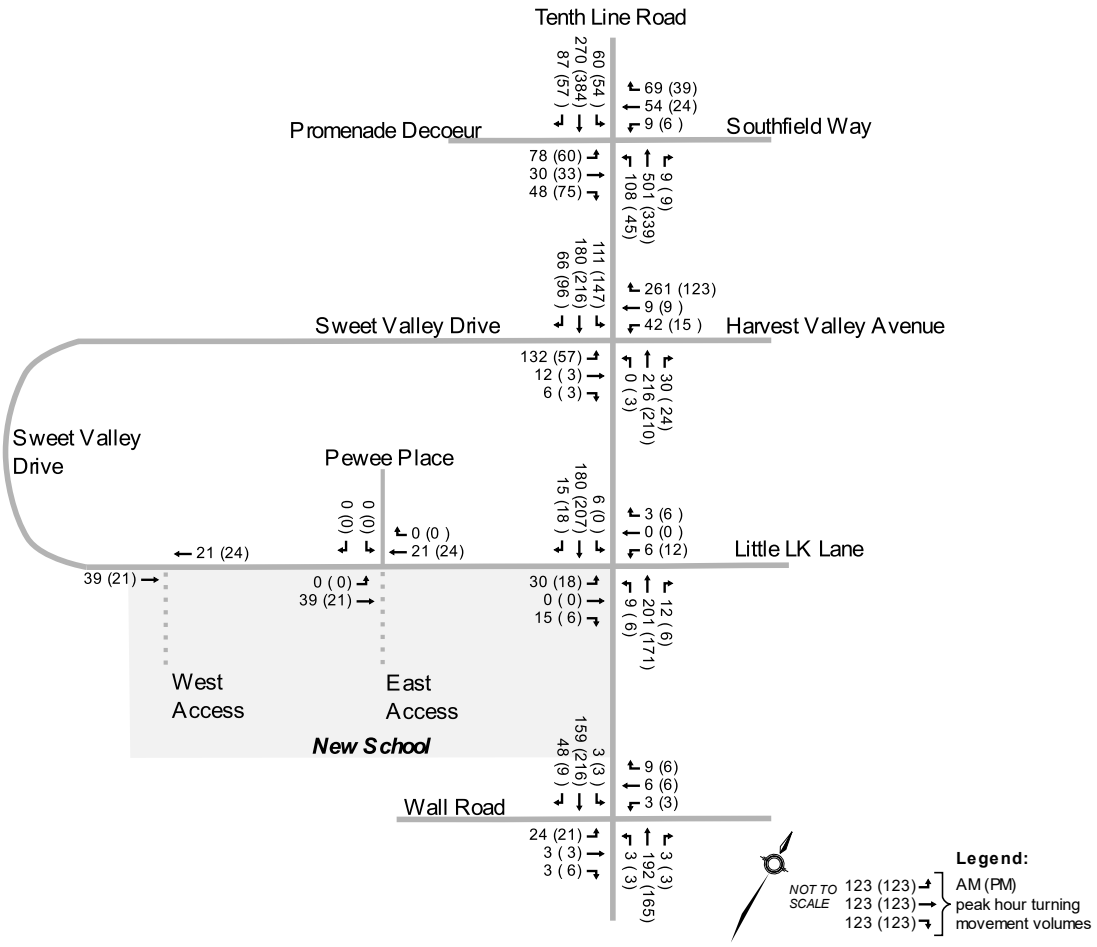
Table 1: Traffic Counts

Intersection	Date	Source
Sweet Valley Drive / Harvest Valley Avenue and Tenth Line Road	February 7, 2023	City of Ottawa
Sweet Valley Drive and Tenth Line Road	February 7, 2023	City of Ottawa
Tenth Line Road and Wall Road	February 7, 2023	City of Ottawa
Promenade Decoeur Drive / Southfield Way and Tenth Line Road	February 7, 2023	City of Ottawa

The school day is anticipated to start at 8:25 AM, and classes will end at 3:10 PM, therefore the time periods used within this study are the weekday AM commuter hour and the PM (2:45 PM to 3:45 PM) school peak hours, which align with the school bell times, and will govern the traffic capacity analysis.

Figure 8 illustrates the existing study area traffic volumes. No adjustments or balancing has been made to the vehicle volumes.

Figure 8: Existing Traffic Volumes



Volumes for pedestrian and cyclists at the study area intersections are shown in **Table 2** and **Table 3** respectively.

Table 2: Pedestrian Volumes – AM (PM) Peak Hour

Intersection / Direction	North Leg	East Leg	South Leg	West Leg
Promenade Decoeur Drive / Southfield Way and Tenth Line Road	1 (2)	7 (13)	1 (3)	7 (3)
Sweet Valley Drive / Harvest Valley Avenue and Tenth Line Road	4 (1)	7 (3)	3 (2)	4 (6)
Sweet Valley Drive and Tenth Line Road	0 (0)	0 (0)	1 (0)	0 (2)
Tenth Line Road and Wall Road	0 (0)	0 (0)	0 (0)	0 (0)

Table 3: Cyclist Volumes – AM (PM) Peak Hour In February

Intersection / Direction	North Leg	East Leg	South Leg	West Leg
Promenade Decoeur Drive / Southfield Way and Tenth Line Road	0 (0)	0 (0)	0 (0)	0 (0)
Sweet Valley Drive / Harvest Valley Avenue and Tenth Line Road	0 (0)	0 (0)	0 (0)	0 (0)
Sweet Valley Drive and Tenth Line Road	0 (0)	0 (0)	0 (0)	0 (0)
Tenth Line Road and Wall Road	0 (0)	0 (0)	0 (0)	0 (0)

2.1.2.8 Collision History

A review of historical collision data has been conducted for the road network surrounding the proposed development. **Table 4** illustrates the location and number of collisions in the study area between 2016 and 2020 at the study area intersections. **Table 5** illustrates the location and number of collisions in the study area between 2016 and 2020 at midblock locations. The number of collisions indicated in these tables is based on the location grouping, using City of Ottawa data.

There are generally between 5 and 30 collisions per year at major city intersections. The majority of these collisions are rear-end collisions and most resulted in property damage only. The 2020 Ottawa Road Safety Report indicates that none of the study area intersections are within the top 10 intersection collision areas. The intersection (location) with the highest number of collisions within the study area is the signalized intersection of Promenade Decoeur / Southfield Way and Tenth Line Road with 12 collisions recorded over the five-year period, equating to an average of 2.4 collisions per year.

The TIA Guidelines require a safety review if at least six collisions for any one movement or of a discernible pattern, over a five-year period have occurred. There are two intersections, at which, six or more collisions occurred over the five-year period from 2016 to 2020. **Table 4** provides a breakdown of the collision impact types at each of these intersection locations. No discernible pattern was observed.

Table 4: Intersection Collision Impact Types from 2016 to 2020

Collision Location	Angle	Turning Movement	SMV Other	Rear End	Sideswipe	Total Collisions
Decoeur Dr/Southfield Way & Tenth Line Rd	2	4	2	3	1	**12**
Harvest Valley Ave/Sweet Valley Dr & Tenth Line Rd	1	2	1	2	-	**6**

Table 5 provides a breakdown of the collision impact types occurring at midblock locations with a frequency of two or more collisions. For the midblock locations, the collisions occurred at varying times of year, during both dry and wet, dark and daylight conditions. No other discernible pattern was observed.

Table 5: Midblock Collision Impact Types from 2016 to 2020

Collision Location	Approaching	Turning	SMV Other	Rear End	Total Collisions
Tenth Line Rd Between Harvest Valley Ave & Southfield Way	1	-	-	-	**1**
Tenth Line Rd Between Harvest Valley Ave & Wall Rd	-	1	3	2	**6**

2.1.3 Planned Conditions

2.1.3.1 Road Network Modifications

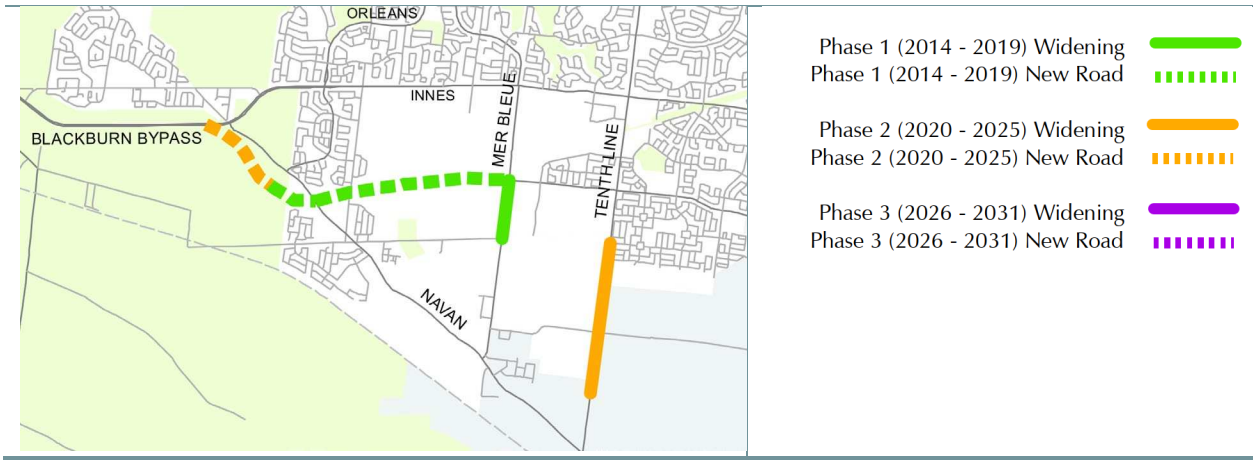
The area in the vicinity of the new school is currently under development, with Mer-Bleue Phase 1 developing to the south and west, the Summerside West Phases 5 and 6 to the northwest, and Minto Vista (formerly Avalon Isgar) developing to the east.

The 2019 City-Wide Development Charges Background Study identifies the future road modifications:

- **Blackburn Hamlet Bypass Extension** – The timing of construction for the first and second sections have been modified to 2020-2024 and 2025-2029, respectively.
- **Tenth Line Road** – Planned widening in post 2031.
- **Mer Bleue Road** – Planned widening was implemented with the exception of the southernmost section passing through the Renaud Road intersection. The planned widening of this section has been revised to 2020-2024.

Figure 9 illustrates the planned changes to the arterial road network projects in the area, based on the TMP's 2031 Affordable Plan.

Figure 9: 2031 Affordable Road Network

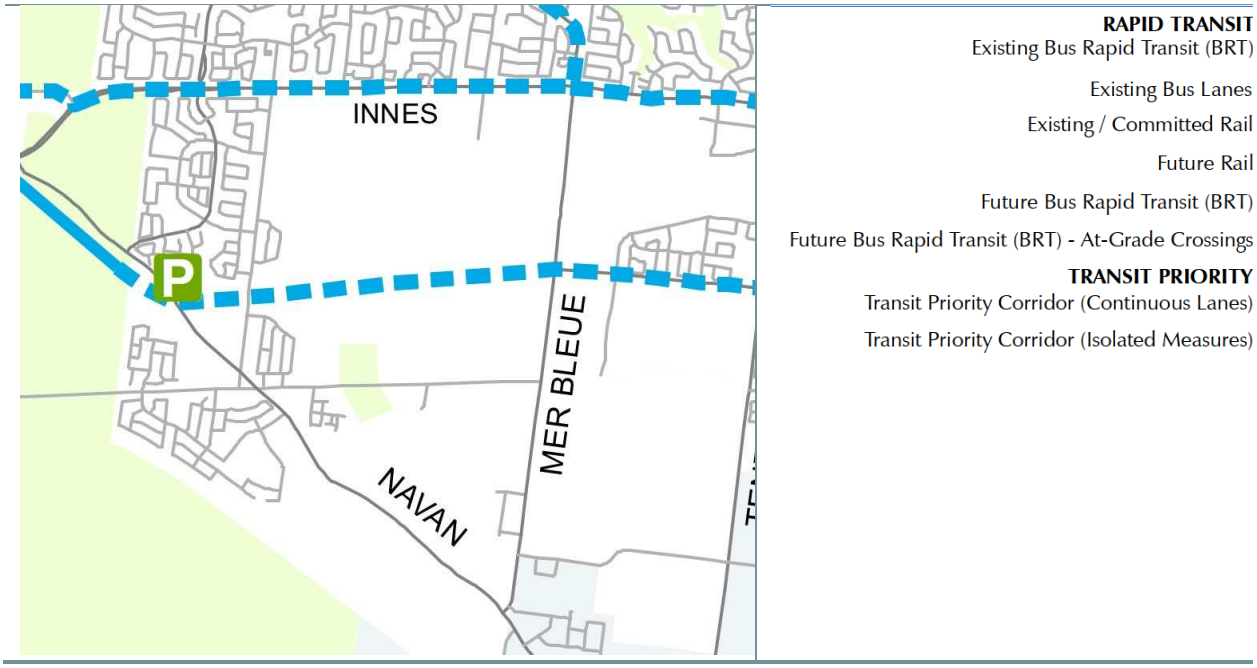


Source: City of Ottawa 2013 TMP, 2031 Affordable Road Network

2.1.3.2 Transit Network Modifications

The City's TMP includes the implementation of isolated Transit Priority Corridor measures along Brian Coburn Boulevard, based on the 2031 Affordable Transit Network. **Figure 10** shows the 2031 planned affordable transit network. The Blackburn Hamlet Bypass Extension project plans for continuous bus lanes along the Blackburn Hamlet Bypass and isolated transit priority measures along Brian Coburn Boulevard.

Figure 10: Planned Transit Network



2.1.3.3 Walking and Cycling

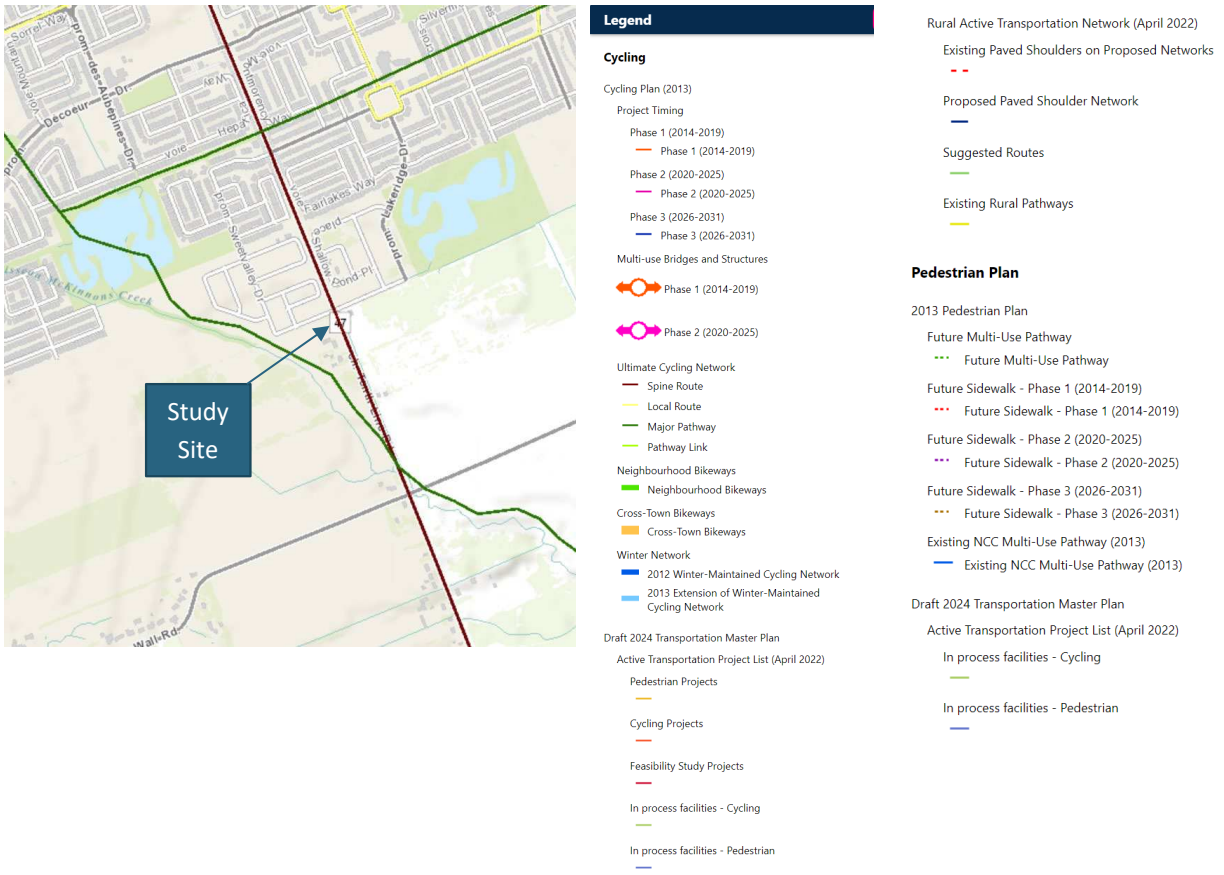
The 2017 Mer-Bleue Expansion Master Transportation Study (MTS) details proposed active transportation facilities within the Mer-Bleue Phase 1 area. These include:

- Cycle tracks and concrete sidewalks on both sides of Wall Road (realigned section to the north), Jerome Jodoin Drive and Street 1
- Multi-use pathway (MUP) on the north side of Wall Road

The MTS indicates that paved shoulders will also be provided along Tenth Line Road prior to full buildout. Ultimately, exclusive bicycle facilities and concrete sidewalks will be provided along both sides of Tenth Line Road.

Figure 11 illustrates the planned walking and cycling facilities. The planned recreational pathway can be seen on this figure, adjacent to McKinnon's Creek and along the north edge of the Mer Bleue Expansion area.

Figure 11: Planned Pedestrian and Cycling Network



Source: geoOttawa, accessed February 12, 2023

2.1.3.4 Future Background Developments

The City of Ottawa's development applications search tool was used to identify other developments within the study area that could impact study area intersections within the study horizon year. This was cross-referenced with the Mer-Bleue Phase 1 TIA, submitted by IBI in 2021. **Figure 12** illustrates the background developments referenced in the Mer-Bleue Phase 1 TIA, overlaid on top of satellite imagery. Note that the 'Proposed School Site' shown in the figure is located in the northeast corner of the Mer Bleue subdivision and was previously planned to develop as residential use.

Figure 12: Background Developments in Study Area

Based on a review of current housing construction and occupancy, the background developments listed in **Table 6** have been considered. It is noted that Summerside West to the north of the school site and east of the McKinnon's Creek (Phase 4) is completed and occupied, the lands to the west of the McKinnon's Creek (Phased 5 and 6) have not yet started construction. Minto Vista has initiated construction on the portion of lands to the west of the stormwater management pond, lands to the east of the pond have not initiated. There is no housing construction on the Mer Bleue Phase 1 lands, which mainly lay to the west of McKinnon's Creek with exception of the subject school site.

Table 6: Background Developments

Development	Land Use	Size	% Occupied	Targeted Build-Out
Summerside West – Phases 5 and 6	Single Family Residential	302 units	0%	2025
	Townhomes	191 units		
Minto Vista (formerly Avalon Isgar)	Single Family Residential	283 units	0%	2025
	Townhomes	356 units		
Mer-Bleue Phase 1	Single Family Residential	274 units	0%	2025
	Townhomes	370 units		
	Commercial	2,100 m^2		

Sources:

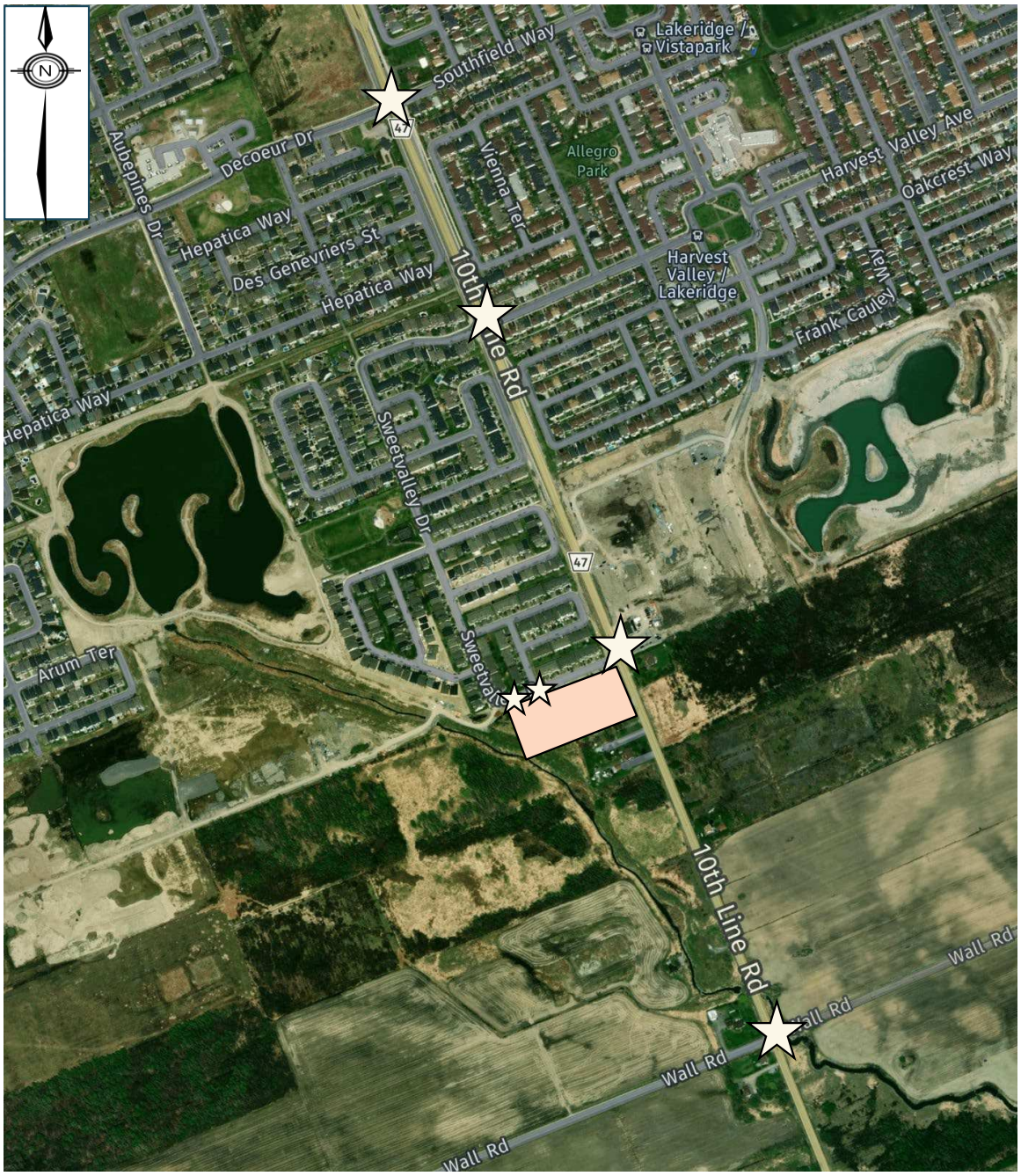
- Mer-Bleue Phase 1 TIA, 2021
- Summerside West Phase 4-6 City Comment Response Memo, 2018
- Summerside West Phase 4-6 Strategy Report, 2018
- Minto Avalon Isgar – TIA Update and Screening
- Updated Planning Rationale – Avalon Vista (Isgar) Stages West and East, 2021

2.2 Study Parameters

2.2.1 Study Area

Figure 13 illustrates the proposed study area and study area intersections. The current school parcel is shown in light pink. The white stars denote intersections and site accesses to be included within the analysis.

Figure 13: Study Area and Study Area Intersections



Background image source: HERE Wego, accessed February 9, 2023.

2.2.2 Time Periods

The school day is anticipated to start at 8:25 AM, and classes will end at 3:10 PM, therefore the time periods used within this study are the weekday AM commuter hour and the PM (2:45 PM to 3:45 PM) school peak hours, which align with the school bell times, and will govern the traffic capacity analysis.

2.2.3 Horizon Years

The new school is estimated to be complete by 2024 occupancy is expected in 2025. The analysis will assess transportation for the 2025 horizon year, and the 2030 horizon year (+5 years after build-out).

2.3 Exemptions Review

Table 7 presents the exemptions review table from the City of Ottawa's 2017 Transportation Impact Assessment Guidelines. The exemptions were rationalized as follows:

Table 7: Exemptions Review

Module	Element	Exemption Consideration	Status
Design Review Component			
4.1 Development Design	4.1.2 Circulation and Access	Only required for site plans	Included
	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	Included
	4.2.2 Spillover Parking	Only required for site plans where parking supply is 15% below unconstrained demand	Exempt
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	Included
4.6 Neighbourhood Traffic Management	4.6.1 Adjacent Neighbourhoods	Only required when the development relies on Local or Collector streets for access and total volumes exceed ATM capacity thresholds	Included
4.8 Network Concept		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	Included

3.0 Forecasting

3.1 Development-Generated Travel Demand

Traffic volumes within the study area will consist of trips generated by staff and students at the proposed new elementary school and daycare center, and trips generated by background developments.

3.1.1 Trip Generation and Mode Shares

Peak hour person trips can be determined by using either the appropriate land-use codes from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th edition or by using a first principles approach. To compare the results, both approaches were used to calculate the trips in this study. The TRANS *Trip Generation Manual Summary Report (2020)* was used in both cases to determine school mode shares specific to the City of Ottawa, as recommended by the City's TIA Guidelines (2017). The applicable tables used from the TRANS *Trip Generation Manual* can be found in **Appendix B**.

3.1.1.1 ITE Trip Rates

Mode shares for the school trips were determined using the TRANS *Trip Generation Manual Summary Report*. An auto passenger mode share of 100% was assumed for daycare students, with no reductions made due to possible trip synergy between daycare and elementary school students. **Table 8** summarizes the vehicle trip generation rates used for the school and daycare center.

Table 8: ITE Calculated Vehicle Peak Hour Trips

Land Use Code/Land Use	Source	New Students	ITE Vehicle Trip-Rate (Peak Hour)		Peak Hour Vehicle Trips	
			AM	PM	AM	PM
520: Elementary School	ITE	596	0.75	0.45	447	268
565: Day Care Center	ITE	49	0.79	0.81	39	39

In accordance with City of Ottawa TIA Guidelines, a 1.28 factor was applied to the Elementary School trips calculated in Table 8 in order to determine person trips for the land uses. The AM and PM peak hour person trips were multiplied by the appropriate mode share and directional splits to determine total site generated trips during the AM and PM peak hours to/from the site, as shown in **Table 9** and **Table 10.**

Table 9: Elementary School Peak Hour Person Trips

LUC 520 – Elementary School	Mode Share		Peak Hour Trips		Directional Split		AM Peak Hour			PM Peak Hour		
	AM	PM	AM	PM	AM IN %	PM IN %	Total	In	Out	Total	In	Out
Auto Passenger	22%	22%	126	76	54%	46%	126	68	58	76	35	41
School Bus Passenger	48%	48%	275	165			274	148	126	165	76	89
Transit Passenger	6%	6%	34	21			35	19	16	20	9	11
Walking	20%	20%	114	69			115	62	53	69	32	37
Biking	2%	2%	11	7			11	6	5	7	3	4
Other	2%	2%	11	7			11	6	5	7	3	4
Total	**100%**	**100%**	**572**	**343**	**Total Trips**		**572**	**309**	**263**	**344**	**158**	**186**

*note that slight variations in trips are due to rounding

Table 10: Day Care Peak Hour Auto Trips

LUC 525 – Day Care	Mode Share		Peak Hour Trips		Directional Split		AM Peak Hour			PM Peak Hour		
	AM	PM	AM	PM	AM IN	PM IN	Total	In	Out	Total	In	Out
Auto Passenger	100%	100%	39	39	53%	47%	39	20	19	39	19	20

The total site generated vehicle trips are presented in **Table 11**. It is anticipated that four (4) school buses will be provided to accommodate students. A typical school bus can carry up to 72 elementary students, assuming three students per seat.

Table 11: Total ITE Site Generated Vehicle Trips

	AM Peak Hour		PM Peak Hour	
	In	Out	In	Out
Auto trips	88	77	54	61
School bus trips	4	4	4	4
TOTAL	**92**	**81**	**58**	**65**

3.1.1.2 First Principles Trip Rates

To predict the number of trips that will be generated by the school site, a first principles approach was also employed. The analysis took into consideration the unique characteristics of the site, such as the presence of a daycare facility and the eligibility requirements for school bus service set by the school board.

The total number of staff members and students expected at full occupancy was used as a basis for the analysis, with 48 staff members and 596 students projected to occupy the school, when all of the future portables are considered. In addition, the daycare facility is proposed to accommodate 24 preschoolers and 15 toddlers.

The analysis also considered the modal split, which refers to the distribution of trips by different modes of transportation, such as walking, cycling, driving, or public transportation. To determine the modal split, the study site's location, accessibility, and other site-specific factors were taken into account.

The following is a list of the steps that were taken to conduct the first principles calculations:

1. The first step in the first principles calculations was to determine the modal share for an elementary school, as presented in the 2020 TRANS Trip Generation Manual and shown in **Table 11**. To reflect the higher number of students residing within close proximity to the school, the TRANS trip rates were modified accordingly, as shown in **Table 13,** based on the surrounding development density.

   Given that the study site is situated in a primarily residential area and is conveniently located within walking or biking distance for many students and staff members, it was assumed that a higher number of individuals would use active modes of transportation such as walking or biking to reach the school. Conversely, a lower number of individuals were expected to travel by car as passengers.

Table 12: Elementary School Transportation Mode Share - TRANS Trip Generation Manual, 2020

School Type	Mode Share					
	Auto Passenger	School Bus	Transit	Walk	Bike	Other
Elementary	22%	48%	6%	20%	2%	2%

Table 13: Elementary School Transportation Mode Share - Revised Split for Avalon Community

School Type	Mode Share					
	Auto Passenger	School Bus	Transit	Walk	Bike	Other
Elementary	15%	54%	0%	24%	5%	2%

2. The second step of the first principles calculations involved estimating the number of person trips to the school. The school is anticipated to cater to a maximum of 596 students and 48 staff members, resulting in a total of 644 person-trips to the school per day. However, it was assumed that 14% of the student population, or approximately 84 students, will participate in a before and after school care program, which operates from 7:00 AM to 6:00 PM. Furthermore, it was estimated that 5% of the students would be absent on any given day, resulting in a total of 487 students arriving and leaving the school during the peak morning and afternoon periods on a daily basis. It was also anticipated that 100% of the 48 staff members would be present.

AM Peak Hour - Student Trips

3. To estimate the number of auto passenger trips that the study site will generate, the revised TRANS rates were used. Based on these rates, it was projected that the site will generate 73 auto passenger trips.

   To determine how many cars will arrive at the site, Canada census data was referenced, which indicates that 44% of households have one child, while 56% of households have two or more children. It was assumed that one automobile would carry 1.3 students. Based on these assumptions, it was estimated that approximately 56 automobiles will arrive at the study site, carrying a total of 73 students.

4. It was assumed that the mode share for school buses was 54%, based on the numbers in **Table 13**. It was projected that the school will generate 263 student trips by bus, with an average of 66 students per bus. To meet this mode share threshold, four school buses will be required.

   Assuming three students per seat, a typical long school bus can carry up to 72 elementary students. Therefore, it is estimated that the four school buses will have a total capacity of 288 students. **Table 14** provides a summary of the school bus trips.

Table 14: School Bus Trips

Mode	Mode Share	# of Trips	Average # of Students per Bus	Number of Buses	Bus Capacity
School Bus	54%	263 trips	66 students	4	288 students

5. Walking and cycling mode shares were based on the revised TRANS rates from **Table 13**. Based on these assumptions, the estimated number of trips were generated and is presented in **Table 15**.

Table 15: Walking and Cycling Mode Share and Trips

Mode of Transportation	Mode Share	Number of Trips
Walking	24%	117 trips
Cycling	5%	24 trips

AM Peak Hour - Staff Trips

6. During the AM peak period, it was assumed that the 48 elementary school staff will generate one vehicle trip per employee. It was also assumed that 36 staff members will arrive during the peak hour, while the remaining 12 will arrive before or after the peak hour.

   To be conservative, it was assumed that all employee trips are made by automobile since the proposed school is not currently served by transit. There may be some transit demand in the future, however to be conservative we have assumed all of the 48 staff trips would occur by automobile.

PM Peak Hour – Student Trips

7. The school is planned to offer after school programs. Through discussion with the school board it was determined that approximately 14% of students would be enrolled within the after school program. Therefore, it was assumed that of the 566 students in attendance, 79 students (14%) remained for after school programs. Therefore, 487 students leave the school after the bell. Assuming a similar automobile rate of 15%, it can be expected that 56 automobiles will pick up 73 students (assuming 1.3 students per vehicle) at the end of school bell.

Day Care Facility Operations

8. During the AM peak hour, it is estimated that all parent drop-off trips will arrive by car and that approximately 40% of daycare drop-offs will overlap with the school peak hour, with 19 out of 49 drop-offs expected to be made during the school peak hour. However, no trips to or from the childcare facility are expected during the PM peak hour of the school (bell time). Drop-offs and pick-ups at the daycare facility are likely to occur within a two-hour window, as they are based on parent schedules and tend to coincide with peak commuter hours. A typical pickup or drop-off will occur over a 10-15 minute period.

   The staff members of the daycare facility are expected to arrive before the school's peak hour and depart after the afternoon peak hour, which will help to alleviate congestion during these busy periods.

Table 16 provides a summary of the person trip generation for the school, calculated using the first principles approach. The first principles approach was deemed more appropriate for this study due to its consideration of site-specific factors and more accurate representation of anticipated site operation.

Accordingly, the first principles approach was used throughout this report to estimate the number of trips generated by the school. This approach considers the specific characteristics of the proposed school, such as the presence of a daycare facility and the eligibility requirements for school bus service planned by the school board. Overall, using the first principles approach to calculate trip generation yields a more accurate representation of the site's transportation demands.

Table 16: Trip Generation – Persons Trips

Location / Activity	AM Peak Hour of Roadway Traffic			PM Peak Hour of School (2:45 – 3:45 PM)		
	Inbound	Outbound	Total	Inbound	Outbound	Total
Staff Parking Lot						
School Staff parking (vehicles)	36	0	36	0	0	0
Childcare drop-off/pick-up (vehicles)	19	19	38	0	0	0
On-Street Lay-bys						
School bus passengers (students)	263	0	263	0	263	263
School bus trips (buses)	4	4	8	4	4	8

Location / Activity	AM Peak Hour of Roadway Traffic			PM Peak Hour of School (2:45 – 3:45 PM)		
	Inbound	Outbound	Total	Inbound	Outbound	Total
Student drop-off/pick-up trips (15% of students)	73	0	73	0	73	73
Student drop-off/pick-up trips (vehicles)	56	56	112	56	56	112
Active Transportation[1]						
Walking (assume 24% of students)	117	0	117	0	117	117
Cycling (assume 5% of students)	24	0	24	0	24	24
Total Person Trips	592	79	672	60	537	598
Total Vehicle Trips	111 autos 4 buses	75 autos 4 buses	186 autos 8 buses	56 autos 4 buses	56 autos 4 buses	112 autos 8 buses

3.1.2 Trip Distribution

The catchment area for the proposed elementary school has not yet been finalized. However, it is anticipated that some students will come from the existing development area to the north, which will help to relieve overcapacity at the existing Notre Place School.

It should be noted that student attending the new school may be living on the east side of Tenth Line, these students will be eligible for busing as the board policy provides busing for students that would otherwise have to cross a major arterial roadway. The trip distribution was based on anticipated travel patterns which considers housing density and available routes. **Table 10** summarizes the trip distribution of the site generated vehicle trips.

Table 17: Cardinal Trip Direction and Network Distribution for Inbound Trips

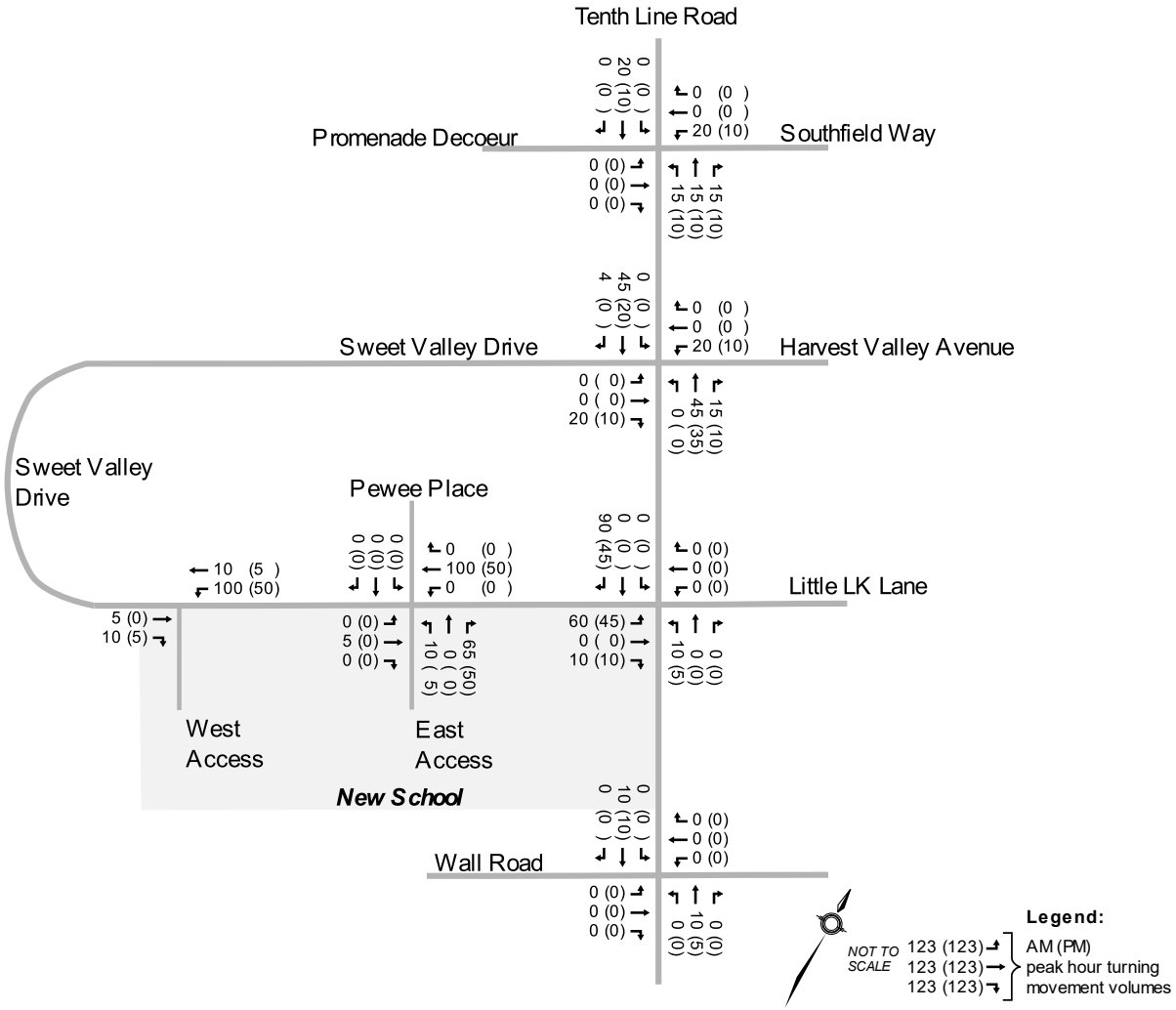
From / To	Distribution	Direct Assignment	Direct Assignment
North	90%	Tenth Line	20%
		Southfield Way	20%
		Promenade Decoeur Drive	20%
		Harvest Valley Avenue	20%
		Sweet Valley Drive (north)	10%
South	10%	Tenth Line	10%

3.1.3 Trip Assignment

Trips were assigned to the road network connecting the site with the arterial network using the distribution presented in **Table 10**. School buses will access the school from the Sweetvalley Drive at Harvest Valley Ave intersection and travel south on Sweetvalley Drive to the school, entering the on-street bus layby area. **Figure 14** illustrates assignment of the site generated traffic volumes.

[1] Walking & cycling are anticipated to very low or negligible during the PM peak hour (of adjacent roadway traffic) since the school day is long over by the afternoon rush hour. Students participating in the after-school program were assumed to be picked-up.

Figure 14: Site Generated Traffic Volumes



3.2 Background Network Travel Demand

3.2.1 Transportation Network Plans

There are no road network modifications anticipated within the 2030 horizon year.

The greenfield lands surrounding the new school are undergoing development. Mer-Bleue Phase 1 is being developed to the south and west, while the Summerside West Phases 5 and 6 are being developed to the northwest, and Minto Vista (formerly Avalon Isgar) is being developed to the east. The construction timeline for the first and second sections of the Blackburn Hamlet Bypass Extension has been updated to 2020-2024 and 2025-2029, respectively. Other road and network changes, which were discussed in Section 2.1.3.1, are not expected to occur before the study's future horizon year (2030).

3.2.2 Background Growth

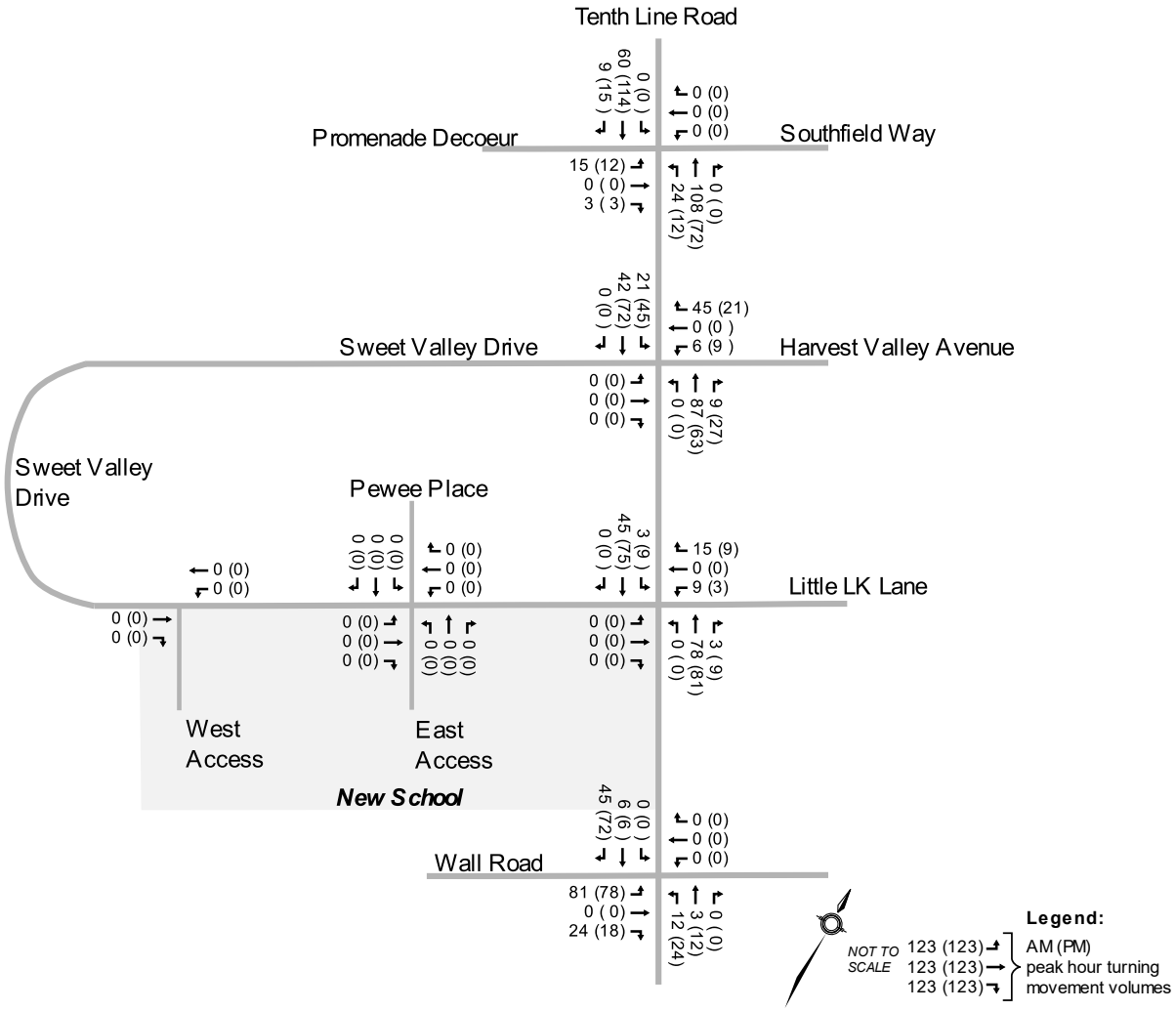
In this analysis, "background growth" refers to the traffic generated by population and employment growth in areas of the city beyond the study area and neighboring regions. A compound annual growth rate of 1% was used to calculate the background growth. This rate was applied to the existing traffic volumes to forecast future background volumes to the analysis horizon years.

3.2.3 Background Developments

There are a number of known background developments (refer to **Table 6**) that will add traffic to the study area road network. To evaluate the potential traffic impacts of these developments, vehicle trips from these developments are added to the road network. Trips attributed to the background developments were obtained directly from their respective traffic studies.

Figure 15 illustrates the estimated background development traffic volumes, it does not include the 1% background growth rate.

Figure 15: Background Development Traffic Volumes



3.2.4 Background Traffic Volumes

Figure 16 illustrates the 2025 total background traffic volumes including existing, background growth and other background development demands. **Figure 17** illustrates the 2030 total background traffic volumes.

Figure 16: 2025 Future Background Traffic Volumes

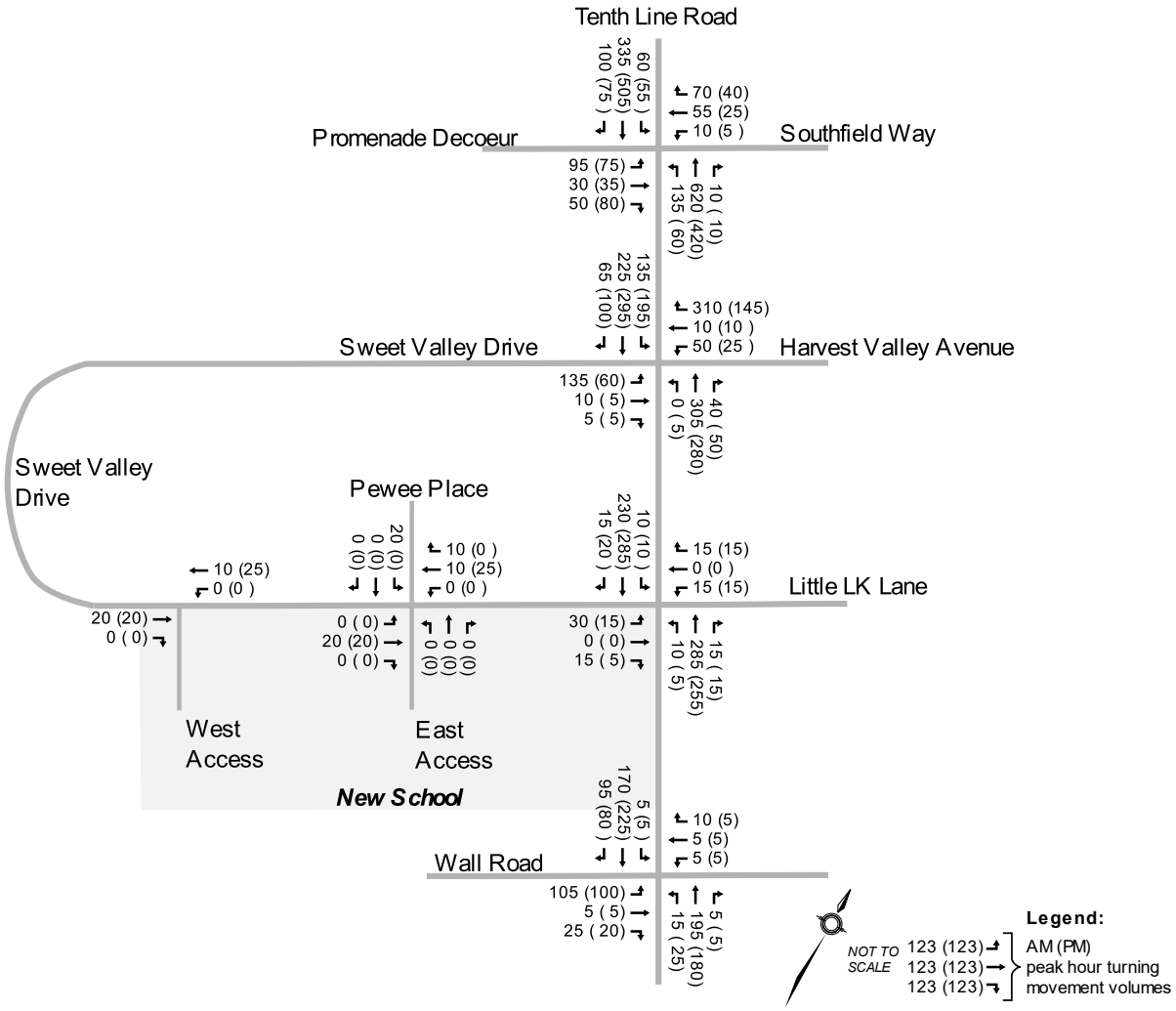
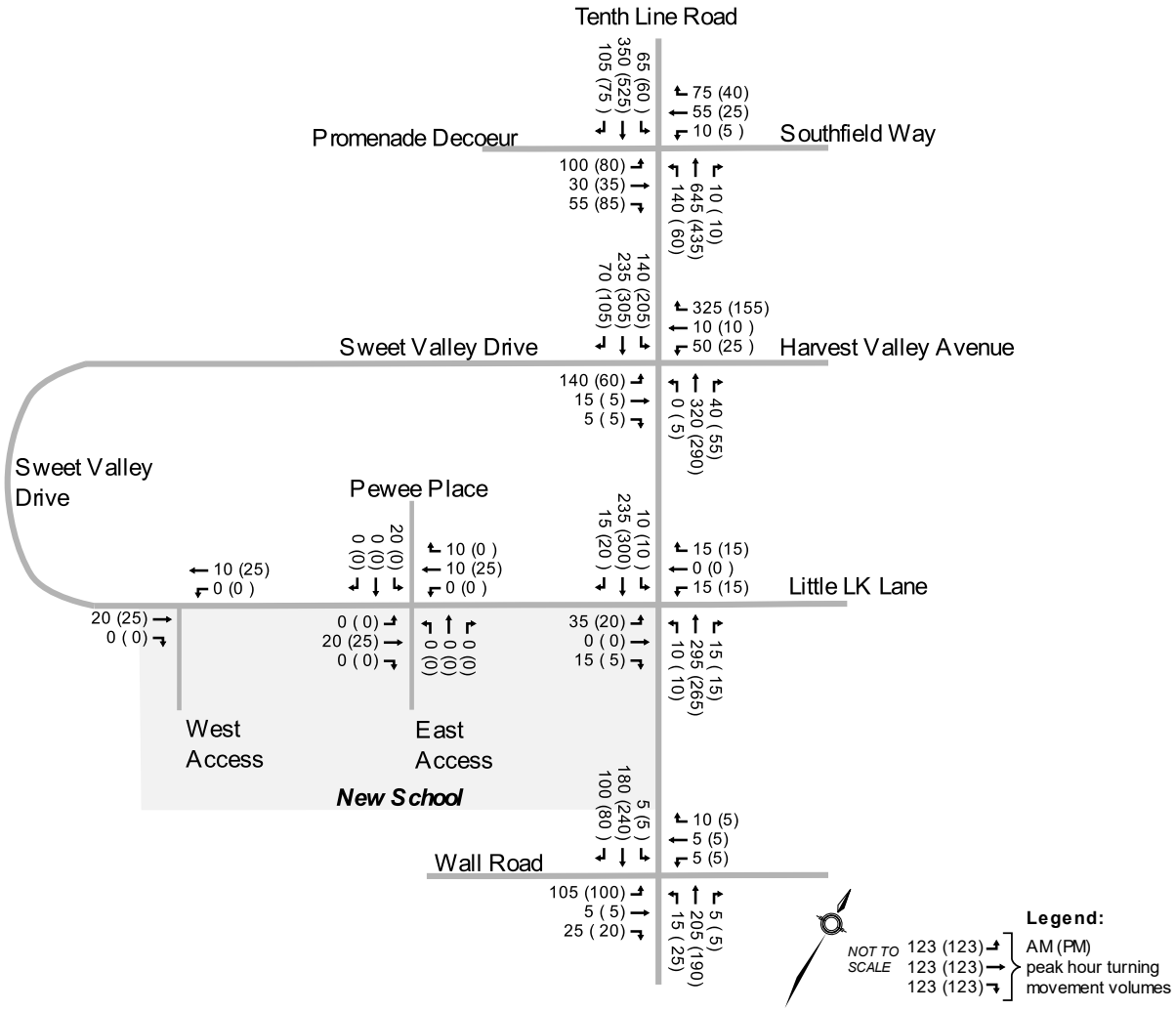


Figure 17: 2030 Future Background Traffic Volumes



3.3 Demand Rationalization

The new school is expected to generate a total of 186 AM and 112 PM peak hour auto trips and eight school bus trips. The total future traffic volumes are shown in **Figure 18** and **Figure 19**, for the 2025 and 2030 horizon years, respectively.

The total future traffic volumes appear to be within an acceptable range of the capacity of the existing lane geometry. Therefore, changes to the school or the background development traffic assignments are not anticipated to be required.

The school site will provide infrastructure to accommodate and encourage the use of sustainable transportation modes such as walking and cycling, making use of the sidewalk and MUP present on Sweet Valley Drive. Ultimately, exclusive bicycle facilities and sidewalks will be provided along both sides of Tenth Line Road and the realigned Wall Road.

Figure 18: 2025 Total Traffic Volumes

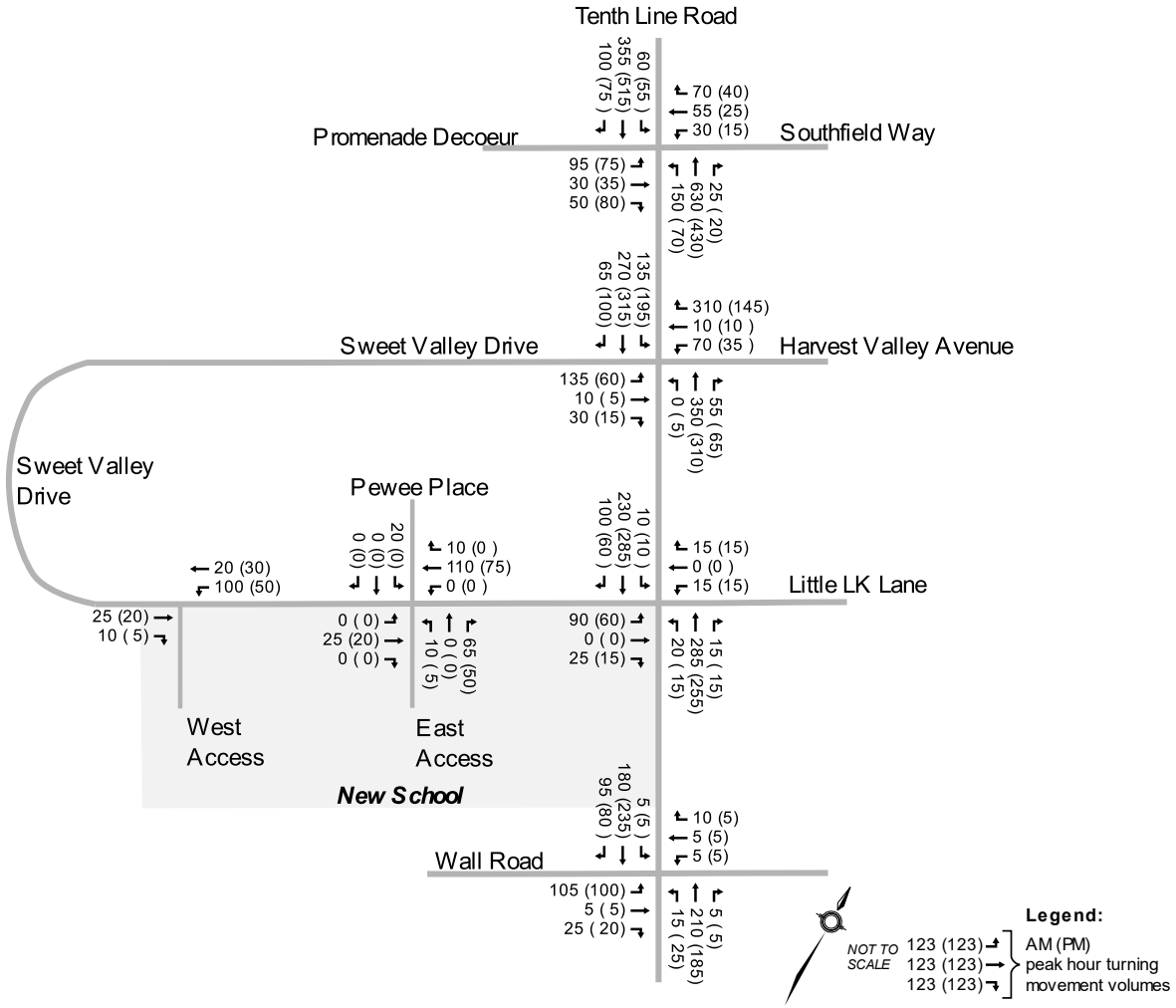
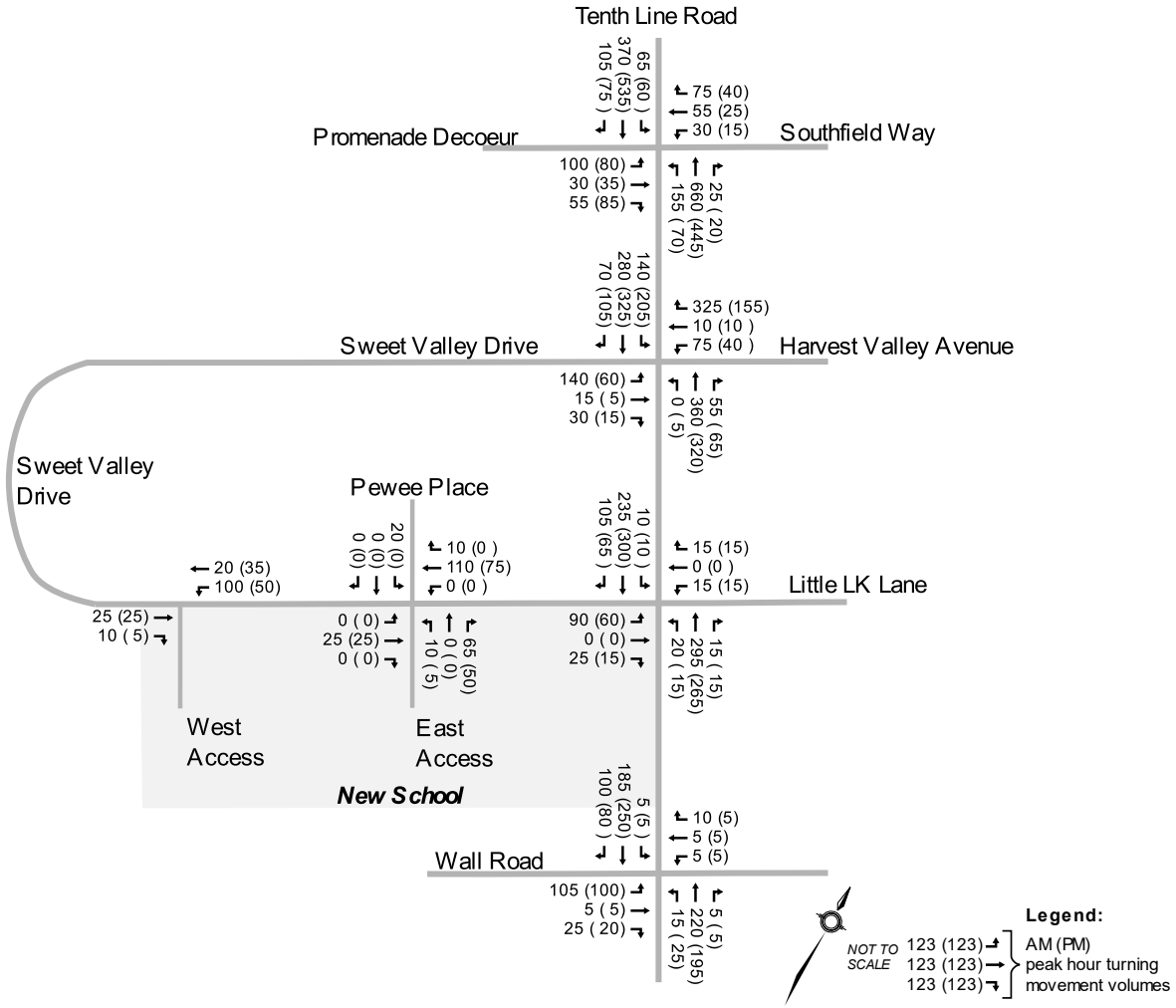


Figure 19: 2030 Total Traffic Volumes



4.0 Analysis

4.1 Development Design

4.1.1 Design for Sustainable Modes

Bicycle facilities – The proposed site plan includes six bike racks, providing 62 parking spaces located in front of the proposed school adjacent to Sweet Valley Drive, with direct and convenient paved surfaces that allow for easy access to the school from the bike parking areas.

Pedestrian access and circulation – The primary access point to the school is Sweet Valley Drive, and a multi-use pathway (MUP) is located directly in front of the school on the south side of the street. Pedestrian infrastructure surrounding the school, such as sidewalks and paved surfaces, offer direct access from the school bus lay-by to the main entrance. Additionally, the paved surfaces facilitate easy and convenient access from the staff parking lot, bicycle parking areas, childcare center, and drop-off/pick-up lay-by area to the school and childcare entrances. To improve usability, the boulevard space between the sidewalks and lay-by areas will be paved.

Transit facilities – At present, there are no transit services available to the school, and there are no OC Transpo bus stops located nearby.

4.1.2 Circulation and Access

An on-street school bus lay-by is situated on Sweet Valley Drive and a drop-off/pick-up lay-by is situated in the parking lot. The school will have two driveways to Sweet Valley Drive. The eastern driveway is intended to provide two-way traffic flow while the western access provides inbound movements only. The parking lot accesses are intended for staff parking and childcare drop-off/pick-up. The staff parking lot also contains the waste bins.

School bus lay-by – The school bus lay-by is designed to provide approximately 103 metres of storage space, which can accommodate up to eight full-sized school buses simultaneously. According to the school board, they anticipate requiring only four school buses when the school is operating at full capacity. Assuming all buses are full-sized and present at the same time, the lay-by is expected to meet future school bus demands. Any surplus storage space in the lay-by not utilized by the school buses can be allocated for parent drop-off/pick-up activities.

Parent drop-off/pick-up lay-by – There is a parent drop-off/pick-up lay-by is situated within the parking lot. The designated parking lot drop-off area has storage capacity for approximately 10 vehicles, with the potential to accommodate an additional six vehicles using any surplus space in the lay-by not used by the school buses.

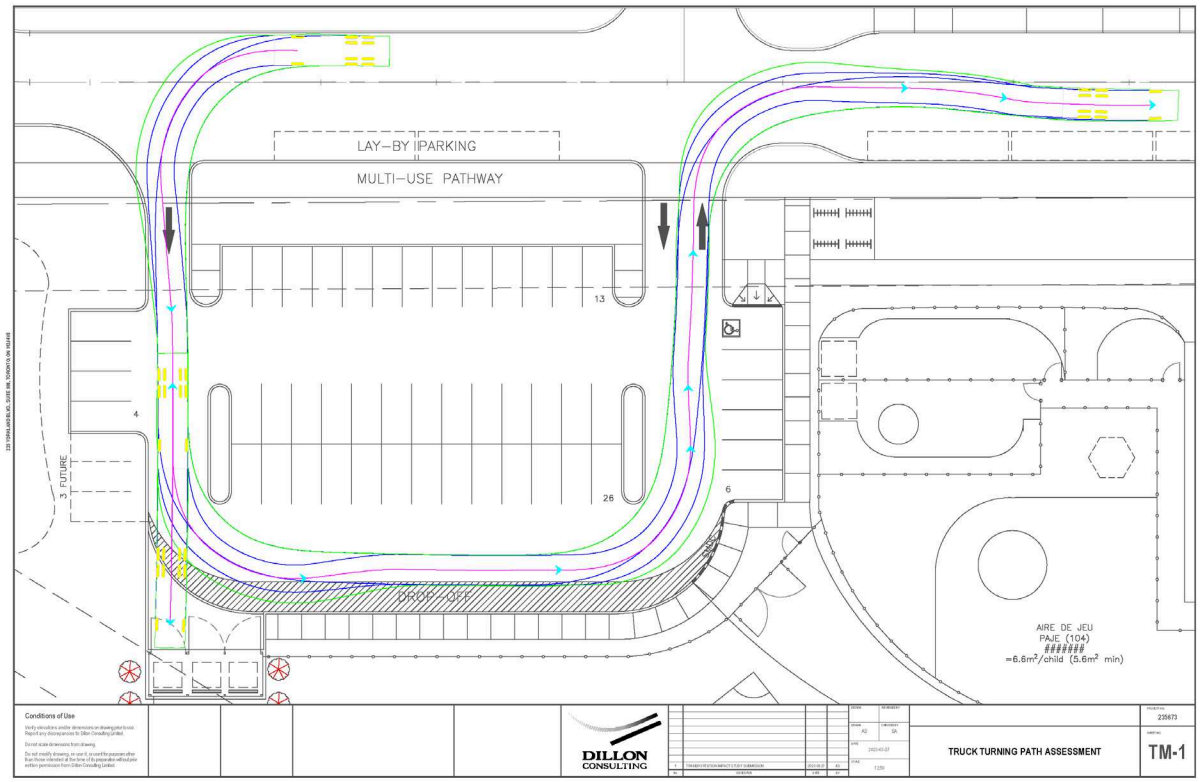
During the morning school drop-off period, up to 56 vehicles are anticipated to drop-off over a 20-minute span. This requires each drop-off space to accommodate 3.5 vehicles (56 vehicles/16 spaces) within the 20-minute period before the bell rings. Consequently, an average drop-off duration of less than 5.7 minutes (20 minutes/3.5 vehicles per space) per vehicle is necessary, which is considered feasible. Parents should be encouraged to quickly drop their children at the curb and continue their journey, rather than entering the school premises. To ensure efficient use of the lay-by and minimize traffic congestion, the school should implement a well-organized program that safely and promptly escorts children into the building. Otherwise, parents may choose to accompany their children inside, leading to reduced turnover in the lay-by area.

Following the afternoon bell, pick-ups are expected to take place within a brief 15-minute window. The forecasted after-school pick-up demand is 56 vehicles, which necessitates each lay-by space to accommodate 3.5 vehicles (56 vehicles/16 spaces) during the 15-minute period. Consequently, the average pick-up duration should not exceed approximately 4.3 minutes (15 minutes/3.5 vehicles per space) per vehicle. To optimize pick-up operations at the end of the day, the school could consider staggering the release times for different groups of students, such as releasing school bus students a few minutes ahead of other students. This would allow the buses to clear the lay-by and provide additional short-term parking space for parent pick-ups. Additionally, short-term parking is available on Sweet Valley Drive, Pewee Place, and Catleaf Row that can serve as auxiliary after-school short-term parking areas for parents picking up their children, if required.

Waste collection – The staff parking lot will be clearly demarcated with painted lines to indicate parking spaces and end aisles. This layout will facilitate waste collection vehicles' maneuverability through the parking lot during off-peak hours, such as weekends or after the school day has concluded.

Figure 20 illustrates the waste collection truck's ability to maneuver in and out of the site without constraints, as determined through vehicle swept path analysis.

Figure 20: Waste Collection Circulation



Childcare drop-off/pick-up area – The childcare drop-off/pick-up area is situated within the staff parking lot, with a designated 55-metre zone for drop-off and pick-up activity. This area can accommodate approximately ten vehicles simultaneously. Up to 19 drop-offs/pick-ups may need to occur within an hour, requiring each parking space to accommodate 1.9 vehicles per hour (19/10). Consequently, drop-offs/pick-ups should be completed in less than approximately 31.6 minutes (60/1.9) per vehicle to ensure efficient use of the designated area. Based on these calculations, the childcare drop-off/pick-up area provides sufficient short-term parking storage for the anticipated demand.

4.2 Parking

4.2.1 Parking Supply

Automobile Parking – According to the City of Ottawa Zoning By-law 2008-250 (Sections 101 and 102), the minimum parking space rate is 1.5 parking spaces per classroom, and one parking space per 50 square metres of childcare space. Initially, the school will have 18 classrooms, with the potential to add up to 8 portables in the future. Consequently, 27 parking spaces (18 x 1.5) are required for the school without portables, and 39 parking spaces ((18+8) x 1.5) may be required if the school reaches its maximum capacity with portables. Additionally, the site plan must account for one accessible parking space, bringing the total parking requirement to 40 spaces if the school reaches its maximum capacity.

Furthermore, the daycare facility, with a GFA of 302.6 square metres, requires an additional 7 parking spaces. The site plan indicates that 49 parking spaces will be provided at build-out, which meets the zoning by-law requirements.

Bicycle Parking – As per City of Ottawa Zoning By-law 2016-249 (Section 111), the minimum bicycle parking rate is one bicycle parking space per 100 m^2 of gross floor area. Therefore, 33 bicycle parking spaces are required (3,354.8 sq. m gross school floor area x 1 bicycle parking space / 100 sq. m = 34 bicycle parking spaces), the site plan provides 62 spaces with bicycle parking racks. Therefore, the site plan meets the zoning by-law requirements.

4.3 Boundary Street Design

4.3.1 Mobility

The Multi-Modal Level of Service (MMLOS) is a performance measure that evaluates the quality and accessibility of transportation facilities for all modes of travel, including walking, cycling, public transit, and automobiles. In this traffic impact assessment, the MMLOS was evaluated for Sweet Valley Drive and Tenth Line to develop a concept that maximizes the achievement of the MMLOS objectives and promotes a safe and efficient transportation environment around the new elementary school.

Since the development is within 300 metres of a school (the site itself), it is subject to MMLOS targets of the school policy area. These targets aim to improve pedestrian and cyclist safety and promote active transportation in the vicinity of the school. Note that there are no targets for trucks on a collector roadway within the school policy area. Similarly, there are no targets for auto traffic between intersections, as the focus is on signalized intersections (there are targets for auto traffic at signalized intersections only, there are no signalized intersections within proximity of the site).

Table 18 presents the MMLOS conditions for roadway segments adjacent to the school on Sweet Valley Drive and Tenth Line. This MMLOS analysis is based on the planned conditions of the roadways once the school is constructed. The planned infrastructure includes a MUP adjacent to the parking lay-by and sidewalks on the south side of Sweet Valley Drive. Tenth Line is not provided with sidewalks on either side of the roadway. Sweet Valley Drive has a posted speed limit of 40 km/h, and the posted speed limit on Tenth Line is 60 km/h.

The analysis shows that all MMLOS targets are met for Sweet Valley Drive for pedestrian, cycling, and transit LOS. Tenth Line fell below the MMLOS targets for pedestrian facilities and cycling facilities.

Table 18: MMLOS Conditions - Segments

Travel Mode	Criteria	Target	Tenth Line Arterial Road (26 D)	Sweet Valley Drive Local Road
Pedestrian LOS	Sidewalk width	A	0 metres	2 metres
	Boulevard width		0 metres	0 metres
	AADT < 3000		No (assume 14x multiplier for AM peak hour volumes)	No (assume 14x multiplier for AM peak hour volumes)
	On-Street Parking		No	Yes
	Operating Speed		50-60 km/h	> 30 or <50 km/h
	Level of Service		**F**	**A**
Cycling LOS	Type of facility	B	Bike Lane w/o Parking	Physically Separated
	Number of travel lanes/direction		2	1
	Operating speed		50-60 km/h	≤ 40 km/h
	Level of Service		**C**	**A**
Transit LOS	Type of facility	D	Mixed traffic	Mixed traffic
	Parking/driveway friction		Limited / Low	Limited / Low
	Level of Service		**D**	**D**

4.3.2 Road Safety

The design of the surrounding development incorporates the Complete Streets philosophy, prioritizing the safety and accessibility of all users. By implementing these measures, the area is expected to experience improved safety for pedestrians, cyclists, and motorists alike.

4.4 Access Intersection Design

4.4.1 Location and Design of Driveway

The site driveways are located on Sweet Valley Drive (a local street) with the west driveway providing entrance only access and the east driveway providing entrance and egressing from the school. The east site driveway is 7.0 metres wide and provides a clear throat distance of greater than 15 metres from the property line. This meets the requirements of the City of Ottawa Private Approach Bylaw (#2003-447). The driveway is located with clear sightlines, operates under low speeds, and is expected to operate safely.

4.4.2 Intersection Control

The proposed site driveway will be located on a low-volume local roadway. Local roadways are designed to primarily serve the needs of adjacent land uses and provide direct access to individual properties. Therefore, it is appropriate to implement stop-control measures (TWSC) for traffic exiting the site driveway to ensure safe and efficient traffic flow.

4.4.3 Access Intersection Design

Table 19 show the site access operational performance for the 2030 horizon year during the AM and PM peak periods. The results indicate that the driveway intersections are anticipated to operate at a LOS A, with negligible delay.

Table 19: Site Access Performance Measures (2030)

Intersection / Movement	AM Peak				PM Peak			
	LOS	Delay (s)	v/c	Queue	LOS	Delay (s)	v/c	Queue
West Access & Sweet Valley Drive	**A**	**0**	-	-	**A**	**0**	-	-
EB Through-Right	A	0	0.04	0	A	0	0.02	0
WB Through-Left	A	8	0.19	6	A	0	0.10	4
East Access & Sweet Valley Drive	**A**	**7**	-	-	**A**	**8**	-	-
EB Left-Through-Right	A	0	0	0	A	0	0	0
WB Left-Through-Right	A	6	0.07	0	A	7	0.04	3
NB Left-Through-Right	A	10	0.22	14	A	9	0.16	14
SB Left-Through-Right	A	12	0.04	12	A	0	0.04	0

4.5 Transportation Demand Management

Appendix C contains the TDM checklists. From the TDM checklists, some recommendations are as follows:

- Display relevant transit schedules and route maps at entrances;
- Provide links to OC Transpo and STO information on the school board website; and,
- Provide shower and lockers for staff use (these measures are provided).

The school board should also consider offering preloaded PRESTO cards to encourage commuters to use transit, or provide reimbursement of monthly transit passes for employees.

All students residing beyond a 1.6 km radius from the school or residing to the east of Tenth Line Road will be given access to school bus transportation. To promote active transportation, students will be encouraged to walk or cycle to school. The school will develop and make available educational materials on alternative transportation modes through its website, which will also display transportation options and encourage parents to choose non-automotive options. The school's parent association will support in creating and distributing these educational materials and keep an eye on transportation-related matters, reporting to the Principal. The school board plans to participate in the city's cycling education programs.

4.6 Neighbourhood Traffic Management

Sweet Valley Drive is classified as a Local roadway and Tenth Line Road is classified as an Arterial roadway.

During the weekday AM peak period, Sweet Valley Drive at the proposed school is projected to carry roughly 168 vehicles per hour (vph), which translates to approximately 1,680 vehicles per day (vpd). These projected traffic volumes align with the Local roadway classification. Meanwhile, Tenth Line, located near Sweet Valley Drive, is predicted to carry 675 vph, or 6,750 vpd during the AM peak period. These traffic volumes are consistent with an Arterial roadway designation.

As the projected traffic volumes fall within their respective roadway classifications, and given that school-related traffic is concentrated over brief intervals, there is no need for neighborhood traffic management.

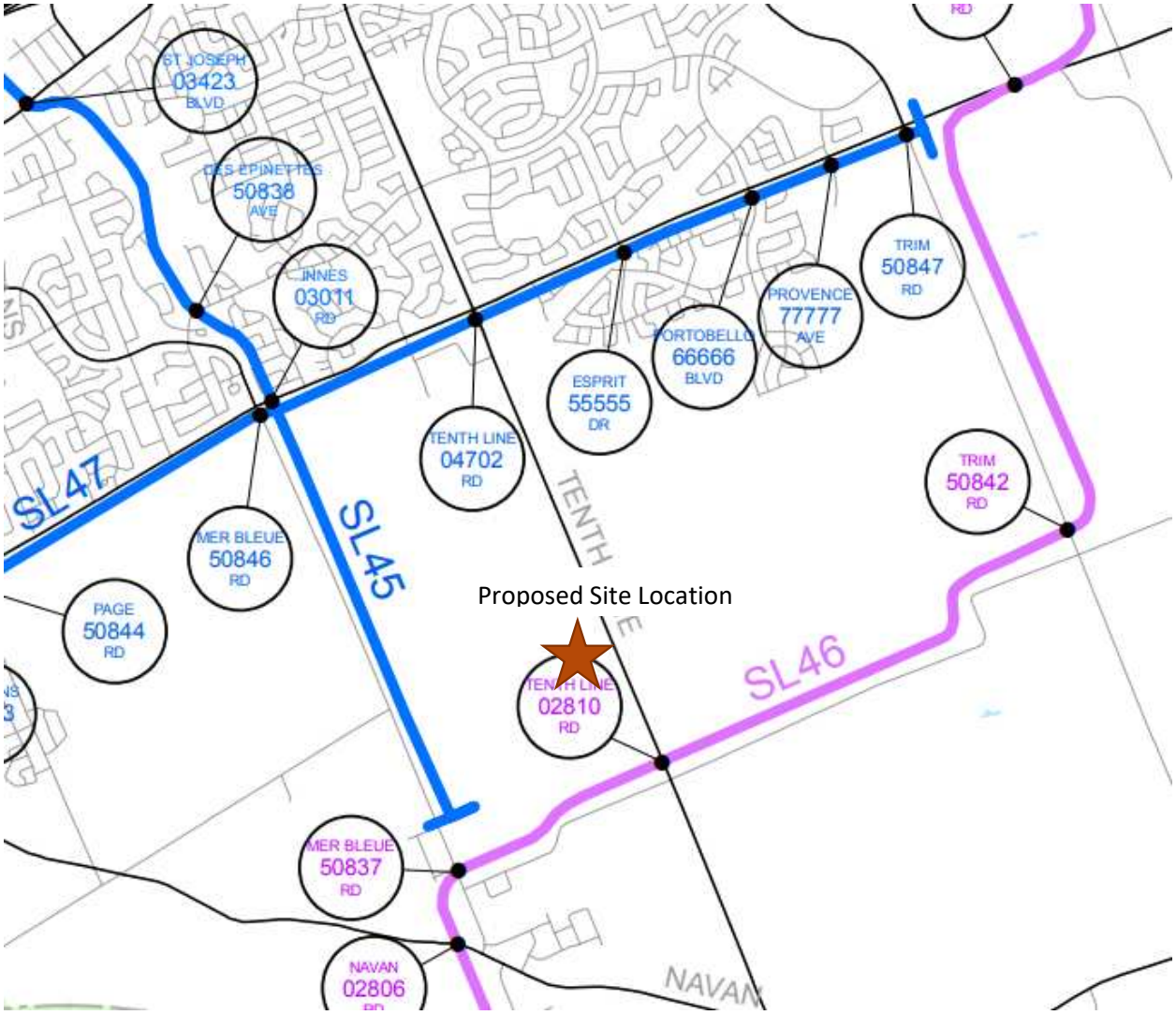
4.7 Transit

At present, the proposed development lacks transit service, but it is anticipated that it will be made available in the future. Upon the introduction of transit to the area, the school may generate a small number of transit trips, which should be manageable.

4.8 Review of Network Concept

The site is currently zoned as Area D, Rural Area. The proposed zoning is I1A – Minor Institutional Zone. The site is anticipated to generate 672 person trips during the AM commuter peak hour and 598 person trips during the school afternoon peak hour. During the AM peak hour, it is anticipated that 186 bi-directional automobile and bus trips will occur. The majority of these trips will originate locally within a few kilometres from the site and will not cross regional screen lines. It is anticipated that staff trips will originate more regionally, making up 36 trips during the peak hours which will have a negligible impact on regional screen lines. Parent pickup/drop-off trips are anticipated to only cross screen line 46 (SL46), see **Figure 21**, which is primarily rural in nature and should have sufficient capacity to accommodate the local school traffic.

Figure 21: Regional Screen Lines



4.9 Intersection Design

The following subsections provide a review of the study area intersection traffic operations from the Synchro analysis. The worksheets for the results are provided in **Appendix D**. The existing, 2025 and 2030 forecast total future traffic conditions have been analysed using Synchro 11 software. The analysis includes the existing lane geometry and traffic control. The level-of-service (LOS) of traffic signal-controlled intersections in the City of Ottawa is based on the volume to capacity (v/c) ratio, refer to **Appendix E** for the City of Ottawa LOS definitions.

4.9.1 Sweet Valley Drive \ Little Lake Lane and Tenth Line Road

The intersection is forecast to operate at an acceptable LOS in future, as indicated in **Table 20**. The school impact on the intersection is negligible. Intersection modifications or traffic control modifications

are not required to address auto traffic demands. Furthermore, an analysis was conducted to assess the necessity of a left turn lane for northbound traffic, using the left turn warrants criteria specified by the Ministry of Transportation Ontario (MTO). The results of the analysis indicated that a left turn lane is not necessary. For further details on the analysis, please refer to **Appendix F**.

Table 20: Sweet Valley Drive \ Little Lake Lane and Tenth Line Road Intersection Operations

Intersection / Movement	AM Peak				PM Peak			
	LOS	Delay (s)	v/c	Queue	LOS	Delay (s)	v/c	Queue
Existing								
EB Left-Through-Right	B	12	0.09	19	B	12	0.05	20
WB Left-Through-Right	B	13	0.02	16	B	12	0.04	13
NB Left-Through-Right	A	0	0.01	4	A	0	0.01	4
SB Left-Through-Right	A	0	0.01	0	A	0	0	6
2025								
EB Left-Through-Right	C	18	0.29	26	C	17	0.20	22
WB Left-Through-Right	B	15	0.07	23	B	13	0.07	18
NB Left-Through-Right	A	1	0.02	11	A	0	0.01	9
SB Left-Through-Right	A	0	0.01	8	A	0	0.01	8
2030								
EB Left-Through-Right	C	18	0.30	27	C	17	0.21	26
WB Left-Through-Right	B	15	0.08	21	B	14	0.07	19
NB Left-Through-Right	A	1	0.02	14	A	0	0.01	12
SB Left-Through-Right	A	0	0.01	13	A	0	0.01	5

4.9.2 Tenth Line Road and Wall Road

The intersection is forecast to operate at an acceptable LOS in future, as indicated in **Table 21**. The school impact on the intersection is negligible. Intersection modifications or traffic control modifications are not required to address auto traffic demands.

Table 21: Tenth Line Road and Wall Road Intersection Operations

Intersection / Movement	AM Peak				PM Peak			
	LOS	Delay (s)	v/c	Queue	LOS	Delay (s)	v/c	Queue
Existing								
EB Left-Through-Right	B	12	0.06	14	B	12	0.06	16
WB Left-Through-Right	B	11	0.03	15	B	12	0.03	12
NB Left-Through-Right	A	0	0	2	A	0	0	5
SB Left-Through-Right	A	0	0	3	A	0	0	3

Intersection / Movement	AM Peak				PM Peak			
	LOS	Delay (s)	v/c	Queue	LOS	Delay (s)	v/c	Queue
2025								
EB Left-Through-Right	B	15	0.27	24	C	15	0.26	20
WB Left-Through-Right	B	12	0.03	14	B	14	0.03	17
NB Left-Through-Right	A	1	0.02	17	A	1	0.02	10
SB Left-Through-Right	A	0	0	6	A	0	0	6
2030								
EB Left-Through-Right	C	16	0.32	26	C	18	0.32	21
WB Left-Through-Right	B	12	0.04	14	B	14	0.04	16
NB Left-Through-Right	A	1	0.02	17	A	1	0.03	13
SB Left-Through-Right	A	0	0	4	A	0	0	3

4.9.3 Sweet Valley Drive / Harvest Valley Avenue and Tenth Line Road

The All-Way Stop controlled intersection is forecast to operate at an acceptable LOS in future, as indicated in **Table 22**. The school impact on the intersection is negligible. Intersection modifications or traffic control modifications are not required to address auto traffic demands.

Table 22: 4.9.3 Sweet Valley Drive / Harvest Valley Avenue and Tenth Line Road Operations

Intersection / Movement	AM Peak				PM Peak			
	LOS	Delay (s)	v/c	Queue	LOS	Delay (s)	v/c	Queue
Existing								
EB Left	B	10	0.42	20	B	12	0.24	19
EB Through-Right	A	8	0.03	13	B	11	0.01	16
WB Left	A	8	0.11	4	B	11	0.06	4
WB Through-Right	A	9	0.21	6	B	11	0.12	0
NB Left	A	0	0.00	0	A	6	0.01	14
NB Through-Right	A	9	0.26	16	A	7	0.18	15
SB Left	B	10	0.38	12	A	8	0.37	2
SB Through-Right	A	9	0.23	5	A	7	0.21	3
2025								
EB Left	B	11	0.4	26	B	13	0.24	19
EB Through-Right	A	9	0.04	13	B	12	0.02	10
WB Left	A	9	0.18	21	B	12	0.14	18
WB Through-Right	A	10	0.23	36	B	12	0.13	24
NB Left	A	0	0.00	28	A	6	0.02	7
NB Through-Right	A	10	0.37	31	A	6	0.25	25

Intersection / Movement	AM Peak				PM Peak			
	LOS	Delay (s)	v/c	Queue	LOS	Delay (s)	v/c	Queue
SB Left	B	11	0.44	34	A	8	0.46	37
SB Through-Right	A	10	0.29	30	A	6	0.26	28
2030								
EB Left	B	12	0.47	29	B	13	0.24	29
EB Through-Right	A	9	0.05	14	B	12	0.03	29
WB Left	A	10	0.19	23	B	12	0.15	11
WB Through-Right	B	10	0.26	36	B	12	0.14	19
NB Left	A	0	0.00	28	A	7	0.02	0
NB Through-Right	B	11	0.41	31	A	8	0.29	33
SB Left	B	13	0.53	33	B	11	0.57	7
SB Through-Right	B	11	0.33	30	A	8	0.3	18

4.9.4 Promenade Decoeur Drive / Southfield Way and Tenth Line Road

The intersection is forecast to operate at an acceptable level of service in future, as indicated **Table 23**. The school impact on the intersection is negligible. Intersection modifications or traffic control modifications are not required to address traffic demands.

Table 23: Promenade Decoeur Drive / Southfield Way and Tenth Line Road Operations

Intersection / Movement	AM Peak				PM Peak			
	LOS	Delay (s)	v/c	Queue	LOS	Delay (s)	v/c	Queue
Existing								
EB Left	C	32	0.55	18	C	33	0.41	27
EB Through-Right	C	27	0.18	6	C	31	0.22	11
WB Left	C	26	0.07	12	C	30	0.04	17
WB Through-Right	C	28	0.33	19	C	31	0.15	28
NB Left	A	5	0.18	3	A	4	0.08	0
NB Through	A	5	0.25	18	A	4	0.16	23
NB Right	A	4	0.01	21	A	4	0.01	21
SB Left	A	4	0.13	29	A	4	0.09	27
SB Through	A	4	0.14	20	A	4	0.18	24
SB Right	A	4	0.07	20	A	4	0.04	19
2025								
EB Left	C	33	0.58	26	C	33	0.45	32
EB Through-Right	C	26	0.16	13	C	31	0.21	26
WB Left	C	27	0.19	21	C	30	0.09	11

Intersection / Movement	AM Peak				PM Peak			
	LOS	Delay (s)	v/c	Queue	LOS	Delay (s)	v/c	Queue
WB Through-Right	C	27	0.29	36	C	30	0.14	19
NB Left	A	5	0.24	28	A	4	0.12	20
NB Through	A	5	0.28	31	A	4	0.18	26
NB Right	A	4	0.02	34	A	4	0.01	6
SB Left	A	5	0.13	30	A	4	0.09	17
SB Through	A	4	0.16	27	A	4	0.22	35
SB Right	A	4	0.07	26	A	4	0.05	15
2030								
EB Left	C	30	0.55	29	C	34	0.51	29
EB Through-Right	C	25	0.15	14	C	31	0.23	29
WB Left	C	25	0.17	23	C	30	0.09	11
WB Through-Right	C	26	0.27	36	C	30	0.15	19
NB Left	A	7	0.31	28	A	5	0.15	0
NB Through	A	6	0.34	31	A	5	0.21	33
NB Right	A	5	0.02	33	A	4	0.01	7
SB Left	A	6	0.18	30	A	5	0.12	18
SB Through	A	5	0.20	27	A	5	0.25	37
SB Right	A	5	0.08	29	A	4	0.06	13

5.0 Summary/Conclusions

The Conseil des Écoles Catholiques du Centre-Est is proposing to build a new elementary school located at 2666 Tenth Line Rd, Orléans, ON K4A 3W5, at the south west corner of Sweet Valley Drive and Tenth Line Road. The school is scheduled to open in 2025 and will serve students from kindergarten to Grade 6. Along with classrooms, the school will have a daycare, gymnasium, library, 17 classrooms, and a special education center. The school requires rezoning as it is currently located in the Rural Area, designated as Area D, and the proposed zone is I1A[2130]– Minor Institutional Zone.

The site plan includes appropriate bicycle parking facilities with 62 bicycle parking spaces and well-defined pedestrian access from the public sidewalks that lead to the school's entrances. The parking lot is designed to accommodate school parking demands and short-term parking needs for pick-up and drop-offs. Additionally, a school bus parking lay-by area on Sweet Valley Drive is planned to accommodate up to eight buses, however only four buses are anticipated and the remaining spaced can be allocated to provide six pickup and drop-off spaces, and a parent pick-up/drop-off lay-by area is also included in the parking lot.

During the weekday AM and PM peak periods, the school driveways are anticipated to operate at LOS A with minimal delay. The driveways should operate under stop-control at the driveway, and a formal stop sign may be provided if needed. The unsignalized intersections within the study area are projected to operate at an acceptable LOS for the 2030 future horizon year.

Appendix A

Turning Movement Counts

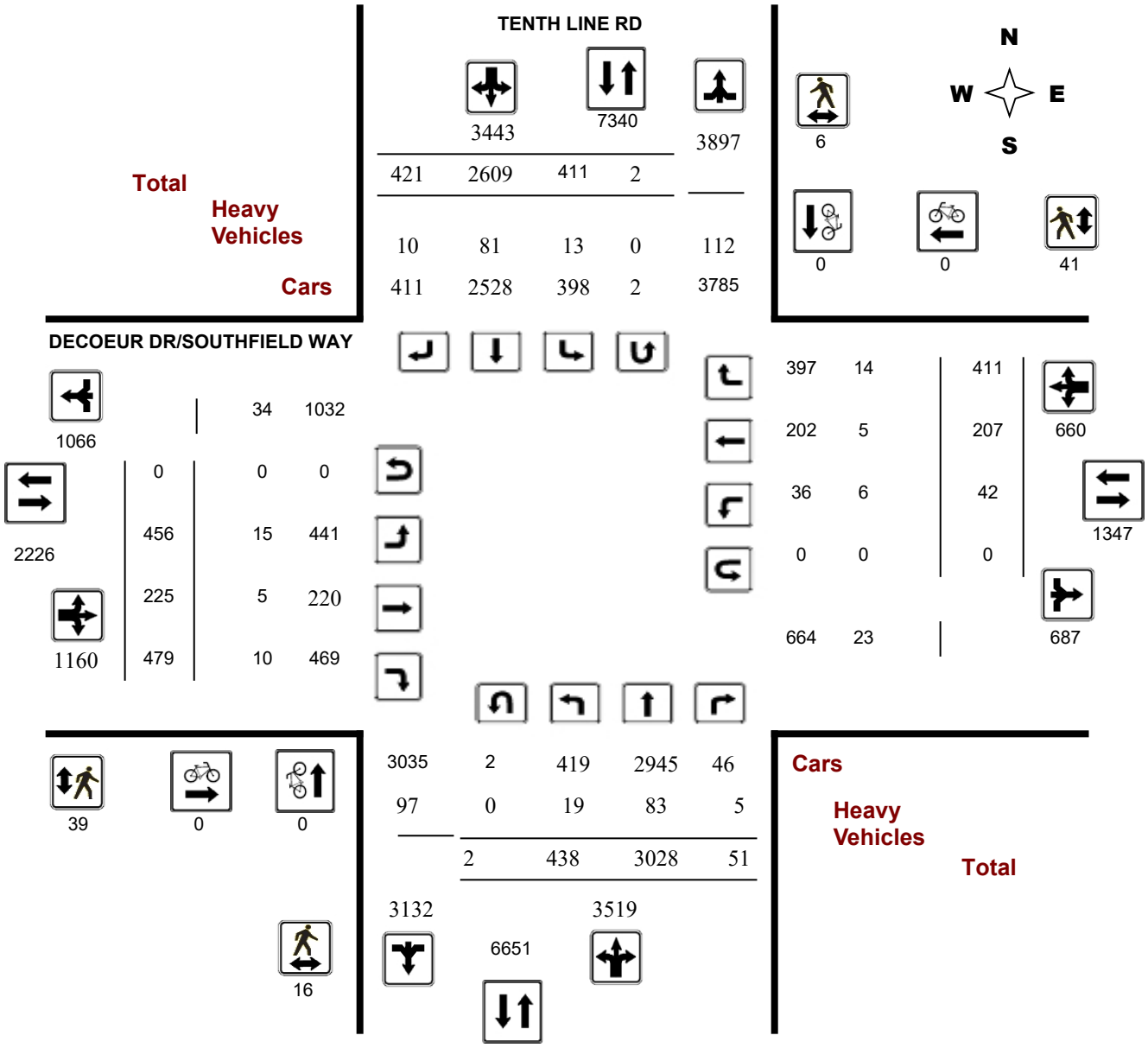
Transportation Services - Traffic Services

Turning Movement Count - Study Results

DECOEUR DR/SOUTHFIELD WAY @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023
Start Time: 06:30
WO No: 40764
Device: Miovision

Full Study Diagram



Transportation Services - Traffic Services

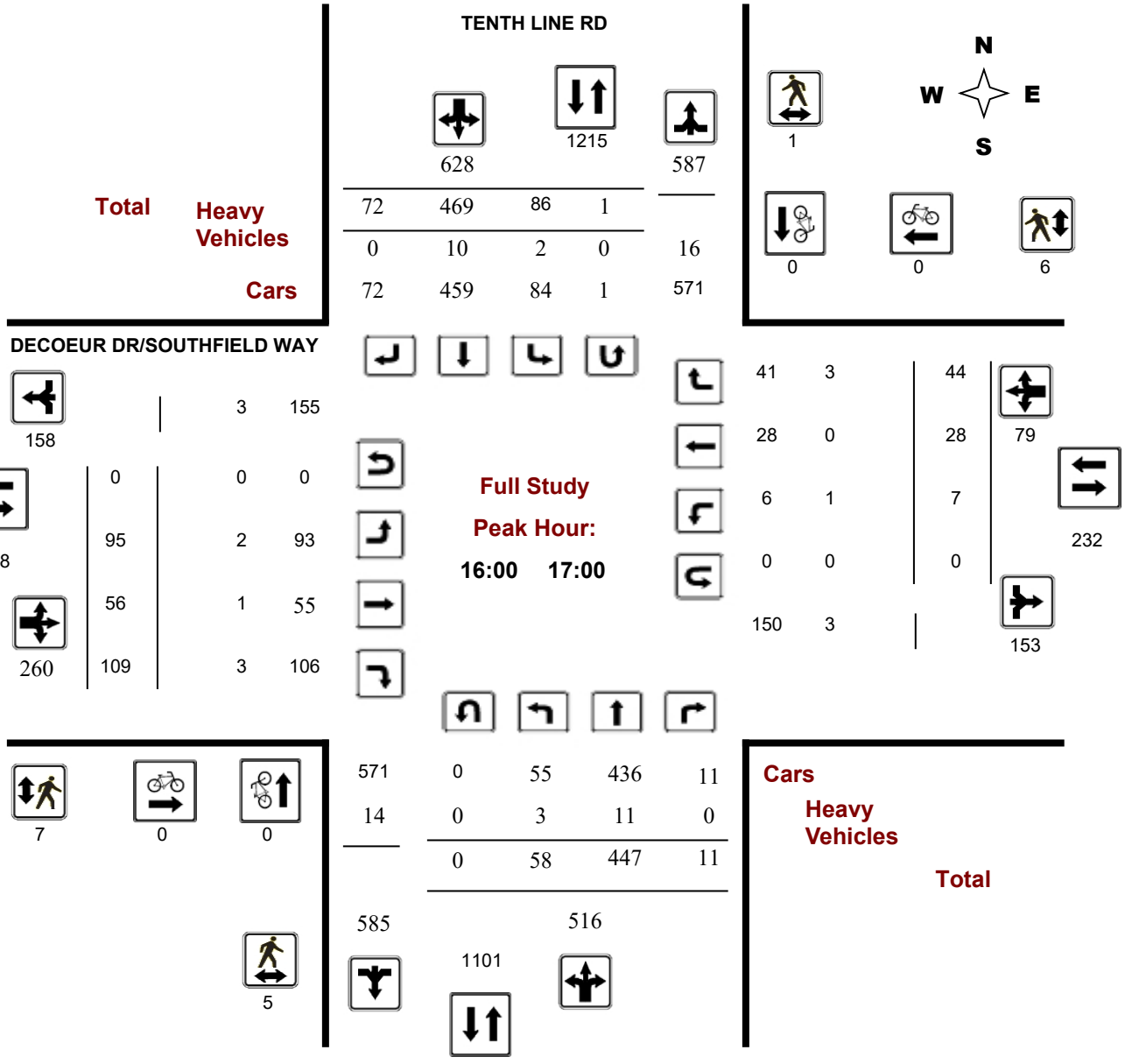
Turning Movement Count - Study Results

DECOEUR DR/SOUTHFIELD WAY @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40764

Start Time: 06:30 **Device:** Miovision

Full Study Peak Hour Diagram



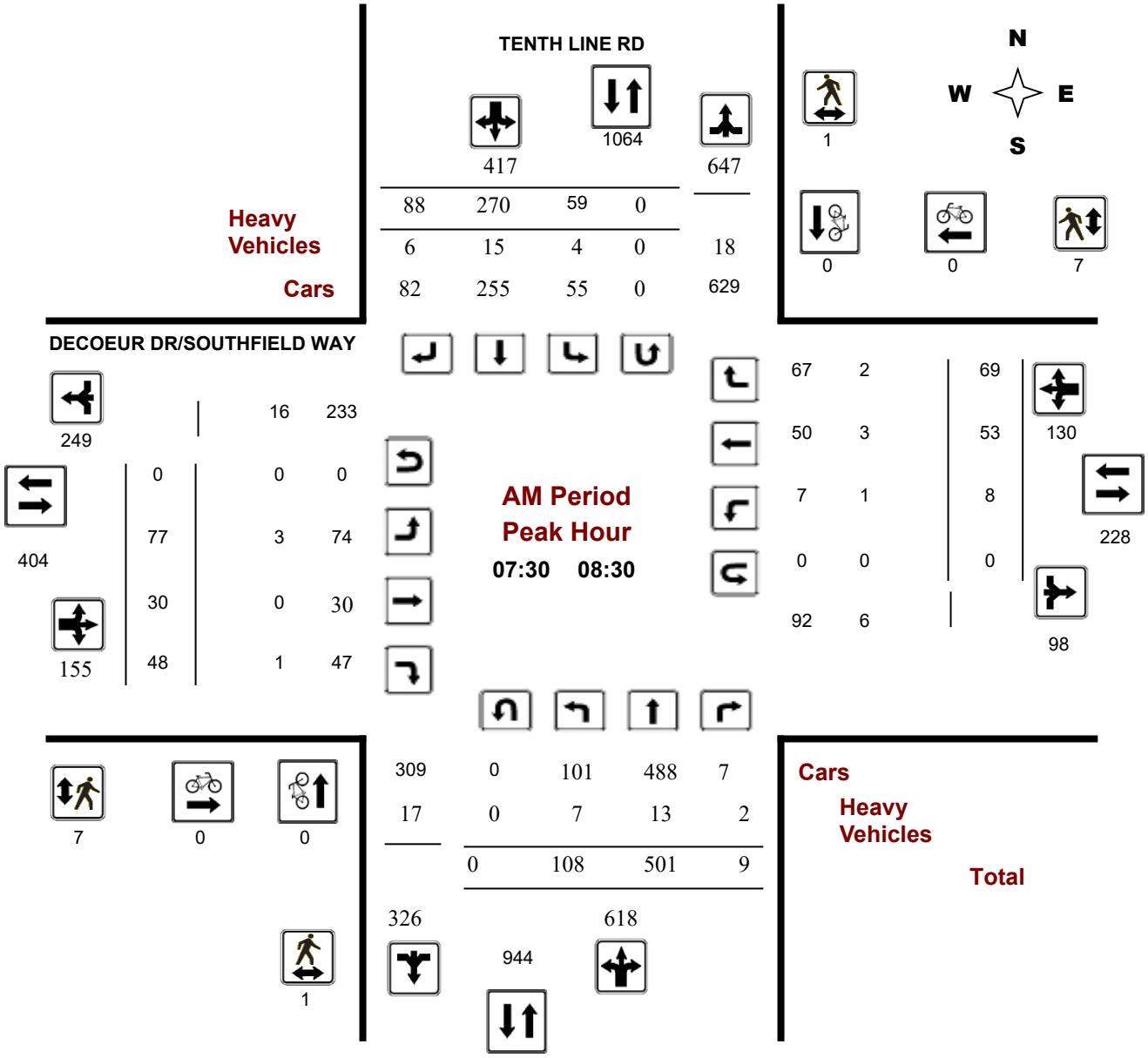
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

DECOEUR DR/SOUTHFIELD WAY @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40764

Start Time: 06:30 **Device:** Miovision



Comments

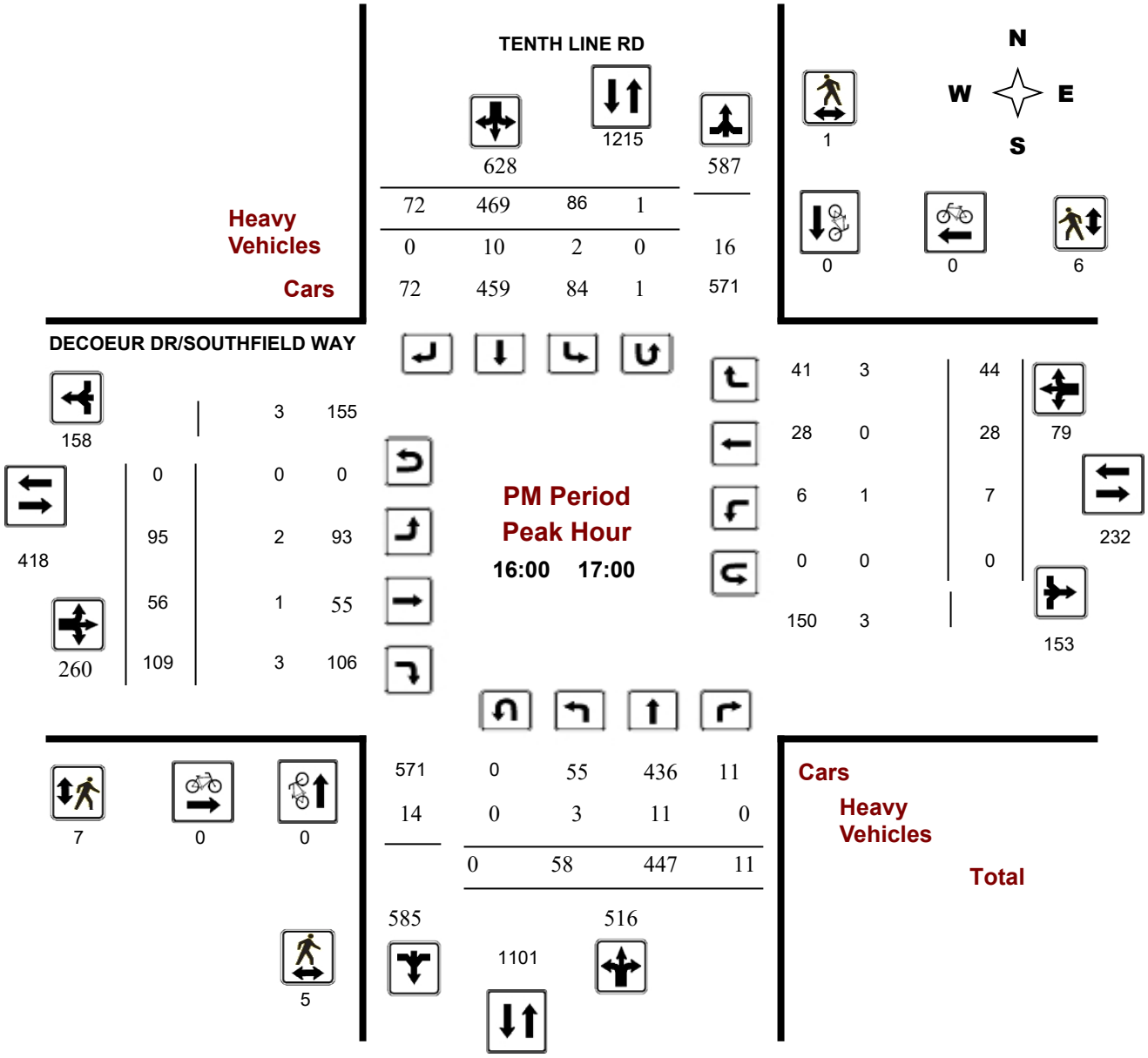
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

DECOEUR DR/SOUTHFIELD WAY @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40764

Start Time: 06:30 **Device:** Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

DECOEUR DR/SOUTHFIELD WAY @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40764

Start Time: 06:30 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, February 07, 2023

Total Observed U-Turns

Northbound: 2 Southbound: 2

Eastbound: 0 Westbound: 0

AADT Factor

.00

	TENTH LINE RD									DECOEUR DR/SOUTHFIELD WAY									
	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
06:30 07:30	76	290	5	**371**	20	204	25	**249**	**620**	39	8	27	**74**	3	27	53	**83**	**157**	**777**
07:30 08:30	108	501	9	**618**	59	270	88	**417**	**1035**	77	30	48	**155**	8	53	69	**130**	**285**	**1320**
08:30 09:30	61	408	7	**476**	32	236	37	**305**	**781**	49	25	44	**118**	4	32	59	**95**	**213**	**994**
13:00 14:00	29	300	3	**332**	33	263	25	**321**	**653**	25	4	26	**55**	1	5	37	**43**	**98**	**751**
14:00 15:00	24	342	4	**370**	46	307	51	**404**	**774**	52	21	34	**107**	5	15	42	**62**	**169**	**943**
15:00 16:00	49	334	6	**389**	53	409	61	**523**	**912**	62	36	88	**186**	8	30	48	**86**	**272**	**1184**
16:00 17:00	58	447	11	**516**	86	469	72	**627**	**1143**	95	56	109	**260**	7	28	44	**79**	**339**	**1482**
17:00 18:00	33	406	6	**445**	82	451	62	**595**	**1040**	57	45	103	**205**	6	17	59	**82**	**287**	**1327**
Sub Total	438	3028	51	**3517**	411	2609	421	**3441**	**6958**	456	225	479	**1160**	42	207	411	**660**	**1820**	**8778**
U Turns				**2**				**2**	**4**				**0**				**0**	**0**	**4**
Total	438	3028	51	**3519**	411	2609	421	**3443**	**6962**	456	225	479	**1160**	42	207	411	**660**	**1820**	**8782**
EQ 12Hr	609	4209	71	**4891**	571	3627	585	**4786**	**9677**	634	313	666	**1612**	58	288	571	**917**	**2530**	**12207**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**.00**					
AVG 24Hr	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
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

DECOEUR DR/SOUTHFIELD WAY @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40764

Start Time: 06:30 **Device:** Miovision

Full Study 15 Minute Increments

TENTH LINE RD **DECOEUR DR/SOUTHFIELD WAY**

Time Period		Northbound				Southbound					Eastbound				Westbound					
		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
06:30	06:45	15	69	1	85	7	42	4	53	138	2	1	4	7	1	1	17	19	26	164
06:45	07:00	10	72	0	82	3	51	5	59	141	14	2	4	20	1	5	11	17	37	178
07:00	07:15	14	58	2	74	4	55	8	67	141	12	2	6	20	1	10	10	21	41	182
07:15	07:30	37	91	2	130	6	56	8	70	200	11	3	13	27	0	11	15	26	53	253
07:30	07:45	30	123	3	156	12	61	24	97	253	13	3	10	26	3	21	18	42	68	321
07:45	08:00	33	135	2	170	14	63	21	98	268	19	5	10	34	2	9	18	29	63	331
08:00	08:15	23	137	1	161	14	78	20	112	273	21	8	12	41	1	12	15	28	69	342
08:15	08:30	22	106	3	131	19	68	23	110	241	24	14	16	54	2	11	18	31	85	326
08:30	08:45	30	112	2	144	11	70	14	95	239	23	1	21	45	2	12	20	34	79	318
08:45	09:00	11	118	3	132	7	69	8	84	216	10	8	8	26	1	7	9	17	43	259
09:00	09:15	10	82	1	93	6	42	8	56	149	9	11	7	27	0	7	18	25	52	201
09:15	09:30	10	96	1	107	8	55	7	70	177	7	5	8	20	1	6	12	19	39	216
09:30	09:45	5	76	1	82	11	54	7	72	154	5	0	5	10	0	3	7	10	20	174
09:45	10:00	3	83	0	87	6	60	2	68	155	7	1	4	12	1	2	10	13	25	180
13:30	13:45	12	64	0	76	5	72	9	86	162	7	0	5	12	0	0	8	8	20	182
13:45	14:00	9	77	2	89	11	77	7	95	184	6	3	12	21	0	0	12	12	33	217
14:00	14:15	3	63	1	67	11	60	8	79	146	18	0	9	27	1	3	10	14	41	187
14:15	14:30	2	91	0	93	14	64	18	97	190	7	5	6	18	1	1	13	15	33	223
14:30	14:45	9	96	0	105	8	98	14	120	225	11	8	8	27	3	3	12	18	45	270
14:45	15:00	10	92	3	105	13	85	11	109	214	16	8	11	35	0	8	7	15	50	264
15:00	15:15	13	89	2	104	14	102	22	138	242	7	3	16	26	3	3	10	16	42	284
15:15	15:30	13	76	1	90	12	105	18	135	225	24	8	30	62	2	7	10	19	81	306
15:30	15:45	9	81	3	93	16	91	7	114	207	14	13	19	46	1	5	12	18	64	271
15:45	16:00	14	88	0	102	11	111	14	136	238	17	12	23	52	2	15	16	33	85	323
16:00	16:15	15	118	5	138	24	127	19	170	308	12	15	34	61	2	4	11	17	78	386
16:15	16:30	17	113	0	130	20	109	19	148	278	29	8	26	63	2	8	15	25	88	366
16:30	16:45	12	112	3	127	25	113	13	152	279	27	19	25	71	2	11	9	22	93	372
16:45	17:00	14	104	3	121	17	120	21	158	279	27	14	24	65	1	5	9	15	80	359
17:00	17:15	9	105	4	118	23	121	18	162	280	14	11	27	52	1	6	19	26	78	358
17:15	17:30	7	91	0	98	19	115	14	148	246	12	10	27	49	4	3	17	24	73	319
17:30	17:45	11	102	1	114	17	102	22	141	255	13	11	29	53	1	3	9	13	66	321
17:45	18:00	6	108	1	115	23	113	8	144	259	18	13	20	51	0	5	14	19	70	329
Total:		438	3028	51	3519	411	2609	421	3443	6962	456	225	479	1160	42	207	411	660	1820	8,782

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

DECOEUR DR/SOUTHFIELD WAY @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40764

Start Time: 06:30 **Device:** Miovision

Full Study Cyclist Volume

Time Period		TENTH LINE RD			DECOEUR DR/SOUTHFIELD WAY			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
06:30	06:45	0	0	0	0	0	0	0
06:45	07:00	0	0	0	0	0	0	0
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	0	0	0	0
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	0	0	0	0	0	0
13:30	13:45	0	0	0	0	0	0	0
13:45	14:00	0	0	0	0	0	0	0
14:00	14:15	0	0	0	0	0	0	0
14:15	14:30	0	0	0	0	0	0	0
14:30	14:45	0	0	0	0	0	0	0
14:45	15:00	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0
Total		0	0	**0**	0	0	0	0

Transportation Services - Traffic Services

Turning Movement Count - Study Results

DECOEUR DR/SOUTHFIELD WAY @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40764

Start Time: 06:30 **Device:** Miovision

Full Study Pedestrian Volume

	TENTH LINE RD			DECOEUR DR/SOUTHFIELD WAY			
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**
06:30 06:45	0	0	**0**	1	1	**2**	**2**
06:45 07:00	0	0	**0**	2	0	**2**	**2**
07:00 07:15	2	0	**2**	2	0	**2**	**4**
07:15 07:30	0	0	**0**	2	0	**2**	**2**
07:30 07:45	1	0	**1**	1	2	**3**	**4**
07:45 08:00	0	0	**0**	1	3	**4**	**4**
08:00 08:15	0	1	**1**	3	2	**5**	**6**
08:15 08:30	0	0	**0**	2	0	**2**	**2**
08:30 08:45	0	0	**0**	0	5	**5**	**5**
08:45 09:00	0	0	**0**	2	2	**4**	**4**
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	1	0	**1**	0	0	**0**	**1**
09:45 10:00	0	0	**0**	0	1	**1**	**1**
13:30 13:45	1	0	**1**	1	1	**2**	**3**
13:45 14:00	0	0	**0**	0	0	**0**	**0**
14:00 14:15	0	0	**0**	0	0	**0**	**0**
14:15 14:30	0	0	**0**	0	1	**1**	**1**
14:30 14:45	0	1	**1**	0	0	**0**	**1**
14:45 15:00	3	0	**3**	0	6	**6**	**9**
15:00 15:15	0	1	**1**	0	1	**1**	**2**
15:15 15:30	0	0	**0**	0	1	**1**	**1**
15:30 15:45	0	1	**1**	3	5	**8**	**9**
15:45 16:00	0	0	**0**	4	2	**6**	**6**
16:00 16:15	3	1	**4**	3	2	**5**	**9**
16:15 16:30	1	0	**1**	3	1	**4**	**5**
16:30 16:45	0	0	**0**	0	2	**2**	**2**
16:45 17:00	1	0	**1**	1	1	**2**	**3**
17:00 17:15	0	0	**0**	2	0	**2**	**2**
17:15 17:30	0	0	**0**	1	1	**2**	**2**
17:30 17:45	3	1	**4**	3	1	**4**	**8**
17:45 18:00	0	0	**0**	2	0	**2**	**2**
Total	16	6	**22**	39	41	**80**	**102**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

DECOEUR DR/SOUTHFIELD WAY @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40764

Start Time: 06:30 **Device:** Miovision

Full Study Heavy Vehicles

TENTH LINE RD **DECOEUR DR/SOUTHFIELD WAY**

Time Period		Northbound				Southbound					Eastbound				Westbound					
		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**
06:30	06:45	1	2	0	**7**	2	4	0	**8**	**15**	0	0	0	**1**	0	0	0	**2**	**3**	**9**
06:45	07:00	0	1	0	**2**	0	1	0	**3**	**5**	0	0	0	**0**	0	0	1	**1**	**1**	**3**
07:00	07:15	1	0	0	**5**	0	4	0	**4**	**9**	0	0	0	**1**	0	0	0	**0**	**1**	**5**
07:15	07:30	0	2	0	**6**	0	4	0	**6**	**12**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
07:30	07:45	2	1	1	**8**	1	4	2	**10**	**18**	1	0	0	**7**	0	2	1	**5**	**12**	**15**
07:45	08:00	3	2	1	**8**	1	1	0	**4**	**12**	0	0	1	**4**	0	0	0	**2**	**6**	**9**
08:00	08:15	0	7	0	**10**	1	3	3	**16**	**26**	1	0	0	**5**	0	1	1	**3**	**8**	**17**
08:15	08:30	2	3	0	**13**	1	7	1	**13**	**26**	1	0	0	**4**	1	0	0	**2**	**6**	**16**
08:30	08:45	1	3	0	**7**	1	3	0	**7**	**14**	0	0	0	**1**	0	0	0	**1**	**2**	**8**
08:45	09:00	1	3	1	**8**	0	3	0	**6**	**14**	0	0	0	**1**	0	0	0	**1**	**2**	**8**
09:00	09:15	0	5	0	**6**	0	1	0	**6**	**12**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
09:15	09:30	1	4	0	**13**	0	8	0	**12**	**25**	0	0	0	**1**	0	0	0	**0**	**1**	**13**
09:30	09:45	0	3	0	**6**	1	3	0	**7**	**13**	0	0	0	**0**	0	0	0	**1**	**1**	**7**
09:45	10:00	0	5	0	**12**	0	6	0	**12**	**24**	0	0	0	**0**	1	0	1	**2**	**2**	**13**
13:30	13:45	0	2	0	**4**	0	2	0	**4**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**4**
13:45	14:00	0	1	1	**3**	1	1	0	**3**	**6**	0	0	0	**0**	0	0	0	**2**	**2**	**4**
14:00	14:15	0	3	0	**3**	0	0	0	**4**	**7**	0	0	0	**0**	0	0	1	**1**	**1**	**4**
14:15	14:30	1	4	0	**8**	0	2	0	**7**	**15**	1	1	1	**4**	0	0	0	**1**	**5**	**10**
14:30	14:45	1	3	0	**7**	0	2	1	**9**	**16**	3	2	0	**8**	1	1	0	**4**	**12**	**14**
14:45	15:00	0	4	0	**6**	1	2	2	**11**	**17**	1	1	0	**5**	0	1	1	**4**	**9**	**13**
15:00	15:15	0	1	0	**3**	1	2	0	**6**	**9**	1	0	0	**1**	0	0	1	**2**	**3**	**6**
15:15	15:30	0	2	0	**4**	0	1	1	**6**	**10**	2	0	1	**4**	0	0	0	**0**	**4**	**7**
15:30	15:45	1	1	0	**3**	0	0	0	**4**	**7**	2	0	1	**4**	0	0	1	**1**	**5**	**6**
15:45	16:00	0	2	0	**6**	0	3	0	**5**	**11**	0	0	0	**0**	1	0	0	**1**	**1**	**6**
16:00	16:15	0	2	0	**6**	0	4	0	**6**	**12**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
16:15	16:30	3	5	0	**13**	0	3	0	**12**	**25**	2	1	1	**7**	1	0	2	**4**	**11**	**18**
16:30	16:45	0	2	0	**7**	2	3	0	**7**	**14**	0	0	2	**2**	0	0	0	**2**	**4**	**9**
16:45	17:00	0	2	0	**2**	0	0	0	**3**	**5**	0	0	0	**0**	0	0	1	**1**	**1**	**3**
17:00	17:15	0	4	1	**8**	0	1	0	**5**	**13**	0	0	2	**2**	0	0	0	**1**	**3**	**8**
17:15	17:30	0	0	0	**3**	0	2	0	**3**	**6**	0	0	0	**0**	1	0	1	**2**	**2**	**4**
17:30	17:45	0	3	0	**5**	0	1	0	**5**	**10**	0	0	1	**1**	0	0	1	**1**	**2**	**6**
17:45	18:00	1	1	0	**2**	0	0	0	**2**	**4**	0	0	0	**1**	0	0	1	**1**	**2**	**3**
Total:	None	19	83	5	**204**	13	81	10	**216**	**420**	15	5	10	**64**	6	5	14	**48**	**112**	**266**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

DECOEUR DR/SOUTHFIELD WAY @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40764

Start Time: 06:30 **Device:** Miovision

Full Study 15 Minute U-Turn Total

		TENTH LINE RD		DECOEUR DR/SOUTHFIELD WAY		
Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
06:30	06:45	0	0	0	0	0
06:45	07:00	0	0	0	0	0
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	1	0	0	0	1
13:30	13:45	0	0	0	0	0
13:45	14:00	1	0	0	0	1
14:00	14:15	0	0	0	0	0
14:15	14:30	0	1	0	0	1
14:30	14:45	0	0	0	0	0
14:45	15:00	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	1	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	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	2	0	0	4

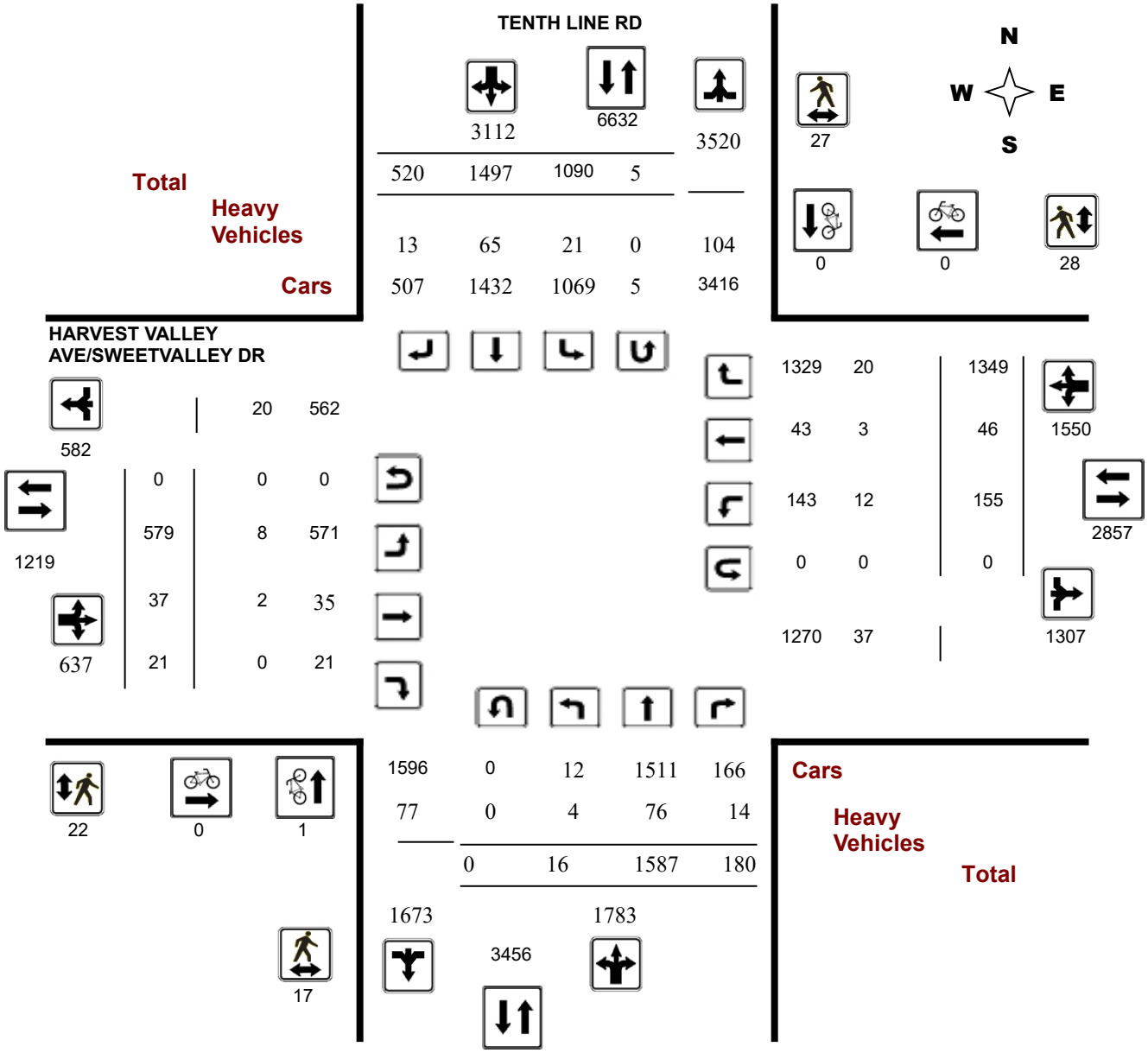
Transportation Services - Traffic Services

Turning Movement Count - Study Results

HARVEST VALLEY AVE/SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023
Start Time: 06:30
WO No: 40766
Device: Miovision

Full Study Diagram



Transportation Services - Traffic Services

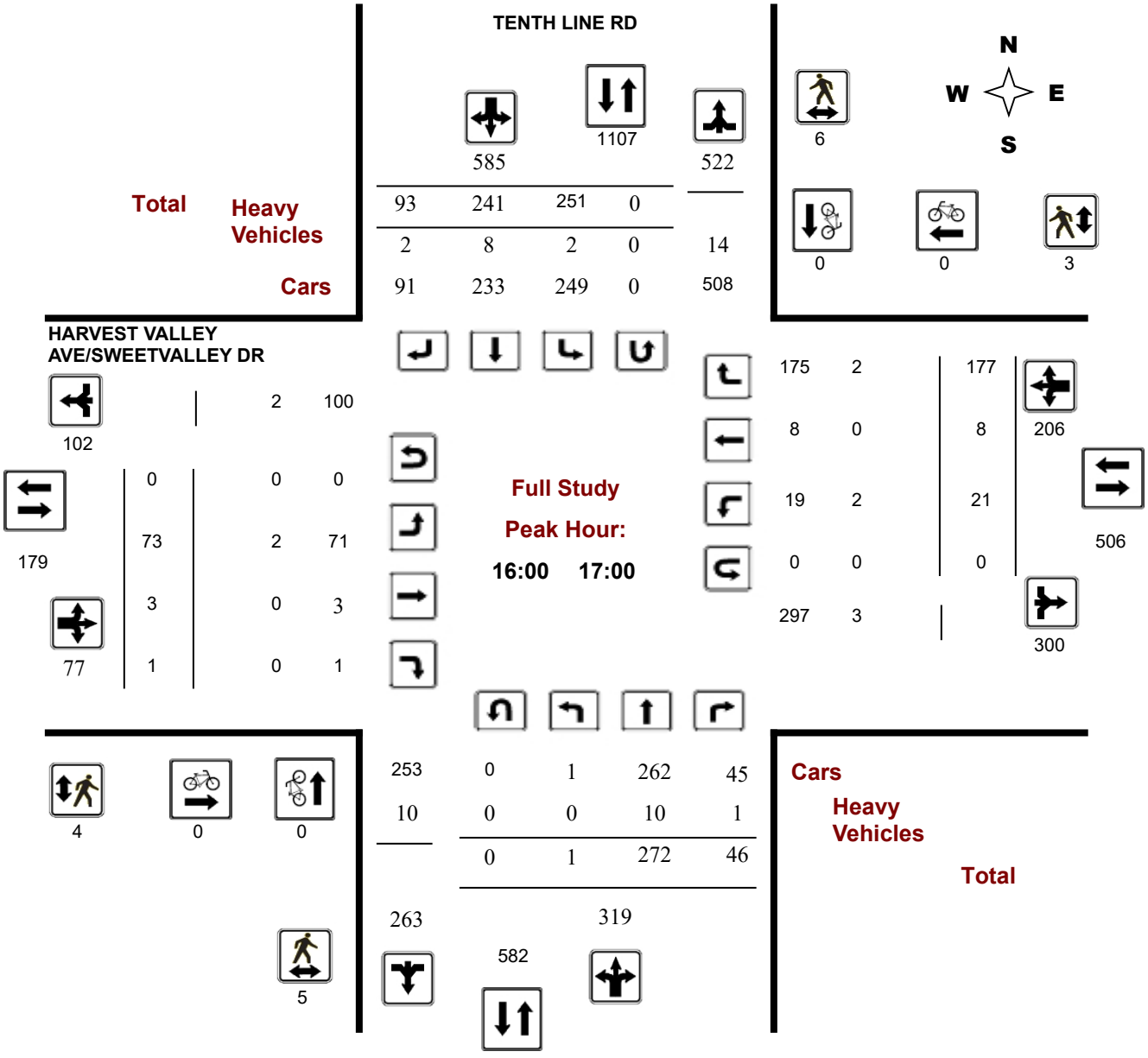
Turning Movement Count - Study Results

HARVEST VALLEY AVE/SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40766

Start Time: 06:30 **Device:** Miovision

Full Study Peak Hour Diagram



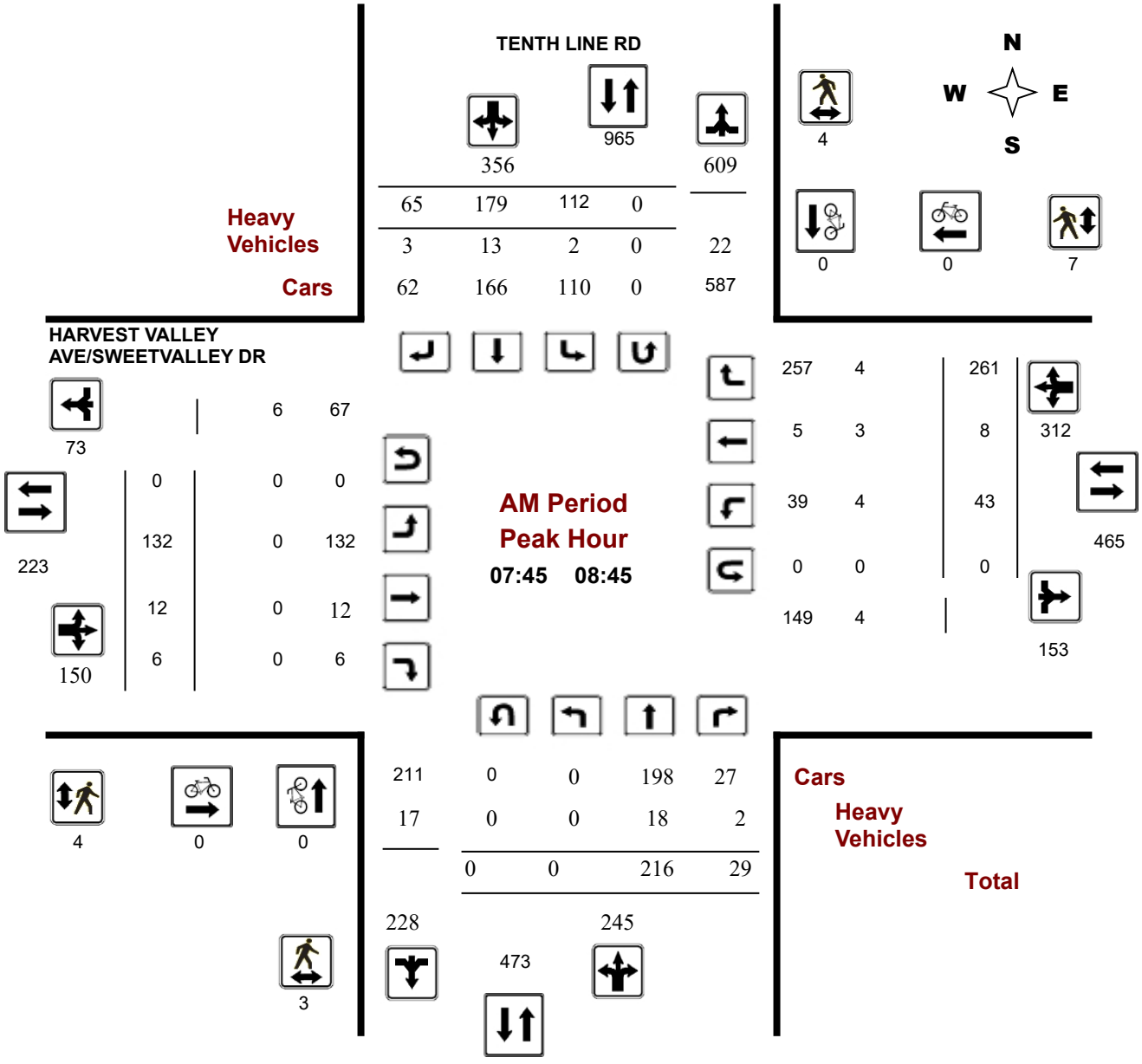
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HARVEST VALLEY AVE/SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40766

Start Time: 06:30 **Device:** Miovision



Comments

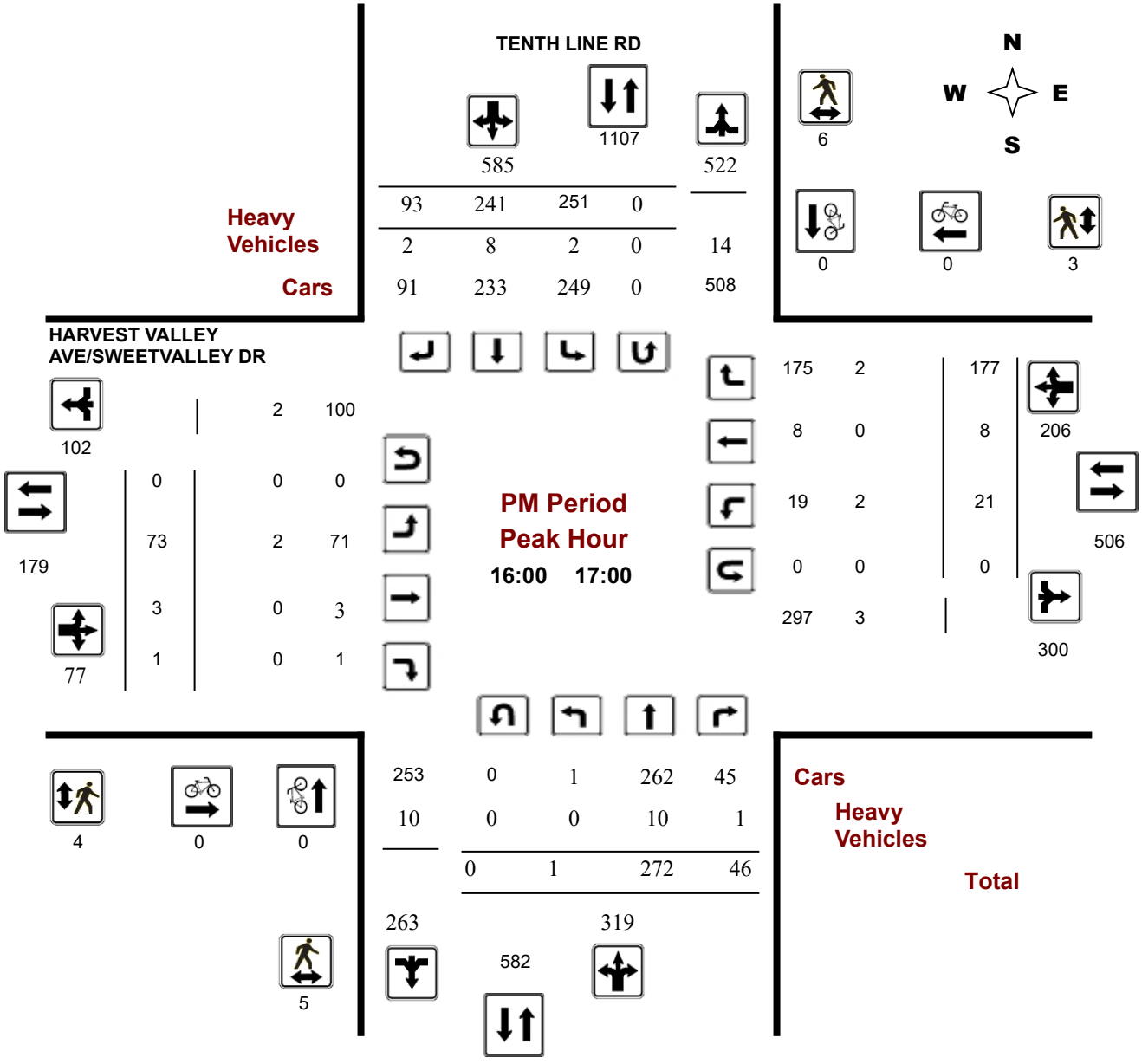
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HARVEST VALLEY AVE/SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40766

Start Time: 06:30 **Device:** Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

HARVEST VALLEY AVE/SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40766

Start Time: 06:30 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, February 07, 2023

Total Observed U-Turns

Northbound: 0 Southbound: 5

Eastbound: 0 Westbound: 0

AADT Factor

.00

	TENTH LINE RD									HARVEST VALLEY AVE/SWEETVALLEY DR									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
06:30 07:30	1	103	7	**111**	43	173	15	**231**	**342**	67	5	5	**77**	13	3	200	**216**	**293**	**635**
07:30 08:30	0	218	26	**244**	110	176	44	**330**	**574**	126	13	7	**146**	43	4	279	**326**	**472**	**1046**
08:30 09:30	1	203	14	**218**	84	130	71	**285**	**503**	84	3	2	**89**	21	6	187	**214**	**303**	**806**
13:00 14:00	4	168	4	**176**	89	159	43	**291**	**467**	46	2	0	**48**	5	2	115	**122**	**170**	**637**
14:00 15:00	1	219	14	**234**	118	186	37	**341**	**575**	52	6	1	**59**	15	4	101	**120**	**179**	**754**
15:00 16:00	2	192	27	**221**	168	218	108	**494**	**715**	60	2	3	**65**	23	11	133	**167**	**232**	**947**
16:00 17:00	1	272	46	**319**	251	241	93	**585**	**904**	73	3	1	**77**	21	8	177	**206**	**283**	**1187**
17:00 18:00	6	212	42	**260**	227	214	109	**550**	**810**	71	3	2	**76**	14	8	157	**179**	**255**	**1065**
Sub Total	16	1587	180	**1783**	1090	1497	520	**3107**	**4890**	579	37	21	**637**	155	46	1349	**1550**	**2187**	**7077**
U Turns				**0**				**5**	**5**				**0**				**0**	**0**	**5**
Total	16	1587	180	**1783**	1090	1497	520	**3112**	**4895**	579	37	21	**637**	155	46	1349	**1550**	**2187**	**7082**
EQ 12Hr	22	2206	250	**2478**	1515	2081	723	**4326**	**6804**	805	51	29	**885**	215	64	1875	**2154**	**3040**	**9844**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**.00**						
AVG 24Hr	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
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

HARVEST VALLEY AVE/SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40766

Start Time: 06:30 **Device:** Miovision

Full Study 15 Minute Increments

		TENTH LINE RD									HARVEST VALLEY AVE/SWEETVALLEY 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
06:30	06:45	0	23	0	23	10	32	5	47	70	15	1	1	17	2	0	45	47	64	134
06:45	07:00	0	24	2	26	8	46	3	57	83	14	0	1	15	3	0	45	48	63	146
07:00	07:15	0	22	1	23	12	46	4	62	85	10	0	1	11	3	0	42	45	56	141
07:15	07:30	1	34	4	39	13	49	3	65	104	28	4	2	34	5	3	68	76	110	214
07:30	07:45	0	52	4	56	23	44	3	70	126	25	1	2	28	11	0	82	93	121	247
07:45	08:00	0	62	4	66	20	49	11	80	146	27	4	1	32	8	0	78	86	118	264
08:00	08:15	0	65	7	72	33	40	14	87	159	40	6	3	49	13	2	58	73	122	281
08:15	08:30	0	39	11	50	34	43	16	93	143	34	2	1	37	11	2	61	74	111	254
08:30	08:45	0	50	7	57	25	47	24	96	153	31	0	1	32	11	4	64	79	111	264
08:45	09:00	0	54	2	56	21	31	24	76	132	24	0	0	24	2	0	51	53	77	209
09:00	09:15	1	42	2	45	16	23	13	52	97	17	1	0	18	5	0	33	38	56	153
09:15	09:30	0	57	3	60	22	29	10	61	121	12	2	1	15	3	2	39	44	59	180
09:30	09:45	1	41	0	42	20	35	8	63	105	9	2	0	11	0	1	30	31	42	147
09:45	10:00	2	42	2	46	22	36	8	66	112	13	0	0	13	3	0	32	35	48	160
13:30	13:45	0	40	0	40	24	41	9	74	114	13	0	0	13	0	1	21	22	35	149
13:45	14:00	1	45	2	48	23	47	18	89	137	11	0	0	11	2	0	32	34	45	182
14:00	14:15	0	41	1	42	26	35	4	65	107	9	0	1	10	4	0	20	24	34	141
14:15	14:30	0	58	4	62	26	42	8	76	138	8	1	0	9	1	1	28	30	39	177
14:30	14:45	0	52	2	54	33	54	14	101	155	20	3	0	23	9	1	28	38	61	216
14:45	15:00	1	68	7	76	33	55	11	99	175	15	2	0	17	1	2	25	28	45	220
15:00	15:15	0	50	3	53	31	55	20	107	160	15	0	2	17	2	2	36	40	57	217
15:15	15:30	1	44	5	50	40	61	43	144	194	10	0	1	11	12	3	35	50	61	255
15:30	15:45	1	48	10	59	44	45	22	111	170	18	1	0	19	1	1	28	30	49	219
15:45	16:00	0	50	9	59	53	57	23	134	193	17	1	0	18	8	5	34	47	65	258
16:00	16:15	0	75	12	87	64	63	28	155	242	21	0	0	21	7	0	43	50	71	313
16:15	16:30	0	67	15	82	62	66	20	148	230	20	3	0	23	6	1	44	51	74	304
16:30	16:45	1	68	11	80	59	52	24	135	215	12	0	1	13	6	3	46	55	68	283
16:45	17:00	0	62	8	70	66	60	21	147	217	20	0	0	20	2	4	44	50	70	287
17:00	17:15	2	58	10	70	56	54	35	145	215	21	0	0	21	4	3	37	44	65	280
17:15	17:30	1	36	11	48	64	63	24	152	200	15	1	2	18	5	1	45	51	69	269
17:30	17:45	1	58	11	70	54	46	27	127	197	16	1	0	17	5	2	38	45	62	259
17:45	18:00	2	60	10	72	53	51	23	128	200	19	1	0	20	0	2	37	39	59	259
Total:		16	1587	180	1783	1090	1497	520	3112	4895	579	37	21	637	155	46	1349	1550	2187	7,082

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

HARVEST VALLEY AVE/SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40766

Start Time: 06:30 **Device:** Miovision

Full Study Cyclist Volume

Time Period		TENTH LINE RD			HARVEST VALLEY AVE/SWEETVALLEY DR			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
06:30	06:45	0	0	0	0	0	0	0
06:45	07:00	0	0	0	0	0	0	0
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	0	0	0	0
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	0	0	0	0	0	0
13:30	13:45	0	0	0	0	0	0	0
13:45	14:00	0	0	0	0	0	0	0
14:00	14:15	0	0	0	0	0	0	0
14:15	14:30	0	0	0	0	0	0	0
14:30	14:45	1	0	1	0	0	0	1
14:45	15:00	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0
Total		1	0	**1**	0	0	0	1

Transportation Services - Traffic Services

Turning Movement Count - Study Results

HARVEST VALLEY AVE/SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40766

Start Time: 06:30 **Device:** Miovision

Full Study Pedestrian Volume

	TENTH LINE RD			HARVEST VALLEY AVE/SWEETVALLEY 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**
06:30 06:45	1	0	**1**	0	1	**1**	**2**
06:45 07:00	0	0	**0**	0	0	**0**	**0**
07:00 07:15	0	0	**0**	2	1	**3**	**3**
07:15 07:30	0	2	**2**	1	0	**1**	**3**
07:30 07:45	0	2	**2**	1	6	**7**	**9**
07:45 08:00	2	3	**5**	4	0	**4**	**9**
08:00 08:15	1	0	**1**	0	3	**3**	**4**
08:15 08:30	0	0	**0**	0	0	**0**	**0**
08:30 08:45	0	1	**1**	0	4	**4**	**5**
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	1	**1**	0	0	**0**	**1**
09:30 09:45	0	0	**0**	0	0	**0**	**0**
09:45 10:00	1	1	**2**	1	1	**2**	**4**
13:30 13:45	0	0	**0**	0	0	**0**	**0**
13:45 14:00	0	1	**1**	1	0	**1**	**2**
14:00 14:15	0	1	**1**	0	0	**0**	**1**
14:15 14:30	0	0	**0**	0	1	**1**	**1**
14:30 14:45	2	0	**2**	0	0	**0**	**2**
14:45 15:00	0	0	**0**	3	1	**4**	**4**
15:00 15:15	0	0	**0**	0	0	**0**	**0**
15:15 15:30	0	0	**0**	1	1	**2**	**2**
15:30 15:45	2	1	**3**	2	1	**3**	**6**
15:45 16:00	1	1	**2**	0	4	**4**	**6**
16:00 16:15	0	3	**3**	0	0	**0**	**3**
16:15 16:30	2	2	**4**	0	2	**2**	**6**
16:30 16:45	2	0	**2**	1	1	**2**	**4**
16:45 17:00	1	1	**2**	3	0	**3**	**5**
17:00 17:15	0	1	**1**	0	0	**0**	**1**
17:15 17:30	0	1	**1**	1	1	**2**	**3**
17:30 17:45	2	2	**4**	0	0	**0**	**4**
17:45 18:00	0	3	**3**	1	0	**1**	**4**
Total	17	27	**44**	22	28	**50**	**94**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

HARVEST VALLEY AVE/SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40766

Start Time: 06:30 **Device:** Miovision

Full Study Heavy Vehicles

		TENTH LINE RD									HARVEST VALLEY AVE/SWEETVALLEY 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**
06:30	06:45	0	1	0	**4**	1	3	0	**6**	**10**	0	0	0	**0**	0	0	1	**2**	**2**	**6**
06:45	07:00	0	1	0	**2**	0	1	0	**2**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**2**
07:00	07:15	0	0	0	**3**	1	3	0	**5**	**8**	0	0	0	**0**	0	0	1	**2**	**2**	**5**
07:15	07:30	1	2	2	**9**	0	3	0	**5**	**14**	0	1	0	**2**	1	0	0	**4**	**6**	**10**
07:30	07:45	0	2	2	**5**	2	1	0	**7**	**12**	0	0	0	**0**	0	0	2	**6**	**6**	**9**
07:45	08:00	0	6	1	**9**	0	2	1	**9**	**18**	0	0	0	**1**	0	0	0	**1**	**2**	**10**
08:00	08:15	0	6	0	**7**	0	0	1	**8**	**15**	0	0	0	**2**	1	1	1	**3**	**5**	**10**
08:15	08:30	0	3	1	**11**	2	6	1	**14**	**25**	0	0	0	**1**	1	0	2	**6**	**7**	**16**
08:30	08:45	0	3	0	**10**	0	5	0	**9**	**19**	0	0	0	**2**	2	2	1	**5**	**7**	**13**
08:45	09:00	0	4	1	**8**	0	3	1	**9**	**17**	1	0	0	**2**	0	0	0	**1**	**3**	**10**
09:00	09:15	0	4	0	**5**	0	1	0	**6**	**11**	0	0	0	**0**	0	0	1	**1**	**1**	**6**
09:15	09:30	0	5	0	**10**	0	5	2	**12**	**22**	0	0	0	**2**	0	0	0	**0**	**2**	**12**
09:30	09:45	1	2	0	**8**	0	5	0	**8**	**16**	1	0	0	**2**	0	0	0	**0**	**2**	**9**
09:45	10:00	0	4	0	**11**	1	6	0	**12**	**23**	1	0	0	**1**	1	0	0	**2**	**3**	**13**
13:30	13:45	0	1	0	**3**	0	2	0	**3**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
13:45	14:00	1	1	0	**4**	0	1	0	**4**	**8**	1	0	0	**2**	1	0	1	**2**	**4**	**6**
14:00	14:15	0	3	0	**3**	0	0	0	**3**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
14:15	14:30	0	3	1	**5**	1	1	0	**7**	**12**	1	0	0	**1**	0	0	1	**3**	**4**	**8**
14:30	14:45	0	1	1	**4**	2	1	1	**7**	**11**	0	1	0	**2**	1	0	2	**7**	**9**	**10**
14:45	15:00	0	3	2	**7**	0	2	0	**6**	**13**	0	0	0	**0**	0	0	1	**3**	**3**	**8**
15:00	15:15	0	1	0	**1**	1	0	0	**2**	**3**	0	0	0	**0**	0	0	0	**1**	**1**	**2**
15:15	15:30	1	2	1	**6**	0	0	3	**5**	**11**	0	0	0	**4**	2	0	0	**3**	**7**	**9**
15:30	15:45	0	1	1	**2**	0	0	1	**3**	**5**	1	0	0	**2**	0	0	0	**1**	**3**	**4**
15:45	16:00	0	2	0	**5**	1	3	0	**6**	**11**	0	0	0	**0**	0	0	0	**1**	**1**	**6**
16:00	16:15	0	2	0	**5**	0	3	1	**6**	**11**	0	0	0	**1**	0	0	0	**0**	**1**	**6**
16:15	16:30	0	5	1	**10**	0	3	1	**12**	**22**	2	0	0	**3**	1	0	1	**3**	**6**	**14**
16:30	16:45	0	1	0	**4**	2	2	0	**6**	**10**	0	0	0	**0**	1	0	1	**4**	**4**	**7**
16:45	17:00	0	2	0	**2**	0	0	0	**2**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**2**
17:00	17:15	0	1	0	**2**	2	1	0	**6**	**8**	0	0	0	**0**	0	0	2	**4**	**4**	**6**
17:15	17:30	0	0	0	**1**	2	1	0	**3**	**4**	0	0	0	**0**	0	0	0	**2**	**2**	**3**
17:30	17:45	0	3	0	**4**	2	1	0	**7**	**11**	0	0	0	**0**	0	0	1	**3**	**3**	**7**
17:45	18:00	0	1	0	**1**	1	0	0	**3**	**4**	0	0	0	**0**	0	0	1	**2**	**2**	**3**
Total:	None	4	76	14	**171**	21	65	13	**203**	**374**	8	2	0	**30**	12	3	20	**72**	**102**	**238**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

HARVEST VALLEY AVE/SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40766

Start Time: 06:30 **Device:** Miovision

Full Study 15 Minute U-Turn Total

Time Period		TENTH LINE RD		HARVEST VALLEY AVE/SWEETVALLEY DR		Total
		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	
06:30	06:45	0	0	0	0	0
06:45	07:00	0	0	0	0	0
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
13:30	13:45	0	0	0	0	0
13:45	14:00	0	1	0	0	1
14:00	14:15	0	0	0	0	0
14:15	14:30	0	0	0	0	0
14:30	14:45	0	0	0	0	0
14:45	15:00	0	0	0	0	0
15:00	15:15	0	1	0	0	1
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	1	0	0	1
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	1	0	0	1
17:30	17:45	0	0	0	0	0
17:45	18:00	0	1	0	0	1
Total		0	5	0	0	5

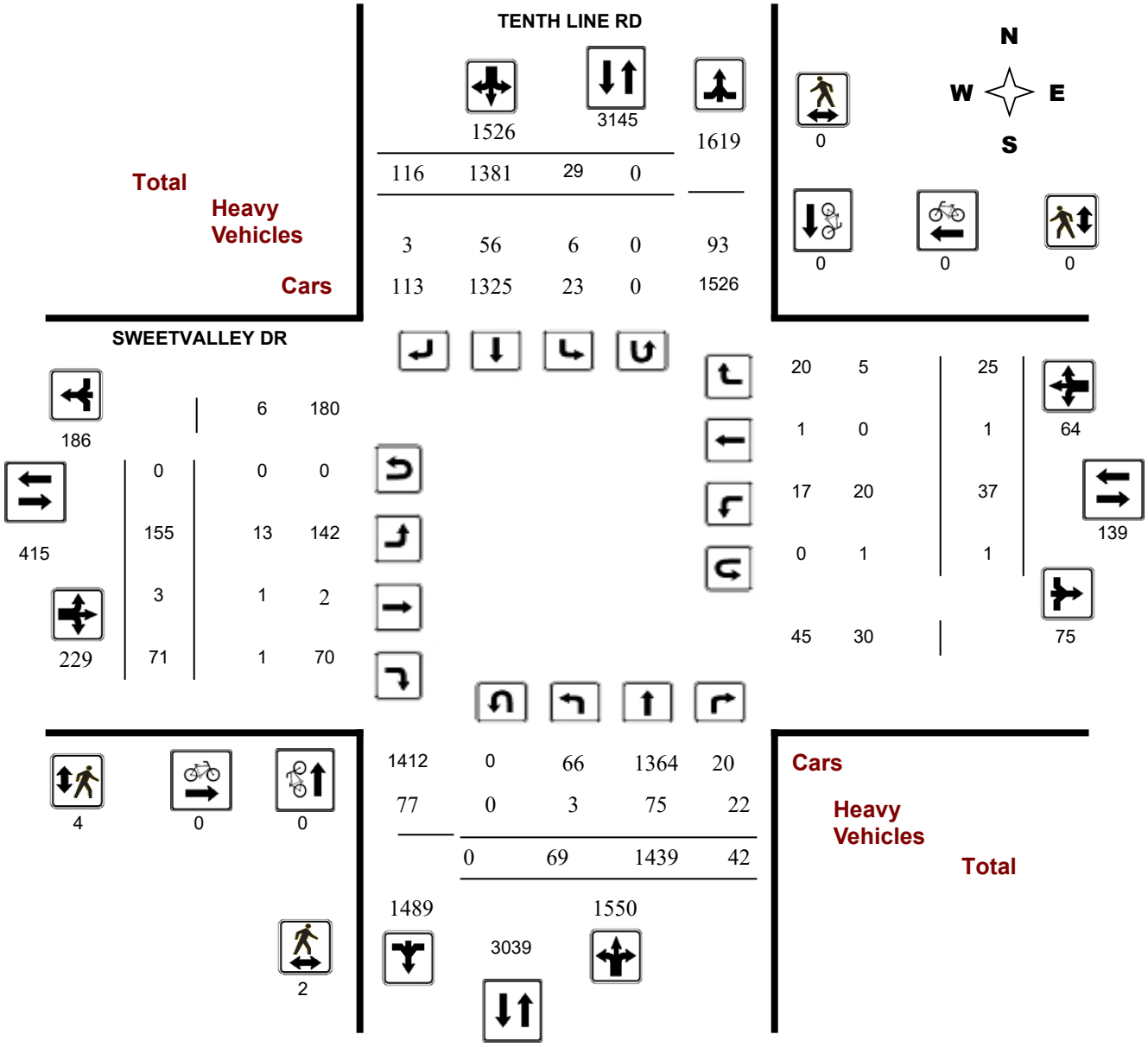
Transportation Services - Traffic Services

Turning Movement Count - Study Results

SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023
Start Time: 06:30
WO No: 40767
Device: Miovision

Full Study Diagram



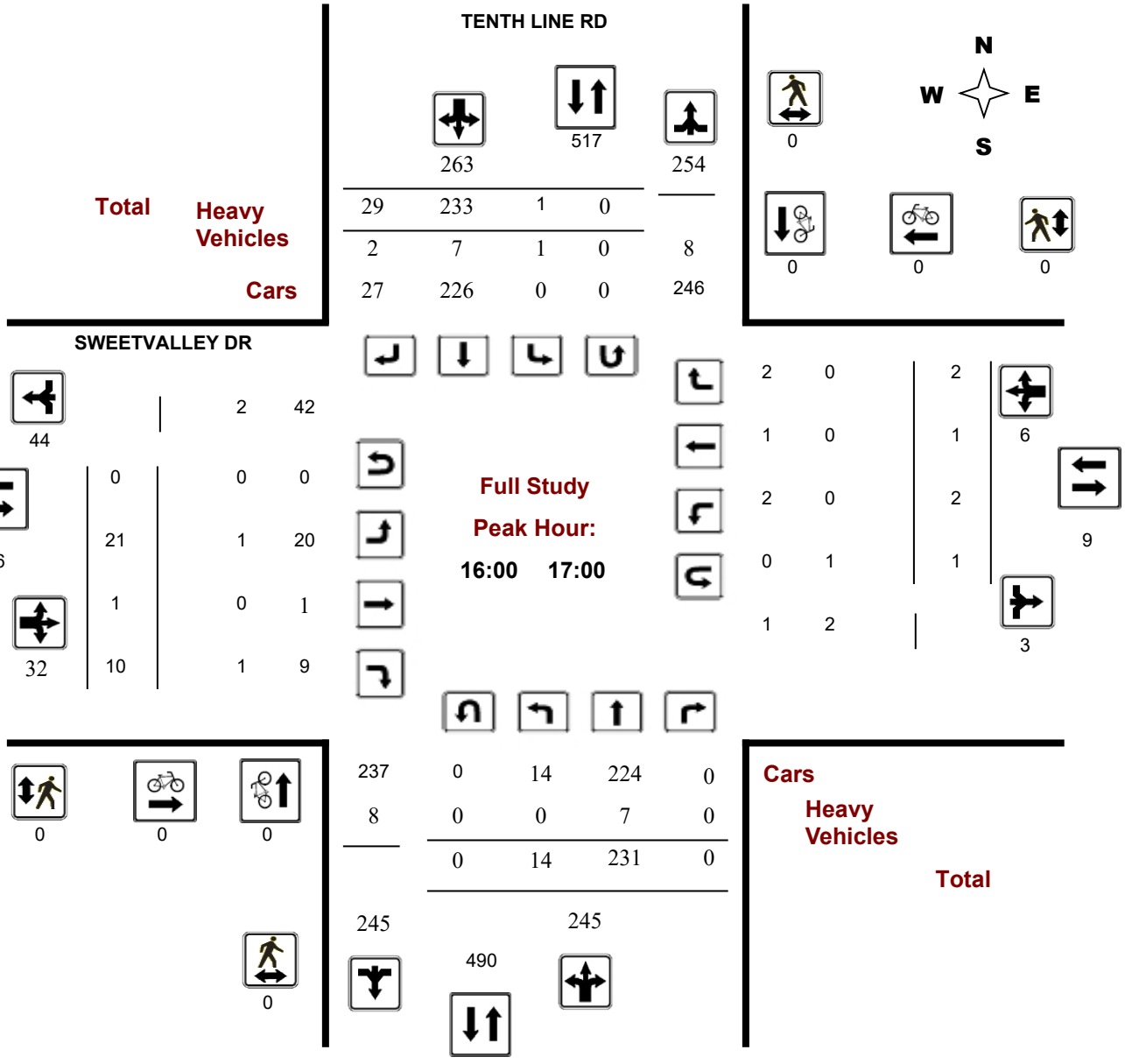
Transportation Services - Traffic Services

Turning Movement Count - Study Results

SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023
Start Time: 06:30
WO No: 40767
Device: Miovision

Full Study Peak Hour Diagram



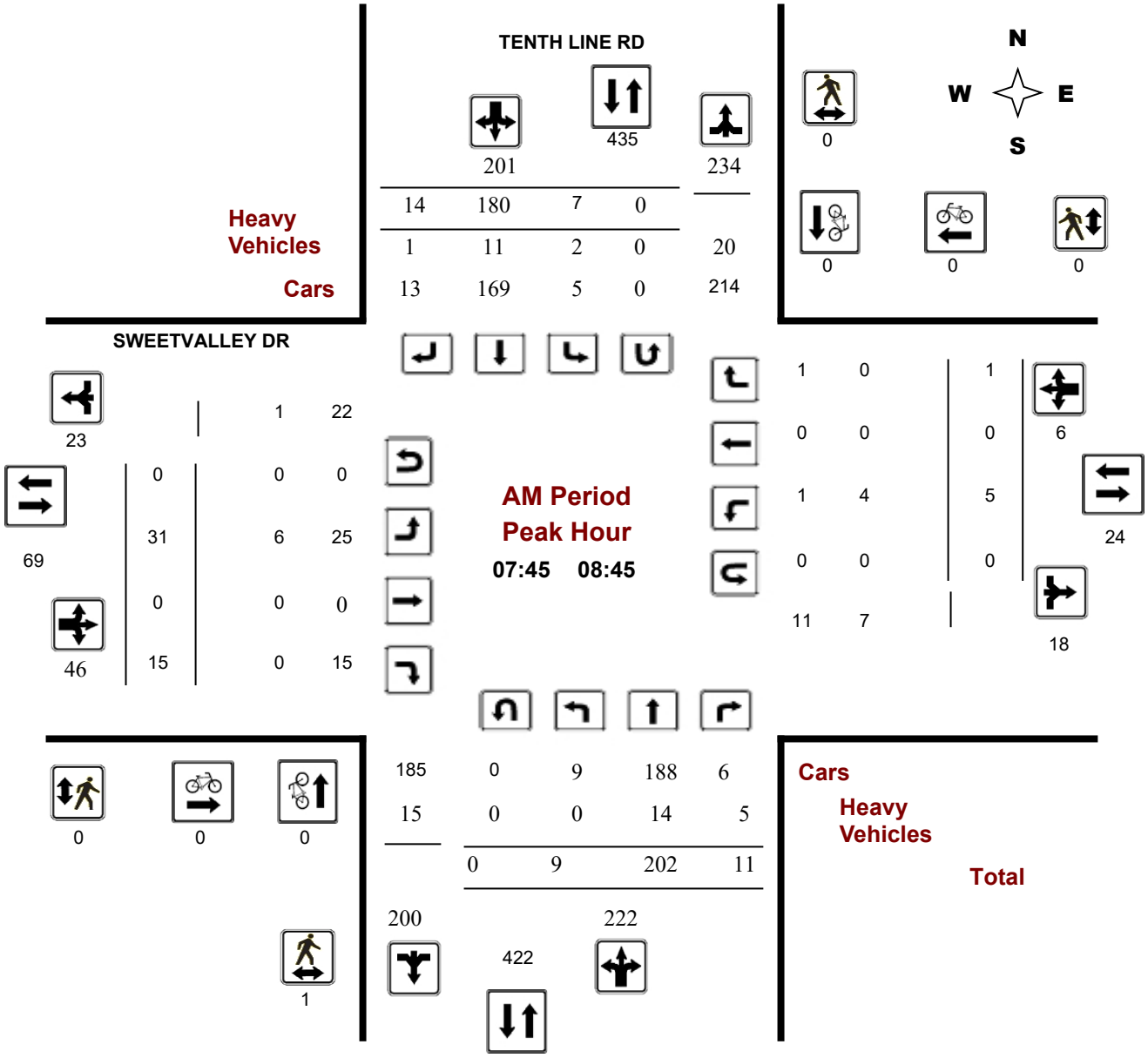
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40767

Start Time: 06:30 **Device:** Miovision



Comments

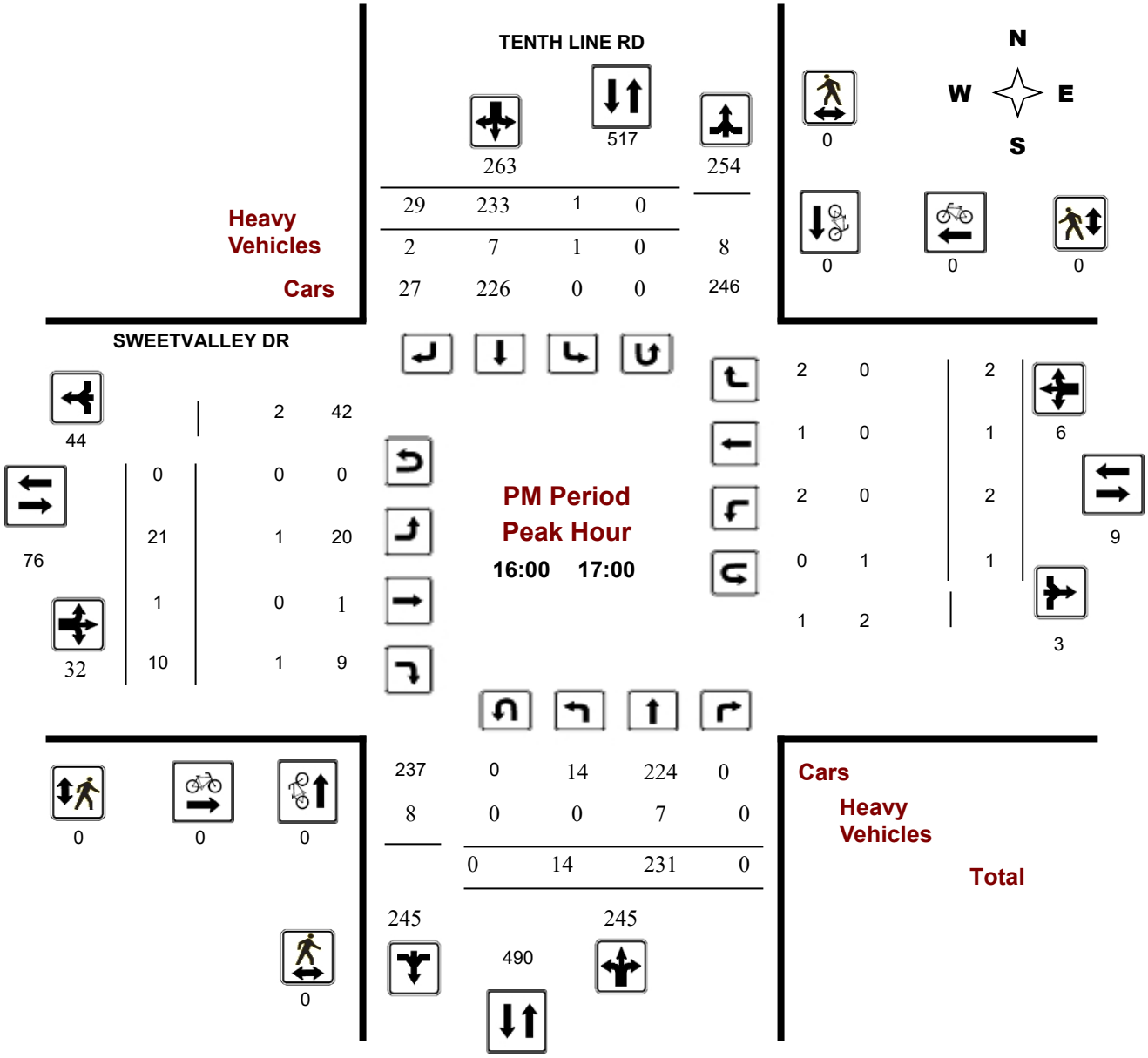
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40767

Start Time: 06:30 **Device:** Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40767

Start Time: 06:30 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, February 07, 2023

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 1

AADT Factor

.00

	TENTH LINE RD									SWEETVALLEY DR									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
06:30 07:30	5	104	8	**117**	8	123	7	**138**	**255**	22	0	16	**38**	2	0	0	**2**	**40**	**295**
07:30 08:30	4	198	11	**213**	7	187	12	**206**	**419**	30	0	16	**46**	5	0	1	**6**	**52**	**471**
08:30 09:30	9	173	7	**189**	7	114	10	**131**	**320**	20	1	9	**30**	4	0	7	**11**	**41**	**361**
13:00 14:00	6	138	5	**149**	3	132	7	**142**	**291**	14	1	4	**19**	5	0	4	**9**	**28**	**319**
14:00 15:00	5	168	10	**183**	2	171	13	**186**	**369**	14	0	6	**20**	9	0	7	**16**	**36**	**405**
15:00 16:00	8	186	1	**195**	1	214	19	**234**	**429**	14	0	5	**19**	10	0	3	**13**	**32**	**461**
16:00 17:00	14	231	0	**245**	1	233	29	**263**	**508**	21	1	10	**32**	2	1	2	**5**	**37**	**545**
17:00 18:00	18	241	0	**259**	0	207	19	**226**	**485**	20	0	5	**25**	0	0	1	**1**	**26**	**511**
Sub Total	69	1439	42	**1550**	29	1381	116	**1526**	**3076**	155	3	71	**229**	37	1	25	**63**	**292**	**3368**
U Turns				**0**				**0**	**0**				**0**				**1**	**1**	**1**
Total	69	1439	42	**1550**	29	1381	116	**1526**	**3076**	155	3	71	**229**	37	1	25	**64**	**293**	**3369**
EQ 12Hr	96	2000	58	**2154**	40	1920	161	**2121**	**4276**	215	4	99	**318**	51	1	35	**89**	**407**	**4683**

Note: These values are calculated by multiplying the totals by the appropriate expansion factor. **1.39**

AVG 12Hr	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. **.00**

AVG 24Hr	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**

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

SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40767

Start Time: 06:30 **Device:** Miovision

Full Study 15 Minute Increments

TENTH LINE RD **SWEETVALLEY DR**

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	
06:30	06:45	0	22	3	25	2	20	2	24	49	2	0	3	5	0	0	0	0	5	54
06:45	07:00	2	20	1	23	1	26	0	27	50	6	0	4	10	0	0	0	0	10	60
07:00	07:15	2	21	1	24	2	37	3	42	66	4	0	4	8	0	0	0	0	8	74
07:15	07:30	1	41	3	45	3	40	2	45	90	10	0	5	15	2	0	0	2	17	107
07:30	07:45	0	40	4	44	1	49	3	53	97	9	0	5	14	0	0	0	0	14	111
07:45	08:00	1	65	2	68	2	43	2	47	115	10	0	4	14	1	0	0	1	15	130
08:00	08:15	2	47	4	53	2	46	6	54	107	7	0	4	11	1	0	0	1	12	119
08:15	08:30	1	46	1	48	2	49	1	52	100	4	0	3	7	3	0	1	4	11	111
08:30	08:45	5	44	4	53	1	42	5	48	101	10	0	4	14	0	0	0	0	14	115
08:45	09:00	1	48	2	51	2	21	3	26	77	3	0	2	5	3	0	1	4	9	86
09:00	09:15	0	33	0	33	2	24	1	27	60	3	1	1	5	1	0	2	3	8	68
09:15	09:30	3	48	1	52	2	27	1	30	82	4	0	2	6	0	0	4	4	10	92
09:30	09:45	1	31	4	36	2	23	2	27	63	2	0	2	4	1	0	3	4	8	71
09:45	10:00	3	42	1	46	1	31	0	32	78	2	1	0	3	2	0	1	3	6	84
13:30	13:45	2	38	0	40	0	36	3	39	79	4	0	0	4	2	0	0	2	6	85
13:45	14:00	0	27	0	27	0	42	2	44	71	6	0	2	8	0	0	0	0	8	79
14:00	14:15	0	38	4	42	0	32	3	35	77	1	0	1	2	1	0	1	2	4	81
14:15	14:30	3	44	1	48	0	32	4	36	84	7	0	1	8	3	0	0	3	11	95
14:30	14:45	1	46	1	48	2	59	3	64	112	0	0	3	3	3	0	1	4	7	119
14:45	15:00	1	40	4	45	0	48	3	51	96	6	0	1	7	2	0	5	7	14	110
15:00	15:15	3	44	0	47	0	54	6	60	107	4	0	1	5	5	0	0	5	10	117
15:15	15:30	1	44	0	45	0	59	9	68	113	5	0	2	7	2	0	1	3	10	123
15:30	15:45	2	42	1	45	0	47	0	47	92	2	0	1	3	2	0	0	2	5	97
15:45	16:00	2	56	0	58	1	54	4	59	117	3	0	1	4	1	0	2	3	7	124
16:00	16:15	4	57	0	61	1	61	7	69	130	4	0	3	7	1	0	0	2	9	139
16:15	16:30	3	62	0	65	0	64	9	73	138	9	0	1	10	0	0	1	1	11	149
16:30	16:45	2	58	0	60	0	51	7	58	118	5	0	3	8	0	1	1	2	10	128
16:45	17:00	5	54	0	59	0	57	6	63	122	3	1	3	7	1	0	0	1	8	130
17:00	17:15	4	60	0	64	0	60	2	62	126	7	0	0	7	0	0	1	1	8	134
17:15	17:30	4	49	0	53	0	58	5	63	116	1	0	2	3	0	0	0	0	3	119
17:30	17:45	8	78	0	86	0	45	7	52	138	6	0	1	7	0	0	0	0	7	145
17:45	18:00	2	54	0	56	0	44	5	49	105	6	0	2	8	0	0	0	0	8	113
Total:		69	1439	42	1550	29	1381	116	1526	3076	155	3	71	229	37	1	25	64	293	3,369

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40767

Start Time: 06:30 **Device:** Miovision

Full Study Cyclist Volume

Time Period		TENTH LINE RD			SWEETVALLEY DR			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
06:30	06:45	0	0	0	0	0	0	0
06:45	07:00	0	0	0	0	0	0	0
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	0	0	0	0
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	0	0	0	0	0	0
13:30	13:45	0	0	0	0	0	0	0
13:45	14:00	0	0	0	0	0	0	0
14:00	14:15	0	0	0	0	0	0	0
14:15	14:30	0	0	0	0	0	0	0
14:30	14:45	0	0	0	0	0	0	0
14:45	15:00	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0
Total		0	0	**0**	0	0	0	0

Transportation Services - Traffic Services

Turning Movement Count - Study Results

SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40767

Start Time: 06:30 **Device:** Miovision

Full Study Pedestrian Volume

	TENTH LINE RD			SWEETVALLEY 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**
06:30 06:45	0	0	**0**	0	0	**0**	**0**
06:45 07:00	0	0	**0**	0	0	**0**	**0**
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	1	0	**1**	0	0	**0**	**1**
08:15 08:30	0	0	**0**	0	0	**0**	**0**
08:30 08:45	0	0	**0**	0	0	**0**	**0**
08:45 09:00	0	0	**0**	0	0	**0**	**0**
09:00 09:15	0	0	**0**	0	0	**0**	**0**
09:15 09:30	0	0	**0**	0	0	**0**	**0**
09:30 09:45	0	0	**0**	0	0	**0**	**0**
09:45 10:00	0	0	**0**	0	0	**0**	**0**
13:30 13:45	0	0	**0**	0	0	**0**	**0**
13:45 14:00	0	0	**0**	0	0	**0**	**0**
14:00 14:15	0	0	**0**	0	0	**0**	**0**
14:15 14:30	0	0	**0**	0	0	**0**	**0**
14:30 14:45	0	0	**0**	2	0	**2**	**2**
14:45 15:00	0	0	**0**	0	0	**0**	**0**
15:00 15:15	0	0	**0**	2	0	**2**	**2**
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	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	2	0	**2**	4	0	**4**	**6**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40767

Start Time: 06:30 **Device:** Miovision

Full Study Heavy Vehicles

TENTH LINE RD **SWEETVALLEY DR**

Time Period		Northbound				Southbound					Eastbound				Westbound					
		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**
06:30	06:45	0	2	0	**3**	1	1	0	**4**	**7**	0	0	0	**0**	0	0	0	**1**	**1**	**4**
06:45	07:00	0	0	0	**1**	0	1	0	**1**	**2**	0	0	0	**0**	0	0	0	**0**	**0**	**1**
07:00	07:15	1	1	0	**5**	0	3	0	**4**	**9**	0	0	0	**1**	0	0	0	**0**	**1**	**5**
07:15	07:30	0	6	2	**13**	1	3	0	**11**	**24**	1	0	0	**1**	2	0	0	**5**	**6**	**15**
07:30	07:45	0	3	1	**5**	0	1	0	**4**	**9**	0	0	0	**0**	0	0	0	**1**	**1**	**5**
07:45	08:00	0	6	1	**8**	0	0	0	**7**	**15**	1	0	0	**1**	1	0	0	**2**	**3**	**9**
08:00	08:15	0	3	1	**7**	0	2	0	**7**	**14**	2	0	0	**2**	1	0	0	**2**	**4**	**9**
08:15	08:30	0	4	1	**13**	1	6	0	**12**	**25**	1	0	0	**1**	2	0	0	**4**	**5**	**15**
08:30	08:45	0	1	2	**6**	1	3	1	**8**	**14**	2	0	0	**3**	0	0	0	**3**	**6**	**10**
08:45	09:00	0	5	2	**11**	0	2	0	**7**	**18**	0	0	0	**0**	2	0	0	**4**	**4**	**11**
09:00	09:15	0	3	0	**5**	0	1	0	**4**	**9**	0	1	0	**1**	1	0	0	**2**	**3**	**6**
09:15	09:30	0	3	1	**8**	1	4	0	**10**	**18**	0	0	0	**0**	0	0	2	**4**	**4**	**11**
09:30	09:45	0	2	3	**7**	0	2	0	**4**	**11**	0	0	0	**0**	0	0	0	**3**	**3**	**7**
09:45	10:00	0	2	0	**9**	0	5	0	**8**	**17**	0	0	0	**0**	2	0	1	**3**	**3**	**10**
13:30	13:45	0	2	0	**6**	0	2	0	**4**	**10**	0	0	0	**0**	2	0	0	**2**	**2**	**6**
13:45	14:00	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**
14:00	14:15	0	3	4	**7**	0	0	0	**3**	**10**	0	0	0	**0**	0	0	0	**4**	**4**	**7**
14:15	14:30	1	4	0	**9**	0	1	0	**5**	**14**	0	0	0	**1**	3	0	0	**3**	**4**	**9**
14:30	14:45	0	3	0	**5**	0	2	0	**5**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**5**
14:45	15:00	0	3	3	**8**	0	2	0	**6**	**14**	0	0	0	**0**	0	0	1	**4**	**4**	**9**
15:00	15:15	0	1	0	**5**	0	0	0	**2**	**7**	1	0	0	**1**	4	0	0	**4**	**5**	**6**
15:15	15:30	0	1	0	**3**	0	2	0	**6**	**9**	3	0	0	**3**	0	0	0	**0**	**3**	**6**
15:30	15:45	0	0	1	**1**	0	0	0	**1**	**2**	1	0	0	**1**	0	0	0	**1**	**2**	**2**
15:45	16:00	0	2	0	**5**	0	3	0	**6**	**11**	0	0	0	**0**	0	0	1	**1**	**1**	**6**
16:00	16:15	0	0	0	**3**	1	2	1	**4**	**7**	0	0	1	**2**	0	0	0	**3**	**5**	**6**
16:15	16:30	0	4	0	**7**	0	3	1	**9**	**16**	1	0	0	**2**	0	0	0	**0**	**2**	**9**
16:30	16:45	0	0	0	**2**	0	2	0	**2**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**2**
16:45	17:00	0	3	0	**3**	0	0	0	**3**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
17:00	17:15	0	4	0	**5**	0	1	0	**5**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**5**
17:15	17:30	1	0	0	**2**	0	1	0	**1**	**3**	0	0	0	**1**	0	0	0	**0**	**1**	**2**
17:30	17:45	0	3	0	**4**	0	1	0	**4**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**4**
17:45	18:00	0	1	0	**1**	0	0	0	**1**	**2**	0	0	0	**0**	0	0	0	**0**	**0**	**1**
Total:	None	3	75	22	**177**	6	56	3	**158**	**335**	13	1	1	**21**	20	0	5	**56**	**77**	**206**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

SWEETVALLEY DR @ TENTH LINE RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40767

Start Time: 06:30 **Device:** Miovision

Full Study 15 Minute U-Turn Total

Time Period		TENTH LINE RD Northbound U-Turn Total	TENTH LINE RD Southbound U-Turn Total	SWEETVALLEY DR Eastbound U-Turn Total	SWEETVALLEY DR Westbound U-Turn Total	Total
06:30	06:45	0	0	0	0	0
06:45	07:00	0	0	0	0	0
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
13:30	13:45	0	0	0	0	0
13:45	14:00	0	0	0	0	0
14:00	14:15	0	0	0	0	0
14:15	14:30	0	0	0	0	0
14:30	14:45	0	0	0	0	0
14:45	15:00	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	1	1
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

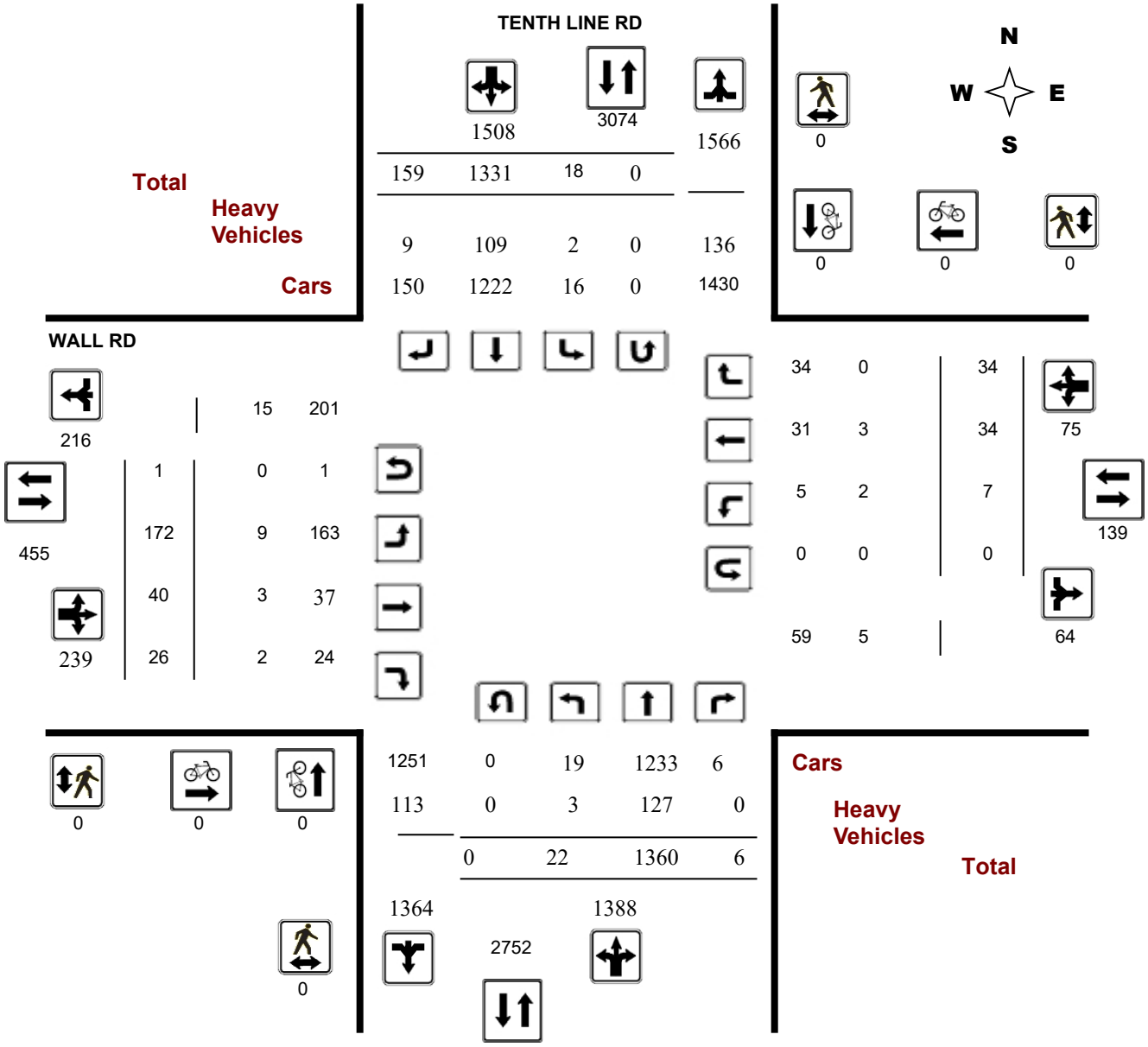
Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ WALL RD

Survey Date: Tuesday, February 07, 2023
Start Time: 06:30
WO No: 40765
Device: Miovision

Full Study Diagram



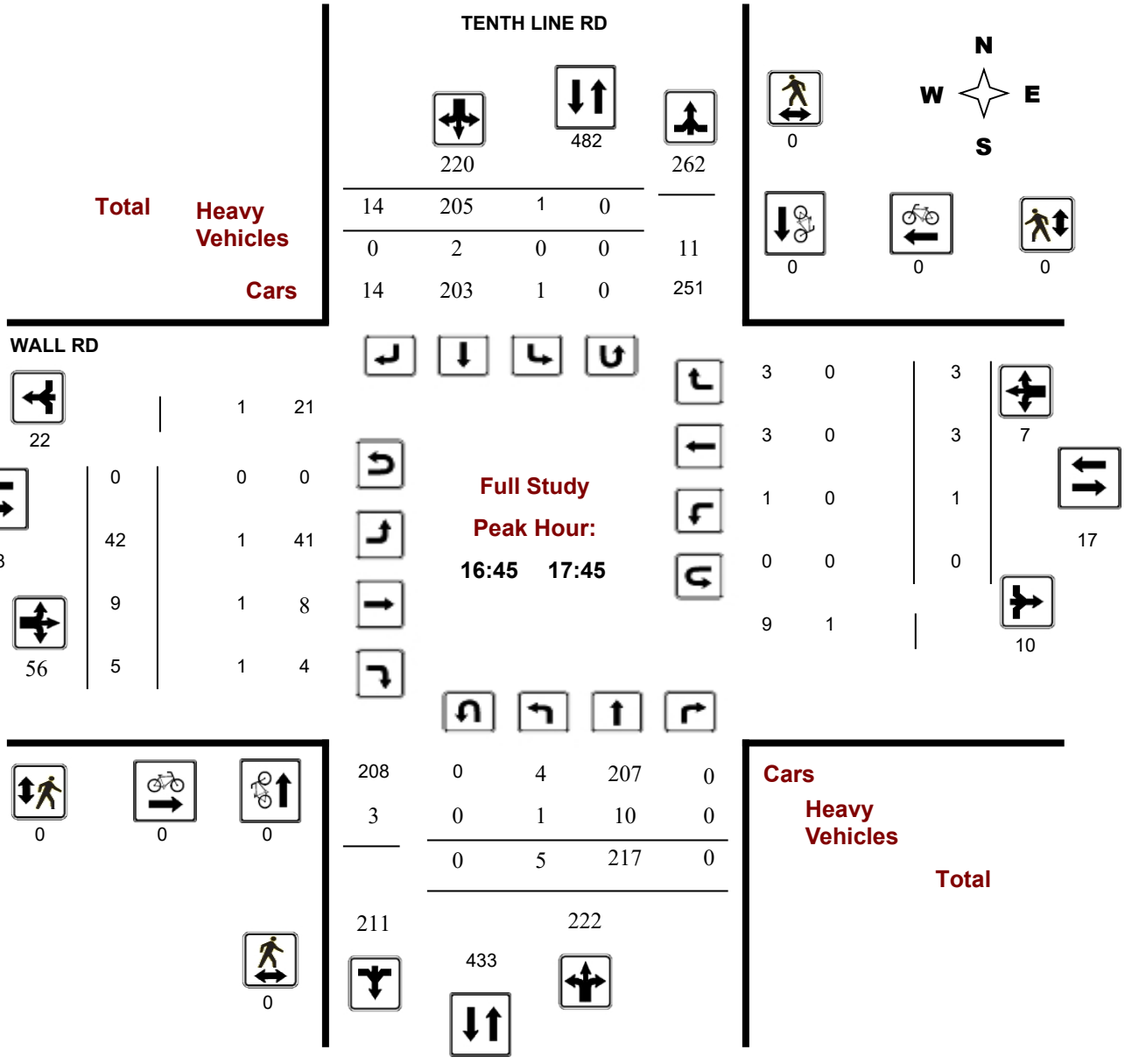
Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ WALL RD

Survey Date: Tuesday, February 07, 2023
Start Time: 06:30
WO No: 40765
Device: Miovision

Full Study Peak Hour Diagram



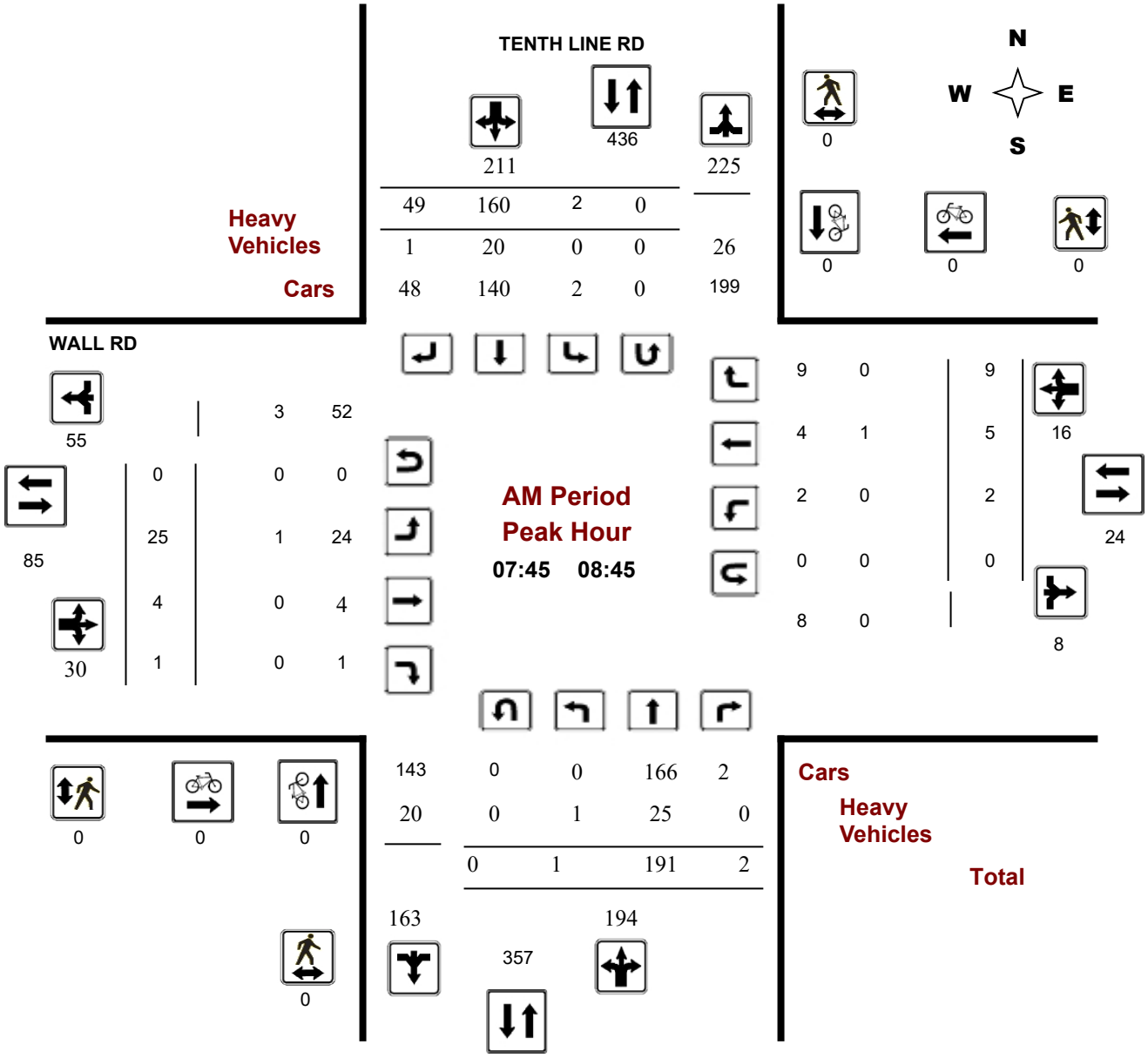
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

TENTH LINE RD @ WALL RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40765

Start Time: 06:30 **Device:** Miovision



Comments

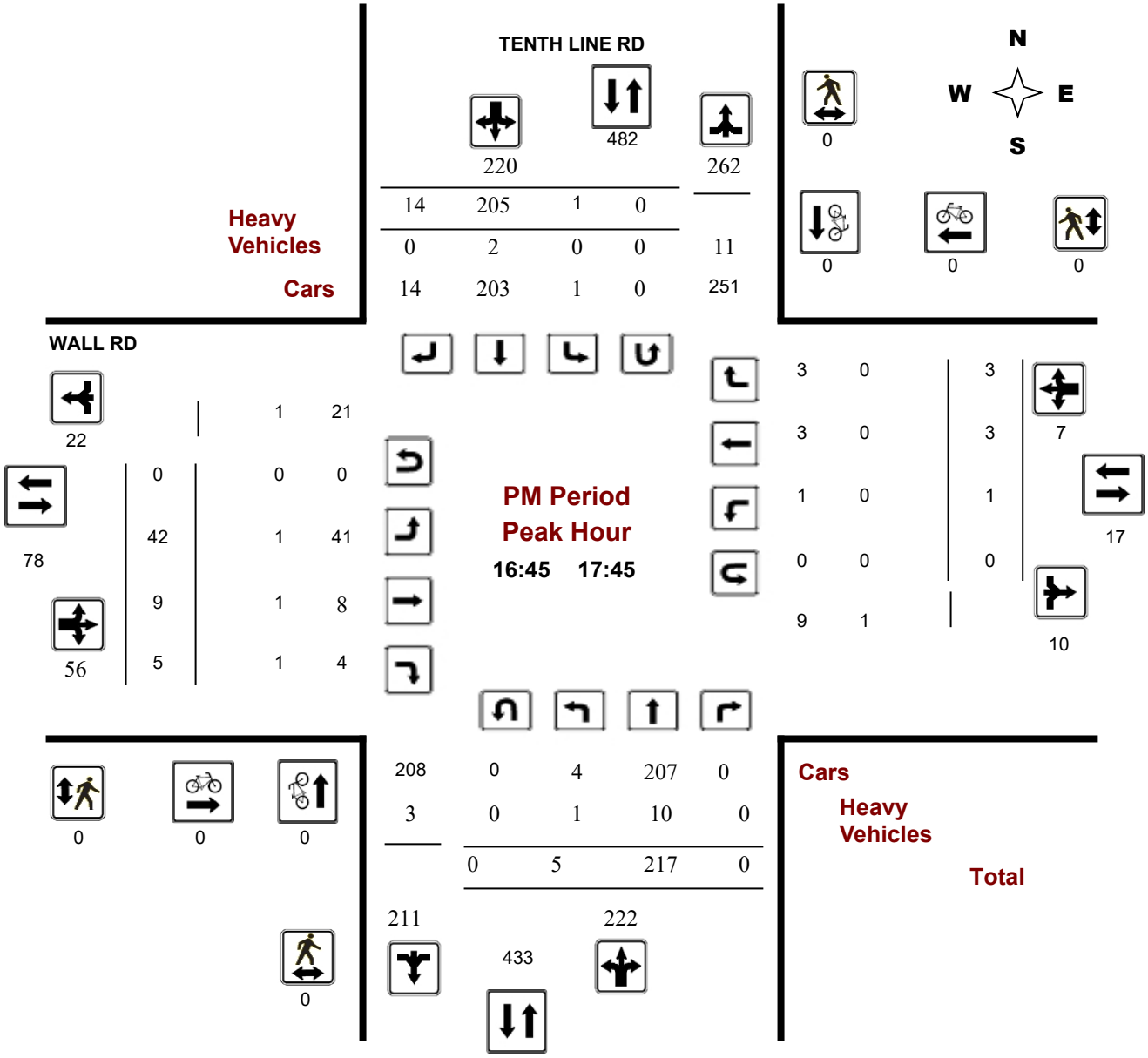
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

TENTH LINE RD @ WALL RD

Survey Date: Tuesday, February 07, 2023
Start Time: 06:30

WO No: 40765
Device: Miovision



Comments

Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ WALL RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40765

Start Time: 06:30 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, February 07, 2023

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 1 Westbound: 0

AADT Factor

.00

	TENTH LINE RD									WALL RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
06:30 07:30	0	114	1	**115**	0	121	16	**137**	**252**	6	1	4	**11**	0	2	2	**4**	**15**	**267**
07:30 08:30	1	186	1	**188**	1	157	55	**213**	**401**	21	3	3	**27**	2	7	8	**17**	**44**	**445**
08:30 09:30	1	170	2	**173**	3	112	17	**132**	**305**	17	2	0	**19**	0	3	4	**7**	**26**	**331**
13:00 14:00	2	137	1	**140**	2	132	10	**144**	**284**	14	4	1	**19**	1	2	2	**5**	**24**	**308**
14:00 15:00	9	168	0	**177**	4	183	13	**200**	**377**	16	5	3	**24**	2	7	5	**14**	**38**	**415**
15:00 16:00	2	178	1	**181**	3	214	12	**229**	**410**	22	6	6	**34**	1	5	4	**10**	**44**	**454**
16:00 17:00	3	195	0	**198**	4	216	21	**241**	**439**	40	11	3	**54**	0	6	4	**10**	**64**	**503**
17:00 18:00	4	212	0	**216**	1	196	15	**212**	**428**	36	8	6	**50**	1	2	5	**8**	**58**	**486**
Sub Total	22	1360	6	**1388**	18	1331	159	**1508**	**2896**	172	40	26	**238**	7	34	34	**75**	**313**	**3209**
U Turns				**0**				**0**	**0**				**1**				**0**	**1**	**1**
Total	22	1360	6	**1388**	18	1331	159	**1508**	**2896**	172	40	26	**239**	7	34	34	**75**	**314**	**3210**
EQ 12Hr	31	1890	8	**1929**	25	1850	221	**2096**	**4025**	239	56	36	**332**	10	47	47	**104**	**436**	**4462**

Note: These values are calculated by multiplying the totals by the appropriate expansion factor. **1.39**

AVG 12Hr	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. **.00**

AVG 24Hr	0	0	0	**0**	0	0	0	**0**	**0**	0	0	0	**0**	0	0	0	**0**	**0**	**0**

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

TENTH LINE RD @ WALL RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40765

Start Time: 06:30 **Device:** Miovision

Full Study 15 Minute Increments

		TENTH LINE RD									WALL 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
06:30	06:45	0	24	0	24	0	22	2	24	48	1	0	0	1	0	0	0	0	1	49
06:45	07:00	0	21	1	22	0	25	2	27	49	1	0	1	2	0	0	1	1	3	52
07:00	07:15	0	23	0	23	0	36	4	40	63	0	0	2	2	0	2	0	2	4	67
07:15	07:30	0	46	0	46	0	38	8	46	92	4	1	1	6	0	0	1	1	7	99
07:30	07:45	0	37	0	37	0	38	14	52	89	5	0	2	7	0	4	2	6	13	102
07:45	08:00	0	59	0	59	1	33	21	55	114	6	2	1	9	0	2	4	6	15	129
08:00	08:15	1	47	1	49	0	39	14	53	102	4	0	0	4	2	1	1	4	8	110
08:15	08:30	0	43	0	43	0	47	6	53	96	6	1	0	7	0	0	1	1	8	104
08:30	08:45	0	42	1	43	1	41	8	50	93	9	1	0	10	0	2	3	5	15	108
08:45	09:00	1	45	0	46	0	21	4	25	71	2	0	0	2	0	0	0	0	2	73
09:00	09:15	0	33	0	33	0	23	4	27	60	3	1	0	4	0	1	0	1	5	65
09:15	09:30	0	50	1	51	2	27	1	30	81	3	0	0	3	0	0	1	1	4	85
09:30	09:45	1	32	0	33	1	27	4	32	65	3	1	1	5	0	1	0	1	6	71
09:45	10:00	0	42	0	42	0	26	3	29	71	6	2	0	9	1	0	0	1	10	81
13:30	13:45	0	36	1	37	1	34	2	37	74	4	0	0	4	0	0	1	1	5	79
13:45	14:00	1	27	0	28	0	45	1	46	74	1	1	0	2	0	1	1	2	4	78
14:00	14:15	2	41	0	43	1	38	1	40	83	3	1	3	7	0	2	0	2	9	92
14:15	14:30	2	42	0	44	1	36	1	38	82	5	2	0	7	0	3	3	6	13	95
14:30	14:45	3	46	0	49	2	56	7	65	114	3	2	0	5	1	2	1	4	9	123
14:45	15:00	2	39	0	41	0	53	4	57	98	5	0	0	5	1	0	1	2	7	105
15:00	15:15	0	36	0	36	0	54	1	55	91	9	1	3	13	0	2	3	5	18	109
15:15	15:30	0	45	1	46	1	64	1	66	112	3	2	1	6	0	0	0	0	6	118
15:30	15:45	2	45	0	47	0	45	2	47	94	4	0	1	5	0	3	1	4	9	103
15:45	16:00	0	52	0	52	2	51	8	61	113	6	3	1	10	1	0	0	1	11	124
16:00	16:15	1	53	0	54	3	54	9	66	120	9	1	1	11	0	2	2	4	15	135
16:15	16:30	0	48	0	48	1	60	2	63	111	10	3	1	14	0	3	0	3	17	128
16:30	16:45	1	42	0	43	0	49	6	55	98	11	3	1	15	0	0	2	2	17	115
16:45	17:00	1	52	0	53	0	53	4	57	110	10	4	0	14	0	1	0	1	15	125
17:00	17:15	1	50	0	51	1	56	5	62	113	11	2	1	14	0	0	2	2	16	129
17:15	17:30	1	41	0	42	0	62	2	64	106	10	3	3	16	1	2	1	4	20	126
17:30	17:45	2	74	0	76	0	34	3	37	113	11	0	1	12	0	0	0	0	12	125
17:45	18:00	0	47	0	47	0	44	5	49	96	4	3	1	8	0	0	2	2	10	106
Total:		22	1360	6	1388	18	1331	159	1508	2896	172	40	26	239	7	34	34	75	314	3,210

Note: U-Turns are included in Totals.

Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ WALL RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40765

Start Time: 06:30 **Device:** Miovision

Full Study Cyclist Volume

Time Period		TENTH LINE RD			WALL RD			
		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
06:30	06:45	0	0	0	0	0	0	0
06:45	07:00	0	0	0	0	0	0	0
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	0	0	0	0
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	0	0	0	0	0	0
13:30	13:45	0	0	0	0	0	0	0
13:45	14:00	0	0	0	0	0	0	0
14:00	14:15	0	0	0	0	0	0	0
14:15	14:30	0	0	0	0	0	0	0
14:30	14:45	0	0	0	0	0	0	0
14:45	15:00	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	0	0	0	0	0	0	0
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0
Total		0	0	**0**	0	0	0	0

Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ WALL RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40765

Start Time: 06:30 **Device:** Miovision

Full Study Pedestrian Volume

	TENTH LINE RD			WALL 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**
06:30 06:45	0	0	**0**	0	0	**0**	**0**
06:45 07:00	0	0	**0**	0	0	**0**	**0**
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**	0	0	**0**	**0**
09:00 09:15	0	0	**0**	0	0	**0**	**0**
09:15 09:30	0	0	**0**	0	0	**0**	**0**
09:30 09:45	0	0	**0**	0	0	**0**	**0**
09:45 10:00	0	0	**0**	0	0	**0**	**0**
13:30 13:45	0	0	**0**	0	0	**0**	**0**
13:45 14:00	0	0	**0**	0	0	**0**	**0**
14:00 14:15	0	0	**0**	0	0	**0**	**0**
14:15 14:30	0	0	**0**	0	0	**0**	**0**
14:30 14:45	0	0	**0**	0	0	**0**	**0**
14:45 15:00	0	0	**0**	0	0	**0**	**0**
15:00 15:15	0	0	**0**	0	0	**0**	**0**
15:15 15:30	0	0	**0**	0	0	**0**	**0**
15:30 15:45	0	0	**0**	0	0	**0**	**0**
15:45 16:00	0	0	**0**	0	0	**0**	**0**
16:00 16:15	0	0	**0**	0	0	**0**	**0**
16:15 16:30	0	0	**0**	0	0	**0**	**0**
16:30 16:45	0	0	**0**	0	0	**0**	**0**
16:45 17:00	0	0	**0**	0	0	**0**	**0**
17:00 17:15	0	0	**0**	0	0	**0**	**0**
17:15 17:30	0	0	**0**	0	0	**0**	**0**
17:30 17:45	0	0	**0**	0	0	**0**	**0**
17:45 18:00	0	0	**0**	0	0	**0**	**0**
Total	0	0	**0**	0	0	**0**	**0**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ WALL RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40765

Start Time: 06:30 **Device:** Miovision

Full Study Heavy Vehicles

		TENTH LINE RD									WALL 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**
06:30	06:45	0	2	0	**4**	0	2	0	**4**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**4**
06:45	07:00	0	0	0	**1**	0	1	0	**1**	**2**	0	0	0	**0**	0	0	0	**0**	**0**	**1**
07:00	07:15	0	2	0	**4**	0	2	1	**5**	**9**	0	0	0	**1**	0	0	0	**0**	**1**	**5**
07:15	07:30	0	11	0	**16**	0	4	1	**17**	**33**	1	0	1	**3**	0	0	0	**0**	**3**	**18**
07:30	07:45	0	2	0	**7**	0	5	0	**8**	**15**	1	0	0	**1**	0	0	0	**0**	**1**	**8**
07:45	08:00	0	9	0	**11**	0	2	0	**11**	**22**	0	0	0	**1**	0	1	0	**1**	**2**	**12**
08:00	08:15	1	6	0	**12**	0	5	0	**11**	**23**	0	0	0	**1**	0	0	0	**0**	**1**	**12**
08:15	08:30	0	6	0	**15**	0	9	0	**15**	**30**	0	0	0	**0**	0	0	0	**0**	**0**	**15**
08:30	08:45	0	4	0	**8**	0	4	1	**10**	**18**	1	0	0	**2**	0	0	0	**0**	**2**	**10**
08:45	09:00	1	7	0	**14**	0	6	0	**14**	**28**	1	0	0	**2**	0	0	0	**0**	**2**	**15**
09:00	09:15	0	6	0	**9**	0	3	1	**10**	**19**	0	0	0	**1**	0	0	0	**0**	**1**	**10**
09:15	09:30	0	4	0	**8**	1	4	0	**9**	**17**	0	0	0	**0**	0	0	0	**1**	**1**	**9**
09:30	09:45	0	6	0	**11**	0	5	0	**11**	**22**	0	0	0	**0**	0	0	0	**0**	**0**	**11**
09:45	10:00	0	4	0	**12**	0	8	0	**12**	**24**	0	0	0	**0**	0	0	0	**0**	**0**	**12**
13:30	13:45	0	4	0	**9**	0	5	1	**10**	**19**	0	0	0	**1**	0	0	0	**0**	**1**	**10**
13:45	14:00	0	2	0	**5**	0	3	0	**5**	**10**	0	0	0	**1**	0	1	0	**1**	**2**	**6**
14:00	14:15	0	9	0	**11**	0	2	0	**11**	**22**	0	0	0	**0**	0	0	0	**0**	**0**	**11**
14:15	14:30	0	6	0	**11**	0	5	0	**12**	**23**	1	0	0	**1**	0	0	0	**0**	**1**	**12**
14:30	14:45	0	5	0	**9**	0	4	1	**11**	**20**	1	0	0	**2**	0	0	0	**0**	**2**	**11**
14:45	15:00	0	7	0	**12**	0	4	0	**11**	**23**	0	0	0	**0**	1	0	0	**1**	**1**	**12**
15:00	15:15	0	3	0	**9**	0	6	0	**9**	**18**	0	0	0	**1**	0	1	0	**1**	**2**	**10**
15:15	15:30	0	2	0	**6**	0	4	0	**6**	**12**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
15:30	15:45	0	4	0	**5**	0	1	0	**5**	**10**	0	0	0	**0**	0	0	0	**0**	**0**	**5**
15:45	16:00	0	3	0	**6**	0	2	2	**7**	**13**	0	0	0	**2**	1	0	0	**1**	**3**	**8**
16:00	16:15	0	2	0	**7**	0	5	0	**7**	**14**	0	0	0	**0**	0	0	0	**0**	**0**	**7**
16:15	16:30	0	0	0	**4**	1	4	0	**7**	**11**	2	1	0	**3**	0	0	0	**2**	**5**	**8**
16:30	16:45	0	0	0	**1**	0	1	1	**2**	**3**	0	1	0	**2**	0	0	0	**1**	**3**	**3**
16:45	17:00	0	2	0	**2**	0	0	0	**3**	**5**	1	1	0	**2**	0	0	0	**1**	**3**	**4**
17:00	17:15	1	4	0	**7**	0	1	0	**5**	**12**	0	0	1	**2**	0	0	0	**0**	**2**	**7**
17:15	17:30	0	1	0	**2**	0	1	0	**2**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**2**
17:30	17:45	0	3	0	**3**	0	0	0	**3**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
17:45	18:00	0	1	0	**2**	0	1	0	**2**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**2**
Total:	None	3	127	0	**243**	2	109	9	**256**	**499**	9	3	2	**29**	2	3	0	**10**	**39**	**269**

Transportation Services - Traffic Services

Turning Movement Count - Study Results

TENTH LINE RD @ WALL RD

Survey Date: Tuesday, February 07, 2023 **WO No:** 40765

Start Time: 06:30 **Device:** Miovision

Full Study 15 Minute U-Turn Total

		TENTH LINE RD		WALL RD		
Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
06:30	06:45	0	0	0	0	0
06:45	07:00	0	0	0	0	0
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	1	0	1
13:30	13:45	0	0	0	0	0
13:45	14:00	0	0	0	0	0
14:00	14:15	0	0	0	0	0
14:15	14:30	0	0	0	0	0
14:30	14:45	0	0	0	0	0
14:45	15:00	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
Total		0	0	1	0	1

Appendix B

Trans Trip Gen Manual Mode Shares

6.1 Elementary and High Schools

Ottawa

In the case of Ottawa, elementary schools were defined as those that include students from the age of 5 to 13 (Grades SK to 8) and high schools were categorized as having students between the ages of 14 to 17 (Grades 9 to 12). The mode shares for elementary and high schools in Ottawa are summarized in **Table 10**. These mode shares are based on the 2011 TRANS Origin-Destination Survey and are included to provide a general benchmark for schools in Ottawa. However, for transportation planning purposes, it is recommended that mode shares for Ottawa schools be developed on a site-specific basis by obtaining data from the school principal, school board, or student transportation authority; conducting local surveys; or consulting other sources.

Table 10: Elementary and High School Mode Shares for Ottawa[3]

Level	Mode Share					
	Auto Passenger	School Bus	Transit	Walk	Bike	Other
Elementary School	22%	48%	6%	20%	2%	2%
High School	17%	19%	38%	18%	3%	5%

Gatineau

For Gatineau, elementary schools include students from the age of 6 to 11 (Grades 1 to 6) and high school students are those aged 12 to 16 (Grades 7 to 11). The Ville de Gatineau has conducted many in-school surveys with a response rate higher than the 2011 TRANS Origin-Destination Survey, therefore the recommendation is to carry these mode shares forward, as shown in **Table 11**. Note that the Gatineau school travel survey did not distinguish between school bus and transit trips, so they are combined in the table below.

Table 11: Elementary and High School Mode Shares for Gatineau[4]

Level	Mode Share				
	Auto Passenger	School Bus / Transit	Walk	Bike	Other
Elementary School	43%	26%	27%	4%	0%
High School	19%	61%	17%	3%	0%

[3] Source: 2011 TRANS O-D Survey
[4] Source: Plans de déplacements scolaires between 2006 and 2018 (elementary schools). Rapport Enquête En Forme, 2018 (high schools).

Appendix C

TDM Checklist

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

Legend

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

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

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

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

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

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	6.	**PARKING**	
	6.1	**Number of parking spaces**	
REQUIRED	6.1.1	Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☐ N/A parking meets zoning requirements
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	☐ N/A for school
BASIC	6.1.3	Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly *(see Zoning By-law Section 104)*	☐ N/A for school
BETTER	6.1.4	Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking *(see Zoning By-law Section 111)*	☐ N/A for school
	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)	☐ N/A for school
	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	☐ N/A for school

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

Legend

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

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

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

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

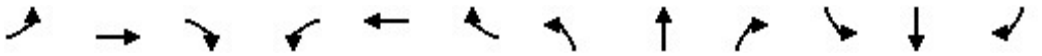
		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		3. TRANSIT	
		3.1 Transit information	
BASIC	3.1.1	Display relevant transit schedules and route maps at entrances	☒ Recommended
BASIC	3.1.2	Provide online links to OC Transpo and STO information	☒ Recommended
BETTER	3.1.3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

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
	4.	**RIDESHARING**	
	4.1	**Ridematching service**	
		Commuter travel	
BASIC ★	4.1.1	Provide a dedicated ridematching portal at OttawaRideMatch.com	☐ N/A for school
	4.2	**Carpool parking price incentives**	
		Commuter travel	
BETTER	4.2.1	Provide discounts on parking costs for registered carpools	☐ N/A for school
	4.3	**Vanpool service**	
		Commuter travel	
BETTER	4.3.1	Provide a vanpooling service for long-distance commuters	☐ N/A for school
	5.	**CARSHARING & BIKESHARING**	
	5.1	**Bikeshare stations & memberships**	
BETTER	5.1.1	Contract with provider to install on-site bikeshare station for use by commuters and visitors	☐ N/A for school
		Commuter travel	
BETTER	5.1.2	Provide employees with bikeshare memberships for local business travel	☐ N/A for school
	5.2	**Carshare vehicles & memberships**	
		Commuter travel	
BETTER	5.2.1	Contract with provider to install on-site carshare vehicles and promote their use by tenants	☐ N/A for school
BETTER	5.2.2	Provide employees with carshare memberships for local business travel	☐ N/A for school
	6.	**PARKING**	
	6.1	**Priced parking**	
		Commuter travel	
BASIC ★	6.1.1	Charge for long-term parking (daily, weekly, monthly)	☐ N/A for school
BASIC	6.1.2	Unbundle parking cost from lease rates at multi-tenant sites	☐ N/A for school
		Visitor travel	
BETTER	6.1.3	Charge for short-term parking (hourly)	☐ N/A for school

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

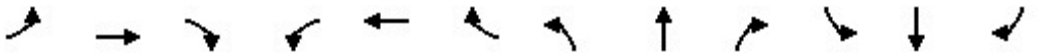
Appendix D

Synchro Worksheets



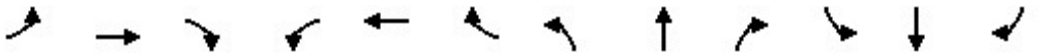
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	78	30	48	9	54	69	108	501	9	60	270	87
Future Volume (vph)	78	30	48	9	54	69	108	501	9	60	270	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.9	6.9		6.9	6.9		5.9	5.9	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.91		1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1644	1614		1527	1580		1613	3320	1254	1598	3226	1430
Flt Permitted	0.67	1.00		0.70	1.00		0.57	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)	1159	1614		1127	1580		966	3320	1254	746	3226	1430
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	87	33	53	10	60	77	120	557	10	67	300	97
RTOR Reduction (vph)	0	45	0	0	66	0	0	0	3	0	0	32
Lane Group Flow (vph)	87	41	0	10	71	0	120	557	7	67	300	65
Heavy Vehicles (%)	4%	0%	2%	12%	6%	3%	6%	3%	22%	7%	6%	7%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	9.8	9.8		9.8	9.8		46.3	46.3	46.3	46.3	46.3	46.3
Effective Green, g (s)	9.8	9.8		9.8	9.8		46.3	46.3	46.3	46.3	46.3	46.3
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.67	0.67	0.67	0.67	0.67	0.67
Clearance Time (s)	6.9	6.9		6.9	6.9		5.9	5.9	5.9	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	164	229		160	224		649	2231	842	501	2167	960
v/s Ratio Prot		0.03			0.04			c0.17			0.09	
v/s Ratio Perm	c0.08			0.01			0.12		0.01	0.09		0.05
v/c Ratio	0.53	0.18		0.06	0.32		0.18	0.25	0.01	0.13	0.14	0.07
Uniform Delay, d1	27.4	26.0		25.6	26.5		4.2	4.5	3.7	4.1	4.1	3.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	0.4		0.2	0.8		0.6	0.3	0.0	0.6	0.1	0.1
Delay (s)	30.7	26.4		25.7	27.4		4.9	4.7	3.7	4.6	4.2	4.0
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		28.5			27.2			4.7			4.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	68.9	Sum of lost time (s)	12.8
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	132	12	6	42	9	261	0	216	30	111	180	66
Future Volume (vph)	132	12	6	42	9	261	0	216	30	111	180	66
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5		6.5	6.5			6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95		1.00	0.95	
Frt	1.00	0.95		1.00	0.85			0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1710	1706		1569	1491			3113		1676	3083	
Flt Permitted	0.58	1.00		0.74	1.00			1.00		0.58	1.00	
Satd. Flow (perm)	1039	1706		1229	1491			3113		1030	3083	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	147	13	7	47	10	290	0	240	33	123	200	73
RTOR Reduction (vph)	0	5	0	0	191	0	0	18	0	0	49	0
Lane Group Flow (vph)	147	15	0	47	109	0	0	255	0	123	224	0
Heavy Vehicles (%)	0%	0%	0%	9%	38%	2%	0%	8%	7%	2%	7%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	13.1	13.1		13.1	13.1			12.4		12.4	12.4	
Effective Green, g (s)	13.1	13.1		13.1	13.1			12.4		12.4	12.4	
Actuated g/C Ratio	0.34	0.34		0.34	0.34			0.32		0.32	0.32	
Clearance Time (s)	6.5	6.5		6.5	6.5			6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	356	585		421	511			1010		334	1000	
v/s Ratio Prot		0.01			0.07			0.08			0.07	
v/s Ratio Perm	c0.14			0.04						c0.12		
v/c Ratio	0.41	0.03		0.11	0.21			0.25		0.37	0.22	
Uniform Delay, d1	9.6	8.3		8.6	8.9			9.5		9.9	9.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.0		0.1	0.2			0.1		0.7	0.1	
Delay (s)	10.4	8.3		8.7	9.1			9.6		10.6	9.5	
Level of Service	B	A		A	A			A		B	A	
Approach Delay (s)		10.1			9.1			9.6			9.8	
Approach LOS		B			A			A			A	

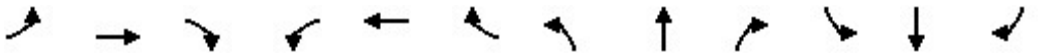
Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	38.2	Sum of lost time (s)	12.7
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	15	6	0	3	9	201	12	6	180	15
Future Volume (Veh/h)	30	0	15	6	0	3	9	201	12	6	180	15
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	33	0	17	7	0	3	10	223	13	7	200	17
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	475	478	208	489	480	230	217			236		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	475	478	208	489	480	230	217			236		
tC, single (s)	7.3	6.5	6.2	7.9	6.5	6.2	4.1			4.4		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	4.2	4.0	3.3	2.2			2.5		
p0 queue free %	93	100	98	98	100	100	99			99		
cM capacity (veh/h)	466	483	837	372	481	815	1365			1188		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	50	10	246	224
Volume Left	33	7	10	7
Volume Right	17	3	13	17
cSH	549	444	1365	1188
Volume to Capacity	0.09	0.02	0.01	0.01
Queue Length 95th (m)	2.4	0.6	0.2	0.1
Control Delay (s)	12.2	13.3	0.4	0.3
Lane LOS	B	B	A	A
Approach Delay (s)	12.2	13.3	0.4	0.3
Approach LOS	B	B		

Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	26.1%	ICU Level of Service	A	
Analysis Period (min)	15			

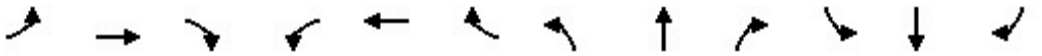


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	3	3	3	6	9	3	192	3	3	159	48
Future Volume (Veh/h)	24	3	3	3	6	9	3	192	3	3	159	48
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	27	3	3	3	7	10	3	213	3	3	177	53
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	444	432	204	434	456	214	230			216		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	444	432	204	434	456	214	230			216		
tC, single (s)	7.1	6.5	6.2	7.1	6.7	6.2	5.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.2	3.3	3.1			2.2		
p0 queue free %	95	99	100	99	99	99	100			100		
cM capacity (veh/h)	507	517	842	529	472	831	924			1366		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	33	20	219	233
Volume Left	27	3	3	3
Volume Right	3	10	3	53
cSH	527	614	924	1366
Volume to Capacity	0.06	0.03	0.00	0.00
Queue Length 95th (m)	1.6	0.8	0.1	0.1
Control Delay (s)	12.3	11.1	0.2	0.1
Lane LOS	B	B	A	A
Approach Delay (s)	12.3	11.1	0.2	0.1
Approach LOS	B	B		

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	26.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection Sign configuration not allowed in HCM analysis.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	39	0	0	21	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	39	0	0	21	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	43	0	0	23	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	23			43			66	66	43	66	66	23
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	23			43			66	66	43	66	66	23
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1605			1579			932	829	1033	932	829	1060

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	43	23	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1605	1579	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS			A	A
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS			A	A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	6.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection: 1: 10th Line Road & Promenade Decoeur Drive/Southfield Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (m)	28.9	19.8	15.3	39.4	30.5	32.9	36.0	13.8	30.8	31.0	24.9	19.5
Average Queue (m)	12.3	7.5	2.4	15.7	13.1	14.1	18.1	1.0	10.4	13.0	6.3	6.2
95th Queue (m)	23.7	16.5	11.5	29.5	25.7	26.5	30.9	6.6	22.1	25.7	18.1	15.3
Link Distance (m)		179.0		214.7		349.6	349.6			204.6	204.6	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	60.0		30.0		100.0			75.0	115.0			115.0
Storage Blk Time (%)			0	1								
Queuing Penalty (veh)			0	0								

Intersection: 2: 10th Line Road & Sweet Valley Drive/Harvest Valley Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	T	TR	L	T	TR
Maximum Queue (m)	31.0	12.8	22.0	32.6	28.2	23.2	33.5	27.3	22.7
Average Queue (m)	14.9	3.1	7.1	17.0	11.3	11.1	15.0	12.6	9.1
95th Queue (m)	26.6	10.6	16.8	27.5	22.3	20.8	26.8	23.7	18.9
Link Distance (m)		181.3		186.6	424.0	424.0		349.6	349.6
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)	40.0		70.0				80.0		
Storage Blk Time (%)	0								
Queuing Penalty (veh)	0								

Intersection: 3: 10th Line Road & Sweet Valley Drive/Little Lake Lane

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	23.8	18.6	6.7	11.7
Average Queue (m)	9.2	3.3	0.3	0.5
95th Queue (m)	19.5	12.9	3.3	5.3
Link Distance (m)	119.0	174.8	610.7	83.0
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: 10th Line Road & Wall Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	20.0	12.9	11.0	7.1
Average Queue (m)	6.6	3.9	0.4	0.3
95th Queue (m)	15.8	11.7	4.7	2.9
Link Distance (m)	326.1	488.3	335.6	610.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Entrance & Sweet Valley Drive

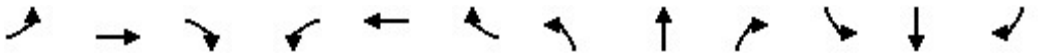
Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 6: East Entrance/Exit/Pewee Pl & Sweet Valley Drive

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

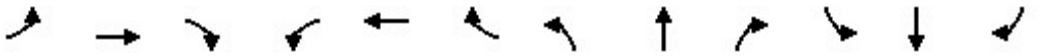
Network Summary

Network wide Queuing Penalty: 0



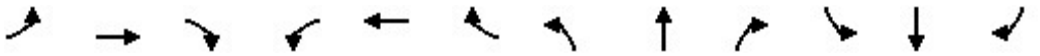
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	33	75	6	24	39	45	339	9	54	384	57
Future Volume (vph)	60	33	75	6	24	39	45	339	9	54	384	57
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.9	6.9		6.9	6.9		5.9	5.9	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.90		1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1555	1566		1710	1535		1676	3353	1530	1644	3386	1457
Flt Permitted	0.71	1.00		0.68	1.00		0.50	1.00	1.00	0.53	1.00	1.00
Satd. Flow (perm)	1164	1566		1224	1535		888	3353	1530	914	3386	1457
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	67	37	83	7	27	43	50	377	10	60	427	63
RTOR Reduction (vph)	0	71	0	0	37	0	0	0	3	0	0	19
Lane Group Flow (vph)	67	49	0	7	33	0	50	377	7	60	427	44
Heavy Vehicles (%)	10%	3%	3%	0%	4%	8%	2%	2%	0%	4%	1%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	11.2	11.2		11.2	11.2		56.0	56.0	56.0	56.0	56.0	56.0
Effective Green, g (s)	11.2	11.2		11.2	11.2		56.0	56.0	56.0	56.0	56.0	56.0
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.70	0.70	0.70	0.70	0.70	0.70
Clearance Time (s)	6.9	6.9		6.9	6.9		5.9	5.9	5.9	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	162	219		171	214		621	2347	1071	639	2370	1019
v/s Ratio Prot		0.03			0.02			0.11			c0.13	
v/s Ratio Perm	c0.06			0.01			0.06		0.00	0.07		0.03
v/c Ratio	0.41	0.22		0.04	0.15		0.08	0.16	0.01	0.09	0.18	0.04
Uniform Delay, d1	31.4	30.5		29.8	30.2		3.8	4.1	3.6	3.9	4.1	3.7
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.5		0.1	0.3		0.3	0.1	0.0	0.3	0.2	0.1
Delay (s)	33.1	31.0		29.9	30.6		4.1	4.2	3.6	4.1	4.3	3.8
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		31.8			30.5			4.2			4.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	3	3	15	9	123	3	210	24	147	216	96
Future Volume (vph)	57	3	3	15	9	123	3	210	24	147	216	96
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5		6.5	6.5		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	0.86		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1665		1527	1534		1286	3226		1693	3200	
Flt Permitted	0.66	1.00		0.75	1.00		0.54	1.00		0.59	1.00	
Satd. Flow (perm)	1171	1665		1211	1534		736	3226		1053	3200	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	63	3	3	17	10	137	3	233	27	163	240	107
RTOR Reduction (vph)	0	2	0	0	106	0	0	12	0	0	62	0
Lane Group Flow (vph)	63	4	0	17	41	0	3	248	0	163	285	0
Heavy Vehicles (%)	2%	0%	0%	12%	0%	1%	33%	3%	16%	1%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	7.9	7.9		7.9	7.9		14.8	14.8		14.8	14.8	
Effective Green, g (s)	7.9	7.9		7.9	7.9		14.8	14.8		14.8	14.8	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.42	0.42		0.42	0.42	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	261	371		270	342		307	1348		440	1337	
v/s Ratio Prot		0.00			0.03			0.08			0.09	
v/s Ratio Perm	c0.05			0.01			0.00			c0.15		
v/c Ratio	0.24	0.01		0.06	0.12		0.01	0.18		0.37	0.21	
Uniform Delay, d1	11.3	10.7		10.8	11.0		6.0	6.5		7.1	6.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.0		0.1	0.2		0.0	0.1		0.5	0.1	
Delay (s)	11.8	10.7		10.9	11.1		6.0	6.6		7.6	6.7	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		11.7			11.1			6.6			7.0	
Approach LOS		B			B			A			A	

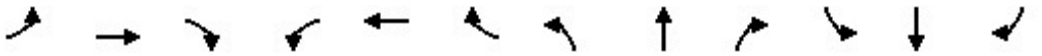
Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	35.4	Sum of lost time (s)	12.7
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	0	6	12	0	6	6	171	6	0	207	18
Future Volume (Veh/h)	18	0	6	12	0	6	6	171	6	0	207	18
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	20	0	7	13	0	7	7	190	7	0	230	20
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	454	451	240	454	458	194	250			197		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	454	451	240	454	458	194	250			197		
tC, single (s)	7.4	6.5	6.2	7.5	6.5	6.4	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.8	4.0	3.5	2.2			2.2		
p0 queue free %	96	100	99	97	100	99	99			100		
cM capacity (veh/h)	467	504	804	457	500	811	1327			1388		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	27	20	204	250
Volume Left	20	13	7	0
Volume Right	7	7	7	20
cSH	524	539	1327	1388
Volume to Capacity	0.05	0.04	0.01	0.00
Queue Length 95th (m)	1.3	0.9	0.1	0.0
Control Delay (s)	12.2	11.9	0.3	0.0
Lane LOS	B	B	A	
Approach Delay (s)	12.2	11.9	0.3	0.0
Approach LOS	B	B		

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	25.0%	ICU Level of Service	A	
Analysis Period (min)	15			

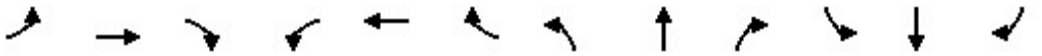


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	3	6	3	6	6	3	165	3	3	216	9
Future Volume (Veh/h)	21	3	6	3	6	6	3	165	3	3	216	9
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	23	3	7	3	7	7	3	183	3	3	240	10
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	452	443	245	450	446	184	250			186		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	452	443	245	450	446	184	250			186		
tC, single (s)	7.1	6.5	6.2	8.1	6.7	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	4.4	4.2	3.3	2.2			2.2		
p0 queue free %	95	99	99	99	99	99	100			100		
cM capacity (veh/h)	510	510	799	380	479	863	1327			1401		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	33	17	189	253
Volume Left	23	3	3	3
Volume Right	7	7	3	10
cSH	552	555	1327	1401
Volume to Capacity	0.06	0.03	0.00	0.00
Queue Length 95th (m)	1.5	0.8	0.1	0.1
Control Delay (s)	11.9	11.7	0.1	0.1
Lane LOS	B	B	A	A
Approach Delay (s)	11.9	11.7	0.1	0.1
Approach LOS	B	B		

Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	25.9%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection Sign configuration not allowed in HCM analysis.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	21	0	0	24	0	0	0	0	0	0	0
Future Volume (Veh/h)	0	21	0	0	24	0	0	0	0	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	23	0	0	27	0	0	0	0	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	27			23			50	50	23	50	50	27
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	27			23			50	50	23	50	50	27
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	100	100	100
cM capacity (veh/h)	1600			1605			955	845	1060	955	845	1054

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	23	27	0	0
Volume Left	0	0	0	0
Volume Right	0	0	0	0
cSH	1600	1605	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0
Lane LOS			A	A
Approach Delay (s)	0.0	0.0	0.0	0.0
Approach LOS			A	A

Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	6.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection: 1: 10th Line Road & Promenade Decoeur Drive/Southfield Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (m)	31.5	28.3	9.2	22.7	18.1	20.7	24.6	8.2	16.8	32.4	23.4	18.9
Average Queue (m)	11.5	11.2	1.2	8.1	6.6	7.0	10.0	0.6	7.3	13.9	7.2	4.0
95th Queue (m)	25.8	22.5	5.8	18.0	15.6	16.9	21.3	4.1	15.8	28.0	18.8	12.3
Link Distance (m)		179.0		214.7		349.6	349.6			204.6	204.6	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	60.0		30.0		100.0			75.0	115.0			115.0
Storage Blk Time (%)				0								
Queuing Penalty (veh)				0								

Intersection: 2: 10th Line Road & Sweet Valley Drive/Harvest Valley Avenue

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	22.4	10.3	18.9	21.3	6.5	20.1	24.5	31.9	22.5	26.2
Average Queue (m)	8.0	1.1	3.0	11.3	0.2	9.4	9.3	15.4	10.0	10.1
95th Queue (m)	17.5	6.0	11.5	19.0	2.9	17.7	20.1	28.8	20.0	19.7
Link Distance (m)		181.3		186.6		424.0	424.0		349.6	349.6
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	40.0		70.0		50.0			80.0		
Storage Blk Time (%)	0									
Queuing Penalty (veh)	0									

Intersection: 3: 10th Line Road & Sweet Valley Drive/Little Lake Lane

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (m)	22.6	20.5	7.0
Average Queue (m)	7.4	5.5	0.3
95th Queue (m)	18.6	15.9	3.1
Link Distance (m)	119.0	174.8	610.7
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (m)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: 10th Line Road & Wall Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	13.2	21.2	1.8	4.9
Average Queue (m)	6.1	4.1	0.1	0.2
95th Queue (m)	13.5	14.5	1.8	2.9
Link Distance (m)	326.1	488.3	335.6	610.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Entrance & Sweet Valley Drive

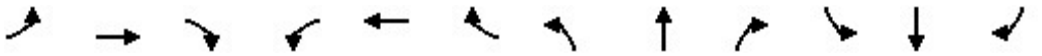
Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 6: East Entrance/Exit/Pewee Pl & Sweet Valley Drive

Movement
Directions Served
Maximum Queue (m)
Average Queue (m)
95th Queue (m)
Link Distance (m)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (m)
Storage Blk Time (%)
Queuing Penalty (veh)

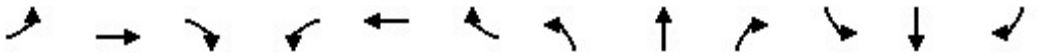
Network Summary

Network wide Queuing Penalty: 0



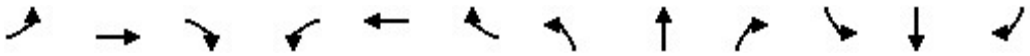
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	30	50	30	55	70	150	630	25	60	355	100
Future Volume (vph)	95	30	50	30	55	70	150	630	25	60	355	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.9	6.9		6.9	6.9		5.9	5.9	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.91		1.00	0.92		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1644	1611		1527	1581		1613	3320	1254	1598	3226	1430
Flt Permitted	0.68	1.00		0.70	1.00		0.54	1.00	1.00	0.41	1.00	1.00
Satd. Flow (perm)	1171	1611		1133	1581		916	3320	1254	694	3226	1430
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	95	30	50	30	55	70	150	630	25	60	355	100
RTOR Reduction (vph)	0	43	0	0	60	0	0	0	8	0	0	33
Lane Group Flow (vph)	95	37	0	30	65	0	150	630	17	60	355	67
Heavy Vehicles (%)	4%	0%	2%	12%	6%	3%	6%	3%	22%	7%	6%	7%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	9.6	9.6		9.6	9.6		46.3	46.3	46.3	46.3	46.3	46.3
Effective Green, g (s)	9.6	9.6		9.6	9.6		46.3	46.3	46.3	46.3	46.3	46.3
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.67	0.67	0.67	0.67	0.67	0.67
Clearance Time (s)	6.9	6.9		6.9	6.9		5.9	5.9	5.9	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	163	225		158	220		617	2237	845	467	2174	963
v/s Ratio Prot		0.02			0.04			c0.19			0.11	
v/s Ratio Perm	c0.08			0.03			0.16		0.01	0.09		0.05
v/c Ratio	0.58	0.16		0.19	0.29		0.24	0.28	0.02	0.13	0.16	0.07
Uniform Delay, d1	27.7	26.0		26.1	26.5		4.4	4.5	3.7	4.0	4.1	3.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.2	0.3		0.6	0.7		0.9	0.3	0.0	0.6	0.2	0.1
Delay (s)	32.9	26.4		26.7	27.3		5.3	4.8	3.7	4.6	4.3	4.0
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		29.9			27.2			4.9			4.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	68.7	Sum of lost time (s)	12.8
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	10	30	70	10	310	0	350	55	135	270	65
Future Volume (vph)	135	10	30	70	10	310	0	350	55	135	270	65
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5		6.5	6.5			6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95		1.00	0.95	
Frt	1.00	0.89		1.00	0.85			0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1710	1598		1569	1492			3106		1676	3115	
Flt Permitted	0.57	1.00		0.73	1.00			1.00		0.51	1.00	
Satd. Flow (perm)	1020	1598		1207	1492			3106		907	3115	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	135	10	30	70	10	310	0	350	55	135	270	65
RTOR Reduction (vph)	0	20	0	0	207	0	0	20	0	0	34	0
Lane Group Flow (vph)	135	20	0	70	113	0	0	385	0	135	301	0
Heavy Vehicles (%)	0%	0%	0%	9%	38%	2%	0%	8%	7%	2%	7%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.6	12.6		12.6	12.6			12.8		12.8	12.8	
Effective Green, g (s)	12.6	12.6		12.6	12.6			12.8		12.8	12.8	
Actuated g/C Ratio	0.33	0.33		0.33	0.33			0.34		0.34	0.34	
Clearance Time (s)	6.5	6.5		6.5	6.5			6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	337	528		399	493			1043		304	1046	
v/s Ratio Prot		0.01			0.08			0.12			0.10	
v/s Ratio Perm	c0.13			0.06						c0.15		
v/c Ratio	0.40	0.04		0.18	0.23			0.37		0.44	0.29	
Uniform Delay, d1	9.8	8.6		9.1	9.2			9.6		9.9	9.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.0		0.2	0.2			0.2		1.0	0.2	
Delay (s)	10.6	8.7		9.3	9.5			9.8		10.9	9.5	
Level of Service	B	A		A	A			A		B	A	
Approach Delay (s)		10.2			9.4			9.8			9.9	
Approach LOS		B			A			A			A	

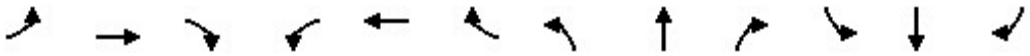
Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	38.1	Sum of lost time (s)	12.7
Intersection Capacity Utilization	70.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	0	25	15	0	15	20	285	15	10	230	100
Future Volume (Veh/h)	90	0	25	15	0	15	20	285	15	10	230	100
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	90	0	25	15	0	15	20	285	15	10	230	100
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	648	640	280	658	682	292	330			300		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	648	640	280	658	682	292	330			300		
tC, single (s)	7.3	6.5	6.2	7.9	6.5	6.2	4.1			4.4		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	4.2	4.0	3.3	2.2			2.5		
p0 queue free %	74	100	97	95	100	98	98			99		
cM capacity (veh/h)	347	386	764	274	365	752	1241			1122		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	115	30	320	340
Volume Left	90	15	20	10
Volume Right	25	15	15	100
cSH	394	402	1241	1122
Volume to Capacity	0.29	0.07	0.02	0.01
Queue Length 95th (m)	9.6	1.9	0.4	0.2
Control Delay (s)	17.9	14.7	0.6	0.3
Lane LOS	C	B	A	A
Approach Delay (s)	17.9	14.7	0.6	0.3
Approach LOS	C	B		

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	43.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	5	25	5	5	10	15	210	5	5	180	95
Future Volume (Veh/h)	105	5	25	5	5	10	15	210	5	5	180	95
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	105	5	25	5	5	10	15	210	5	5	180	95
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	492	482	228	508	528	212	275			215		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	492	482	228	508	528	212	275			215		
tC, single (s)	7.1	6.5	6.2	7.1	6.7	6.2	5.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.2	3.3	3.1			2.2		
p0 queue free %	77	99	97	99	99	99	98			100		
cM capacity (veh/h)	466	477	817	453	423	833	883			1367		

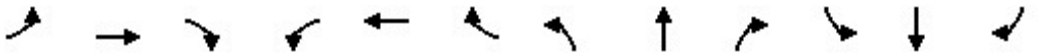
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	135	20	230	280
Volume Left	105	5	15	5
Volume Right	25	10	5	95
cSH	507	574	883	1367
Volume to Capacity	0.27	0.03	0.02	0.00
Queue Length 95th (m)	8.5	0.9	0.4	0.1
Control Delay (s)	14.7	11.5	0.8	0.2
Lane LOS	B	B	A	A
Approach Delay (s)	14.7	11.5	0.8	0.2
Approach LOS	B	B		

Intersection Summary				
Average Delay	3.7			
Intersection Capacity Utilization	42.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	25	10	100	20	0	0
Future Volume (Veh/h)	25	10	100	20	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	0.50	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	25	20	100	20	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			45		255	35
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			45		255	35
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		100	100
cM capacity (veh/h)			1576		691	1044

Direction, Lane #	EB 1	WB 1
Volume Total	45	120
Volume Left	0	100
Volume Right	20	0
cSH	1700	1576
Volume to Capacity	0.03	0.06
Queue Length 95th (m)	0.0	1.6
Control Delay (s)	0.0	6.3
Lane LOS		A
Approach Delay (s)	0.0	6.3
Approach LOS		

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	25	0	0	110	10	10	0	65	20	0	0
Future Volume (Veh/h)	0	25	0	0	110	10	10	0	65	20	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	0.50	0.50	1.00	1.00	0.50	1.00	0.50	1.00	1.00	1.00
Hourly flow rate (vph)	0	25	0	0	110	10	20	0	130	20	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	120			25			140	145	25	270	140	115
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	120			25			140	145	25	270	140	115
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	100	88	97	100	100
cM capacity (veh/h)	1480			1603			835	750	1057	602	755	943

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	25	120	150	20
Volume Left	0	0	20	20
Volume Right	0	10	130	0
cSH	1480	1603	1021	602
Volume to Capacity	0.00	0.00	0.15	0.03
Queue Length 95th (m)	0.0	0.0	4.1	0.8
Control Delay (s)	0.0	0.0	9.1	11.2
Lane LOS			A	B
Approach Delay (s)	0.0	0.0	9.1	11.2
Approach LOS			A	B

Intersection Summary				
Average Delay	5.1			
Intersection Capacity Utilization	19.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection: 1: 10th Line Road & Promenade Decoeur Drive/Southfield Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (m)	33.1	22.4	24.6	33.8	45.9	38.0	46.2	18.6	27.4	36.0	32.0	18.5
Average Queue (m)	15.8	7.7	6.6	13.5	18.6	16.6	22.2	3.2	10.7	16.1	7.6	6.9
95th Queue (m)	29.1	17.1	18.1	26.2	34.8	31.2	35.8	12.0	22.5	32.0	20.9	15.6
Link Distance (m)		179.0		214.7		349.6	349.6			204.6	204.6	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	60.0		30.0		100.0			75.0	115.0			115.0
Storage Blk Time (%)			0	1								
Queuing Penalty (veh)			0	0								

Intersection: 2: 10th Line Road & Sweet Valley Drive/Harvest Valley Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	T	TR	L	T	TR
Maximum Queue (m)	29.4	13.1	23.7	46.6	35.7	36.5	43.5	32.8	35.3
Average Queue (m)	15.1	5.0	10.5	21.6	15.6	17.8	18.9	15.9	12.1
95th Queue (m)	25.3	12.5	20.5	36.0	27.4	30.6	33.4	29.5	26.4
Link Distance (m)		181.3		186.6	424.0	424.0		349.6	349.6
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)	40.0		70.0				80.0		
Storage Blk Time (%)				0	0				
Queuing Penalty (veh)				0	0				

Intersection: 3: 10th Line Road & Sweet Valley Drive/Little Lake Lane

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	32.4	25.4	19.5	16.6
Average Queue (m)	13.9	9.5	2.2	1.0
95th Queue (m)	25.3	22.5	10.8	7.6
Link Distance (m)	119.0	179.2	610.7	83.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: 10th Line Road & Wall Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	32.2	17.4	29.3	12.1
Average Queue (m)	13.2	4.7	3.2	0.7
95th Queue (m)	23.1	13.4	16.7	5.7
Link Distance (m)	326.1	488.3	335.6	610.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Entrance & Sweet Valley Drive

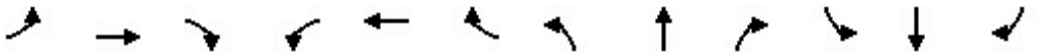
Movement	WB
Directions Served	LT
Maximum Queue (m)	10.5
Average Queue (m)	1.3
95th Queue (m)	6.8
Link Distance (m)	38.2
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: East Entrance/Exit/Pewee Pl & Sweet Valley Drive

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (m)	16.7	9.2
Average Queue (m)	8.5	4.8
95th Queue (m)	14.8	12.1
Link Distance (m)	48.4	104.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

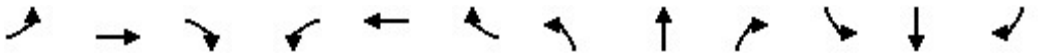
Network Summary

Network wide Queuing Penalty: 0



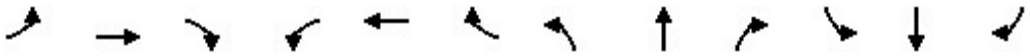
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	35	80	15	25	40	70	430	20	55	515	75
Future Volume (vph)	75	35	80	15	25	40	70	430	20	55	515	75
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.9	6.9		6.9	6.9		5.9	5.9	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.90		1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1555	1565		1710	1535		1676	3353	1530	1644	3386	1457
Flt Permitted	0.71	1.00		0.68	1.00		0.46	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	1169	1565		1229	1535		815	3353	1530	868	3386	1457
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	75	35	80	15	25	40	70	430	20	55	515	75
RTOR Reduction (vph)	0	69	0	0	34	0	0	0	6	0	0	23
Lane Group Flow (vph)	75	46	0	15	31	0	70	430	14	55	515	52
Heavy Vehicles (%)	10%	3%	3%	0%	4%	8%	2%	2%	0%	4%	1%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	11.5	11.5		11.5	11.5		56.0	56.0	56.0	56.0	56.0	56.0
Effective Green, g (s)	11.5	11.5		11.5	11.5		56.0	56.0	56.0	56.0	56.0	56.0
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.70	0.70	0.70	0.70	0.70	0.70
Clearance Time (s)	6.9	6.9		6.9	6.9		5.9	5.9	5.9	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	167	224		176	219		568	2338	1066	605	2361	1016
v/s Ratio Prot		0.03			0.02			0.13			c0.15	
v/s Ratio Perm	c0.06			0.01			0.09		0.01	0.06		0.04
v/c Ratio	0.45	0.21		0.09	0.14		0.12	0.18	0.01	0.09	0.22	0.05
Uniform Delay, d1	31.5	30.4		29.8	30.1		4.0	4.2	3.7	3.9	4.3	3.8
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.5		0.2	0.3		0.4	0.2	0.0	0.3	0.2	0.1
Delay (s)	33.4	30.8		30.0	30.4		4.5	4.4	3.7	4.2	4.5	3.9
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		31.9			30.3			4.4			4.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	80.3	Sum of lost time (s)	12.8
Intersection Capacity Utilization	50.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	5	15	35	10	145	5	310	65	195	315	100
Future Volume (vph)	60	5	15	35	10	145	5	310	65	195	315	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5		6.5	6.5		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.89		1.00	0.86		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1598		1527	1533		1286	3165		1693	3241	
Flt Permitted	0.66	1.00		0.74	1.00		0.51	1.00		0.53	1.00	
Satd. Flow (perm)	1162	1598		1196	1533		689	3165		943	3241	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	5	15	35	10	145	5	310	65	195	315	100
RTOR Reduction (vph)	0	12	0	0	114	0	0	24	0	0	41	0
Lane Group Flow (vph)	60	8	0	35	41	0	5	351	0	195	374	0
Heavy Vehicles (%)	2%	0%	0%	12%	0%	1%	33%	3%	16%	1%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	7.9	7.9		7.9	7.9		16.8	16.8		16.8	16.8	
Effective Green, g (s)	7.9	7.9		7.9	7.9		16.8	16.8		16.8	16.8	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.45	0.45		0.45	0.45	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	245	337		252	323		309	1421		423	1455	
v/s Ratio Prot		0.01			0.03			0.11			0.12	
v/s Ratio Perm	c0.05			0.03			0.01			c0.21		
v/c Ratio	0.24	0.02		0.14	0.13		0.02	0.25		0.46	0.26	
Uniform Delay, d1	12.3	11.7		12.0	12.0		5.7	6.4		7.2	6.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.0		0.3	0.2		0.0	0.1		0.8	0.1	
Delay (s)	12.8	11.7		12.2	12.1		5.7	6.5		8.0	6.5	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		12.5			12.1			6.5			7.0	
Approach LOS		B			B			A			A	

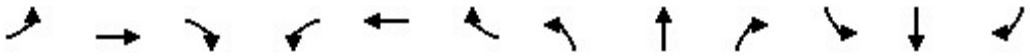
Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	37.4	Sum of lost time (s)	12.7
Intersection Capacity Utilization	62.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	15	15	0	15	15	255	15	10	285	60
Future Volume (Veh/h)	60	0	15	15	0	15	15	255	15	10	285	60
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	60	0	15	15	0	15	15	255	15	10	285	60
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	642	635	315	642	658	262	345			270		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	642	635	315	642	658	262	345			270		
tC, single (s)	7.4	6.5	6.2	7.5	6.5	6.4	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.8	4.0	3.5	2.2			2.2		
p0 queue free %	82	100	98	95	100	98	99			99		
cM capacity (veh/h)	339	391	730	331	379	741	1225			1305		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	75	30	285	355
Volume Left	60	15	15	10
Volume Right	15	15	15	60
cSH	380	458	1225	1305
Volume to Capacity	0.20	0.07	0.01	0.01
Queue Length 95th (m)	5.8	1.7	0.3	0.2
Control Delay (s)	16.8	13.4	0.5	0.3
Lane LOS	C	B	A	A
Approach Delay (s)	16.8	13.4	0.5	0.3
Approach LOS	C	B		

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	36.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	5	20	5	5	5	25	185	5	5	235	80
Future Volume (Veh/h)	100	5	20	5	5	5	25	185	5	5	235	80
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	100	5	20	5	5	5	25	185	5	5	235	80
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	530	525	275	545	562	188	315			190		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	530	525	275	545	562	188	315			190		
tC, single (s)	7.1	6.5	6.2	8.1	6.7	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	4.4	4.2	3.3	2.2			2.2		
p0 queue free %	78	99	97	98	99	99	98			100		
cM capacity (veh/h)	448	450	769	312	402	860	1257			1396		

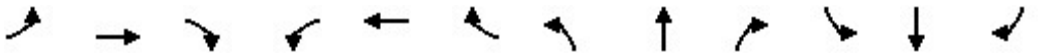
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	125	15	215	320
Volume Left	100	5	25	5
Volume Right	20	5	5	80
cSH	480	438	1257	1396
Volume to Capacity	0.26	0.03	0.02	0.00
Queue Length 95th (m)	8.3	0.9	0.5	0.1
Control Delay (s)	15.1	13.5	1.1	0.2
Lane LOS	C	B	A	A
Approach Delay (s)	15.1	13.5	1.1	0.2
Approach LOS	C	B		

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	47.0%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	20	5	50	30	0	0
Future Volume (Veh/h)	20	5	50	30	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	0.33	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	20	15	50	30	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			35		158	28
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			35		158	28
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			97		100	100
cM capacity (veh/h)			1589		812	1054

Direction, Lane #	EB 1	WB 1
Volume Total	35	80
Volume Left	0	50
Volume Right	15	0
cSH	1700	1589
Volume to Capacity	0.02	0.03
Queue Length 95th (m)	0.0	0.8
Control Delay (s)	0.0	4.7
Lane LOS		A
Approach Delay (s)	0.0	4.7
Approach LOS		

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	20	0	0	75	0	5	0	50	0	0	0
Future Volume (Veh/h)	0	20	0	0	75	0	5	0	50	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	0.33	0.33	1.00	1.00	0.33	1.00	0.33	1.00	1.00	1.00
Hourly flow rate (vph)	0	20	0	0	75	0	15	0	152	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	75			20			95	95	20	247	95	75
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	75			20			95	95	20	247	95	75
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	100	86	100	100	100
cM capacity (veh/h)	1537			1609			893	799	1064	609	799	992

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	20	75	167	0
Volume Left	0	0	15	0
Volume Right	0	0	152	0
cSH	1537	1609	1046	1700
Volume to Capacity	0.00	0.00	0.16	0.03
Queue Length 95th (m)	0.0	0.0	4.5	0.0
Control Delay (s)	0.0	0.0	9.1	0.0
Lane LOS			A	A
Approach Delay (s)	0.0	0.0	9.1	0.0
Approach LOS			A	A

Intersection Summary				
Average Delay	5.8			
Intersection Capacity Utilization	14.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection: 1: 10th Line Road & Promenade Decoeur Drive/Southfield Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (m)	39.1	31.1	13.7	26.1	27.5	22.2	31.1	9.9	18.9	38.3	27.5	17.8
Average Queue (m)	14.4	12.0	3.1	8.2	9.3	9.5	13.5	1.2	7.7	19.1	8.9	5.0
95th Queue (m)	31.7	25.7	10.1	18.1	19.9	20.7	25.7	6.0	16.9	34.6	21.8	14.1
Link Distance (m)		179.0		214.7		349.6	349.6			204.6	204.6	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	60.0		30.0		100.0			75.0	115.0			115.0
Storage Blk Time (%)				0								
Queuing Penalty (veh)				0								

Intersection: 2: 10th Line Road & Sweet Valley Drive/Harvest Valley Avenue

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	22.5	11.4	21.5	31.3	14.2	24.4	27.4	48.0	32.6	29.6
Average Queue (m)	8.6	3.0	7.0	13.6	1.1	12.3	13.0	20.8	14.2	11.8
95th Queue (m)	18.5	9.9	17.1	23.6	6.5	21.7	24.4	36.5	27.2	22.8
Link Distance (m)		181.3		186.6		424.0	424.0		349.6	349.6
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	40.0		70.0		50.0			80.0		
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 3: 10th Line Road & Sweet Valley Drive/Little Lake Lane

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	25.8	20.2	15.6	16.4
Average Queue (m)	12.4	7.4	1.7	0.9
95th Queue (m)	21.7	17.4	8.8	7.7
Link Distance (m)	119.0	179.2	610.7	83.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: 10th Line Road & Wall Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	23.1	21.9	13.6	12.5
Average Queue (m)	11.8	5.4	2.3	0.5
95th Queue (m)	19.1	16.6	10.0	5.2
Link Distance (m)	326.1	488.3	335.6	610.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Entrance & Sweet Valley Drive

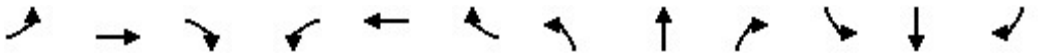
Movement	WB
Directions Served	LT
Maximum Queue (m)	8.5
Average Queue (m)	0.5
95th Queue (m)	4.1
Link Distance (m)	38.2
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: East Entrance/Exit/Pewee Pl & Sweet Valley Drive

Movement	NB
Directions Served	LTR
Maximum Queue (m)	15.0
Average Queue (m)	7.5
95th Queue (m)	13.9
Link Distance (m)	48.4
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

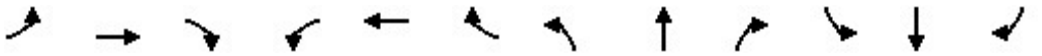
Network Summary

Network wide Queuing Penalty: 0



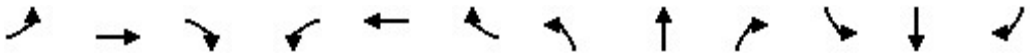
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	30	55	30	55	75	155	660	25	65	370	105
Future Volume (vph)	100	30	55	30	55	75	155	660	25	65	370	105
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.9	6.9		6.9	6.9		5.9	5.9	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.90		1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1644	1605		1527	1577		1613	3320	1254	1598	3226	1430
Flt Permitted	0.67	1.00		0.70	1.00		0.53	1.00	1.00	0.40	1.00	1.00
Satd. Flow (perm)	1166	1605		1128	1577		903	3320	1254	674	3226	1430
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	100	30	55	30	55	75	155	660	25	65	370	105
RTOR Reduction (vph)	0	47	0	0	64	0	0	0	8	0	0	35
Lane Group Flow (vph)	100	38	0	30	66	0	155	660	17	65	370	70
Heavy Vehicles (%)	4%	0%	2%	12%	6%	3%	6%	3%	22%	7%	6%	7%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	9.9	9.9		9.9	9.9		46.3	46.3	46.3	46.3	46.3	46.3
Effective Green, g (s)	9.9	9.9		9.9	9.9		46.3	46.3	46.3	46.3	46.3	46.3
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.67	0.67	0.67	0.67	0.67	0.67
Clearance Time (s)	6.9	6.9		6.9	6.9		5.9	5.9	5.9	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	167	230		161	226		605	2227	841	452	2164	959
v/s Ratio Prot		0.02			0.04			c0.20			0.11	
v/s Ratio Perm	c0.09			0.03			0.17		0.01	0.10		0.05
v/c Ratio	0.60	0.16		0.19	0.29		0.26	0.30	0.02	0.14	0.17	0.07
Uniform Delay, d1	27.7	25.9		26.0	26.4		4.5	4.7	3.8	4.1	4.2	3.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.7	0.3		0.6	0.7		1.0	0.3	0.0	0.7	0.2	0.1
Delay (s)	33.4	26.3		26.6	27.1		5.5	5.0	3.8	4.8	4.4	4.1
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		30.1			27.0			5.1			4.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	69.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	15	30	75	10	325	0	360	55	140	280	70
Future Volume (vph)	140	15	30	75	10	325	0	360	55	140	280	70
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5		6.5	6.5			6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00			0.95		1.00	0.95	
Frt	1.00	0.90		1.00	0.85			0.98		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1710	1620		1569	1492			3108		1676	3112	
Flt Permitted	0.56	1.00		0.73	1.00			1.00		0.51	1.00	
Satd. Flow (perm)	1006	1620		1202	1492			3108		898	3112	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	140	15	30	75	10	325	0	360	55	140	280	70
RTOR Reduction (vph)	0	20	0	0	212	0	0	19	0	0	36	0
Lane Group Flow (vph)	140	25	0	75	123	0	0	396	0	140	314	0
Heavy Vehicles (%)	0%	0%	0%	9%	38%	2%	0%	8%	7%	2%	7%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	14.1	14.1		14.1	14.1			13.6		13.6	13.6	
Effective Green, g (s)	14.1	14.1		14.1	14.1			13.6		13.6	13.6	
Actuated g/C Ratio	0.35	0.35		0.35	0.35			0.34		0.34	0.34	
Clearance Time (s)	6.5	6.5		6.5	6.5			6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	351	565		419	520			1046		302	1047	
v/s Ratio Prot		0.02			0.08			0.13			0.10	
v/s Ratio Perm	c0.14			0.06						c0.16		
v/c Ratio	0.40	0.05		0.18	0.24			0.38		0.46	0.30	
Uniform Delay, d1	9.9	8.7		9.1	9.3			10.2		10.5	9.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.0		0.2	0.2			0.2		1.1	0.2	
Delay (s)	10.7	8.7		9.3	9.6			10.4		11.7	10.1	
Level of Service	B	A		A	A			B		B	B	
Approach Delay (s)		10.2			9.5			10.4			10.5	
Approach LOS		B			A			B			B	

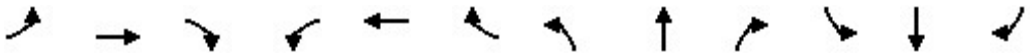
Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	40.4	Sum of lost time (s)	12.7
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	0	25	15	0	15	20	295	15	10	235	105
Future Volume (Veh/h)	90	0	25	15	0	15	20	295	15	10	235	105
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	90	0	25	15	0	15	20	295	15	10	235	105
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	665	658	288	675	702	302	340			310		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	665	658	288	675	702	302	340			310		
tC, single (s)	7.3	6.5	6.2	7.9	6.5	6.2	4.1			4.4		
tC, 2 stage (s)												
tF (s)	3.7	4.0	3.3	4.2	4.0	3.3	2.2			2.5		
p0 queue free %	73	100	97	94	100	98	98			99		
cM capacity (veh/h)	338	377	756	266	356	742	1230			1112		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	115	30	330	350
Volume Left	90	15	20	10
Volume Right	25	15	15	105
cSH	384	392	1230	1112
Volume to Capacity	0.30	0.08	0.02	0.01
Queue Length 95th (m)	9.9	2.0	0.4	0.2
Control Delay (s)	18.3	14.9	0.6	0.3
Lane LOS	C	B	A	A
Approach Delay (s)	18.3	14.9	0.6	0.3
Approach LOS	C	B		

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	44.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	5	25	5	5	10	15	220	5	5	185	100
Future Volume (Veh/h)	105	5	25	5	5	10	15	220	5	5	185	100
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	105	5	25	5	5	10	15	220	5	5	185	100
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	510	500	235	525	548	222	285			225		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	510	500	235	525	548	222	285			225		
tC, single (s)	7.1	6.5	6.2	7.1	6.7	6.2	5.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.2	3.3	3.1			2.2		
p0 queue free %	77	99	97	99	99	99	98			100		
cM capacity (veh/h)	453	466	809	441	411	822	875			1356		

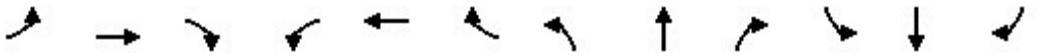
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	135	20	240	290
Volume Left	105	5	15	5
Volume Right	25	10	5	100
cSH	494	561	875	1356
Volume to Capacity	0.27	0.04	0.02	0.00
Queue Length 95th (m)	8.8	0.9	0.4	0.1
Control Delay (s)	15.0	11.7	0.7	0.2
Lane LOS	C	B	A	A
Approach Delay (s)	15.0	11.7	0.7	0.2
Approach LOS	C	B		

Intersection Summary				
Average Delay	3.6			
Intersection Capacity Utilization	42.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	25	10	100	20	0	0
Future Volume (Veh/h)	25	10	100	20	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	0.33	0.33	1.00	1.00	1.00
Hourly flow rate (vph)	25	30	303	20	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			55		666	40
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			55		666	40
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			81		100	100
cM capacity (veh/h)			1563		345	1037

Direction, Lane #	EB 1	WB 1
Volume Total	55	323
Volume Left	0	303
Volume Right	30	0
cSH	1700	1563
Volume to Capacity	0.03	0.19
Queue Length 95th (m)	0.0	5.7
Control Delay (s)	0.0	7.5
Lane LOS		A
Approach Delay (s)	0.0	7.5
Approach LOS		

Intersection Summary			
Average Delay	6.4		
Intersection Capacity Utilization	17.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	25	0	0	110	10	10	0	65	20	0	0
Future Volume (Veh/h)	0	25	0	0	110	10	10	0	65	20	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	0.33	0.33	1.00	1.00	0.33	1.00	0.33	1.00	1.00	1.00
Hourly flow rate (vph)	0	25	0	0	110	10	30	0	197	20	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	120			25			140	145	25	337	140	115
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	120			25			140	145	25	337	140	115
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			96	100	81	96	100	100
cM capacity (veh/h)	1480			1603			835	750	1057	505	755	943

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	25	120	227	20
Volume Left	0	0	30	20
Volume Right	0	10	197	0
cSH	1480	1603	1021	505
Volume to Capacity	0.00	0.00	0.22	0.04
Queue Length 95th (m)	0.0	0.0	6.8	1.0
Control Delay (s)	0.0	0.0	9.5	12.4
Lane LOS			A	B
Approach Delay (s)	0.0	0.0	9.5	12.4
Approach LOS			A	B

Intersection Summary				
Average Delay	6.2			
Intersection Capacity Utilization	19.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection: 1: 10th Line Road & Promenade Decoeur Drive/Southfield Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (m)	34.4	25.2	26.3	40.1	35.7	41.2	42.2	18.9	25.9	36.1	23.6	19.7
Average Queue (m)	15.4	8.1	6.2	16.0	18.0	19.1	23.4	2.7	10.7	17.2	8.5	7.1
95th Queue (m)	28.8	18.2	17.1	31.2	31.5	35.3	38.2	11.2	21.7	31.4	19.6	16.0
Link Distance (m)		179.0		214.7		349.6	349.6			204.6	204.6	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	60.0		30.0		100.0			75.0	115.0			115.0
Storage Blk Time (%)			0	1								
Queuing Penalty (veh)			0	0								

Intersection: 2: 10th Line Road & Sweet Valley Drive/Harvest Valley Avenue

Movement	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	T	TR	L	T	TR
Maximum Queue (m)	34.7	15.6	28.1	43.1	32.2	36.1	39.2	38.6	35.3
Average Queue (m)	16.0	5.8	11.1	20.7	16.3	17.6	18.0	16.6	13.3
95th Queue (m)	28.8	13.2	22.9	35.1	27.4	30.8	32.2	29.6	27.0
Link Distance (m)		181.3		186.6	424.0	424.0		349.6	349.6
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (m)	40.0		70.0				80.0		
Storage Blk Time (%)	0								
Queuing Penalty (veh)	0								

Intersection: 3: 10th Line Road & Sweet Valley Drive/Little Lake Lane

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	34.4	22.1	22.5	26.6
Average Queue (m)	14.8	7.8	2.8	1.7
95th Queue (m)	27.0	20.1	13.3	12.1
Link Distance (m)	119.0	179.2	610.7	83.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: 10th Line Road & Wall Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	34.2	18.6	33.0	9.7
Average Queue (m)	13.5	4.8	3.1	0.4
95th Queue (m)	25.1	13.7	16.6	3.8
Link Distance (m)	326.1	488.3	335.6	610.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Entrance & Sweet Valley Drive

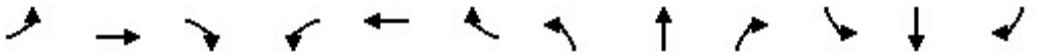
Movement	WB
Directions Served	LT
Maximum Queue (m)	10.7
Average Queue (m)	1.0
95th Queue (m)	6.0
Link Distance (m)	38.2
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: East Entrance/Exit/Pewee Pl & Sweet Valley Drive

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (m)	16.4	10.7
Average Queue (m)	8.4	4.2
95th Queue (m)	13.9	11.9
Link Distance (m)	48.4	104.4
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

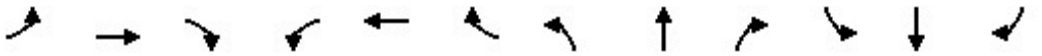
Network Summary

Network wide Queuing Penalty: 0



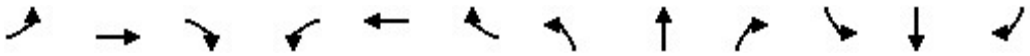
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	35	85	15	25	40	70	445	20	60	535	75
Future Volume (vph)	80	35	85	15	25	40	70	445	20	60	535	75
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.9	6.9		6.9	6.9		5.9	5.9	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	0.89		1.00	0.91		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1555	1562		1710	1535		1676	3353	1530	1644	3386	1457
Flt Permitted	0.71	1.00		0.68	1.00		0.45	1.00	1.00	0.49	1.00	1.00
Satd. Flow (perm)	1169	1562		1224	1535		799	3353	1530	856	3386	1457
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	35	85	15	25	40	70	445	20	60	535	75
RTOR Reduction (vph)	0	73	0	0	34	0	0	0	6	0	0	23
Lane Group Flow (vph)	80	47	0	15	31	0	70	445	14	60	535	52
Heavy Vehicles (%)	10%	3%	3%	0%	4%	8%	2%	2%	0%	4%	1%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	11.7	11.7		11.7	11.7		56.0	56.0	56.0	56.0	56.0	56.0
Effective Green, g (s)	11.7	11.7		11.7	11.7		56.0	56.0	56.0	56.0	56.0	56.0
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.70	0.70	0.70	0.70	0.70	0.70
Clearance Time (s)	6.9	6.9		6.9	6.9		5.9	5.9	5.9	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	227		177	223		555	2332	1064	595	2355	1013
v/s Ratio Prot		0.03			0.02			0.13			c0.16	
v/s Ratio Perm	c0.07			0.01			0.09		0.01	0.07		0.04
v/c Ratio	0.47	0.21		0.08	0.14		0.13	0.19	0.01	0.10	0.23	0.05
Uniform Delay, d1	31.6	30.3		29.8	30.0		4.1	4.3	3.8	4.0	4.4	3.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.5		0.2	0.3		0.5	0.2	0.0	0.3	0.2	0.1
Delay (s)	33.7	30.8		30.0	30.3		4.6	4.5	3.8	4.3	4.7	4.0
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		31.9			30.2			4.5			4.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	80.5	Sum of lost time (s)	12.8
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	5	15	40	10	155	5	320	65	205	325	105
Future Volume (vph)	60	5	15	40	10	155	5	320	65	205	325	105
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Total Lost time (s)	6.5	6.5		6.5	6.5		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.89		1.00	0.86		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1676	1598		1527	1532		1286	3169		1693	3239	
Flt Permitted	0.65	1.00		0.74	1.00		0.50	1.00		0.52	1.00	
Satd. Flow (perm)	1152	1598		1196	1532		679	3169		934	3239	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	5	15	40	10	155	5	320	65	205	325	105
RTOR Reduction (vph)	0	11	0	0	115	0	0	24	0	0	44	0
Lane Group Flow (vph)	60	9	0	40	50	0	5	361	0	205	386	0
Heavy Vehicles (%)	2%	0%	0%	12%	0%	1%	33%	3%	16%	1%	1%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	10.3	10.3		10.3	10.3		16.8	16.8		16.8	16.8	
Effective Green, g (s)	10.3	10.3		10.3	10.3		16.8	16.8		16.8	16.8	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.42	0.42		0.42	0.42	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	298	413		309	396		286	1337		394	1367	
v/s Ratio Prot		0.01			0.03			0.11			0.12	
v/s Ratio Perm	c0.05			0.03			0.01			c0.22		
v/c Ratio	0.20	0.02		0.13	0.13		0.02	0.27		0.52	0.28	
Uniform Delay, d1	11.5	11.0		11.3	11.3		6.7	7.5		8.5	7.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.0		0.2	0.1		0.0	0.1		1.2	0.1	
Delay (s)	11.9	11.0		11.5	11.4		6.7	7.6		9.8	7.7	
Level of Service	B	B		B	B		A	A		A	A	
Approach Delay (s)		11.7			11.5			7.6			8.3	
Approach LOS		B			B			A			A	

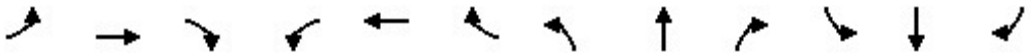
Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	39.8	Sum of lost time (s)	12.7
Intersection Capacity Utilization	63.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	15	15	0	15	15	265	15	10	300	65
Future Volume (Veh/h)	60	0	15	15	0	15	15	265	15	10	300	65
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	60	0	15	15	0	15	15	265	15	10	300	65
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	670	662	332	670	688	272	365			280		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	670	662	332	670	688	272	365			280		
tC, single (s)	7.4	6.5	6.2	7.5	6.5	6.4	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.0	3.3	3.8	4.0	3.5	2.2			2.2		
p0 queue free %	82	100	98	95	100	98	99			99		
cM capacity (veh/h)	324	377	714	316	365	732	1205			1294		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	75	30	295	375
Volume Left	60	15	15	10
Volume Right	15	15	15	65
cSH	364	442	1205	1294
Volume to Capacity	0.21	0.07	0.01	0.01
Queue Length 95th (m)	6.1	1.7	0.3	0.2
Control Delay (s)	17.4	13.7	0.5	0.3
Lane LOS	C	B	A	A
Approach Delay (s)	17.4	13.7	0.5	0.3
Approach LOS	C	B		

Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	38.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	5	20	5	5	5	25	195	5	5	250	80
Future Volume (Veh/h)	100	5	20	5	5	5	25	195	5	5	250	80
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	100	5	20	5	5	5	25	195	5	5	250	80
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	555	550	290	570	588	198	330			200		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	555	550	290	570	588	198	330			200		
tC, single (s)	7.1	6.5	6.2	8.1	6.7	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	4.4	4.2	3.3	2.2			2.2		
p0 queue free %	77	99	97	98	99	99	98			100		
cM capacity (veh/h)	431	435	754	299	389	849	1241			1384		

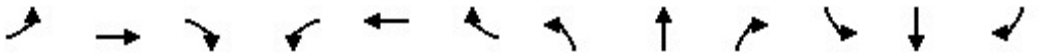
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	125	15	225	335
Volume Left	100	5	25	5
Volume Right	20	5	5	80
cSH	462	422	1241	1384
Volume to Capacity	0.27	0.04	0.02	0.00
Queue Length 95th (m)	8.7	0.9	0.5	0.1
Control Delay (s)	15.6	13.8	1.0	0.1
Lane LOS	C	B	A	A
Approach Delay (s)	15.6	13.8	1.0	0.1
Approach LOS	C	B		

Intersection Summary				
Average Delay	3.5			
Intersection Capacity Utilization	47.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	25	5	50	35	0	0
Future Volume (Veh/h)	25	5	50	35	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	0.33	0.33	1.00	1.00	1.00
Hourly flow rate (vph)	25	15	152	35	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			40		372	32
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			40		372	32
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			90		100	100
cM capacity (veh/h)			1583		572	1047

Direction, Lane #	EB 1	WB 1
Volume Total	40	187
Volume Left	0	152
Volume Right	15	0
cSH	1700	1583
Volume to Capacity	0.02	0.10
Queue Length 95th (m)	0.0	2.5
Control Delay (s)	0.0	6.2
Lane LOS		A
Approach Delay (s)	0.0	6.2
Approach LOS		

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	14.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	25	0	0	75	0	5	0	50	0	0	0
Future Volume (Veh/h)	0	25	0	0	75	0	5	0	50	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	0.33	0.33	1.00	1.00	0.33	1.00	0.33	1.00	1.00	1.00
Hourly flow rate (vph)	0	25	0	0	75	0	15	0	152	0	0	0
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	75			25			100	100	25	252	100	75
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	75			25			100	100	25	252	100	75
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			98	100	86	100	100	100
cM capacity (veh/h)	1537			1603			886	794	1057	604	794	992

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	25	75	167	0
Volume Left	0	0	15	0
Volume Right	0	0	152	0
cSH	1537	1603	1039	1700
Volume to Capacity	0.00	0.00	0.16	0.04
Queue Length 95th (m)	0.0	0.0	4.6	0.0
Control Delay (s)	0.0	0.0	9.1	0.0
Lane LOS			A	A
Approach Delay (s)	0.0	0.0	9.1	0.0
Approach LOS			A	A

Intersection Summary				
Average Delay	5.7			
Intersection Capacity Utilization	14.4%	ICU Level of Service	A	
Analysis Period (min)	15			

Intersection: 1: 10th Line Road & Promenade Decoeur Drive/Southfield Way

Movement	EB	EB	WB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	T	R	L	T	T	R
Maximum Queue (m)	33.4	36.0	15.1	25.6	19.3	33.4	41.7	8.6	22.2	45.0	28.6	16.1
Average Queue (m)	15.5	13.0	3.6	8.6	9.7	12.2	15.9	1.5	7.8	20.0	10.0	4.6
95th Queue (m)	28.8	28.1	10.8	18.1	18.4	26.1	32.6	6.6	17.9	36.1	23.8	12.6
Link Distance (m)		179.0		214.7		349.6	349.6			204.6	204.6	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (m)	60.0		30.0		100.0			75.0	115.0			115.0
Storage Blk Time (%)				0								
Queuing Penalty (veh)				0								

Intersection: 2: 10th Line Road & Sweet Valley Drive/Harvest Valley Avenue

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	TR
Maximum Queue (m)	21.5	10.4	23.8	34.2	14.5	27.6	30.9	45.2	32.2	33.7
Average Queue (m)	8.6	3.2	7.1	14.1	1.2	12.5	13.7	22.1	15.1	14.5
95th Queue (m)	17.2	10.4	18.6	24.4	8.4	23.2	26.4	36.4	26.6	27.5
Link Distance (m)		181.3		186.6		424.0	424.0		349.6	349.6
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (m)	40.0		70.0		50.0			80.0		
Storage Blk Time (%)										
Queuing Penalty (veh)										

Intersection: 3: 10th Line Road & Sweet Valley Drive/Little Lake Lane

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	31.1	22.4	19.7	11.3
Average Queue (m)	13.7	7.3	2.2	0.7
95th Queue (m)	26.0	18.4	11.1	5.0
Link Distance (m)	119.0	179.2	610.7	83.2
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: 10th Line Road & Wall Road

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (m)	25.8	20.3	19.2	6.6
Average Queue (m)	12.2	4.4	3.0	0.3
95th Queue (m)	20.3	15.5	12.1	3.0
Link Distance (m)	326.1	488.3	335.6	610.7
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 5: West Entrance & Sweet Valley Drive

Movement	WB
Directions Served	LT
Maximum Queue (m)	7.4
Average Queue (m)	0.4
95th Queue (m)	3.3
Link Distance (m)	38.2
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: East Entrance/Exit/Pewee Pl & Sweet Valley Drive

Movement	NB
Directions Served	LTR
Maximum Queue (m)	13.1
Average Queue (m)	7.7
95th Queue (m)	13.1
Link Distance (m)	48.4
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Appendix E

LOS Definitions

LEVEL OF SERVICE ANALYSIS AT UNSIGNALIZED INTERSECTIONS[1]

The term "level of service" implies a qualitative measure of traffic flow at an intersection. It is dependent upon the vehicle delay and vehicle queue lengths at approaches. The level of service at unsignalized intersections is often related to the delay accumulated by flows on the minor streets, caused by all other conflicting movements. The following table describes the characteristics of each level.

Level of Service	Features
A	Little or no traffic delay occurs. Approaches appear open, turning movements are easily made, and drivers have freedom of operation.
B	Short traffic delays occur. Many drivers begin to feel somewhat restricted in terms of freedom of operation.
C	Average traffic delays occur. Operations are generally stable, but drivers emerging from the minor street may experience difficulty in completing their movement. This may occasionally impact on the stability of flow on the major street.
D	Long traffic delays occur. Motorists emerging from the minor street experience significant restriction and frustration. Drivers on the major street will experience congestion and delay as drivers emerging from the minor street interfere with the major through movements.
E	Very long traffic delays occur. Operations approach the capacity of the intersection.
F	Saturation occurs, with vehicle demand exceeding the available capacity. Very long traffic delays occur.

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(1) Highway Capacity Manual - Special Report No. 209, Transportation Research Board, 1985.

LEVEL OF SERVICE ANALYSIS AT SIGNALIZED INTERSECTIONS

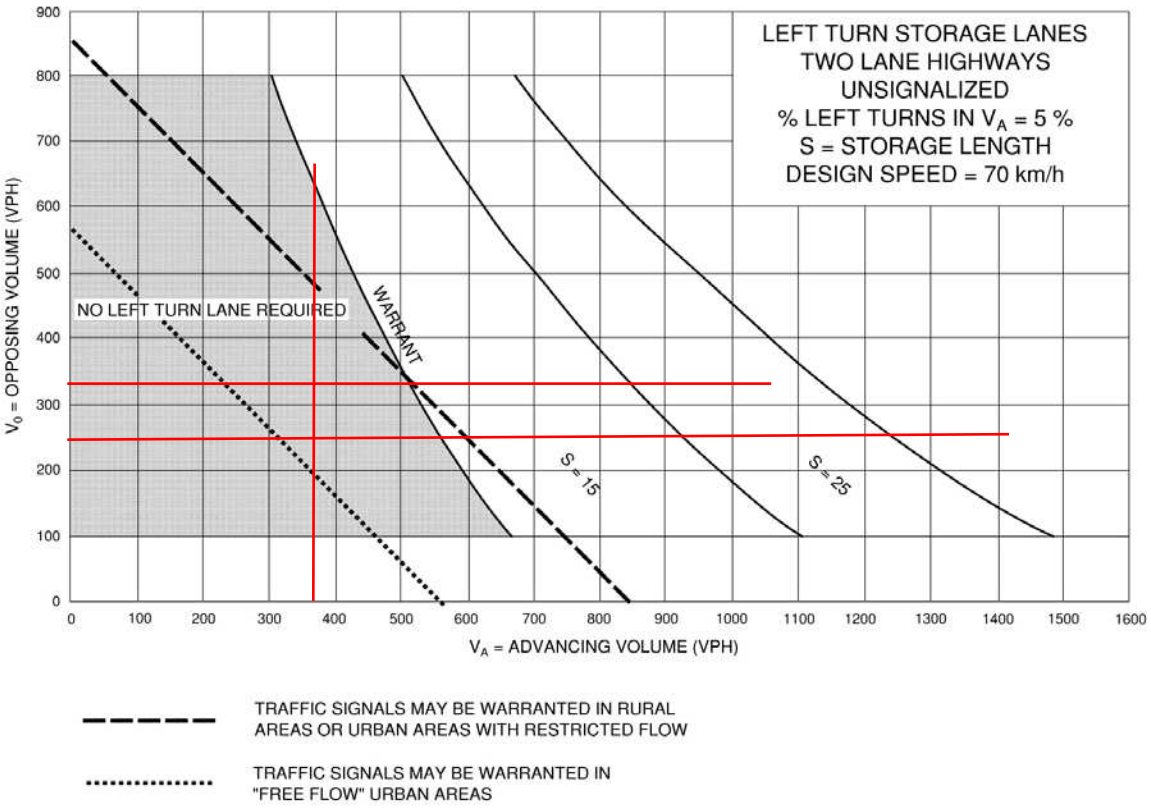
To assist in clarifying the arithmetic analysis associated with traffic engineering, it is often useful to refer to "Level of Service". The term Level of Service implies a qualitative measure of traffic flow at an intersection. It is dependent upon vehicle delay and vehicle queue lengths at the approaches. Specifically, Level of Service criteria are stated in terms of the average stopped delay per vehicle for a 15-minute analysis period. The following table describes the characteristics of each level:

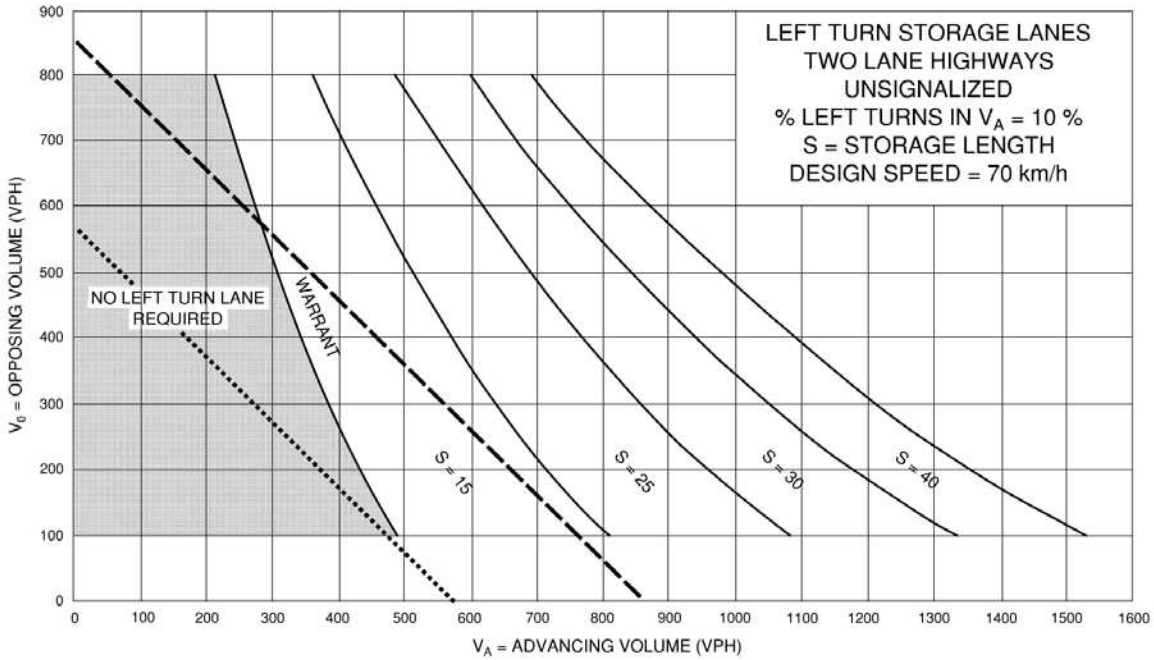
Level of Service	Features	Stopped Delay per Vehicle (sec)
A	At this level of service, almost no signal phase is fully utilized by traffic. Very seldom does a vehicle wait longer than one red indication. The approach appears open, turning movements are easily made and drivers have freedom of operation.	$\leq$ 10
B	At this level, an occasional signal phase is fully utilized and many phases approach full use. Many drivers begin to feel somewhat restricted within platoons of vehicles approaching the intersection.	> 10-20
C	At this level, the operation is stable though with more frequent fully utilized signal phases. Drivers feel more restricted and occasionally may have to wait more than one red signal indication, and queues may develop behind turning vehicles. This level is normally employed in urban intersection design.	> 20-35
D	At this level, the motorist experiences increasing restriction and instability of flow. There are substantial delays to approaching vehicles during short peaks within the peak period, but there are enough cycles with lower demand to permit occasional clearance of developing queues and prevent excessive backups.	> 35-55
E	At this level, capacity is reached. There are long queues of vehicles waiting upstream of the intersection and delays to vehicles may extend to several signal cycles.	> 55-80
F	At this level, saturation occurs, with vehicle demand exceeding the available capacity.	> 80

Appendix F

Left Turn Lane Warrant

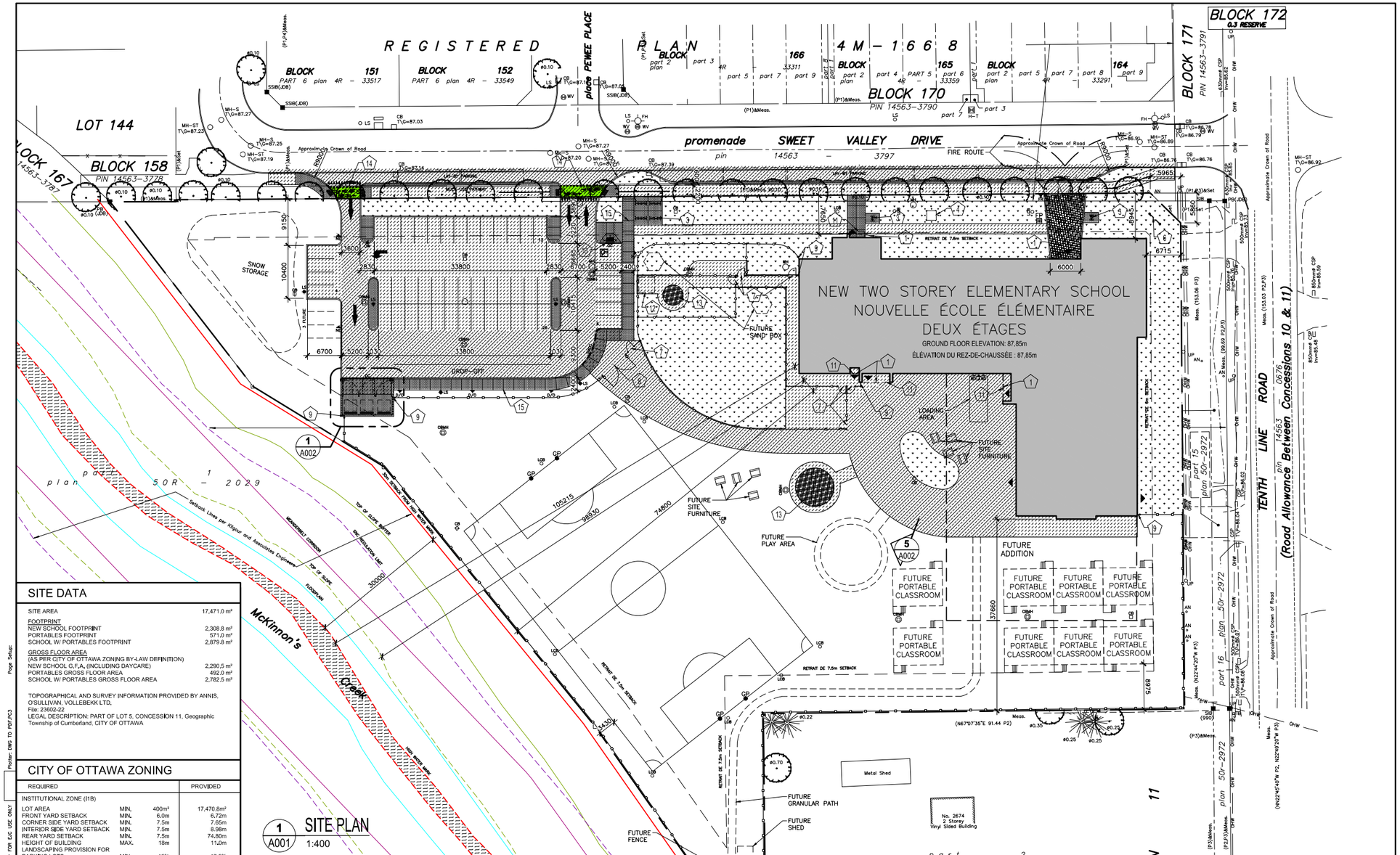
Exhibit 9A-10





Appendix G

Site Plan and RMA Drawing



SITE DATA

SITE AREA	17,471.0 m²
FOOTPRINT	
NEW SCHOOL FOOTPRINT	2,308.8 m²
PORTABLES FOOTPRINT	571.0 m²
SCHOOL W/ PORTABLES FOOTPRINT	2,879.8 m²
GROSS FLOOR AREA (AS PER CITY OF OTTAWA ZONING BY-LAW DEFINITION)	
NEW SCHOOL G.F.A. (INCLUDING DAYCARE)	2,290.5 m²
PORTABLES GROSS FLOOR AREA	492.0 m²
SCHOOL W/ PORTABLES GROSS FLOOR AREA	2,782.5 m²

TOPOGRAPHICAL AND SURVEY INFORMATION PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
File: 23602-22
LEGAL DESCRIPTION: PART OF LOT 5, CONCESSION 11, Geographic Township of Cumberland, CITY OF OTTAWA

CITY OF OTTAWA ZONING

REQUIRED			PROVIDED
INSTITUTIONAL ZONE (I1B)			
LOT AREA	MIN.	400m²	17,470.8m²
FRONT YARD SETBACK	MIN.	6.0m	6.72m
CORNER SIDE YARD SETBACK	MIN.	7.5m	7.65m
INTERIOR SIDE YARD SETBACK	MIN.	7.5m	8.98m
REAR YARD SETBACK	MIN.	7.5m	74.80m
HEIGHT OF BUILDING	MAX.	18m	11.0m
LANDSCAPING PROVISION FOR PARKING LOTS	MIN.	15%	17.5%

PARKING CALCULATIONS

MOTOR VEHICLE PARKING

REQUIRED	18 CLASSROOMS + 8 PORTABLE CLASSROOMS = 26 TOTAL			
	USE	No. CLASS	SPACES PER	SPACES REQ'D
	ELEMENTARY SCHOOL	18	1.5/classroom (includes portables)	27
	FUTURE PORTABLE CLASSROOMS	8		12
	DAYCARE	302.6 m²	2/ 100 m²	7
	TOTAL REQUIRED PARKING SPACES			46 SPACES
	TOTAL REQUIRED ACCESSIBLE PARKING SPACES			1 SPACE
PROVIDED	SPACES @ 5.2mD X 2.6mW			48 SPACES
	TYPE A ACCESSIBLE PARKING SPACES @ 5,2mD X 3,7mW			1 SPACE
	TOTAL SPACES PROVIDED			49 SPACES

BICYCLE PARKING

REQUIRED	USE	GROSS AREA	SPACES PER	SPACES REQ'D
	SCHOOL	2,560.2 m²	1 per 100 m² of gross floor area	26 SPACES
	DAYCARE	302.6 m²	1 per 250 m² of gross floor area	2 SPACES
	PORTABLES	492 m²	1 per 100 m² of gross floor area	5 SPACES
	TOTAL REQUIRED BICYCLE PARKING SPACES			33 SPACES
PROVIDED	TOTAL BICYCLE SPACES PROVIDED			40 SPACES

GENERAL NOTES

1. EXTENT OF CONTRACT IS LIMITED TO WITHIN SCHOOL PROPERTY, EXCEPT WHERE SHOWN OTHERWISE.
2. ALL WORK OUTSIDE PROPERTY LINE TO BE CONSTRUCTED TO CITY OF OTTAWA CONSTRUCTION STANDARDS.
3. PARKING STALL SIZE: 2600mm x 5200mm
   ACCESSIBLE PARKING STALL SIZE: 3700mm x 5200mm
4. FOR LANDSCAPING/PLANTING DETAILS SEE DRAWING AS PREPARED BY JAMES B. LENNOX AND ASSOCIATES.
5. FOR SITE GRADING INFORMATION SEE GRADING AND DRAINAGE DRAWING AS PREPARED BY WSP.
6. FOR SITE SERVICES INFORMATION SEE SITE SERVICES DRAWING AS PREPARED BY WSP.
7. FOR SOIL INVESTIGATION REPORT REFER TO REPORT PREPARED BY EXP SERVICES INC.
8. SLOPES OF CONCRETE/PAVING AT DEPRESSED CURBS SHALL NOT EXCEED 5%
9. CONTRACTOR TO VERIFY ALL DIMENSIONS ON SITE AND REPORT ANY ERRORS TO THE ARCHITECT. CONTRACTOR TO COORDINATE WITH ALL DRAWINGS.
10. FOR SITE SURVEY INFORMATION, SEE TOPOGRAPHIC SURVEY DRAWINGS AS PREPARED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
11. PAINT PAVEMENT MARKINGS: PARKING SPACES AND TRAFFIC SYMBOLS, PEDESTRIAN CROSSINGS AND WHERE SHOWN ON DRAWINGS.
12. CONTRACTOR SHALL REINSTATE ALL AREAS AND SITE ITEMS LOCATED OUTSIDE THE PROPERTY LINE DAMAGED AS A RESULT OF NEW CONSTRUCTION.

LEGEND

- BARRIER FREE PARKING
- BUILDING ENTRANCE/EXIT
- CURB
- DC / SMDC — DEPRESSED CURB / SEMI-MOUNTABLE DEPRESSED CURB
- NEW VINYL COATED CHAIN LINK FENCE, 1220 mm HIGH
- NEW VINYL COATED CHAIN LINK FENCE, 1830 mm HIGH
- ROAD CENTER LINE
- FIRE ROUTE
- SET BACK LINE
- PROPERTY LOT LINE
- BD — BOLLARD
- GP — GOAL POST
- LS — NEW LIGHT STANDARD, SEE ELECTRICAL DRAWINGS
- EFH — EXISTING FIRE HYDRANT, SEE SURVEY
- FDC — FIRE DEPARTMENT CONNECTION, REFER TO MECHANICAL DRAWINGS
- MH — NEW MANHOLE, REFER TO CIVIL DRAWINGS
- CBMH — NEW CATCH BASIN MANHOLE, REFER TO CIVIL DRAWINGS
- LCB — NEW LANDSCAPE CATCH BASIN, REFER TO CIVIL DRAWINGS
- CB — NEW CATCH BASIN
- SIB — IRON BAR, REFER TO SURVEY

- FP — FLAG POLE BASE
- FR — FIRE ROUTE SIGN
- H/C — DISABLED PARKING PERMIT (Rb-93)
- D/O — DROP-OFF SIGN
- NE — NO ENTRY SIGN
- OW — ONE WAY SIGN
- LA — LOADING AREA SIGN

LEGEND

- NEW TWO STOREY SECONDARY SCHOOL
- UNIT PAVERS WITH HEAVY DUTY BASE, SEE SPECIFICATIONS
- CONCRETE WALK
- CONCRETE WALK WITH HEAVY DUTY BASE
- TYPE 1 ASPHALT: HEAVY DUTY
- TYPE 2 ASPHALT: LIGHT DUTY
- NEW SEED AND TOPSOIL (REFER TO LANDSCAPE DRAWING)
- NEW SOD AND TOPSOIL (REFER TO LANDSCAPE DRAWING)
- MULCH (REFER TO LANDSCAPE DRAWING)
- ENGINEERED WOOD FIBER
- EXISTING WATERCOURSE

SITE PLAN NOTES

1. CANOPY OR 2nd FLOOR ABOVE.
2. ALIGN WITH BUILDING WALLS.
3. BICYCLE RACK.
4. TRANSFORMER/SWITCHGEAR CONCRETE PAD C/W BOLLARDS AS PER HYDRO ONE STANDARDS. COORDINATE LOCATION AND SIZE WITH ELECTRICAL DRAWINGS AND HYDRO ONE.
5. GAS STATION CONCRETE PAD C/W CHAIN LINK FENCE AND TOP AS PER ENBRIDGE STANDARDS. COORDINATE LOCATION AND SIZE WITH MECHANICAL DRAWINGS AND ENBRIDGE.
6. SCHOOL SIGN.
7. NEW 1500mm WIDE GATE IN CHAIN LINK FENCE.
8. NEW 6000mm WIDE DOUBLE GATE IN CHAIN LINK FENCE, C/W FOOTBOLT REST.
9. CHAIN LINK FENCE CANTILEVERED END SECTION.
10. CURB RAMP WITH FLARED SIDES AND DETECTABLE HAZARD INDICATOR, CONSTRUCTED TO CITY OF OTTAWA STANDARDS.
11. EXTENT OF 100mm PAVING INSULATION, 1.22m FROM FACE OF FOUNDATION WALL. FLOOR PLAN AND SECTIONS.
12. FUTURE STORAGE SHED N.I.C.
13. ENGINEERED WOOD FIBER PLAY AREA.
14. MULTI-USE PATHWAY CROSSING GREEN PAVEMENT MARKING AS PER CITY OF OTTAWA STANDARD.
15. TYPICAL CONCRETE PAVING SAW-CUT JOINT AT MAXIMUM 2400mm OR AS SHOWN ON DRAWINGS.

Écoles catholiques Centre-Est

ISSUE NO.	REV. NO.	DATE YY/MM/DD	ISSUE
2	0	2023/09/14	ISSUED FOR ZONING
1	0	2023/06/21	ISSUED FOR SITE PLAN CONTROL

TRUE NORTH | PLAN NORTH

EDWARD J. CUHACI & ASSOCIATES ARCHITECTS Inc.
171 Slater St, Suite 100, Ottawa, Ontario, K1P 5H7
Fax: (613) 236-1944 Telephone: (613) 236-7135 E-mail: info@cuhaci.com

PROJECT TITLE/TITRE DU PROJET
ÉCOLE ÉLÉMENTAIRE CATHOLIQUE AVALON III
TENTH LINE ROAD
OTTAWA, ON

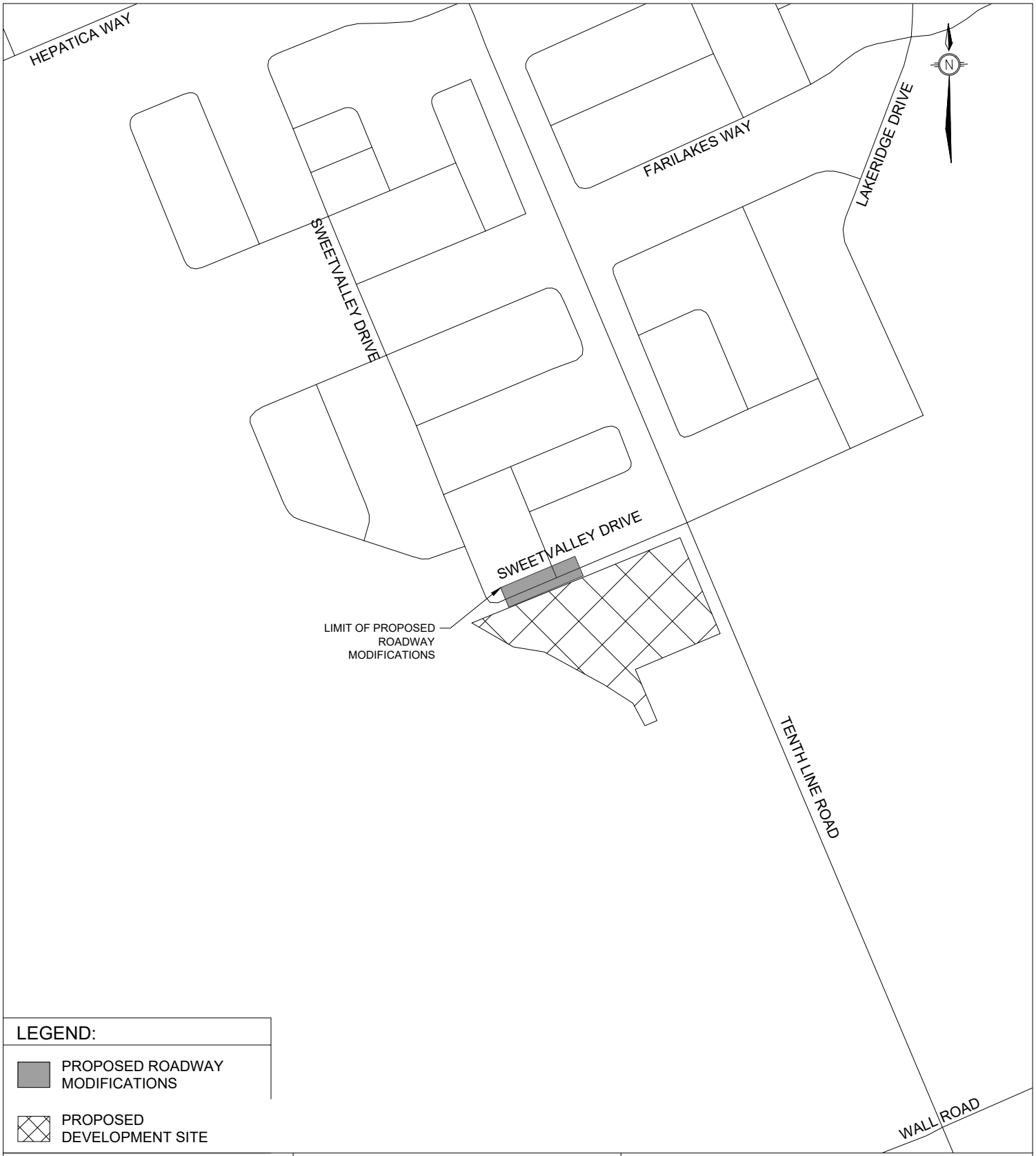
CONSEIL DES ÉCOLES CATHOLIQUES DU CENTRE-EST
4000, RUE LABELLE, OTTAWA, ON K1J 1A1

DRAWING TITLE/TITRE DU DESSIN
SITE PLAN

SCALE / ÉCHELLE	1:400	PROJ. No	2215
DRAWN BY / DESSINÉ PAR	S.P.	ISSUE No	1
CHECKED BY / VÉRIFIÉ PAR	S.R./Z.O.J.	REV. No	0
DATE	SEPTEMBER 2022	DRAWING/DESSIN	A001

FICHIER ACAD FILE: 2215-A001.dwg

Plot Setup:
Plotter: DWG TO PDF.PC3
PLOT STAMP FOR ESC USE ONLY
Plot By: SIMON ROUX
Plot Date: 2022-09-27 Plot Time: 15:07:27



LEGEND:

- PROPOSED ROADWAY MODIFICATIONS
- PROPOSED DEVELOPMENT SITE

TRANSPORTATION SERVICES DEPARTMENT

KEY PLAN

PROPOSED ROADWAY MODIFICATION

ÉCOLE ELEMENTAIRE
AVALON III
ELEMENTARY SCHOOL

TRANSPORTATION ENGINEERING SERVICES

Approved By: M.E.K.	Drawing No.: RMA-2023-235673
Completed By: DILLON CONSULTING LTD	
Scale: 1:5,000	Date: SEP. 2023

PEWEE PLACE

SWEETVALLEY DRIVE

PROPOSED ASPHALT MULTI-USE PATH

PROPOSED CONCRETE CURB AND HARD SURFACE

REMOVE EXISTING CB

PROPOSED BUS LAYBY AREA

REMOVE EXISTING CB

PROPOSED CONCRETE CURB AND HARD SURFACE

REMOVE EXISTING CONCRETE CURB

PROPOSED BUS LAYBY AREA

TIE PROPOSED CONCRETE BARRIER CURB TO EXISTING CONCRETE CURB

TIE PROPOSED MULTI-USE PATH INTO EXISTING MULTI-USE PATH

PROPOSED ASPHALT MULTI-USE PATH

REMOVE EXIST. TREES (TYP.)

EXIST. PROPERTY LINE

PROPOSED ASPHALT MULTI-USE PATH

TIE PROPOSED CONCRETE BARRIER CURB TO EXISTING CONCRETE CURB

TIE PROPOSED MULTI-USE PATH INTO EXISTING MULTI-USE PATH

NEW TWO STOREY ELEMENTARY SCHOOL
NOUVELLE ÉCOLE ÉLÉMENTAIRE
DEUX ÉTAGES

GROUND FLOOR ELEVATION: 87.85m
ÉLÉVATION DU REZ-DE-CHAUSSÉE : 87,85m

TENTH LINE ROAD

R9.0 R1.0 R5.0 R5.0 R9.0 R5.0 R5.0 R5.0

2.2 2.4 2.2 0.6 2.2 0.6 2.2 2.4 0.6 2.2 2.2

6.4

25.8

LEGEND:

- EXISTING CURB
- PROPOSED DEPRESSED CURB
- CB PROPOSED CATCH BASIN
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED SOD
- PROPOSED TACTILE PLATE (TWSI)

Ottawa

TRANSPORTATION SERVICES DEPARTMENT

PROPOSED ROADWAY MODIFICATION

ÉCOLE ELEMENTAIRE AVALON III ELEMENTARY SCHOOL

TRANSPORTATION ENGINEERING SERVICES

DRAFT

Scale: 1:500

Date: JUN. 2023

Drawing No.: RMA-2023-XXX-XXXX

Avalon III School Roadway Modification

CLASS D - CONSTRUCTION COST ESTIMATE

No.	Description	Spec	Unit	Quantity	Unit Price	Estimated Cost
ROADWAY						
1	Traffic Control Plan	F-1010	LS	1	$26,619	$26,619.00
2	Pedestrian Control Plan	F1013	LS	1	$6,895	$6,894.85
3	Erosion and Sediment Control	805, F-1005	LS	1	$2,856	$2,856.30
4	Contract Initiation	F-1006	LS	1	$5,860	$5,859.50
5	Earth Excavation	206, 510, F-2060, F-4104	m3	251	$26	$6,659.02
6	Remove and Relocate Tree	F-8047	ea	18	$350	$6,300.00
7	Remove Catch Basin	510	ea	2	$487	$974.92
8	Remove Concrete Curb	510	m	172	$26	$4,515.56
9	Asphalt Surface with Gravel Base	F-6205	m^2	436	$155	$67,649.13
10	Concrete Barrier Curb	353, 904, F-3531, F-9040, F-9045	m	45	$126	$5,727.68
11	Concrete Barrier Curb with Gutter	353, 904, F-3531, F-9040, F-9046	m	125	$125	$15,585.77
12	Tactile Walking Surface Indicator (TWSI)	351, F-3512	m^2	4	$1,202	$5,365.15
13	Concrete Sidewalk with Granular 'A'	351, F-3531, F-9040, F-9045	m^2	41	$88	$3,624.14
14	Asphalt Sidewalks (MUP)	311, F-3110	m^3	27	$57	$1,537.94
15	Catch Basin (600mm X 600mm)	407, F-4070	ea	3	$3,847	$11,539.89
16	Sod, Water Included	803, F-8031	m^2	34	$32	$1,072.70
17	Topsoil	802, F-8021	m^3	5	$133	$676.11
18	Pavement marking and signage		LS	1	$20,000	$20,000.00
					ROAD SUB-TOTAL	**$193,457.67**
					CONSTRUCTION TOTAL	**$193,457.67**
					Engineering and Architectural Services 15.0%	$29,018.65
					Utilities 15.0%	$29,018.65
					Property	
					City Internal Costs 10.0%	$19,345.77
					Miscellaneous 5.0%	$9,672.88
					SUB-TOTAL	**$280,513.62**
					Contingency 30.0%	$84,154.08
					TOTAL PRELIMINARY COST ESTIMATE	**$364,667.70**