1145 Fuller Avenue
Town of Penetanguishene

Traffic Impact Study for
Tonking Management Inc.

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Executive Summary

This report summarizes the traffic impact study prepared for the proposed mixed-use development municipally known as 1145 Fuller Avenue located in the southwest corner of the of the Pine Grove Road / Fuller Avenue intersection in the Town of Penetanguishene [Town], County of Simcoe [County]. The report assesses the impact of traffic related to the development on the adjacent roadway and provides recommendations to accommodate this traffic in a safe and efficient manner.

The proposed residential development includes a 0.56 acre commercial block, 102 residential single detached units, 86 residential townhouse units and a 0.56 acre residential multi-density block. The specifics of the residential multi-density lands are currently unknown; however, based on discussions with the developer, it is anticipated there will be a maximum of 20 residential units. Similarly, the specifics for the development of the commercial block are not known at this time. A supplemental transportation analysis for the residential multi-density block and the commercial block will be provided at a later date, if necessary.

The proposed development will have one full-movement access driveway onto Pine Grove Road [North Access] and one full-movement access driveway onto Fuller Avenue [South Access]. For the purpose of this analysis, we have assumed one full-movement access driveway onto Fuller Avenue [Commercial Access] from the commercial block.

The scope of this analysis includes a review of the following intersections:

- Pine Grove Road & Sheffcote Street / Fuller Avenue;
- Robert Street East / Fuller Avenue;
- Pine Grove Road / North Access;
- Commercial Access / Fuller Avenue;
- South Access / Fuller Avenue; and
- Robert Street East / Thompsons Road & Centennial Drive.

Conclusions

1. The proposed development is expected to generate a total of 140 AM peak hour trips and 204 PM peak hour trips.
2. Detailed turning movement counts were completed for all existing intersections on Tuesday, November 6th, 2018.
3. An intersection operation analysis was completed at the study area intersections, using the existing (2018) and background (2028) traffic volumes, with the adjacent development traffic and without the proposed development traffic. This enabled a review of existing and future traffic deficiencies that would be present without the influence of the proposed development. The following transportation infrastructure improvements are recommended:

   Fuller Avenue / Robert Street East

   Background (2028) Traffic Volumes

   - Signalization of intersection;
   - Northbound left turn auxiliary lane;
     - (45 metre storage length and 55 metre taper length)
   - Southbound right turn auxiliary lane;
     - (30 metre storage length and 60 metre taper length)

- Eastbound right turn auxiliary lane.
    - (30 metre storage length and 30 metre taper length)

4. An estimate of the amount of traffic that would be generated by the proposed development was prepared and assigned to the study area streets and intersections.
5. An intersection operation analysis was completed under total (2028) traffic volumes with the proposed development operational at the study area intersections. No additional infrastructure improvements are recommended.
6. The proposed South Access and Commercial Access driveways will operate efficiently as full movement access driveways with one-way stop control for westbound traffic. The proposed North Access driveway will operate efficiently as a full movement access driveway with one-way stop control for northbound traffic. A single lane for ingress and egress movements at the South Access, Commercial Access and North Access will provide the necessary capacity to convey the traffic volume generated by the proposed development.
7. The sight distance available for the proposed South Access and North Access meets the minimum stopping sight distance requirements. The sight distance available for the Commercial Access has not been analysed in this study as the specifics of the proposed development commercial block access driveways are currently unknown.
8. In summary, the proposed development will not cause any operational issues and will not add a notable delay or congestion to the local roadway network.

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1 Introduction

1.1 Background

Tonking Management Inc. [The Developer] is proposing a mixed-use development on the property municipally known as 1145 Fuller Avenue, located in the southwest corner of the of the Pine Grove Road / Fuller Avenue intersection in the Town of Penetanguishene [Town], County of Simcoe [County].

The proposed residential development includes a 0.56 acre commercial block, 102 residential single detached units, 86 residential townhouse units and a 0.56 acre residential multi-density block. The specifics of the residential multi-density lands are currently unknown; however, based on discussions with the developer, it is anticipated there will be a maximum of 20 residential units. Similarly, the specifics for the development of the commercial block are not known at this time. A supplemental transportation analysis for the residential multi-density block and the commercial block will be provided at a later date, if necessary.

The proposed development will have one full-movement access driveway onto Pine Grove Road [North Access] and one full-movement access driveway onto Fuller Avenue [South Access]. For the purpose of this analysis, we have assumed one full-movement access driveway onto Fuller Avenue [Commercial Access] from the commercial block.

The Developer has retained **JD Northcote Engineering Inc.** [JD Engineering] to prepare this traffic impact study in support of the proposed development.

1.2 Study Area

Figure 1 shows the location of the proposed development and study area intersections, in relation to the surrounding area. The Site Plan by Innovative Planning Solutions is provided in **Appendix A**.

The proposed development is bound by Fuller Avenue to the west, existing residential lands to the south, environmentally protected lands to the east and Pine Grove Road to the north.

Through consultation with the Town, the following intersections are included in the traffic impact study:

- Pine Grove Road & Sheffcote Street / Fuller Avenue;
- Robert Street East / Fuller Avenue;
- Pine Grove Road / North Access;
- Commercial Access / Fuller Avenue;
- South Access / Fuller Avenue; and
- Robert Street East / Thompsons Road & Centennial Drive.

Figure 1 – Proposed Site Location and Study Area

1.3 Study Scope and Objectives

The purpose of this study is to identify the potential impacts to traffic flow at the site access and on the surrounding roadway network. The study analysis includes the following tasks:

- Consult with the Town to address any traffic-related issues or concerns they have with the proposed development;
- Determine existing traffic volumes and circulation patterns;
- Estimate future traffic volumes if the proposed development was not constructed, including the impact of additional proposed developments in the area;
- Complete level-of-service [LOS] analysis of horizon year (without the proposed development) traffic conditions and identify operational deficiencies;
- Estimate the amount of traffic that would be generated by the proposed development and assign to the roadway network;
- Complete LOS analysis of horizon year (with the proposed development) traffic conditions and identify additional operational deficiencies;
- Identify improvement options to address operational deficiencies; and
- Document findings and recommendations in a final report.

1.4 Horizon Year and Analysis Periods

Traffic scenarios for the existing year (2018) and 10-year (2028) horizon year were selected for analysis of traffic operations in the study area. The weekday morning [AM] and weekday afternoon [PM] peak hours have been selected as the analysis periods for this study.

2 Information Gathering

2.1 Street and Intersection Characteristics

Fuller Avenue is a two-lane major arterial road with a rural cross-section, within the study area. Fuller Avenue has an asphalt shoulder on both sides of the road, north of Pine Grove Road, an asphalt shoulder on the west side of the road and a gravel shoulder on the east side of the road between Pine Grove Road and Cambridge Street, and a gravel shoulder on both sides of the road south of Cambridge Street. Fuller Avenue has a posted speed limit of 60 km/h and is under the jurisdiction of the Town.

Robert Street East is a two-lane major arterial road with a rural cross section and a gravel shoulder on both sides of the road, within the study area. Robert Street East has a posted speed limit of 50km/h and is under the jurisdiction of the Town, within the study area.

Thompsons Road is a two-lane collector road with a rural cross section and a gravel shoulder on both sides of the road, within the study area. Thompsons Road has a posted speed limit of 50km/h and is under the jurisdiction of the Town.

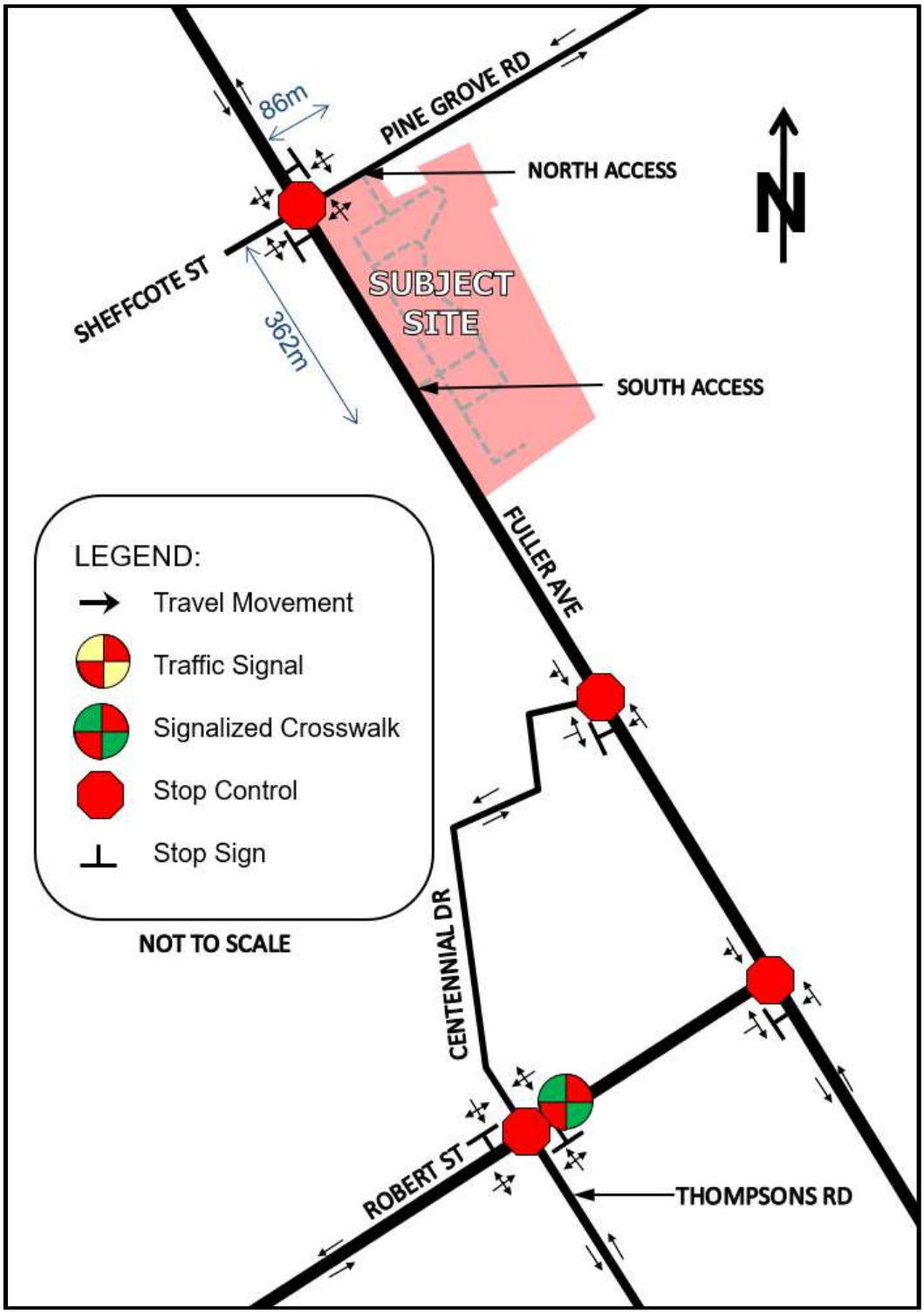
Centennial Drive is a two-lane local road with a rural cross section. Centennial Drive has an assumed (unposted) speed limit of 50km/h and is under the jurisdiction of the Town.

Pine Grove Road is a two-lane local road with a rural cross section. Pine Grove Road has an assumed (unposted) speed limit of 50km/h and is under the jurisdiction of the Town.

Sheffcote Street is a two-lane local road with a rural cross section. Sheffcote Street has an assumed (unposted) speed limit of 50km/h and is under the jurisdiction of the Town.

The existing intersection spacing and lane configuration within the study area is illustrated in **Figure 2**.

Figure 2 – Existing Intersection Spacing and Lane Configuration with in Study Area



2.2 Local Transportation Infrastructure Improvements

Based on discussions with the Town, there are no significant road improvements within the study area. However, it is noted that an engineering design project will be completed in 2019 by the Town for the Robert Street East / Fuller Avenue intersection to determine if intersection improvements are required.

2.3 Transit Access

The Penetanguishene bus route connects the Town of Penetanguishene with the Town of Midland. This bus route provides bus service to various points of interest within the Town, travelling along Fuller Avenue north of Pine Grove Road within the study area.

The Penetanguishene bus route operates between 06:30 – 17:30 on weekdays and 08:30 – 16:30 on Saturdays, with service every 60 minutes. There is no bus service on Sundays or Holidays. The closest bus stop to the proposed development for the Penetanguishene bus route is located at the Church Street / Cambridge Street intersection. It is noted that this bus route provides a "flag on" service where passengers are not required to be at a bus stop and can "flag down" the along its route to get on the bus.

2.4 Other Developments within the Study Area

Based on discussions with Town staff, there are two planned developments in the study area that will have a notable impact on the local traffic volumes, specifically:

- 15 Sheffcote Street; and
- 177 Robert Street East.

There is one other planned development in the study area, 948 Fuller Avenue; however, this development has not been considered in our analysis as the traffic volumes generated by this development, as identified in the Traffic Impact Assessment by C.C. Tatham and Associates Ltd., will have a negligible impact on the local traffic volumes at the study area intersections.

2.4.1 Traffic Generation for the 15 Sheffcote Street Development

The 15 Sheffcote Street development is located in the northwest corner of the Fuller Avenue / Pine Grove Road & Sheffcote Street intersection and is anticipated to include 1,813 sq.ft. commercial space and two residential units. It is anticipated that this development will be fully built-out prior to the 2028 horizon year.

The traffic generation for the 15 Sheffcote Street development has been based on the Institute of Transportation Engineers [ITE] *Trip Generation Manual* (10th Edition) [ITE Trip Generation Manual]. The following ITE land uses have been applied to estimate the traffic from the 15 Sheffcote Street development:

- ITE land use 220 (Multifamily Housing (Low-Rise)) – General Urban / Suburban Setting
- ITE land use 820 (Shopping Centre) – General Urban / Suburban Setting

The estimated trip generation of the 15 Sheffcote Street development is illustrated below in **Table 1**. The AM and PM peak traffic generation for the residential component of the 15 Sheffcote Street development is not expected to exactly align with the AM and PM peak hour in the traffic counts; consequently, we have applied the peak hour of adjacent street traffic values provided in the ITE Trip Generation Manual.

For the shopping centre ITE land use, the fitted curve equation for the peak hour of adjacent street traffic has been used in our calculation for the PM peak hour. It is noted this results in a conservative estimate of the trip generation, based on the size of the development. The fitted curve equation for the AM peak hour of adjacent street traffic has a low R^2 value; consequently, we have applied the more conservative average rate in our calculation for the AM peak hour.

Table 1 - Estimated Traffic Generation of the 15 Sheffcote Street Development

Land Use	Size	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Multifamily Housing (Low-Rise) ITE Land Use: 220	2 units	0	1	1	1	1	2
Shopping Centre ITE Land Use: 820	1,813 sq. ft.	3	3	6	13	15	28
TOTAL TRIP GENERATION		**3**	**4**	**7**	**14**	**16**	**30**
PASS-BY TRIPS *		-	-	-	-5	-5	-10
PRIMARY TRIPS		**3**	**4**	**7**	**9**	**11**	**20**

* Commercial pass-by trips for the AM and PM peak hour are 0% and 34% respectively, according to the ITE data for land use 820.

No transportation modal split has been applied to the above-noted traffic generation calculation.

2.4.2 Traffic Generation for the 177 Robert Street East Development

The 177 Robert Street East development located north of Robert Street East between Fuller Avenue and Centennial Drive, consists of an existing 1,393.5 sq.m. facility which is to be renovated and expanded into a 4,106.5 sq.m. manufacturing facility. It is anticipated that this development will be fully built-out prior to the 2028 horizon year.

The traffic generation for the 177 Robert Street East development has been based on the ITE Trip Generation Manual. The following ITE land use has been applied to estimate the traffic from the 177 Robert Street East development:

- ITE land use 140 (Manufacturing) – General Urban / Suburban Setting

The estimated trip generation of the 177 Robert Street East development is illustrated below in **Table 2**. The AM and PM peak traffic generation for the 177 Robert Street East development is not expected to exactly align with the AM and PM peak hour in the traffic counts; consequently, we have applied the peak hour of adjacent street traffic values provided in the ITE Trip Generation Manual.

Table 2 - Estimated Traffic Generation of the 177 Robert Street East development

Land Use	Size	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Manufacturing ITE Land Use: 140	44,202 sq.ft.	21	6	27	9	21	30

No transportation modal split has been applied to the above-noted traffic generation calculation.

2.4.3 Traffic Assignment for the 15 Sheffcote Street Development

Using the traffic distributions patterns noted in Section 4.2, the residential, commercial pass-by and commercial primary traffic assignment for the 15 Sheffcote Street Development was calculated for the AM and PM peak hour and is illustrated in **Figures 3, 4** and **5** respectively.

The distribution of traffic entering at each access location is based on our review of the internal parking and building layout, in conjunction with the external traffic distribution.

2.4.4 Traffic Assignment for the 177 Robert Street East Development

Using the traffic distributions patterns noted in Section 4.2, the traffic assignment for the 177 Robert Street East Development was calculated for the AM and PM peak hour and is illustrated in **Figure 6**.

Figure 3 – 15 Sheffcote Street – Residential Traffic Assignment

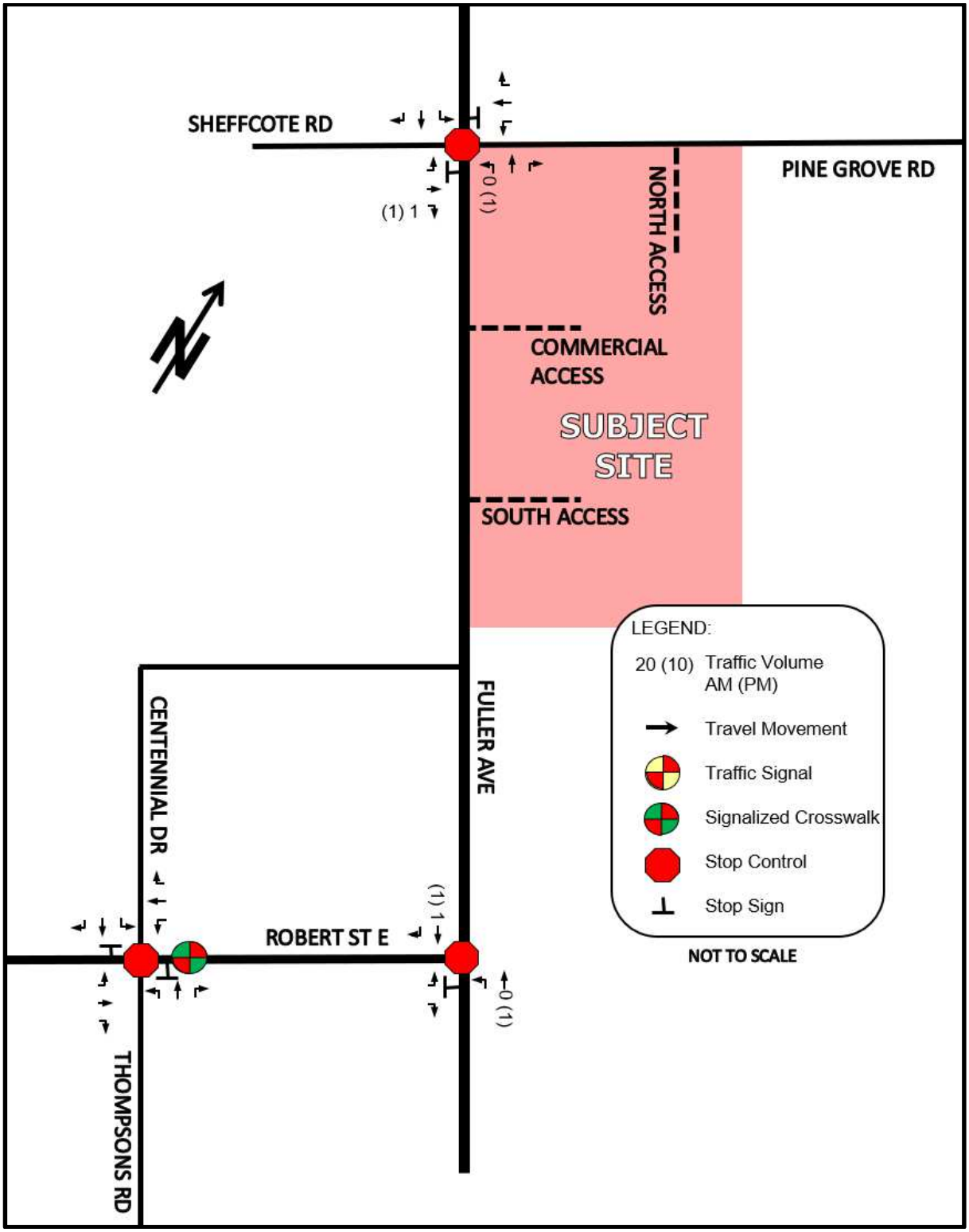


Figure 4 – 15 Sheffcote Street – Commercial Pass-by Traffic Assignment

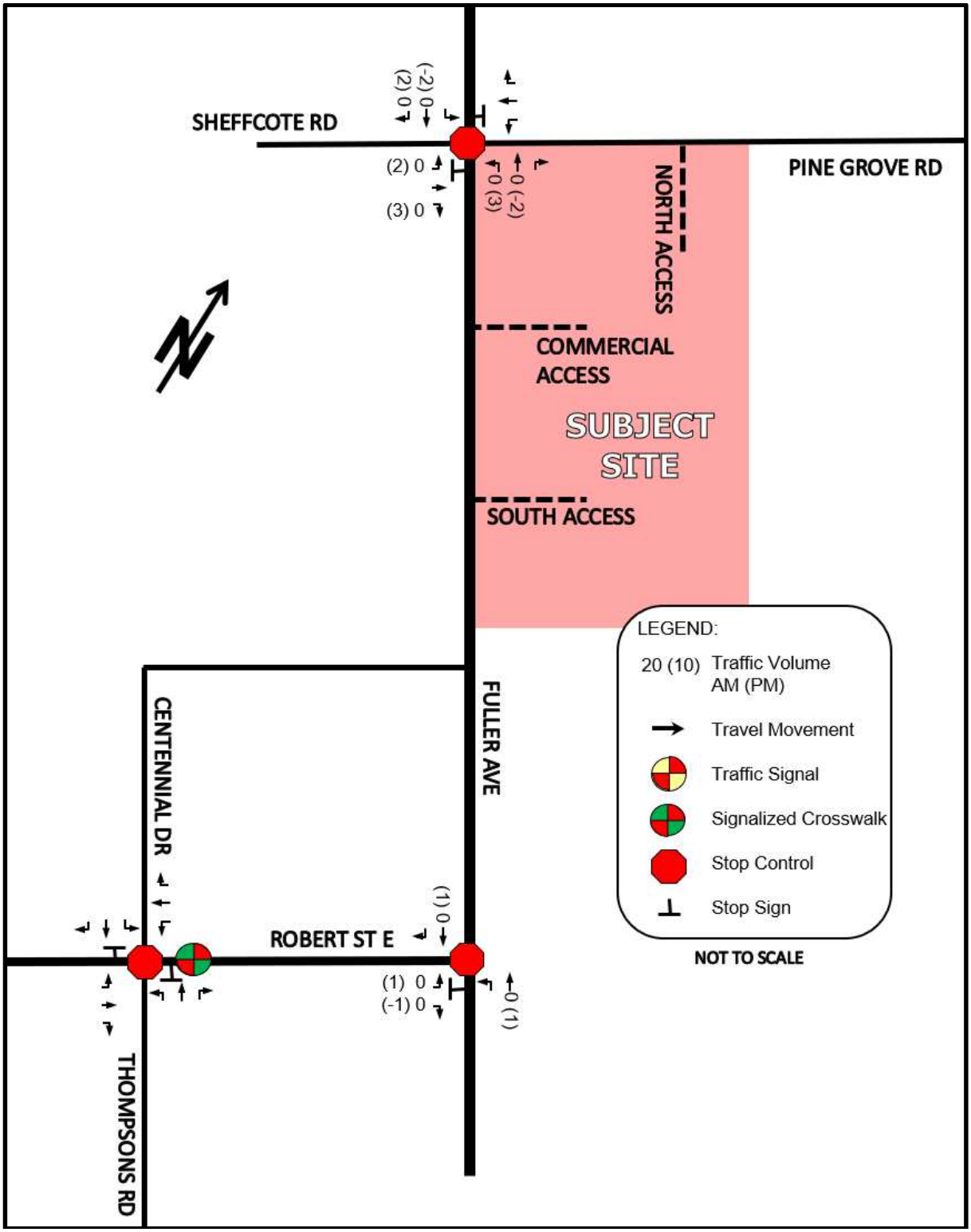


Figure 5 – 15 Sheffcote Street – Commercial Primary Traffic Assignment

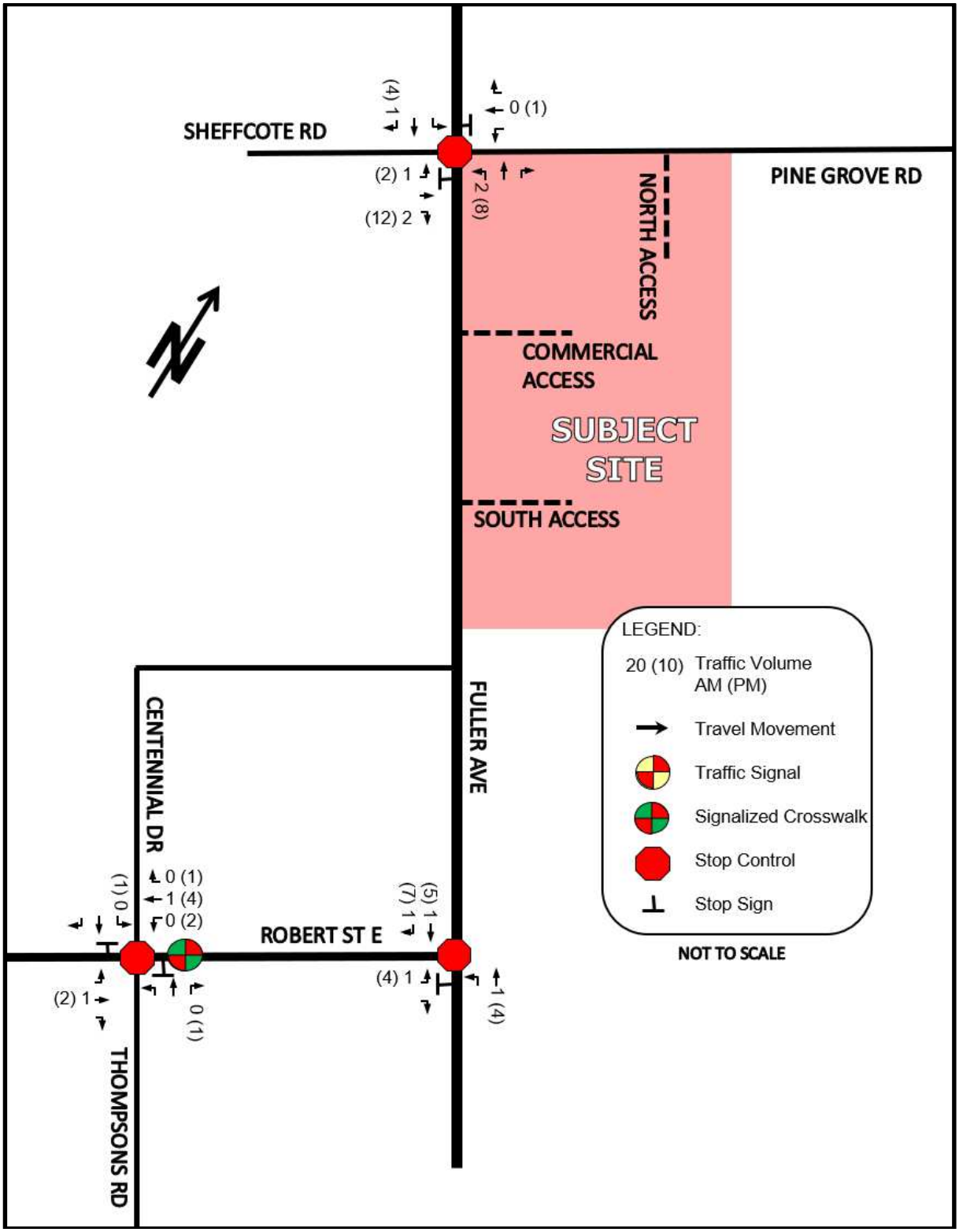
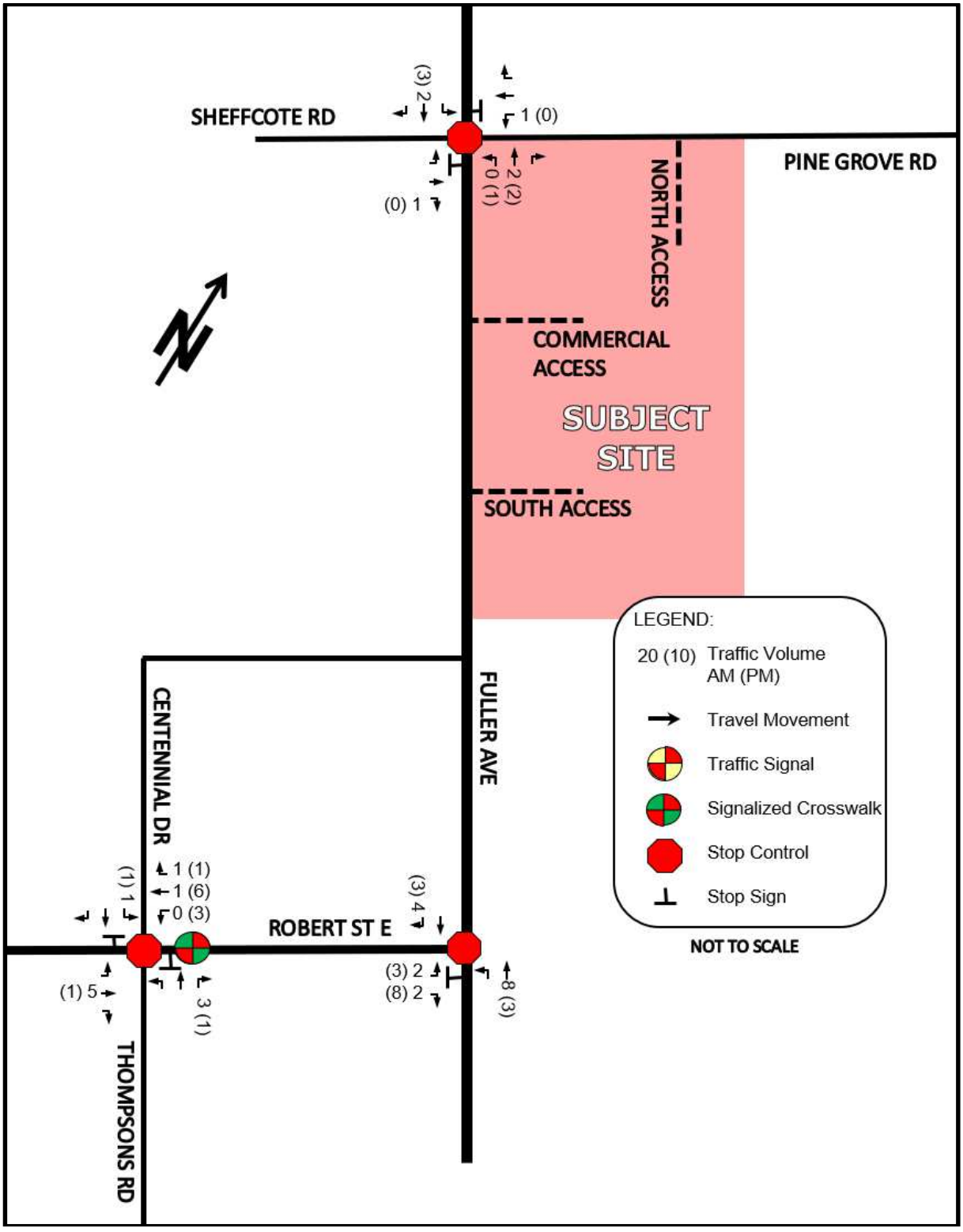


Figure 6 – 177 Robert Street East – Traffic Assignment



2.5 Background Growth Rate

Based on discussions with the Town and to stay consistent with other recent traffic studies, a background growth rate of 2% has been selected for the study area.

2.6 Traffic Counts

Detailed turning movement traffic and pedestrian counts were commissioned by JD Engineering for all existing study area intersections.

Table 3 summarizes the traffic count data collection information.

Table 3 – Traffic Count Data

Intersection (N-S Street / E-W Street)	Count Date	AM Peak Hour	PM Peak Hour	Source
Pine Grove Road & Sheffcote Street / Fuller Avenue	Tuesday, November 6, 2018	07:30 – 08:30	16:00 – 17:00	JD Eng.*
Robert Street East / Fuller Avenue	Tuesday, November 6, 2018	07:45 – 08:45	16:00 – 17:00	JD Eng.*
Robert Street East / Thompsons Road & Centennial Drive	Tuesday, November 6, 2018	07:45 – 08:45	16:00 – 17:00	JD Eng.*

*Traffic counts were completed by Accu-Traffic Inc. on behalf of JD Engineering.

Detailed traffic count data can be found in **Appendix B**. The peak hours of traffic generation for the study area intersections generally aligned with the anticipated peak hour of traffic generation by the proposed development. Although the AM and PM peak periods at all study area intersections did not exactly align, for the purpose of this report, we have assumed that the AM and PM peak hours are concurrent.

Heavy vehicle percentages from the traffic count data have also been included in the Synchro analysis.

Figure 7 illustrates the existing (2018) AM and PM peak hour traffic volumes within the study area.

2.7 Horizon Year Traffic Volumes

In addition to the adjacent development traffic volumes (outlined in Section 2.4), the background traffic growth rate discussed in Section 2.5 has also been applied to the existing traffic volumes to estimate the background (2028) horizon year traffic volumes.

Figure 8 illustrates the background (2028) horizon year AM and PM peak hour traffic volumes in the study area.

Figure 7 – Existing (2018) Traffic Volumes

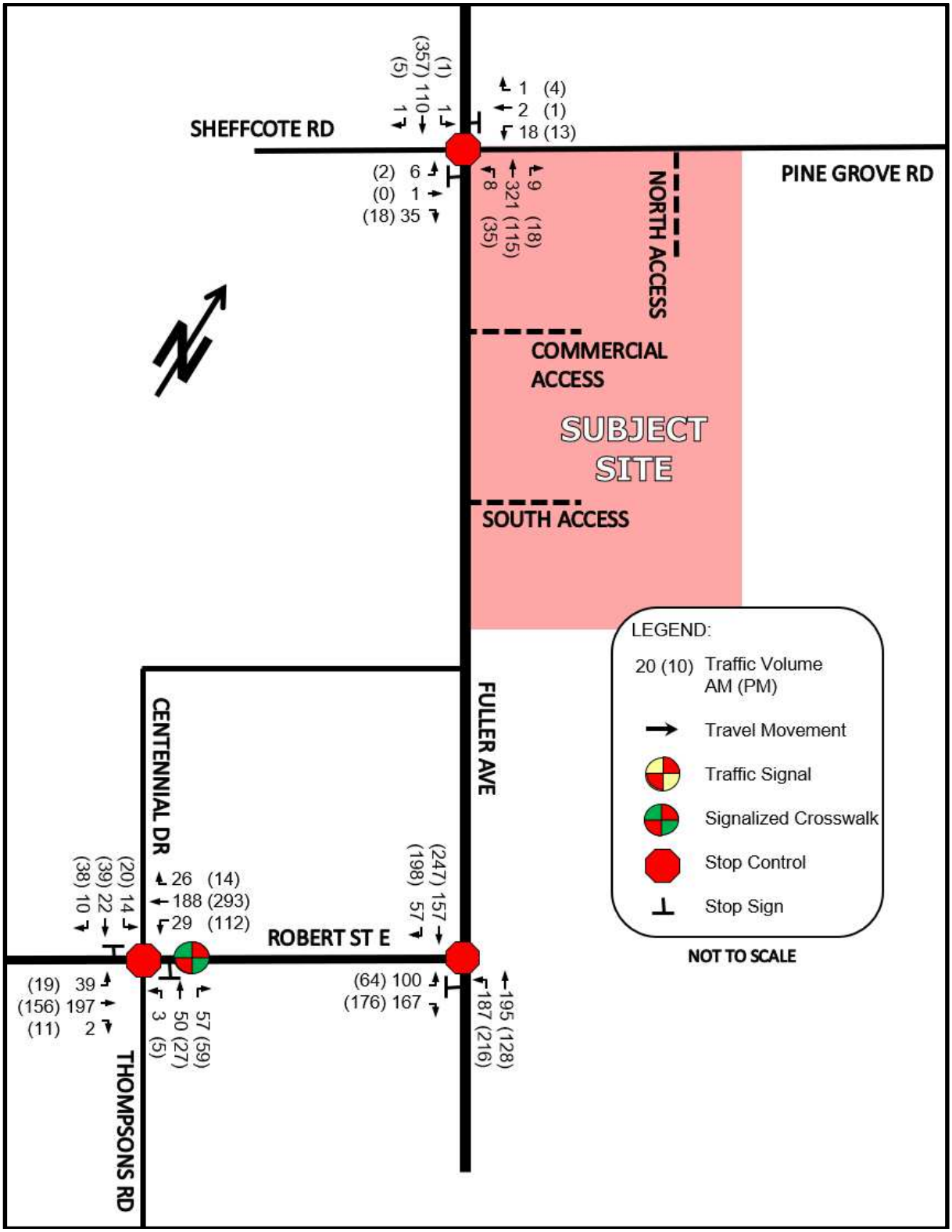
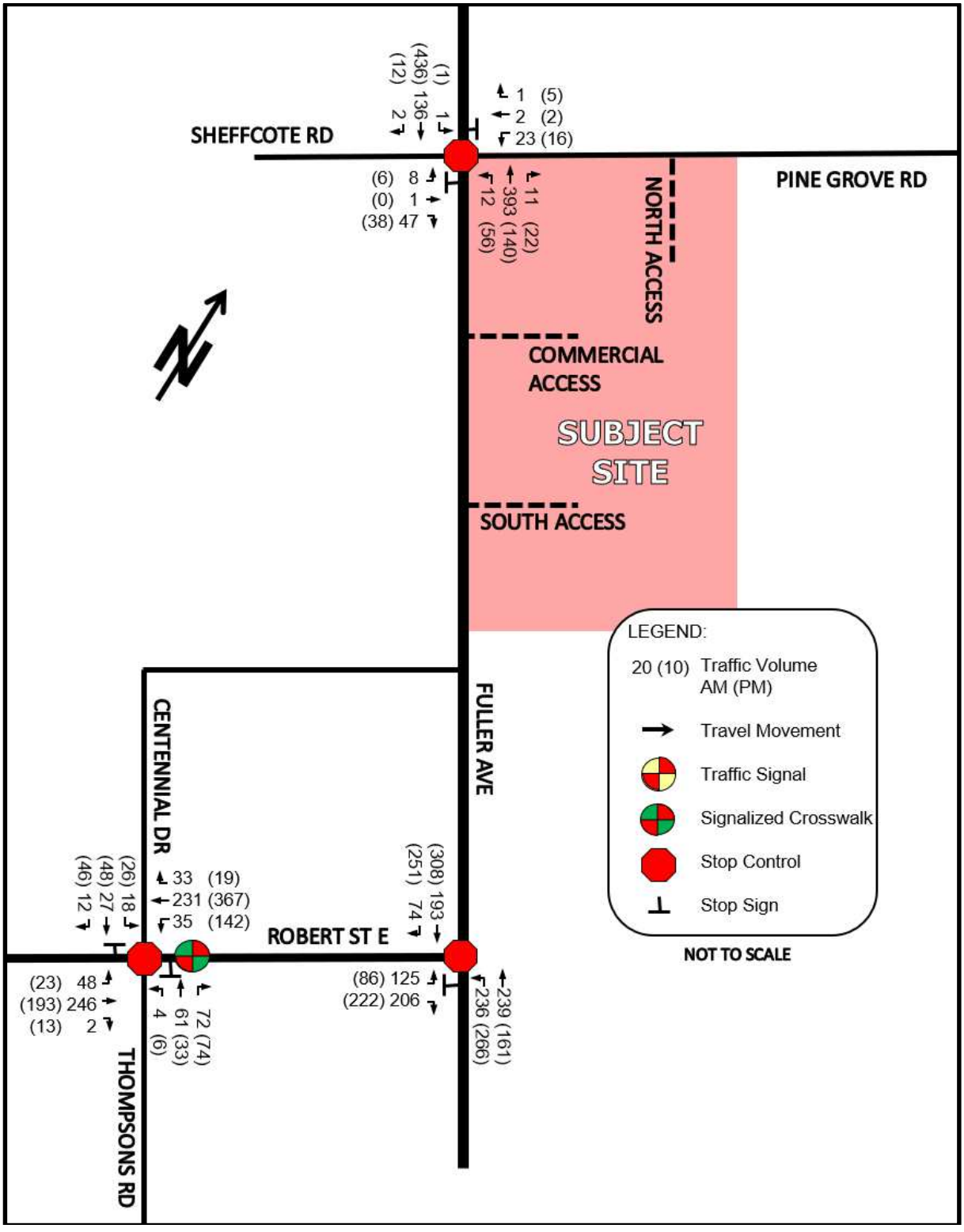


Figure 8 – Background (2028) Traffic Volumes



3 Intersection Operation without Proposed Development

3.1 Introduction

Existing year operational conditions were established to determine how the street network within the study area is currently functioning without the proposed development. This provides a base case scenario to compare with future development scenarios. Traffic operations within the study area were evaluated using the 2018 traffic volumes with the existing road configuration and traffic control. The intersection performance was measured using the traffic analysis software, Synchro 10, a deterministic model that employs Highway Capacity Manual and Intersection Capacity Utilization methodologies for analyzing intersection operations. These procedures are accepted by provincial and municipal agencies throughout North America.

Synchro 10 enables the study area to be graphically defined in terms of streets and intersections, along with their geometric and traffic control characteristics. The user is able to evaluate both signalized and unsignalized intersections in relation to each other, thus not only providing level of service for the individual intersections, but also enabling an assessment of the impact the various intersections in a network have on each other in terms of spacing, traffic congestion, delay, and queuing.

Individual turning movements with a volume-to-capacity [V/C] ratio of 0.85 or greater are considered to be critical movements and have been highlighted in the LOS tables.

The intersection operations were also evaluated in terms of the LOS. LOS is a common measure of the quality of performance at an intersection and is defined in terms of vehicular delay. This delay includes deceleration delay, queue move-up time, stopped delay, and acceleration delay. LOS is expressed on a scale of A through F, where LOS A represents very little delay (i.e. less than 10 seconds per vehicle) and LOS F represents very high delay (i.e. greater than 50 seconds per vehicle for a stop sign controlled intersection and greater than 80 seconds per vehicle for a signalized intersection).

The LOS criteria for signalized and stop sign controlled intersections are shown in **Table 4**. A description of traffic performance characteristics is included for each LOS.

Table 4 – Level of Service Criteria for Intersections

LOS	LOS Description	Control Delay (seconds per vehicle)	
		Signalized Intersections	Stop Controlled Intersections
A	Very low delay; most vehicles do not stop (**Excellent**)	less than 10.0	less than 10.0
B	Higher delay; more vehicles stop (**Very Good**)	between 10.0 and 20.0	between 10.0 and 15.0
C	Higher level of congestion; number of vehicles stopping is significant, although many still pass through intersection without stopping **(Good**)	between 20.0 and 35.0	between 15.0 and 25.0
D	Congestion becomes noticeable; vehicles must sometimes wait through more than one red light; many vehicles stop (**Satisfactory**)	between 35.0 and 55.0	between 25.0 and 35.0
E	Vehicles must often wait through more than one red light; considered by many agencies to be the limit of **acceptable** delay	between 55.0 and 80.0	between 35.0 and 50.0
F	This level is considered to be unacceptable to most drivers; occurs when arrival flow rates exceed the capacity of the intersection (**Unacceptable**)	greater than 80.0	greater than 50.0

3.2 Existing (2018) Intersection Operation

The results of the LOS analysis under existing traffic volumes during the AM and PM peak hour can be found below in **Table 5**. Existing intersection geometry and traffic control have been utilized for this scenario. Detailed output of the Synchro analysis can be found in **Appendix C**.

Table 5 – Existing LOS

Location (N-S Street / E-W Street)	Weekday AM Peak Hour			Weekday PM Peak Hour		
	V/C	Delay (s)	LOS	V/C	Delay (s)	LOS
Fuller Avenue / Pine Grove Road & Sheffcote Street (unsignalized)	-	1.7	A	-	1.6	A
EB	0.08	10.5	B	0.05	12.1	B
WB	0.09	16.5	C	0.07	16.2	C
Thompsons Road & Centennial Drive / Robert Street East (unsignalized)	-	4.5	A	-	5.7	A
NB	0.22	13.8	B	0.20	14.2	B
SB	0.13	15.6	C	0.30	19.9	C
Fuller Avenue / Robert Street East (unsignalized)	-	14.9	B	-	10.9	C
EB	0.81	41.1	E	0.74	36.7	E

The results of the LOS analysis indicate that all intersections are operating within the typical design limits noted in Section 3.1.

An analysis was completed for left turn movements at the unsignalized study area intersections, based on the criteria outlined in Appendix 9A of the Ontario Ministry of Transportation Design Supplement for TAC Geometric Design Guide for Canadian Roads June 2017 [MTO DS]. Our analysis indicates that a left turn lane is warranted in the northbound direction at the Fuller Avenue / Robert Street East intersection (results are provided in **Appendix D**); however, immediate reconstruction of this intersection is not recommended, based on our review of the traffic operations at this intersection, as illustrated in the Synchro analysis. A left turn lane is also warranted in the

westbound direction at the Thompsons Road & Centennial Drive / Robert Street East intersection (results are provided in **Appendix D**); however, immediate reconstruction of this intersection is not recommended, based on our review of the traffic operations at this intersection, as illustrated in the Synchro analysis.

A review of the need for an auxiliary right turn lane at the unsignalized study area intersections was completed as part of our analysis. The results of the Synchro analysis indicate that there is excess capacity for all movements; consequently, an auxiliary right turn lane is not recommended. There is a high volume of southbound right turn movements at the intersection of Fuller Avenue / Robert Street East; however, immediate reconstruction of this intersection is not recommended, based on our review of the traffic operations at this intersection, as illustrated in the Synchro analysis.

Based on the Ontario Traffic Manual Book 12 *Signal Justification*, traffic signals are not warranted at the unsignalized study area intersections (results are provided in **Appendix E**).

No infrastructure improvements are recommended within the study area.

3.3 Background (2028) Intersection Operation

The results of the LOS analysis under background (2028) traffic volumes during the AM and PM peak hour can be found below in **Table 6**. Existing intersection geometry and traffic control have been utilized for this scenario. Detailed output of the Synchro analysis can be found in **Appendix F**.

Table 6 – Background (2028) LOS

Location (N-S Street / E-W Street)	Weekday AM Peak Hour			Weekday PM Peak Hour		
	V/C	Delay (s)	LOS	V/C	Delay (s)	LOS
Fuller Avenue / Pine Grove Road & Sheffcote Street (unsignalized)	-	2.1	A	-	2.5	A
EB	0.12	11.5	B	0.14	14.7	B
WB	0.14	21.1	C	0.14	23.0	C
Thompsons Road & Centennial Drive / Robert Street East (unsignalized)	-	5.4	A	-	8.1	B
NB	0.33	16.8	C	0.31	18.4	C
SB	0.20	20.0	C	0.52	34.6	D
Fuller Avenue / Robert Street East (unsignalized)	-	69.4	C	-	58.1	E
EB	1.36	216.7	F	1.39	233.1	F

The results of the LOS analysis indicate the intersection of Fuller Avenue / Robert Street East is operating beyond the design criteria limits specified in Section 3.1. Based on the Ontario Traffic Manual Book 12 *Signal Justification*, traffic signals are not warranted at the Fuller Avenue / Robert Street East intersection (results are provided in **Appendix E**); however, it is recommended that this intersection is reconstructed, including the installation of traffic signals in order to improve the control delay for the west approach and the overall intersection operation. It is recommended that the intersection reconstruction include the following geometric lane improvements:

- Northbound left turn auxiliary lane (45 metre storage length and 55 metre taper length);
- Southbound right turn auxiliary lane (30 metre storage length and 60 metre taper length); and
- Eastbound right turn auxiliary lane (30 metre storage length and 30 metre taper length).

The results of the analysis with the above-noted improvements are illustrated in **Table 7** below. Detailed output of the Synchro analysis can be found in **Appendix F**.

Table 7 – Background (2028) LOS with Improvements

Location (N-S Street / E-W Street)	Weekday AM Peak Hour			Weekday PM Peak Hour		
	V/C	Delay (s)	LOS	V/C	Delay (s)	LOS
Fuller Avenue / Robert Street East (signalized)	0.43	14.8	B	0.46	13.8	B
EBL	0.53	34.5	C	0.41	32.7	C
EBR	0.17	30.2	C	0.17	30.8	C
NBL	0.37	5.0	A	0.44	5.0	A
NBT	0.24	5.0	A	0.14	3.9	A
SBT	0.26	11.6	B	0.37	11.8	B
SBR	0.06	9.9	A	0.21	10.3	B

The results of the LOS analysis indicate that all intersections are operating within the typical design limits noted in Section 3.1.

An analysis was completed for left turn movements at the unsignalized study area intersections, based on the criteria outlined in Appendix 9A of the MTO DS. Our analysis indicates that a left turn lane is warranted in the westbound direction at the Thompsons Road & Centennial Drive / Robert Street East intersection (results are provided in **Appendix D**); however, reconstruction of this intersection is not recommended for this horizon year, based on our review of the traffic operations at this intersection, as illustrated in the Synchro analysis.

A review of the need for an auxiliary right turn lane at the unsignalized study area intersections was completed as part of our analysis. The results of the Synchro analysis indicate that there is excess capacity for all movements; consequently, additional auxiliary right turn lanes are not recommended.

The anticipated 95th percentile queue length for all auxiliary turn lanes in the study area can be accommodated by the existing auxiliary lane storage lengths.

Based on the Ontario Traffic Manual Book 12 *Signal Justification*, traffic signals are not warranted at the unsignalized study area intersections (results are provided in **Appendix E**).

4 Proposed Development Traffic Generation and Assignment

4.1 Traffic Generation

The traffic generation for the proposed development has been based on the ITE Trip Generation Manual. The following ITE land use has been applied to estimate the traffic from the proposed development:

- ITE land use 210 (Single-Family Detached Housing) – General Urban / Suburban Setting
- ITE land use 220 (Multifamily Housing (Low-Rise)) – General Urban / Suburban Setting
- ITE land use 820 (Shopping Centre) – General Urban / Suburban Setting

The estimated trip generation of the proposed development is illustrated below in **Table 8**. The AM and PM peak traffic generation for the residential component of the proposed development is not expected to exactly align with the AM and PM peak hour in the traffic counts; consequently, we have applied the peak hour of adjacent street traffic values provided in the ITE Trip Generation Manual.

For the shopping centre ITE land use, the fitted curve equation for the peak hour of adjacent street traffic has been used in our calculation for the PM peak hour. The fitted curve equation for the AM peak hour of adjacent street traffic has a low R^2 value; consequently, we have conservatively applied the average rate in our calculation for the AM peak hour

Table 8 – Estimated Traffic Generation of Proposed Development

Land Use	Size	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Single-Family Detached Housing ITE Land Use: 210	105 units	20	59	78	66	38	104
Multifamily Housing (Low-Rise) ITE Land Use: 220	106 units*	11	38	49	38	22	60
TOTAL RESIDENTIAL		**31**	**97**	**127**	**104**	**60**	**164**
Shopping Centre ITE Land Use: 820	22, 766 sq. ft.**	9	8	17	31	33	64
TOTAL TRIP GENERATION		**40**	**105**	**144**	**135**	**93**	**228**
INTERNAL CAPTURE		-2	-2	-4	-12	-12	-24
NET SITE GENERATION		**38**	**103**	**140**	**123**	**81**	**204**
PASS-BY TRIPS ***		-	-	-	-9	-9	18
PRIMARY TRIPS		**38**	**103**	**140**	**114**	**72**	**186**

*The 106 units includes 86 townhouse units and 20 units from the residential multi-density lands
**Commercial building GFA has been calculated assuming 25% building coverage and GLA at 90% of GFA.
*** Commercial pass-by trips for the AM and PM peak hour are 0% and 34% respectively, according to the ITE data for ITE land use 820.

No transportation modal split has been applied to the above-noted traffic generation calculation.

4.2 Traffic Assignment

For the purposes of this study, it has been assumed that all traffic generated by the proposed development will be new traffic and would not be in the study area if the development was not constructed.

The distribution of traffic entering at each access location is based on our review of the internal parking and building layout, in conjunction with the external traffic distribution.

The ITE data provides the anticipated percentage of new traffic entering and exiting during the peak hour. The distribution of residential traffic has been calculated based on the 2016 Transportation Tomorrow Survey [TTS] data for traffic zone 8573, retrieved using the TTS Internet Data Retrieval System [IDRS] (output attached as **Appendix G**). TTS data provides historical origin and destination work trip percentages for specific areas within the Town and southern Ontario.

Traffic distribution for the trips generated by the residential component of the proposed development during the AM and PM peak hour is expected to generally follow commuter travel patterns. Our analysis is based on egress traffic during the AM peak hour. Logically, the distribution of ingress traffic will follow the inverse of the exiting traffic distribution. For each of the individual areas identified in the TTS data, we have selected the probable route of travel, assuming that people will select their route primarily based on travel time.

The distribution of trips is illustrated in **Table 9** using the methodology outlined above.

Table 9 – Proposed Development Residential Traffic Distribution

Travel Direction (to / from)	Percentage of Total Traffic Generation
North via Fuller Avenue	0.8%
West via Sheffcote Street	2.9%
South via Fuller Avenue	45.6%
West via Robert Street East	18.6%
North via Centennial Drive	0.5%
South via Thompsons Road	31.6%
TOTAL	**100%**

It has been assumed all trips generated by the commercial block are to use the Commercial Access.

The distribution of traffic for the commercial component of this development is assumed to follow the distribution of the existing traffic volumes within the study area. **Table 10** illustrates the calculation of the distribution of ingress and egress traffic for the commercial component of the proposed development.

Table 10 – Proposed Development Commercial Traffic Distribution

Travel Direction (to / from)	AM Peak Hour		PM Peak Hour	
	Ingress	Egress	Ingress	Egress
North via Fuller Avenue	12%	31%	31%	10%
West via Sheffcote Street	4%	1%	2%	4%
East via Pine Grove Road	2%	1%	2%	2%
South via Fuller Avenue	40%	32%	31%	36%
West via Robert Street East	25%	19%	17%	29%
North via Centennial Drive	5%	11%	9%	5%
South via Thompsons Road	12%	5%	8%	14%
TOTAL	**100%**	**100%**	**100%**	**100%**

Using the traffic distributions patterns noted above, the residential, commercial pass-by and commercial primary traffic assignment for the proposed development was calculated for the AM and PM peak hour and is illustrated in **Figures 9, 10** and **11** respectively.

4.3 Total Horizon Year Traffic Volumes with the Proposed Development

For the total (2028) horizon year traffic volumes, the proposed development traffic was added to the background (2028) traffic volumes. The resulting total (2028) horizon year traffic volume for the AM and PM peak hour are illustrated in **Figure 12**.

Figure 9 – Proposed Development – Residential Traffic Assignment

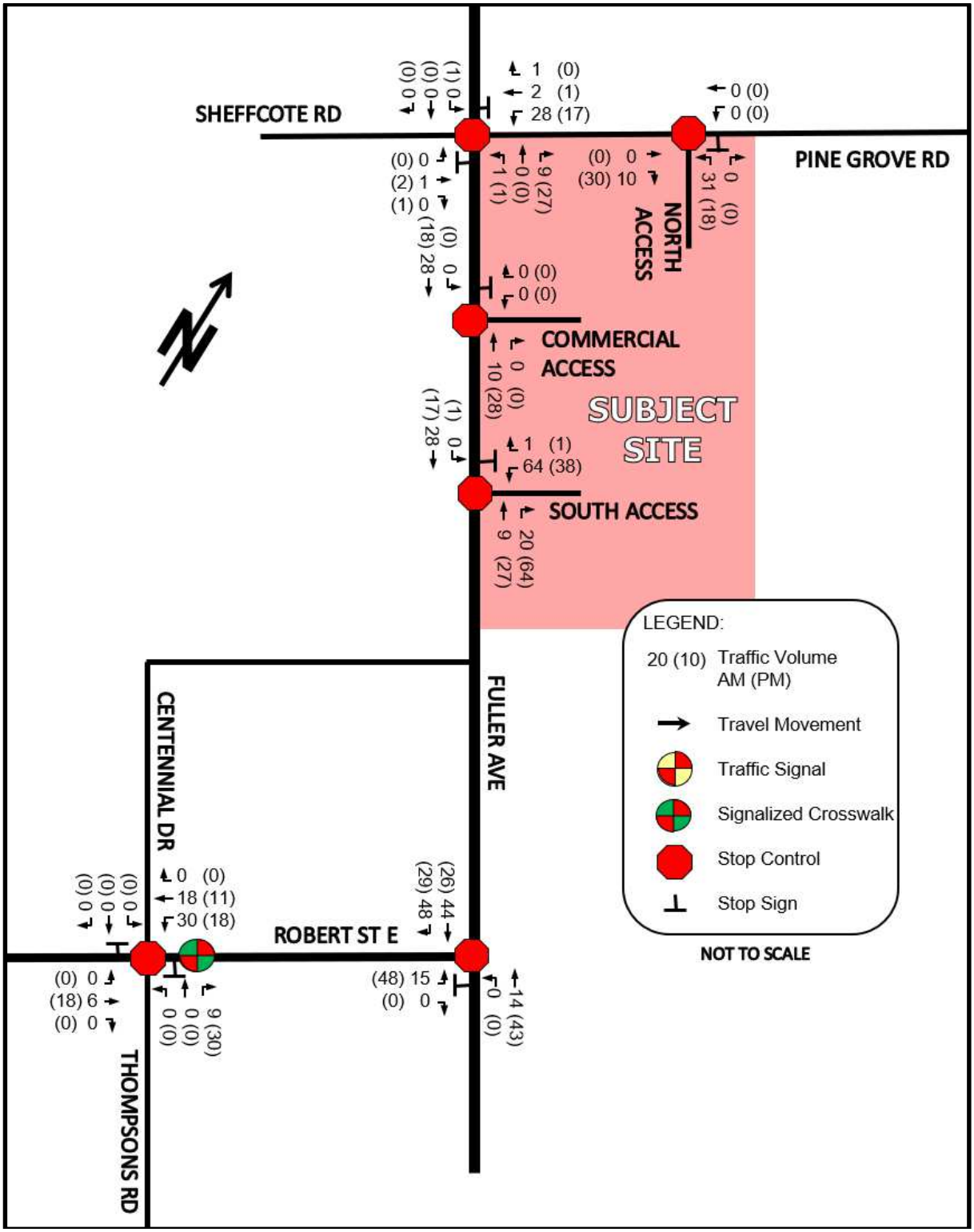


Figure 10 – Proposed Development – Commercial Pass-by Traffic Assignment

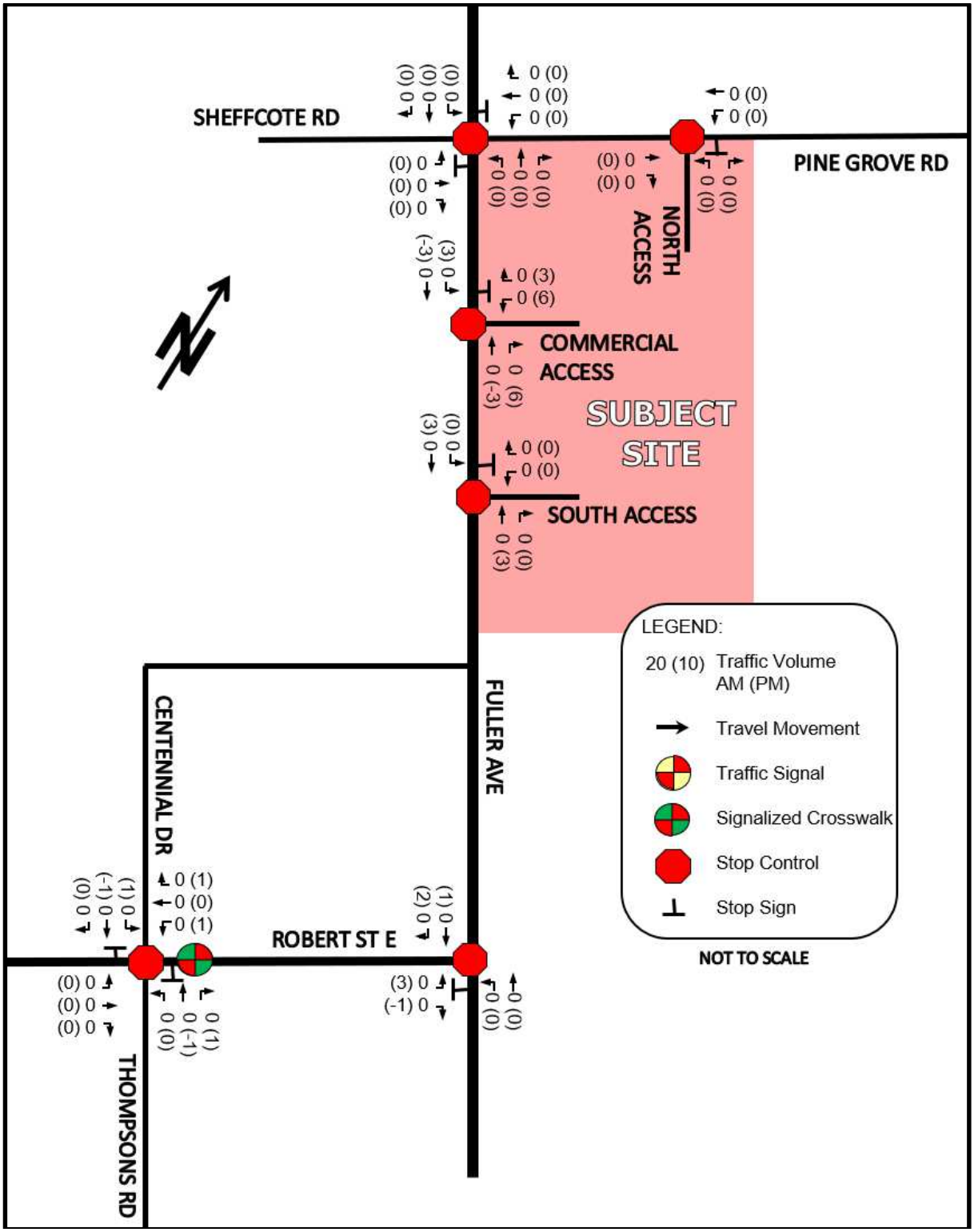


Figure 11 – Proposed Development – Commercial Primary Traffic Assignment

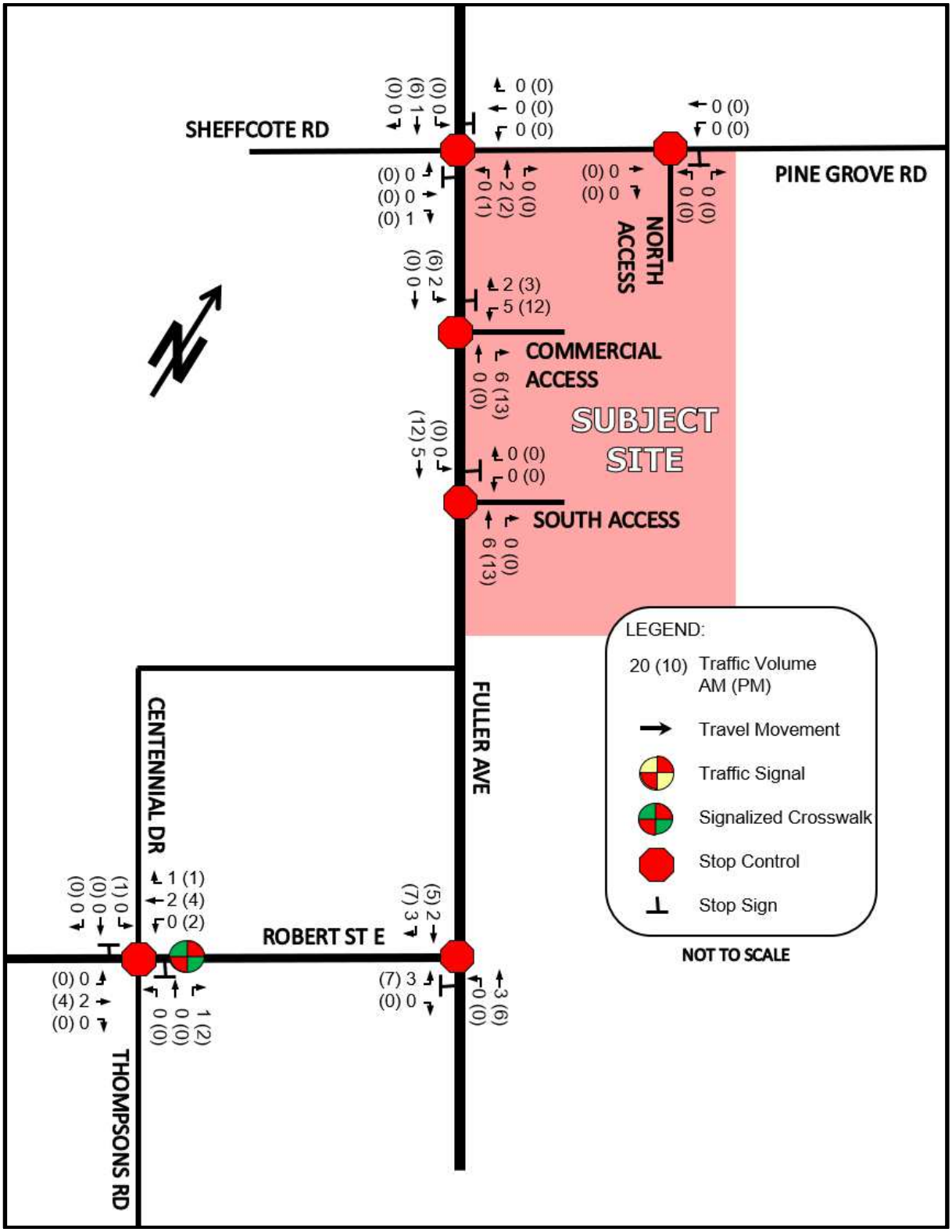
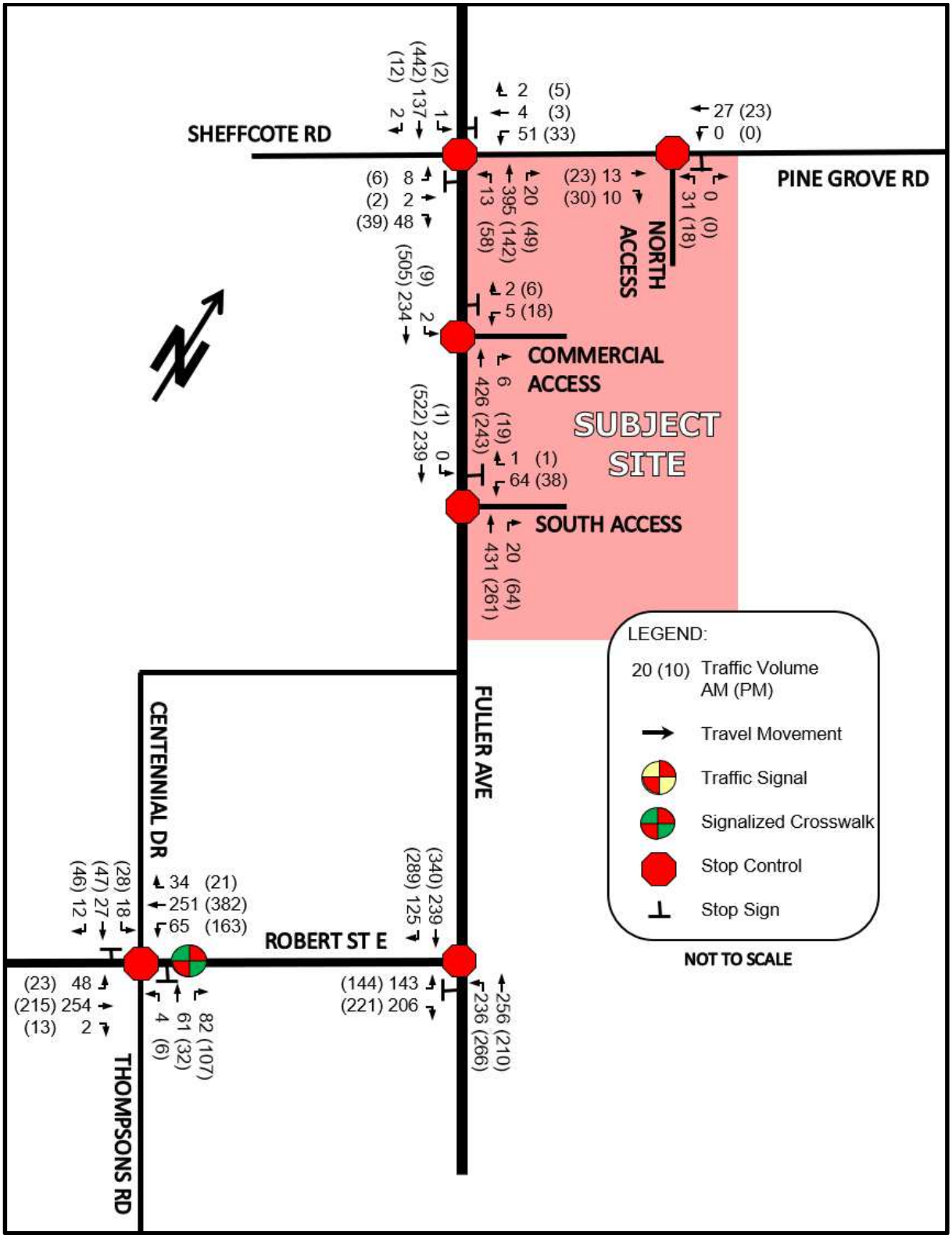


Figure 12 – Total (2028) Traffic Volumes



5 Intersection Operation with Proposed Development

5.1 Total (2028) Intersection Operation

The results of the LOS analysis under total (2028) traffic volumes during the AM and PM peak hour can be found below in **Table 11**. Existing intersection geometry and traffic control with the infrastructure improvements identified in Section 3.3 have been utilized for this scenario. Detailed output of the Synchro analysis can be found in **Appendix H**.

Table 11 – Total (2028) LOS

Location (N-S Street / E-W Street)	Weekday AM Peak Hour			Weekday PM Peak Hour		
	V/C	Delay (s)	LOS	V/C	Delay (s)	LOS
Fuller Avenue / Pine Grove Road & Sheffcote Street (unsignalized)	-	3.4	A	-	3.4	B
EB	0.13	11.9	B	0.16	15.6	C
WB	0.32	25.8	D	0.29	30.7	D
Thompsons Road & Centennial Drive / Robert Street East (unsignalized)	-	6.2	A	-	10.1	C
NB	0.38	18.9	C	0.39	19.5	C
SB	0.24	23.9	C	0.64	49.6	E
Fuller Avenue / Robert Street East (signalized)	0.47	15.2	B	0.52	15.4	B
EBL	0.61	35.5	D	0.58	34.9	C
EBR	0.17	29.9	C	0.16	30.0	C
NBL	0.41	5.6	A	0.48	6.1	A
NBT	0.26	5.4	A	0.19	4.9	A
SBT	0.33	12.9	B	0.43	14.0	B
SBR	0.10	10.8	B	0.27	12.2	B
North Access / Pine Grove Road (unsignalized)	-	3.4	A	-	1.7	A
NB	0.04	8.9	A	0.02	8.9	A
Fuller Avenue / Commercial Access (unsignalized)	-	0.2	A	-	0.6	A
WB	0.02	13.4	B	0.07	15.0	B
Fuller Avenue / South Access (unsignalized)	-	1.4	A	-	0.8	A
WB	0.18	16.4	C	0.13	18.0	C

The results of the LOS analysis indicate that all intersections are operating within the typical design limits noted in Section 3.1.

An analysis was completed for left turn movements at the unsignalized study area intersections, based on the criteria outlined in Appendix 9A of the MTO DS. Our analysis indicates that a left turn lane is warranted in the westbound direction at the Thompsons Road & Centennial Drive / Robert Street East intersection and marginally warranted in the northbound direction at the Fuller Avenue / Pine Grove Road & Sheffcote Street intersection (results are provided in **Appendix D**); however, reconstruction of this intersection is not recommended for this horizon year, based on our review of the traffic operations at this intersections, as illustrated in the Synchro analysis.

A review of the need for an auxiliary right turn lane at the unsignalized study area intersections was completed as part of our analysis. The results of the Synchro analysis indicate that there is excess capacity for all movements; consequently, additional auxiliary right turn lanes are not recommended.

The anticipated 95th percentile queue length for all auxiliary turn lanes in the study area can be accommodated by the existing auxiliary lane storage lengths.

Based on the Ontario Traffic Manual Book 12 *Signal Justification*, traffic signals are not warranted at the unsignalized study area intersections (results are provided in **Appendix E**).

No additional infrastructure improvements are recommended within the study area.

5.2 Site Access

The North Access will operate efficiently as a full-movement access, with one-way stop control for the northbound movements. No lane improvements are recommended on Pine Grove Road at the North Access. A single northbound and southbound lane at the North Access driveway will provide the necessary capacity to service the proposed development.

The South Access will operate efficiently as a full-movement access, with one-way stop control for the westbound movements. No lane improvements are recommended on Fuller Avenue at the South Access. A single eastbound and westbound lane at the South Access driveway will provide the necessary capacity to service the proposed development.

The Commercial Access will operate efficiently as a full-movement access, with one-way stop control for the westbound movements. No lane improvements are recommended on Fuller Avenue at the Commercial Access. A single eastbound and westbound lane at the Commercial Access driveway will provide the necessary capacity to service the proposed development.

The proposed spacing between the North Access and the intersection of Pine Grove Road & Sheffcote Street / Fuller Avenue (measured edge to edge of driveways) and the North Access and the intersection of Pine Grove Road / Margaret Crescent (measured edge to edge of driveways) is in excess of the suggested minimum corner clearance requirements for a driveway as identified in the Transportation Association of Canada *Design Guide for Canadian Roads* (2017) [TAC Guidelines] – Figure 8.8.2 (Suggested Minimum Corner Clearances to Accesses or Public Lanes at Major Intersections) – 15 metres for unsignalized condition.

The proposed spacing between the South Access and the intersection of Pine Grove Road & Sheffcote Street / Fuller Avenue (measured edge to edge of driveways) and the South Access and the intersection of Cambridge Street / Fuller Avenue (measured edge to edge of driveways) is in excess of the suggested minimum corner clearance requirements for a driveway as identified in the TAC Guidelines – Figure 8.8.2 (Suggested Minimum Corner Clearances to Accesses or Public Lanes at Major Intersections) – 35 metres for unsignalized condition.

The intersection spacing for the Commercial Access has not been analysed in this study as the specifics of the proposed development commercial block access driveways are currently unknown.

5.3 Sight Distance Review

A review of the available sight distance for the proposed site access driveways was completed as part of this analysis.

The sight distance east and west of the North Access is greater than the minimum stopping sight distance requirements as identified in the TAC Guidelines for a design speed of 60km/h (85 metres). It is noted that the Pine Grove Road & Sheffcote Street / Fuller Avenue intersection is located approximately 85 metres west of the North Access; however, there are no concerns with the sight distance since vehicles from Fuller Avenue turning onto Pine Grove Road will be travelling at speeds much lower than 60km/h.

The sight distance north and south of the South Access is greater than the minimum stopping sight distance requirements as identified in the TAC Guidelines for a design speed of 70km/h (105 metres).

Consequently, there are no issues with the sight distance for the proposed site access driveways.

The sight distance available for the Commercial Access has not been analysed in this study as the specifics of the proposed development commercial block access driveways are currently unknown.

6 Summary

Tonking Management Inc. retained **JD Engineering** to prepare this traffic impact study in support of the proposed mixed-use development municipally known as 1145 Fuller Avenue proposed in the Town of Penetanguishene [Town], County of Simcoe [County]. The proposed Site Plan is shown in **Appendix A**. This chapter summarizes the conclusions and recommendations from the study.

The proposed residential development includes a 0.56 acres commercial block, 102 residential single detached units, 86 residential townhouse units and a 0.56 acre residential multi-density block. The specifics of the residential multi-density lands are currently unknown; however, based on discussions with the developer, it is anticipated there will be a maximum of 20 residential units.

1. The proposed development is expected to generate a total of 140 AM peak hour trips and 204 PM peak hour trips.
2. Detailed turning movement counts were completed for all existing intersections on Tuesday, November 6th, 2018.
3. An intersection operation analysis was completed at the study area intersections, using the existing (2018) and background (2028) traffic volumes, with the adjacent development traffic and without the proposed development traffic. This enabled a review of existing and future traffic deficiencies that would be present without the influence of the proposed development. The following transportation infrastructure improvements are recommended:

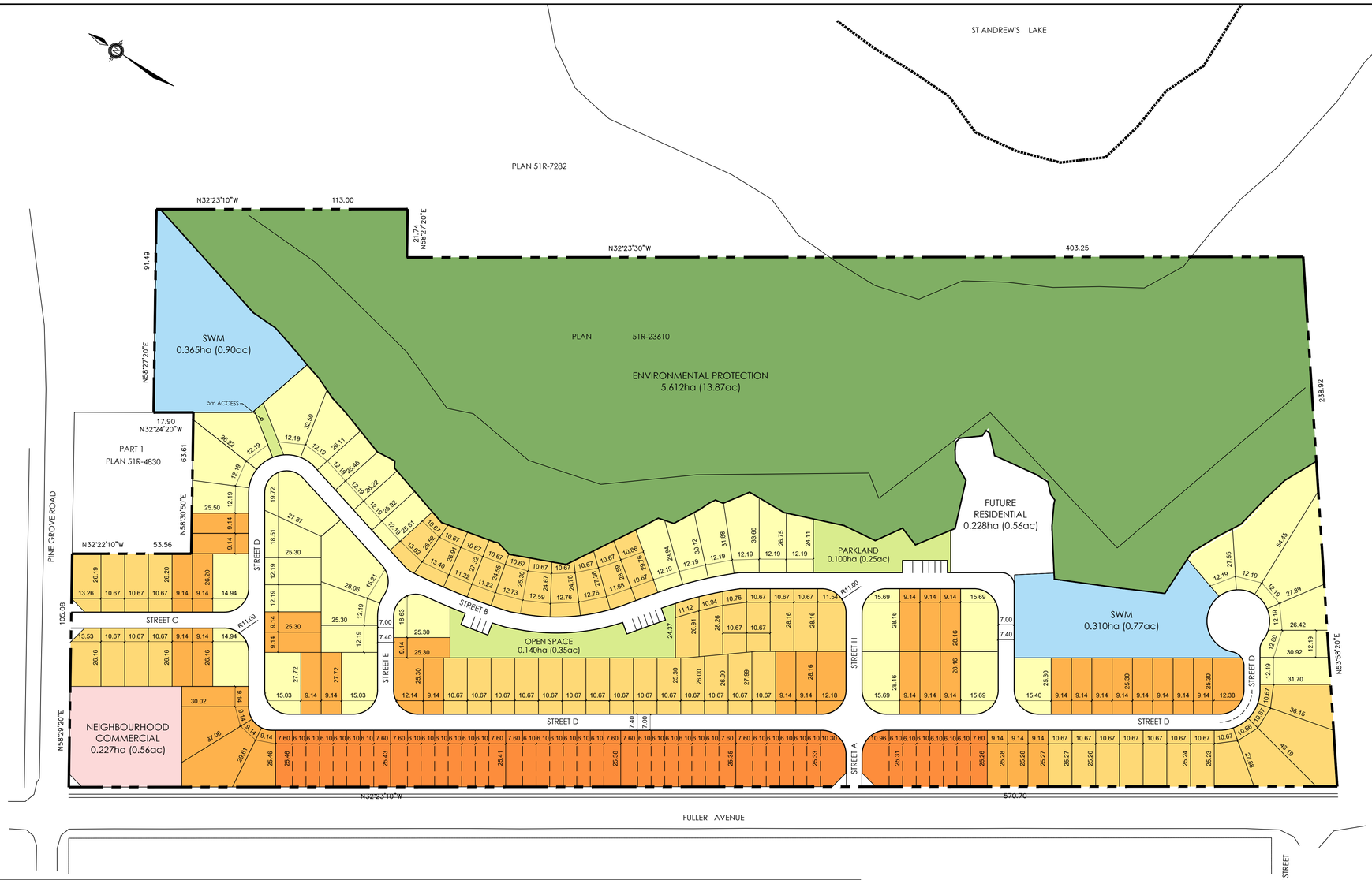
   Fuller Avenue / Robert Street East

   Background (2028) Traffic Volumes

   - Signalization of intersection;
   - Northbound left turn auxiliary lane;
     - (45 metre storage length and 55 metre taper length)
   - Southbound right turn auxiliary lane;
     - (30 metre storage length and 60 metre taper length)
   - Eastbound right turn auxiliary lane.
     - (30 metre storage length and 30 metre taper length)

4. An estimate of the amount of traffic that would be generated by the proposed development was prepared and assigned to the study area streets and intersections.
5. An intersection operation analysis was completed under total (2028) traffic volumes with the proposed development operational at the study area intersections. No additional infrastructure improvements are recommended.
6. The proposed South Access and Commercial Access driveways will operate efficiently as full movement access driveways with one-way stop control for westbound traffic. The proposed North Access driveway will operate efficiently as a full movement access driveway with one-way stop control for northbound traffic. A single lane for ingress and egress movements at the South Access, Commercial Access and North Access will provide the necessary capacity to convey the traffic volume generated by the proposed development.
7. The sight distance available for the proposed South Access and North Access meets the minimum stopping sight distance requirements. The sight distance available for the Commercial Access has not been analysed in this study as the specifics of the proposed development commercial block access driveways are currently unknown.
8. In summary, the proposed development will not cause any operational issues and will not add a notable delay or congestion to the local roadway network.

Appendix A – Site Plan

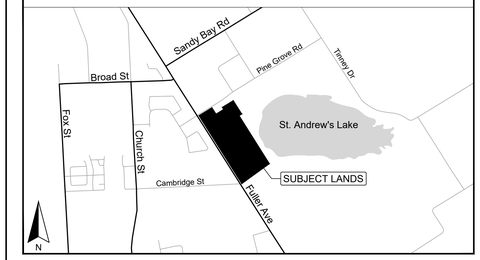


PROPOSED ZONING

	REQUIRED **R3 (ROW HOUSE)**	PROPOSED R3-XX (ROW HOUSE)
Min. Lot Frontage	30.0m	30m
Min. Lot Area	230.0m²	150m²
Max. Lot Coverage	35%	60%
Min. Front Yard Setback	6.0m	4.5m/6.0m
Min. Interior Side Yard Setback	4.0m and 6.0m other side	1.5m
Min. Exterior Side Yard Setback	4.5m	3.0m
Min. Rear Yard Setback	7.5m	5.0
Max. Height	11.0m	11.0m
Max. Accessory Building Height	4.0m	4.0m
Min. Gross Floor Area Bachelor 1 Bedroom 2 Bedroom	 32.0 m² 51.0 m² 65.0 m² (+ 10.0m2 for each additional bedroom over 2)	 32.0 m² 51.0 m² 65.0 m² (+ 10.0m2 for each additional bedroom over 2)

	REQUIRED **R3 (SINGLE DETACHED)**	PROPOSED R3-XX (SINGLE DETACHED)
Min. Lot Frontage	15.0m	9.0m
Min. Lot Area	511.0m²	225m²
Max. Lot Coverage	35%	55%
Min. Front Yard Setback	6.0	4.5m/6.0m
Min. Interior Side Yard Setback	1.0m	0.6m
Min. Exterior Side Yard Setback	4.5m	3.0m
Min. Rear Yard Setback	7.5m	5.0m
Max. Height	11.0m	11.0m
Max. Accessory Building Height	4.0m	4.0m
Min. Ground Floor Area	74.0m²	74.0m²

KEY MAP Scale 1 : 20,000



SITE PLAN

LOTS 21B, 53B, 63B, & PART OF LOT 77B
REGISTERED PLAN 69
FORMERLY IN THE TOWNSHIP OF TAY
NOW IN THE
TOWN OF PENETANGUISHENE
COUNTY OF SIMCOE
2018

Scale 1:1,000
0 20 40 60 80 100m

LEGEND

- SUBJECT LANDS — *Area:* 13.038 ha (32.22 ac); *Visitor Parking:* 16
- 38 Lots — SINGLE DETACHED LOTS (40')
- 50 Lots — SINGLE DETACHED LOTS (35')
- 38 Lots — SINGLE DETACHED LOTS (30')
- 47 Units — TOWNHOUSE UNITS (20')
- FUTURE RESIDENTIAL BLOCK
- NEIGHBOURHOOD COMMERCIAL
- STORMWATER MANAGEMENT
- PARKLAND/OPEN SPACE
- ENVIRONMENTAL PROTECTION

Note: 3.0m servicing easements will be created in all yards abutting lanes.
This drawing is for discussion purposes only.

ST. ANDREW'S LAKE VILLAGE (173 LOTS)

TOWN OF PENETANGUISHENE

SCHEDULE OF REVISIONS

No.	Date	Description	By

INNOVATIVE PLANNING SOLUTIONS
PLANNERS • PROJECT MANAGERS • LAND DEVELOPERS
150 DUNLOP STREET EAST, SUITE 201, BARRIE, ONTARIO L4M 1B1
tel: 705 • 812 • 3281 fax: 705 • 812 • 3438 e: info@ipsconsultinginc.com www.ipsconsultinginc.com

Date:	November 20, 2018	Drawn By:	AM
File:	05-137	Reviewed By:	TS

Appendix B –
Traffic Count Data

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:30:00
To: 8:30:00

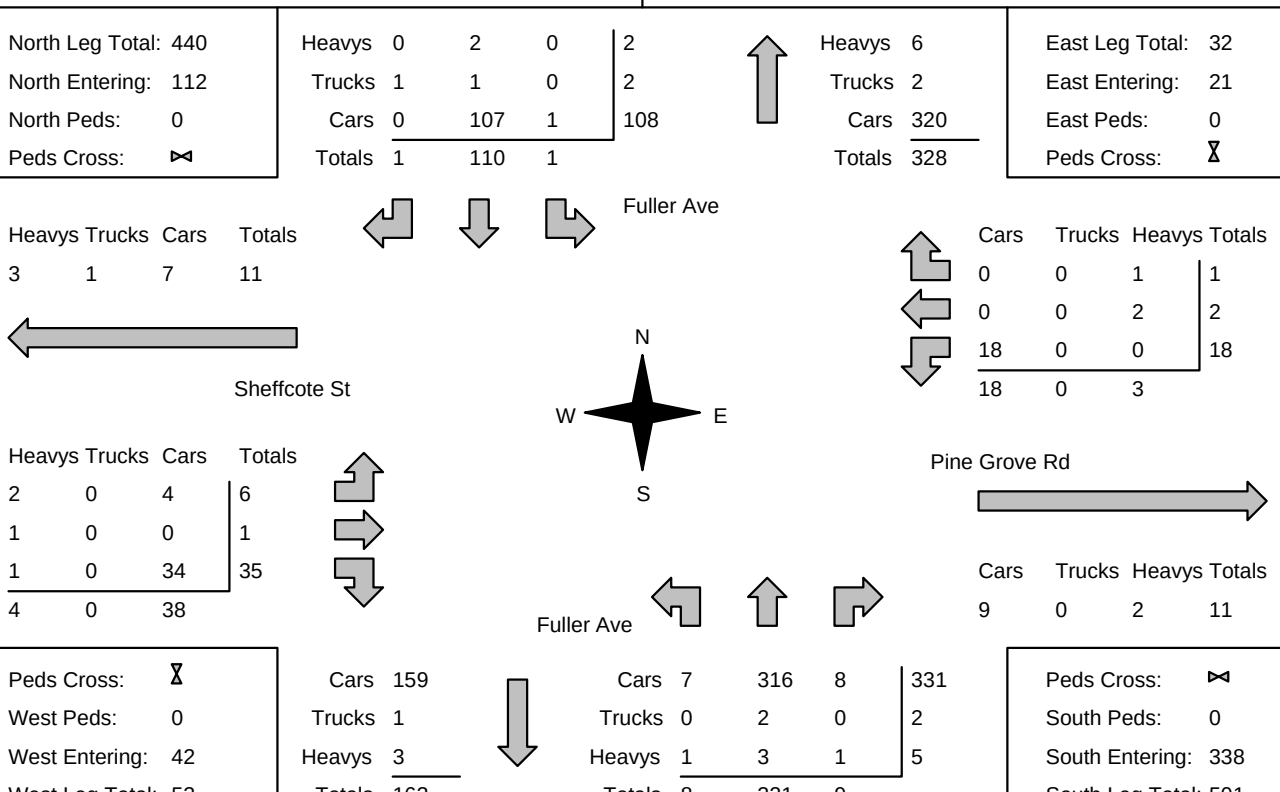
Municipality: Penetanguishene
Site #: 1814300001
Intersection: Fuller Ave & Pine Grove Rd
TFR File #: 1
Count date: 6-Nov-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Fuller Ave runs N/S



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 19:00:00

One Hour Peak
From: 16:00:00
To: 17:00:00

Municipality: Penetanguishene
Site #: 1814300001
Intersection: Fuller Ave & Pine Grove Rd
TFR File #: 1
Count date: 6-Nov-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Fuller Ave runs N/S

North Leg Total:	484			
North Entering:	363			
North Peds:	0			
Peds Cross:	⋈			
Heavys	0	2	0	2
Trucks	0	1	0	1
Cars	5	354	1	360
Totals	5	357	1	
Heavys	1			
Trucks	0			
Cars	120			
Totals	121			
East Leg Total:	37			
East Entering:	18			
East Peds:	0			
Peds Cross:	⧖			

Fuller Ave

Heavys	Trucks	Cars	Totals
0	0	41	41

Sheffcote St

Cars	Trucks	Heavys	Totals
4	0	0	4
1	0	0	1
13	0	0	13
18	0	0	

N
W E
S

Heavys	Trucks	Cars	Totals
0	0	2	2
0	0	0	0
0	0	18	18
0	0	20	

Pine Grove Rd

Cars	Trucks	Heavys	Totals
18	0	1	19

Fuller Ave

Peds Cross:	⧖			
West Peds:	0			
West Entering:	20			
West Leg Total:	61			
Cars	385			
Trucks	1			
Heavys	2			
Totals	388			
Cars	35	114	17	166
Trucks	0	0	0	0
Heavys	0	1	1	2
Totals	35	115	18	
Peds Cross:	⋈			
South Peds:	0			
South Entering:	168			
South Leg Total:	556			

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

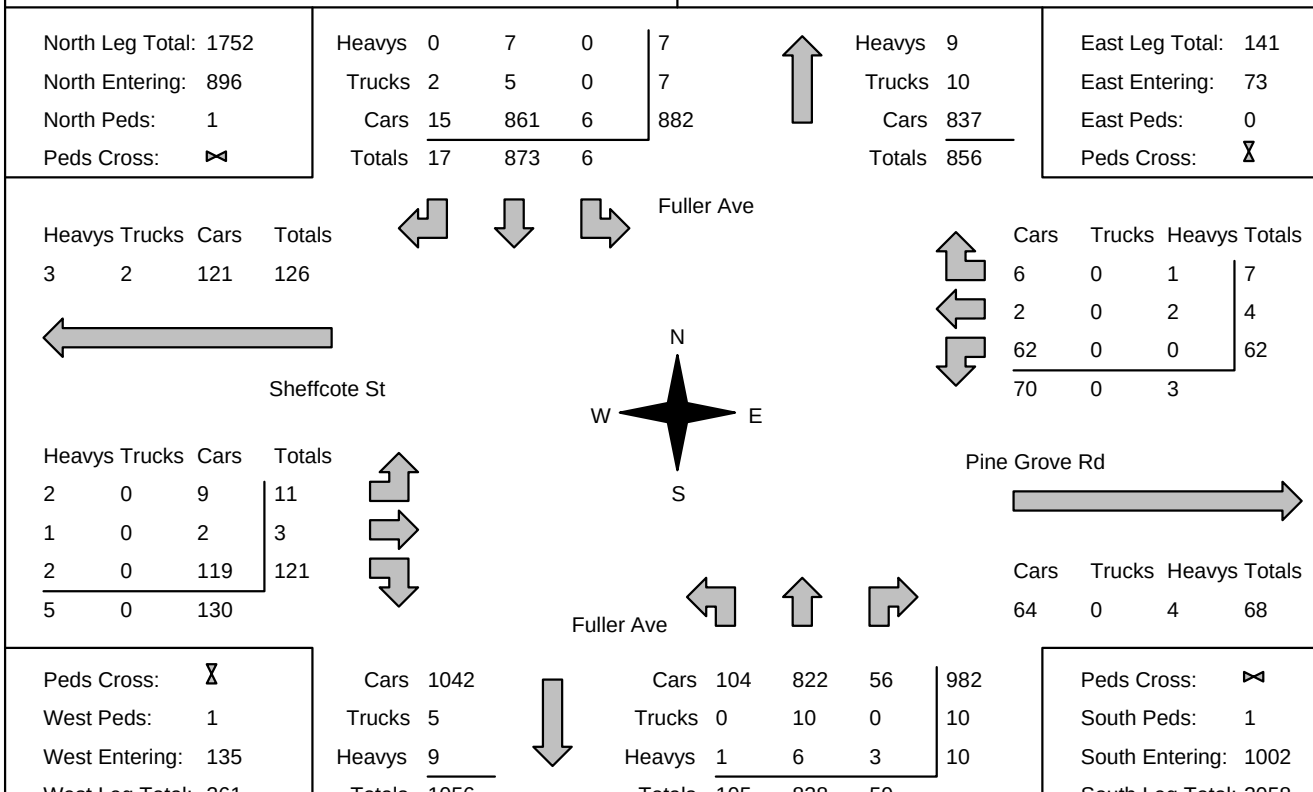
Municipality: Penetanguishene
Site #: 1814300001
Intersection: Fuller Ave & Pine Grove Rd
TFR File #: 1
Count date: 6-Nov-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Fuller Ave runs N/S



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Fuller Ave & Pine Grove Rd | **Count Date:** 6-Nov-18 | **Municipality:** Penetanguishene

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*1*	*116*	*1*	*118*	*0*
9:00:00	*0*	*112*	*1*	*113*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*1*	*357*	*5*	*363*	*0*
18:00:00	*0*	*127*	*5*	*132*	*1*
19:00:00	*4*	*161*	*5*	*170*	*0*
Totals:	6	873	17	896	1

North/South Total Approaches: *0*, *411*, *322*, *0*, *531*, *297*, *337*, 1898

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*5*	*286*	*2*	*293*	*0*
9:00:00	*12*	*180*	*17*	*209*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*35*	*115*	*18*	*168*	*0*
18:00:00	*29*	*121*	*15*	*165*	*1*
19:00:00	*24*	*136*	*7*	*167*	*0*
S Totals:	105	838	59	1002	1

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*17*	*1*	*0*	*18*	*0*
9:00:00	*14*	*2*	*2*	*18*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*13*	*1*	*4*	*18*	*0*
18:00:00	*9*	*0*	*1*	*10*	*0*
19:00:00	*9*	*0*	*0*	*9*	*0*
Totals:	62	4	7	73	0

East/West Total Approaches: *0*, *56*, *60*, *0*, *38*, *30*, *24*, 208

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*4*	*0*	*34*	*38*	*0*
9:00:00	*5*	*2*	*35*	*42*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*2*	*0*	*18*	*20*	*0*
18:00:00	*0*	*0*	*20*	*20*	*0*
19:00:00	*0*	*1*	*14*	*15*	*1*
W Totals:	11	3	121	135	1

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*16:00*	*17:00*	*18:00*	*19:00*	*0:00*
Crossing Values:	*0*	*22*	*21*	*0*	*16*	*11*	*10*	*0*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 6-Nov-18 Site #: 1814300001

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	29	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	63	34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	84	21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	1	1	115	31	0	0	0	0	0	0	1	1	0	0	1	1	0	0	0	0
8:15:00	1	0	136	21	0	0	0	0	1	1	1	0	0	0	1	0	0	0	0	0
8:30:00	1	0	170	34	0	0	0	0	1	0	1	0	0	0	2	1	0	0	0	0
8:45:00	1	0	194	24	0	0	0	0	1	0	1	0	0	0	3	1	0	0	0	0
9:00:00	1	0	222	28	1	1	0	0	2	1	1	0	0	0	4	1	0	0	0	0
9:15:00	1	0	222	0	1	0	0	0	2	0	1	0	0	0	4	0	0	0	0	0
16:00:00	1	0	222	0	1	0	0	0	2	0	1	0	0	0	4	0	0	0	0	0
16:15:00	2	1	375	153	2	1	0	0	3	1	1	0	0	0	4	0	0	0	0	0
16:30:00	2	0	451	76	3	1	0	0	3	0	1	0	0	0	5	1	0	0	0	0
16:45:00	2	0	527	76	4	1	0	0	3	0	1	0	0	0	6	1	0	0	0	0
17:00:00	2	0	576	49	6	2	0	0	3	0	1	0	0	0	6	0	0	0	0	0
17:15:00	2	0	613	37	8	2	0	0	3	0	1	0	0	0	6	0	0	0	0	0
17:30:00	2	0	637	24	8	0	0	0	3	0	1	0	0	0	6	0	0	0	0	0
17:45:00	2	0	658	21	9	1	0	0	3	0	1	0	0	0	6	0	0	0	1	1
18:00:00	2	0	702	44	10	1	0	0	3	0	2	1	0	0	7	1	0	0	1	0
18:15:00	2	0	718	16	12	2	0	0	5	2	2	0	0	0	7	0	0	0	1	0
18:30:00	5	3	749	31	13	1	0	0	5	0	2	0	0	0	7	0	0	0	1	0
18:45:00	6	1	805	56	14	1	0	0	5	0	2	0	0	0	7	0	0	0	1	0
19:00:00	6	0	861	56	15	1	0	0	5	0	2	0	0	0	7	0	0	0	1	0
19:15:00	6	0	861	0	15	0	0	0	5	0	2	0	0	0	7	0	0	0	1	0
19:15:15	6	0	861	0	15	0	0	0	5	0	2	0	0	0	7	0	0	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 6-Nov-18 Site #: 1814300001

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	13	8	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0
8:00:00	17	4	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
8:15:00	18	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0
8:30:00	23	5	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0	0
8:45:00	26	3	0	0	1	1	0	0	0	0	0	0	0	0	2	0	1	0	0	0
9:00:00	31	5	1	1	1	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
9:15:00	31	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
16:00:00	31	0	1	0	1	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
16:15:00	34	3	1	0	2	1	0	0	0	0	0	0	0	0	2	0	1	0	0	0
16:30:00	40	6	1	0	3	1	0	0	0	0	0	0	0	0	2	0	1	0	0	0
16:45:00	42	2	2	1	5	2	0	0	0	0	0	0	0	0	2	0	1	0	0	0
17:00:00	44	2	2	0	5	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
17:15:00	47	3	2	0	5	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
17:30:00	49	2	2	0	5	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
17:45:00	50	1	2	0	5	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
18:00:00	53	3	2	0	6	1	0	0	0	0	0	0	0	0	2	0	1	0	0	0
18:15:00	54	1	2	0	6	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
18:30:00	55	1	2	0	6	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
18:45:00	59	4	2	0	6	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
19:00:00	62	3	2	0	6	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
19:15:00	62	0	2	0	6	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0
19:15:15	62	0	2	0	6	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 6-Nov-18 Site #: 1814300001

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	2	2	31	31	0	0	0	0	3	3	0	0	0	0	0	0	0	0	0	0
7:30:00	3	1	87	56	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0
7:45:00	3	0	155	68	1	1	0	0	4	0	0	0	0	0	1	1	0	0	0	0
8:00:00	4	1	279	124	2	1	0	0	5	1	0	0	1	1	2	1	0	0	0	0
8:15:00	5	1	350	71	6	4	0	0	5	0	0	0	1	0	3	1	0	0	0	0
8:30:00	10	5	403	53	8	2	0	0	6	1	0	0	1	0	3	0	1	1	0	0
8:45:00	12	2	424	21	15	7	0	0	7	1	0	0	1	0	3	0	1	0	0	0
9:00:00	16	4	454	30	17	2	0	0	8	1	0	0	1	0	4	1	2	1	0	0
9:15:00	16	0	454	0	17	0	0	0	8	0	0	0	1	0	4	0	2	0	0	0
16:00:00	16	0	454	0	17	0	0	0	8	0	0	0	1	0	4	0	2	0	0	0
16:15:00	24	8	467	13	21	4	0	0	8	0	0	0	1	0	5	1	2	0	0	0
16:30:00	33	9	490	23	26	5	0	0	8	0	0	0	1	0	5	0	3	1	0	0
16:45:00	45	12	521	31	29	3	0	0	8	0	0	0	1	0	5	0	3	0	0	0
17:00:00	51	6	568	47	34	5	0	0	8	0	0	0	1	0	5	0	3	0	0	0
17:15:00	57	6	594	26	39	5	0	0	8	0	0	0	1	0	5	0	3	0	0	0
17:30:00	68	11	637	43	44	5	0	0	9	1	0	0	1	0	6	1	3	0	0	0
17:45:00	72	4	658	21	45	1	0	0	9	0	0	0	1	0	6	0	3	0	0	0
18:00:00	80	8	686	28	49	4	0	0	10	1	0	0	1	0	6	0	3	0	1	1
18:15:00	86	6	720	34	50	1	0	0	10	0	0	0	1	0	6	0	3	0	1	0
18:30:00	90	4	763	43	53	3	0	0	10	0	0	0	1	0	6	0	3	0	1	0
18:45:00	96	6	795	32	54	1	0	0	10	0	0	0	1	0	6	0	3	0	1	0
19:00:00	104	8	822	27	56	2	0	0	10	0	0	0	1	0	6	0	3	0	1	0
19:15:00	104	0	822	0	56	0	0	0	10	0	0	0	1	0	6	0	3	0	1	0
19:15:15	104	0	822	0	56	0	0	0	10	0	0	0	1	0	6	0	3	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 6-Nov-18 Site #: 1814300001

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	9	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	1	1	0	0	17	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	1	0	0	0	26	9	0	0	0	0	0	0	1	1	0	0	0	0	0	0
8:00:00	3	2	0	0	34	8	0	0	0	0	0	0	1	0	0	0	0	0	0	0
8:15:00	5	2	0	0	40	6	0	0	0	0	0	0	1	0	0	0	1	1	0	0
8:30:00	5	0	0	0	51	11	0	0	0	0	0	0	2	1	1	1	1	0	0	0
8:45:00	6	1	1	1	61	10	0	0	0	0	0	0	2	0	1	0	2	1	0	0
9:00:00	7	1	1	0	67	6	0	0	0	0	0	0	2	0	1	0	2	0	0	0
9:15:00	7	0	1	0	67	0	0	0	0	0	0	0	2	0	1	0	2	0	0	0
16:00:00	7	0	1	0	67	0	0	0	0	0	0	0	2	0	1	0	2	0	0	0
16:15:00	7	0	1	0	74	7	0	0	0	0	0	0	2	0	1	0	2	0	0	0
16:30:00	8	1	1	0	76	2	0	0	0	0	0	0	2	0	1	0	2	0	0	0
16:45:00	9	1	1	0	78	2	0	0	0	0	0	0	2	0	1	0	2	0	0	0
17:00:00	9	0	1	0	85	7	0	0	0	0	0	0	2	0	1	0	2	0	0	0
17:15:00	9	0	1	0	91	6	0	0	0	0	0	0	2	0	1	0	2	0	0	0
17:30:00	9	0	1	0	98	7	0	0	0	0	0	0	2	0	1	0	2	0	0	0
17:45:00	9	0	1	0	101	3	0	0	0	0	0	0	2	0	1	0	2	0	0	0
18:00:00	9	0	1	0	105	4	0	0	0	0	0	0	2	0	1	0	2	0	0	0
18:15:00	9	0	1	0	111	6	0	0	0	0	0	0	2	0	1	0	2	0	1	1
18:30:00	9	0	1	0	113	2	0	0	0	0	0	0	2	0	1	0	2	0	1	0
18:45:00	9	0	2	1	118	5	0	0	0	0	0	0	2	0	1	0	2	0	1	0
19:00:00	9	0	2	0	119	1	0	0	0	0	0	0	2	0	1	0	2	0	1	0
19:15:00	9	0	2	0	119	0	0	0	0	0	0	0	2	0	1	0	2	0	1	0
19:15:15	9	0	2	0	119	0	0	0	0	0	0	0	2	0	1	0	2	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:45:00
To: 8:45:00

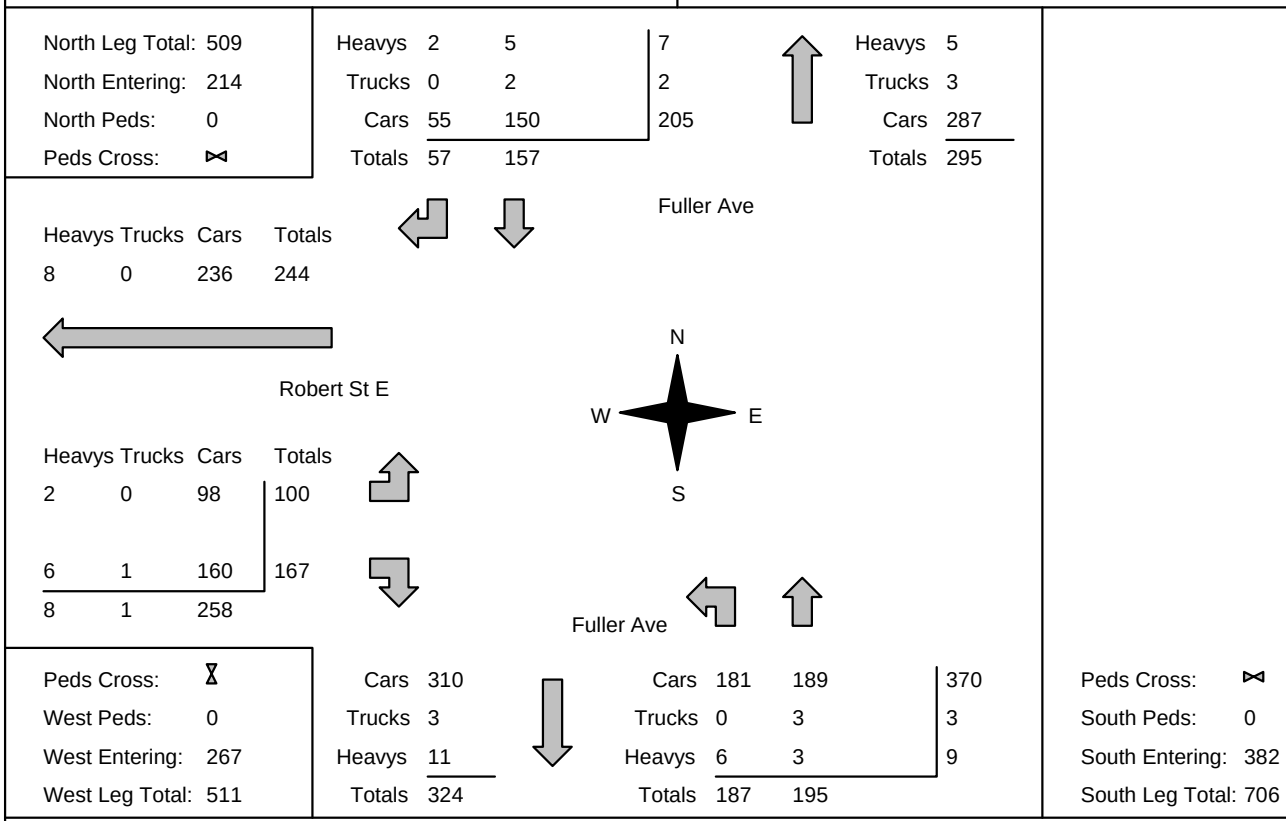
Municipality: Penetanguishene
Site #: 1814300002
Intersection: Fuller Ave & Robert St E
TFR File #: 1
Count date: 6-Nov-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Fuller Ave runs N/S



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 19:00:00

One Hour Peak
From: 16:00:00
To: 17:00:00

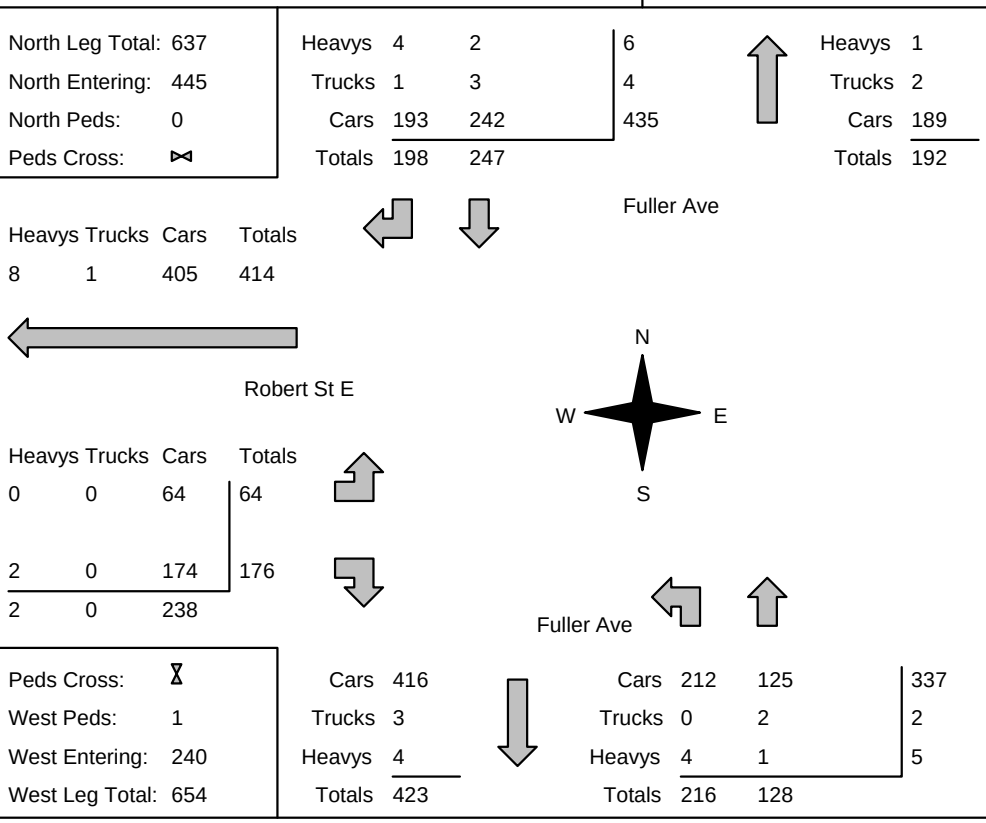
Municipality: Penetanguishene
Site #: 1814300002
Intersection: Fuller Ave & Robert St E
TFR File #: 1
Count date: 6-Nov-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Fuller Ave runs N/S



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

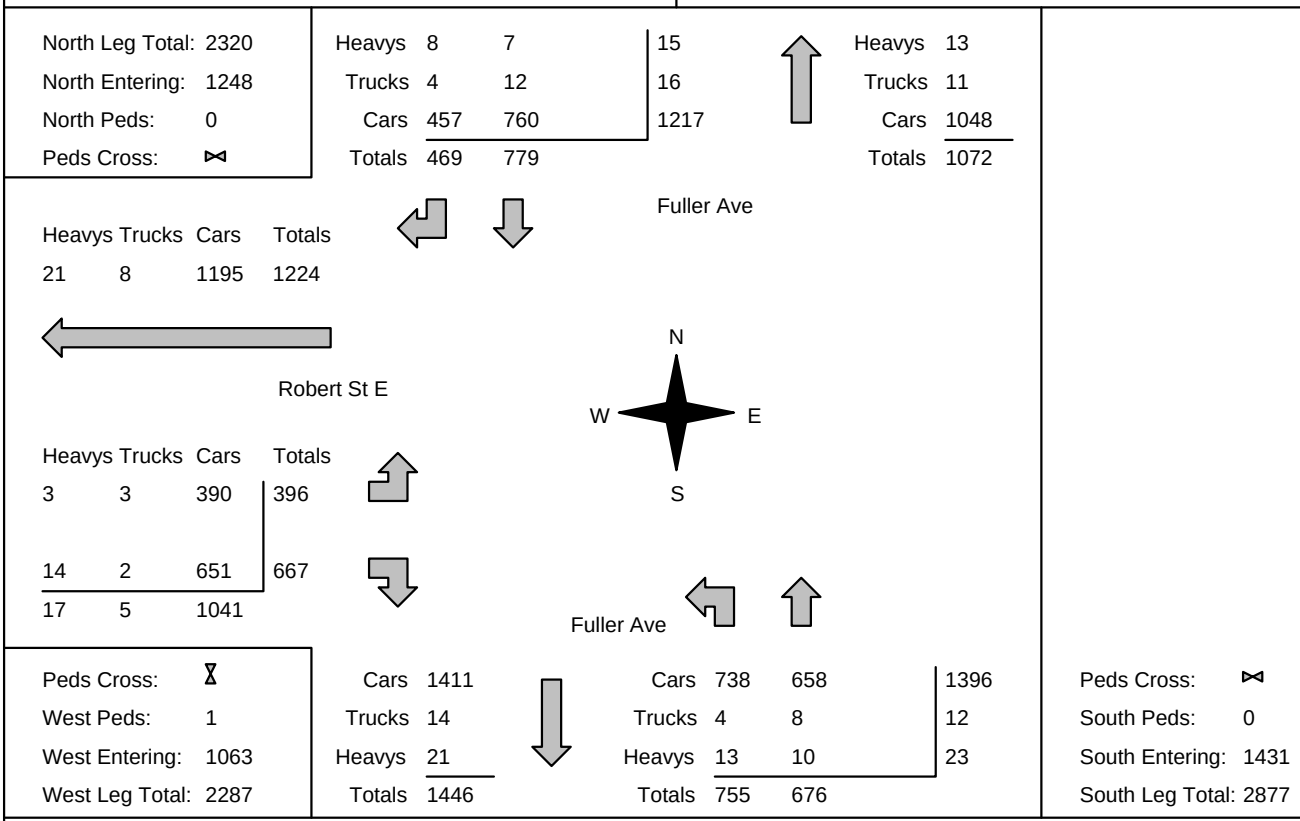
Municipality: Penetanguishene
Site #: 1814300002
Intersection: Fuller Ave & Robert St E
TFR File #: 1
Count date: 6-Nov-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Fuller Ave runs N/S



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Fuller Ave & Robert St E | **Count Date:** 6-Nov-18 | **Municipality:** Penetanguishene

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds	North/South Total Approaches
	Left	Thru	Right	Grand Total		
7:00:00	*0*	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*156*	*63*	*219*	*0*	*535*
9:00:00	*0*	*151*	*56*	*207*	*0*	*528*
16:00:00	*0*	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*247*	*198*	*445*	*0*	*789*
18:00:00	*0*	*112*	*70*	*182*	*0*	*444*
19:00:00	*0*	*113*	*82*	*195*	*0*	*383*
Totals:	0	779	469	1248	0	2679

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*105*	*211*	*0*	*316*	*0*
9:00:00	*196*	*125*	*0*	*321*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*216*	*128*	*0*	*344*	*0*
18:00:00	*159*	*103*	*0*	*262*	*0*
19:00:00	*79*	*109*	*0*	*188*	*0*
S Totals:	755	676	0	1431	0

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds	East/West Total Approaches
	Left	Thru	Right	Grand Total		
7:00:00	*0*	*0*	*0*	*0*	*0*	*0*
8:00:00	*0*	*0*	*0*	*0*	*0*	*233*
9:00:00	*0*	*0*	*0*	*0*	*0*	*263*
16:00:00	*0*	*0*	*0*	*0*	*0*	*0*
17:00:00	*0*	*0*	*0*	*0*	*0*	*240*
18:00:00	*0*	*0*	*0*	*0*	*0*	*187*
19:00:00	*0*	*0*	*0*	*0*	*0*	*140*
Totals:	0	0	0	0	0	1063

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*117*	*0*	*116*	*233*	*0*
9:00:00	*71*	*0*	*192*	*263*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*64*	*0*	*176*	*240*	*1*
18:00:00	*74*	*0*	*113*	*187*	*0*
19:00:00	*70*	*0*	*70*	*140*	*0*
W Totals:	396	0	667	1063	1

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*16:00*	*17:00*	*18:00*	*19:00*	*0:00*
Crossing Values:	*0*	*117*	*71*	*0*	*64*	*74*	*70*	*0*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 6-Nov-18 Site #: 1814300002

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	42	42	14	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	83	41	33	19	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	115	32	45	12	0	0	1	1	1	1	0	0	0	0	0	0	0	0
8:00:00	0	0	153	38	62	17	0	0	2	1	1	0	0	0	1	1	0	0	0	0
8:15:00	0	0	185	32	73	11	0	0	3	1	1	0	0	0	4	3	1	1	0	0
8:30:00	0	0	229	44	85	12	0	0	3	0	1	0	0	0	4	0	2	1	0	0
8:45:00	0	0	265	36	100	15	0	0	3	0	1	0	0	0	5	1	2	0	0	0
9:00:00	0	0	297	32	114	14	0	0	5	2	1	0	0	0	5	0	4	2	0	0
9:15:00	0	0	297	0	114	0	0	0	5	0	1	0	0	0	5	0	4	0	0	0
16:00:00	0	0	297	0	114	0	0	0	5	0	1	0	0	0	5	0	4	0	0	0
16:15:00	0	0	398	101	196	82	0	0	7	2	1	0	0	0	5	0	5	1	0	0
16:30:00	0	0	444	46	240	44	0	0	7	0	1	0	0	0	5	0	6	1	0	0
16:45:00	0	0	498	54	283	43	0	0	8	1	2	1	0	0	5	0	7	1	0	0
17:00:00	0	0	539	41	307	24	0	0	8	0	2	0	0	0	7	2	8	1	0	0
17:15:00	0	0	575	36	327	20	0	0	9	1	2	0	0	0	7	0	8	0	0	0
17:30:00	0	0	595	20	342	15	0	0	9	0	2	0	0	0	7	0	8	0	0	0
17:45:00	0	0	619	24	356	14	0	0	9	0	2	0	0	0	7	0	8	0	0	0
18:00:00	0	0	650	31	375	19	0	0	9	0	4	2	0	0	7	0	8	0	0	0
18:15:00	0	0	664	14	386	11	0	0	12	3	4	0	0	0	7	0	8	0	0	0
18:30:00	0	0	685	21	400	14	0	0	12	0	4	0	0	0	7	0	8	0	0	0
18:45:00	0	0	722	37	427	27	0	0	12	0	4	0	0	0	7	0	8	0	0	0
19:00:00	0	0	760	38	457	30	0	0	12	0	4	0	0	0	7	0	8	0	0	0
19:15:00	0	0	760	0	457	0	0	0	12	0	4	0	0	0	7	0	8	0	0	0
19:15:15	0	0	760	0	457	0	0	0	12	0	4	0	0	0	7	0	8	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 6-Nov-18 Site #: 1814300002

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 6-Nov-18 Site #: 1814300002

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	22	22	24	24	0	0	0	0	1	1	0	0	0	0	2	2	0	0	0	0
7:30:00	36	14	58	34	0	0	0	0	1	0	0	0	1	1	2	0	0	0	0	0
7:45:00	62	26	105	47	0	0	0	0	1	0	0	0	2	1	3	1	0	0	0	0
8:00:00	100	38	204	99	0	0	0	0	3	2	0	0	5	3	4	1	0	0	0	0
8:15:00	143	43	240	36	0	0	0	0	3	0	0	0	8	3	4	0	0	0	0	0
8:30:00	186	43	272	32	0	0	0	0	4	1	0	0	8	0	5	1	0	0	0	0
8:45:00	243	57	294	22	0	0	0	0	4	0	0	0	8	0	6	1	0	0	0	0
9:00:00	291	48	324	30	0	0	2	2	4	0	0	0	8	0	8	2	0	0	0	0
9:15:00	291	0	324	0	0	0	2	0	4	0	0	0	8	0	8	0	0	0	0	0
16:00:00	291	0	324	0	0	0	2	0	4	0	0	0	8	0	8	0	0	0	0	0
16:15:00	335	44	347	23	0	0	2	0	5	1	0	0	10	2	9	1	0	0	0	0
16:30:00	403	68	387	40	0	0	2	0	5	0	0	0	11	1	9	0	0	0	0	0
16:45:00	464	61	420	33	0	0	2	0	5	0	0	0	12	1	9	0	0	0	0	0
17:00:00	503	39	449	29	0	0	2	0	6	1	0	0	12	0	9	0	0	0	0	0
17:15:00	547	44	474	25	0	0	3	1	6	0	0	0	13	1	9	0	0	0	0	0
17:30:00	589	42	511	37	0	0	3	0	7	1	0	0	13	0	10	1	0	0	0	0
17:45:00	635	46	530	19	0	0	3	0	8	1	0	0	13	0	10	0	0	0	0	0
18:00:00	660	25	549	19	0	0	3	0	8	0	0	0	13	0	10	0	0	0	0	0
18:15:00	680	20	576	27	0	0	4	1	8	0	0	0	13	0	10	0	0	0	0	0
18:30:00	700	20	613	37	0	0	4	0	8	0	0	0	13	0	10	0	0	0	0	0
18:45:00	720	20	636	23	0	0	4	0	8	0	0	0	13	0	10	0	0	0	0	0
19:00:00	738	18	658	22	0	0	4	0	8	0	0	0	13	0	10	0	0	0	0	0
19:15:00	738	0	658	0	0	0	4	0	8	0	0	0	13	0	10	0	0	0	0	0
19:15:15	738	0	658	0	0	0	4	0	8	0	0	0	13	0	10	0	0	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 6-Nov-18 Site #: 1814300002

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	16	16	0	0	24	24	0	0	0	0	1	1	0	0	0	0	0	0	0	0
7:30:00	40	24	0	0	49	25	0	0	0	0	1	0	1	1	0	0	1	1	0	0
7:45:00	72	32	0	0	85	36	0	0	0	0	1	0	1	0	0	0	1	0	0	0
8:00:00	116	44	0	0	113	28	0	0	0	0	1	0	1	0	0	0	2	1	0	0
8:15:00	133	17	0	0	150	37	0	0	0	0	1	0	2	1	0	0	4	2	0	0
8:30:00	158	25	0	0	190	40	0	0	0	0	2	1	2	0	0	0	7	3	0	0
8:45:00	170	12	0	0	245	55	0	0	0	0	2	0	3	1	0	0	7	0	0	0
9:00:00	185	15	0	0	295	50	0	0	0	0	2	0	3	0	0	0	11	4	0	0
9:15:00	185	0	0	0	295	0	0	0	0	0	2	0	3	0	0	0	11	0	0	0
16:00:00	185	0	0	0	295	0	0	0	0	0	2	0	3	0	0	0	11	0	0	0
16:15:00	193	8	0	0	336	41	0	0	0	0	2	0	3	0	0	0	12	1	0	0
16:30:00	205	12	0	0	381	45	0	0	0	0	2	0	3	0	0	0	13	1	0	0
16:45:00	228	23	0	0	425	44	0	0	0	0	2	0	3	0	0	0	13	0	0	0
17:00:00	249	21	0	0	469	44	0	0	0	0	2	0	3	0	0	0	13	0	1	1
17:15:00	268	19	0	0	501	32	0	0	0	0	2	0	3	0	0	0	13	0	1	0
17:30:00	287	19	0	0	522	21	2	2	0	0	2	0	3	0	0	0	13	0	1	0
17:45:00	298	11	0	0	553	31	2	0	0	0	2	0	3	0	0	0	13	0	1	0
18:00:00	320	22	0	0	582	29	3	1	0	0	2	0	3	0	0	0	13	0	1	0
18:15:00	346	26	0	0	607	25	3	0	0	0	2	0	3	0	0	0	13	0	1	0
18:30:00	360	14	0	0	625	18	3	0	0	0	2	0	3	0	0	0	13	0	1	0
18:45:00	377	17	0	0	639	14	3	0	0	0	2	0	3	0	0	0	14	1	1	0
19:00:00	390	13	0	0	651	12	3	0	0	0	2	0	3	0	0	0	14	0	1	0
19:15:00	390	0	0	0	651	0	3	0	0	0	2	0	3	0	0	0	14	0	1	0
19:15:15	390	0	0	0	651	0	3	0	0	0	2	0	3	0	0	0	14	0	1	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Morning Peak Diagram

Specified Period
From: 7:00:00
To: 9:00:00

One Hour Peak
From: 7:45:00
To: 8:45:00

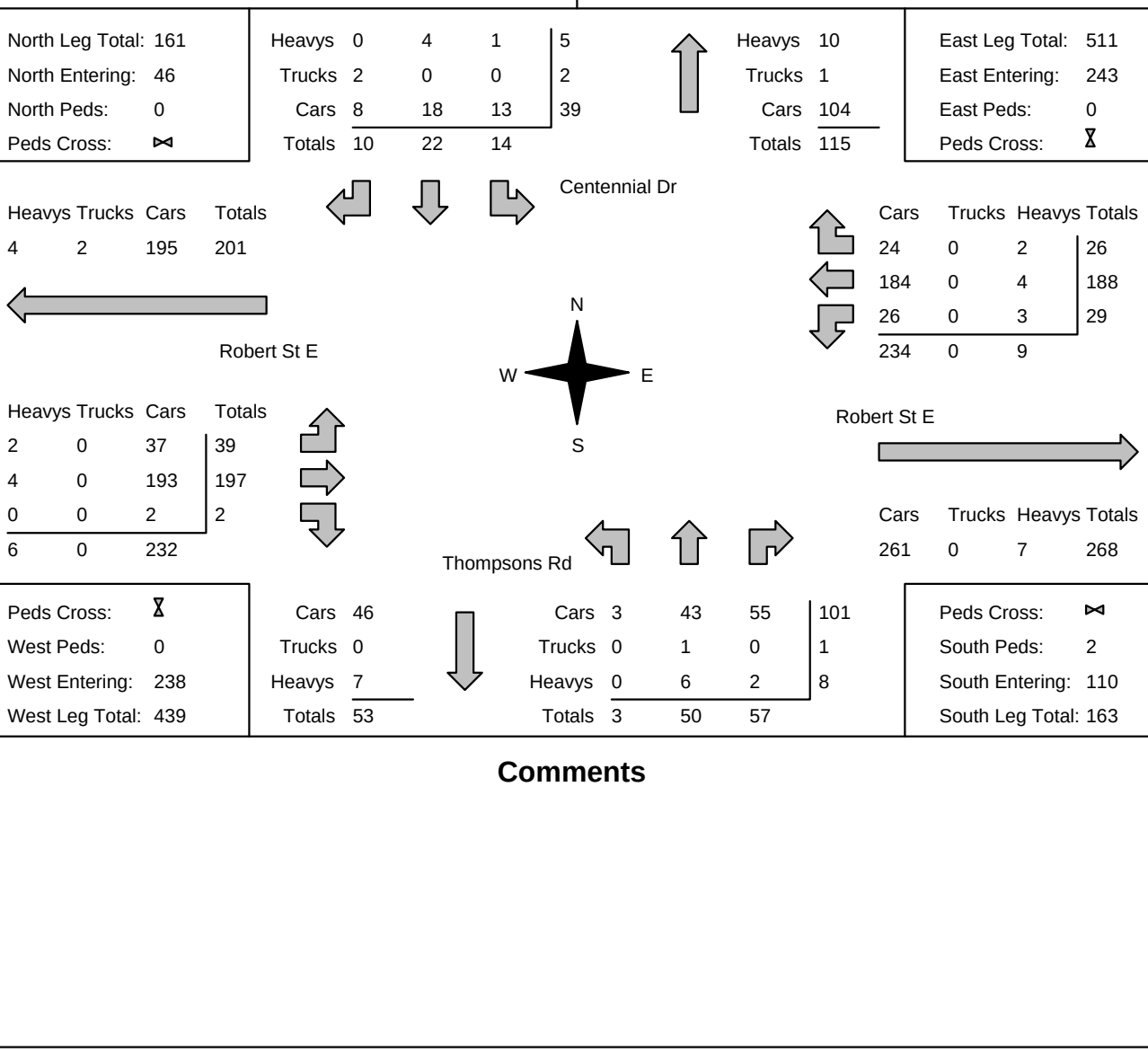
Municipality: Penetanguishene
Site #: 1814300003
Intersection: Robert St E & Thompsons Rd
TFR File #: 1
Count date: 6-Nov-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Robert St E runs W/E



Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Afternoon Peak Diagram

Specified Period
From: 16:00:00
To: 19:00:00

One Hour Peak
From: 16:00:00
To: 17:00:00

Municipality: Penetanguishene
Site #: 1814300003
Intersection: Robert St E & Thompsons Rd
TFR File #: 1
Count date: 6-Nov-18

Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Robert St E runs W/E

North Leg Total: 157
North Entering: 97
North Peds: 0
Peds Cross: ⋈

Heavys	2	2	1	5
Trucks	0	0	0	0
Cars	36	37	19	92
Totals	38	39	20	

Heavys	5
Trucks	1
Cars	54
Totals	60

East Leg Total: 654
East Entering: 419
East Peds: 0
Peds Cross: ⧗

Centennial Dr

Heavys	Trucks	Cars	Totals
9	1	326	336

Robert St E

Cars	Trucks	Heavys	Totals
14	0	0	14
285	1	7	293
111	0	1	112
410	1	8	

N
W E
S

Heavys	Trucks	Cars	Totals
2	0	17	19
1	0	155	156
0	0	11	11
3	0	183	

Robert St E

Cars	Trucks	Heavys	Totals
233	0	2	235

Thompsons Rd

Peds Cross: ⧗
West Peds: 0
West Entering: 186
West Leg Total: 522

Cars	159			
Trucks	0			
Heavys	3			
Totals	162			

Cars	5	23	59	87
Trucks	0	1	0	1
Heavys	0	3	0	3
Totals	5	27	59	

Peds Cross: ⋈
South Peds: 0
South Entering: 91
South Leg Total: 253

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Total Count Diagram

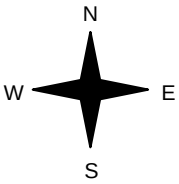
Municipality: Penetanguishene
Site #: 1814300003
Intersection: Robert St E & Thompsons Rd
TFR File #: 1
Count date: 6-Nov-18

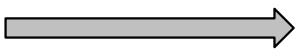
Weather conditions:

Person counted:
Person prepared:
Person checked:

**** Non-Signalized Intersection ****

Major Road: Robert St E runs W/E





North Leg Total:	596
North Entering:	283
North Peds:	0
Peds Cross:	⋈

Heavys	4	15	2	21
Trucks	2	1	2	5
Cars	98	98	61	257
Totals	104	114	65	

Heavys	27			
Trucks	4			
Cars	282			
Totals	313			

East Leg Total:	2295
East Entering:	1234
East Peds:	0
Peds Cross:	⧖

Heavys	Trucks	Cars	Totals
18	4	998	1020

Cars	Trucks	Heavys	Totals
73	1	5	79
878	2	14	894
255	2	4	261
1206	5	23	

Heavys	Trucks	Cars	Totals
5	1	97	103
11	0	738	749
1	0	22	23
17	1	857	

Cars	Trucks	Heavys	Totals
1042	3	16	1061

Peds Cross:	⧖
West Peds:	0
West Entering:	875
West Leg Total:	1895

Cars	375			
Trucks	3			
Heavys	20			
Totals	398			

Cars	22	112	243	377
Trucks	0	2	1	3
Heavys	0	17	3	20
Totals	22	131	247	

Peds Cross:	⋈
South Peds:	2
South Entering:	400
South Leg Total:	798

Comments

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Traffic Count Summary

Intersection: Robert St E & Thompsons Rd | **Count Date:** 6-Nov-18 | **Municipality:** Penetanguishene

North Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*13*	*23*	*26*	*62*	*0*
9:00:00	*15*	*18*	*7*	*40*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*20*	*39*	*38*	*97*	*0*
18:00:00	*13*	*23*	*20*	*56*	*0*
19:00:00	*4*	*11*	*13*	*28*	*0*
Totals:	65	114	104	283	0

North/South Total Approaches: *0*, *156*, *129*, *0*, *188*, *119*, *91*, 683

South Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*2*	*35*	*57*	*94*	*2*
9:00:00	*2*	*41*	*46*	*89*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*5*	*27*	*59*	*91*	*0*
18:00:00	*5*	*21*	*37*	*63*	*0*
19:00:00	*8*	*7*	*48*	*63*	*0*
S Totals:	22	131	247	400	2

East Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*44*	*100*	*20*	*164*	*0*
9:00:00	*23*	*206*	*22*	*251*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*112*	*293*	*14*	*419*	*0*
18:00:00	*40*	*180*	*15*	*235*	*0*
19:00:00	*42*	*115*	*8*	*165*	*0*
Totals:	261	894	79	1234	0

East/West Total Approaches: *0*, *368*, *488*, *0*, *605*, *384*, *264*, 2109

West Approach Totals

Hour Ending	Includes Cars, Trucks, & Heavys				Total Peds
	Left	Thru	Right	Grand Total	
7:00:00	*0*	*0*	*0*	*0*	*0*
8:00:00	*35*	*167*	*2*	*204*	*0*
9:00:00	*28*	*207*	*2*	*237*	*0*
16:00:00	*0*	*0*	*0*	*0*	*0*
17:00:00	*19*	*156*	*11*	*186*	*0*
18:00:00	*13*	*133*	*3*	*149*	*0*
19:00:00	*8*	*86*	*5*	*99*	*0*
W Totals:	103	749	23	875	0

Calculated Values for Traffic Crossing Major Street

Hours Ending:	*7:00*	*8:00*	*9:00*	*16:00*	*17:00*	*18:00*	*19:00*	*0:00*
Crossing Values:	*0*	*50*	*58*	*0*	*64*	*41*	*23*	*0*

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 6-Nov-18 Site #: 1814300003

Interval Time	Passenger Cars - North Approach						Trucks - North Approach						Heavys - North Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		North Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	6	6	7	7	12	12	1	1	0	0	0	0	0	0	2	2	0	0	0	0
7:30:00	7	1	11	4	20	8	1	0	1	1	0	0	0	0	2	0	0	0	0	0
7:45:00	10	3	12	1	23	3	1	0	1	0	0	0	0	0	3	1	0	0	0	0
8:00:00	12	2	18	6	25	2	1	0	1	0	1	1	0	0	4	1	0	0	0	0
8:15:00	17	5	24	6	27	2	1	0	1	0	1	0	0	0	5	1	0	0	0	0
8:30:00	20	3	28	4	29	2	1	0	1	0	1	0	0	0	5	0	0	0	0	0
8:45:00	23	3	30	2	31	2	1	0	1	0	2	1	1	1	7	2	0	0	0	0
9:00:00	25	2	31	1	31	0	2	1	1	0	2	0	1	0	9	2	0	0	0	0
9:15:00	25	0	31	0	31	0	2	0	1	0	2	0	1	0	9	0	0	0	0	0
16:00:00	25	0	31	0	31	0	2	0	1	0	2	0	1	0	9	0	0	0	0	0
16:15:00	32	7	35	4	40	9	2	0	1	0	2	0	1	0	9	0	0	0	0	0
16:30:00	35	3	41	6	50	10	2	0	1	0	2	0	2	1	11	2	2	2	0	0
16:45:00	39	4	55	14	63	13	2	0	1	0	2	0	2	0	11	0	2	0	0	0
17:00:00	44	5	68	13	67	4	2	0	1	0	2	0	2	0	11	0	2	0	0	0
17:15:00	49	5	82	14	71	4	2	0	1	0	2	0	2	0	12	1	3	1	0	0
17:30:00	53	4	87	5	77	6	2	0	1	0	2	0	2	0	12	0	3	0	0	0
17:45:00	56	3	90	3	81	4	2	0	1	0	2	0	2	0	12	0	3	0	0	0
18:00:00	57	1	90	0	86	5	2	0	1	0	2	0	2	0	12	0	3	0	0	0
18:15:00	57	0	94	4	89	3	2	0	1	0	2	0	2	0	13	1	4	1	0	0
18:30:00	59	2	97	3	93	4	2	0	1	0	2	0	2	0	15	2	4	0	0	0
18:45:00	61	2	97	0	95	2	2	0	1	0	2	0	2	0	15	0	4	0	0	0
19:00:00	61	0	98	1	98	3	2	0	1	0	2	0	2	0	15	0	4	0	0	0
19:15:00	61	0	98	0	98	0	2	0	1	0	2	0	2	0	15	0	4	0	0	0
19:15:15	61	0	98	0	98	0	2	0	1	0	2	0	2	0	15	0	4	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 6-Nov-18 Site #: 1814300003

Interval Time	Passenger Cars - East Approach						Trucks - East Approach						Heavys - East Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		East Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	9	9	21	21	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30:00	22	13	40	19	8	4	0	0	0	0	0	0	0	0	1	1	0	0	0	0
7:45:00	32	10	58	18	13	5	1	1	0	0	0	0	0	0	1	0	1	1	0	0
8:00:00	42	10	98	40	17	4	1	0	0	0	0	0	1	1	2	1	3	2	0	0
8:15:00	49	7	136	38	24	7	1	0	0	0	0	0	2	1	5	3	3	0	0	0
8:30:00	52	3	183	47	28	4	1	0	0	0	0	0	3	1	5	0	3	0	0	0
8:45:00	58	6	242	59	37	9	1	0	0	0	0	0	3	0	5	0	3	0	0	0
9:00:00	63	5	299	57	38	1	1	0	1	1	0	0	3	0	6	1	4	1	0	0
9:15:00	63	0	299	0	38	0	1	0	1	0	0	0	3	0	6	0	4	0	0	0
16:00:00	63	0	299	0	38	0	1	0	1	0	0	0	3	0	6	0	4	0	0	0
16:15:00	109	46	382	83	42	4	1	0	1	0	0	0	4	1	8	2	4	0	0	0
16:30:00	138	29	465	83	44	2	1	0	1	0	0	0	4	0	10	2	4	0	0	0
16:45:00	165	27	536	71	47	3	1	0	2	1	0	0	4	0	12	2	4	0	0	0
17:00:00	174	9	584	48	52	5	1	0	2	0	0	0	4	0	13	1	4	0	0	0
17:15:00	186	12	638	54	57	5	1	0	2	0	1	1	4	0	13	0	5	1	0	0
17:30:00	194	8	683	45	62	5	1	0	2	0	1	0	4	0	13	0	5	0	0	0
17:45:00	203	9	727	44	63	1	1	0	2	0	1	0	4	0	13	0	5	0	0	0
18:00:00	213	10	764	37	65	2	2	1	2	0	1	0	4	0	13	0	5	0	0	0
18:15:00	218	5	790	26	69	4	2	0	2	0	1	0	4	0	14	1	5	0	0	0
18:30:00	226	8	815	25	69	0	2	0	2	0	1	0	4	0	14	0	5	0	0	0
18:45:00	240	14	847	32	71	2	2	0	2	0	1	0	4	0	14	0	5	0	0	0
19:00:00	255	15	878	31	73	2	2	0	2	0	1	0	4	0	14	0	5	0	0	0
19:15:00	255	0	878	0	73	0	2	0	2	0	1	0	4	0	14	0	5	0	0	0
19:15:15	255	0	878	0	73	0	2	0	2	0	1	0	4	0	14	0	5	0	0	0

Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 6-Nov-18 Site #: 1814300003

Interval Time	Passenger Cars - South Approach						Trucks - South Approach						Heavys - South Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		South Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	0	0	3	3	12	12	0	0	0	0	0	0	0	0	2	2	0	0	0	0
7:30:00	1	1	5	2	21	9	0	0	0	0	0	0	0	0	3	1	0	0	0	0
7:45:00	1	0	13	8	37	16	0	0	0	0	0	0	0	0	4	1	0	0	0	0
8:00:00	2	1	31	18	57	20	0	0	0	0	0	0	0	0	4	0	0	0	2	2
8:15:00	2	0	47	16	68	11	0	0	0	0	0	0	0	0	7	3	1	1	2	0
8:30:00	2	0	52	5	82	14	0	0	1	1	0	0	0	0	9	2	2	1	2	0
8:45:00	4	2	56	4	92	10	0	0	1	0	0	0	0	0	10	1	2	0	2	0
9:00:00	4	0	63	7	101	9	0	0	1	0	0	0	0	0	12	2	2	0	2	0
9:15:00	4	0	63	0	101	0	0	0	1	0	0	0	0	0	12	0	2	0	2	0
16:00:00	4	0	63	0	101	0	0	0	1	0	0	0	0	0	12	0	2	0	2	0
16:15:00	5	1	68	5	109	8	0	0	1	0	0	0	0	0	14	2	2	0	2	0
16:30:00	6	1	76	8	124	15	0	0	1	0	0	0	0	0	14	0	2	0	2	0
16:45:00	7	1	81	5	144	20	0	0	1	0	0	0	0	0	14	0	2	0	2	0
17:00:00	9	2	86	5	160	16	0	0	2	1	0	0	0	0	15	1	2	0	2	0
17:15:00	10	1	91	5	168	8	0	0	2	0	0	0	0	0	15	0	2	0	2	0
17:30:00	12	2	98	7	179	11	0	0	2	0	1	1	0	0	16	1	2	0	2	0
17:45:00	13	1	103	5	185	6	0	0	2	0	1	0	0	0	17	1	2	0	2	0
18:00:00	14	1	105	2	196	11	0	0	2	0	1	0	0	0	17	0	2	0	2	0
18:15:00	16	2	108	3	212	16	0	0	2	0	1	0	0	0	17	0	2	0	2	0
18:30:00	19	3	108	0	223	11	0	0	2	0	1	0	0	0	17	0	2	0	2	0
18:45:00	20	1	110	2	235	12	0	0	2	0	1	0	0	0	17	0	3	1	2	0
19:00:00	22	2	112	2	243	8	0	0	2	0	1	0	0	0	17	0	3	0	2	0
19:15:00	22	0	112	0	243	0	0	0	2	0	1	0	0	0	17	0	3	0	2	0
19:15:15	22	0	112	0	243	0	0	0	2	0	1	0	0	0	17	0	3	0	2	0

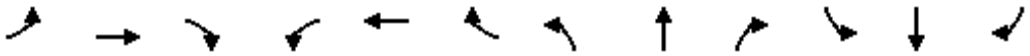
Accu-Traffic Inc.
Traffic Monitoring & Data Analysis

Accu-Traffic Inc.

Count Date: 6-Nov-18 Site #: 1814300003

Interval Time	Passenger Cars - West Approach						Trucks - West Approach						Heavys - West Approach						Pedestrians	
	Left		Thru		Right		Left		Thru		Right		Left		Thru		Right		West Cross	
	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr	Cum	Incr
7:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15:00	4	4	18	18	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
7:30:00	12	8	59	41	0	0	1	1	0	0	0	0	0	0	2	2	1	0	0	0
7:45:00	21	9	115	56	1	1	1	0	0	0	0	0	0	0	2	0	1	0	0	0
8:00:00	34	13	164	49	1	0	1	0	0	0	0	0	0	0	3	1	1	0	0	0
8:15:00	48	14	202	38	2	1	1	0	0	0	0	0	1	1	4	1	1	0	0	0
8:30:00	55	7	254	52	3	1	1	0	0	0	0	0	1	0	6	2	1	0	0	0
8:45:00	58	3	308	54	3	0	1	0	0	0	0	0	2	1	6	0	1	0	0	0
9:00:00	60	2	364	56	3	0	1	0	0	0	0	0	2	0	10	4	1	0	0	0
9:15:00	60	0	364	0	3	0	1	0	0	0	0	0	2	0	10	0	1	0	0	0
16:00:00	60	0	364	0	3	0	1	0	0	0	0	0	2	0	10	0	1	0	0	0
16:15:00	64	4	397	33	4	1	1	0	0	0	0	0	3	1	11	1	1	0	0	0
16:30:00	69	5	434	37	7	3	1	0	0	0	0	0	3	0	11	0	1	0	0	0
16:45:00	71	2	480	46	11	4	1	0	0	0	0	0	3	0	11	0	1	0	0	0
17:00:00	77	6	519	39	14	3	1	0	0	0	0	0	4	1	11	0	1	0	0	0
17:15:00	82	5	558	39	17	3	1	0	0	0	0	0	4	0	11	0	1	0	0	0
17:30:00	84	2	586	28	17	0	1	0	0	0	0	0	4	0	11	0	1	0	0	0
17:45:00	86	2	612	26	17	0	1	0	0	0	0	0	5	1	11	0	1	0	0	0
18:00:00	89	3	652	40	17	0	1	0	0	0	0	0	5	0	11	0	1	0	0	0
18:15:00	91	2	685	33	18	1	1	0	0	0	0	0	5	0	11	0	1	0	0	0
18:30:00	94	3	704	19	21	3	1	0	0	0	0	0	5	0	11	0	1	0	0	0
18:45:00	96	2	721	17	21	0	1	0	0	0	0	0	5	0	11	0	1	0	0	0
19:00:00	97	1	738	17	22	1	1	0	0	0	0	0	5	0	11	0	1	0	0	0
19:15:00	97	0	738	0	22	0	1	0	0	0	0	0	5	0	11	0	1	0	0	0
19:15:15	97	0	738	0	22	0	1	0	0	0	0	0	5	0	11	0	1	0	0	0

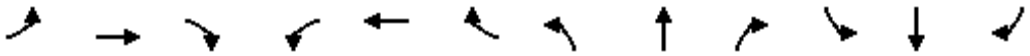
Appendix C –
Synchro Analysis Output –
Existing Traffic Volumes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	1	35	18	2	1	8	321	9	1	110	1
Future Volume (Veh/h)	6	1	35	18	2	1	8	321	9	1	110	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	8	1	49	25	3	1	11	446	13	1	153	1
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	632	636	154	680	630	452	154			459		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	632	636	154	680	630	452	154			459		
tC, single (s)	7.4	7.5	6.2	7.1	7.5	7.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.9	3.3	3.5	4.9	4.2	2.3			2.2		
p0 queue free %	98	100	94	93	99	100	99			100		
cM capacity (veh/h)	346	289	890	344	292	446	1362			1113		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	58	29	470	155
Volume Left	8	25	11	1
Volume Right	49	1	13	1
cSH	711	341	1362	1113
Volume to Capacity	0.08	0.09	0.01	0.00
Queue Length 95th (m)	2.1	2.2	0.2	0.0
Control Delay (s)	10.5	16.5	0.3	0.1
Lane LOS	B	C	A	A
Approach Delay (s)	10.5	16.5	0.3	0.1
Approach LOS	B	C		

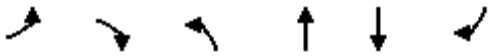
Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	34.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	197	2	29	188	26	3	50	57	14	22	10
Future Volume (Veh/h)	39	197	2	29	188	26	3	50	57	14	22	10
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	42	212	2	31	202	28	3	54	61	15	24	11
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	230			214			598	589	213	663	576	216
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	230			214			598	589	213	663	576	216
tC, single (s)	4.1			4.2			7.1	6.6	6.2	7.2	6.7	6.4
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.1	3.3	3.6	4.2	3.5
p0 queue free %	97			98			99	86	93	95	94	99
cM capacity (veh/h)	1320			1310			375	383	822	291	385	781

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	256	261	118	50
Volume Left	42	31	3	15
Volume Right	2	28	61	11
cSH	1320	1310	528	391
Volume to Capacity	0.03	0.02	0.22	0.13
Queue Length 95th (m)	0.8	0.6	6.8	3.5
Control Delay (s)	1.5	1.1	13.8	15.6
Lane LOS	A	A	B	C
Approach Delay (s)	1.5	1.1	13.8	15.6
Approach LOS			B	C

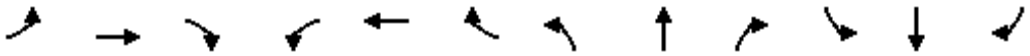
Intersection Summary				
Average Delay	4.5			
Intersection Capacity Utilization	34.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	100	167	187	195	157	57
Future Volume (Veh/h)	100	167	187	195	157	57
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	127	211	237	247	199	72
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	956	235	271			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	956	235	271			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	46	74	82			
cM capacity (veh/h)	234	799	1287			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	338	484	271
Volume Left	127	237	0
Volume Right	211	0	72
cSH	418	1287	1700
Volume to Capacity	0.81	0.18	0.16
Queue Length 95th (m)	58.4	5.4	0.0
Control Delay (s)	41.1	5.1	0.0
Lane LOS	E	A	
Approach Delay (s)	41.1	5.1	0.0
Approach LOS	E		

Intersection Summary			
Average Delay	14.9		
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	18	13	1	4	35	115	18	1	357	5
Future Volume (Veh/h)	2	0	18	13	1	4	35	115	18	1	357	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	3	0	24	18	1	5	47	155	24	1	482	7
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	754	760	486	772	752	167	489			179		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	754	760	486	772	752	167	489			179		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	100	96	94	100	99	96			100		
cM capacity (veh/h)	314	323	586	295	327	882	1085			1409		

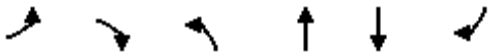
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	27	24	226	490
Volume Left	3	18	47	1
Volume Right	24	5	24	7
cSH	535	345	1085	1409
Volume to Capacity	0.05	0.07	0.04	0.00
Queue Length 95th (m)	1.3	1.8	1.1	0.0
Control Delay (s)	12.1	16.2	2.1	0.0
Lane LOS	B	C	A	A
Approach Delay (s)	12.1	16.2	2.1	0.0
Approach LOS	B	C		

Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	42.8%	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)	19	156	11	112	293	14	5	27	59	20	39	38
Future Volume (Veh/h)	19	156	11	112	293	14	5	27	59	20	39	38
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	20	168	12	120	315	15	5	29	63	22	42	41
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	330			180			838	784	174	854	782	322
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	330			180			838	784	174	854	782	322
tC, single (s)	4.2			4.1			7.1	6.7	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	98			91			98	90	93	90	85	94
cM capacity (veh/h)	1181			1402			223	279	875	217	290	712

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	200	450	97	105
Volume Left	20	120	5	22
Volume Right	12	15	63	41
cSH	1181	1402	489	346
Volume to Capacity	0.02	0.09	0.20	0.30
Queue Length 95th (m)	0.4	2.2	5.9	10.1
Control Delay (s)	0.9	2.7	14.2	19.9
Lane LOS	A	A	B	C
Approach Delay (s)	0.9	2.7	14.2	19.9
Approach LOS			B	C

Intersection Summary				
Average Delay	5.7			
Intersection Capacity Utilization	54.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	64	176	216	128	247	198
Future Volume (Veh/h)	64	176	216	128	247	198
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	76	210	257	152	294	236
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	1078	412	530			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1078	412	530			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	59	67	75			
cM capacity (veh/h)	184	642	1037			

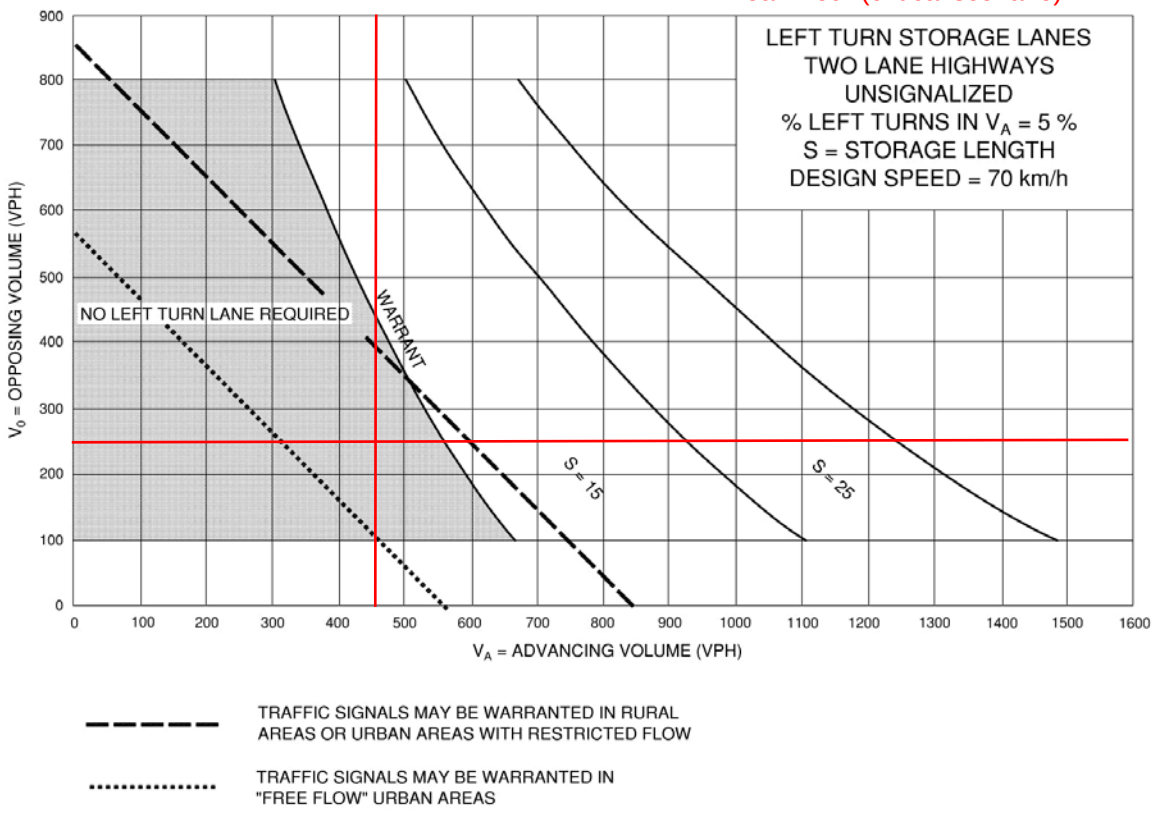
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	286	409	530
Volume Left	76	257	0
Volume Right	210	0	236
cSH	386	1037	1700
Volume to Capacity	0.74	0.25	0.31
Queue Length 95th (m)	46.7	7.8	0.0
Control Delay (s)	36.7	7.0	0.0
Lane LOS	E	A	
Approach Delay (s)	36.7	7.0	0.0
Approach LOS	E		

Intersection Summary			
Average Delay	10.9		
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

Appendix D –
MTO Left Turn Warrant Analysis

Fuller Ave / Sheffcote St & Pine Grove Rd

Exhibit 9A-10 Total (2028) - southbound
PM Peak Hour (critical scenario)



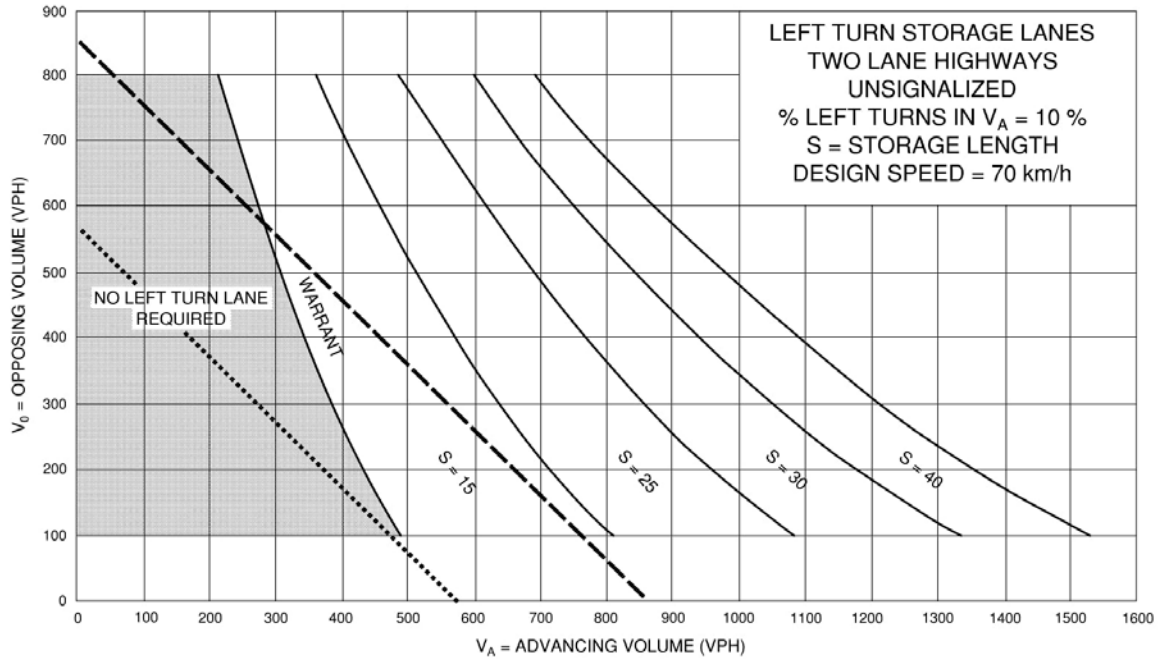
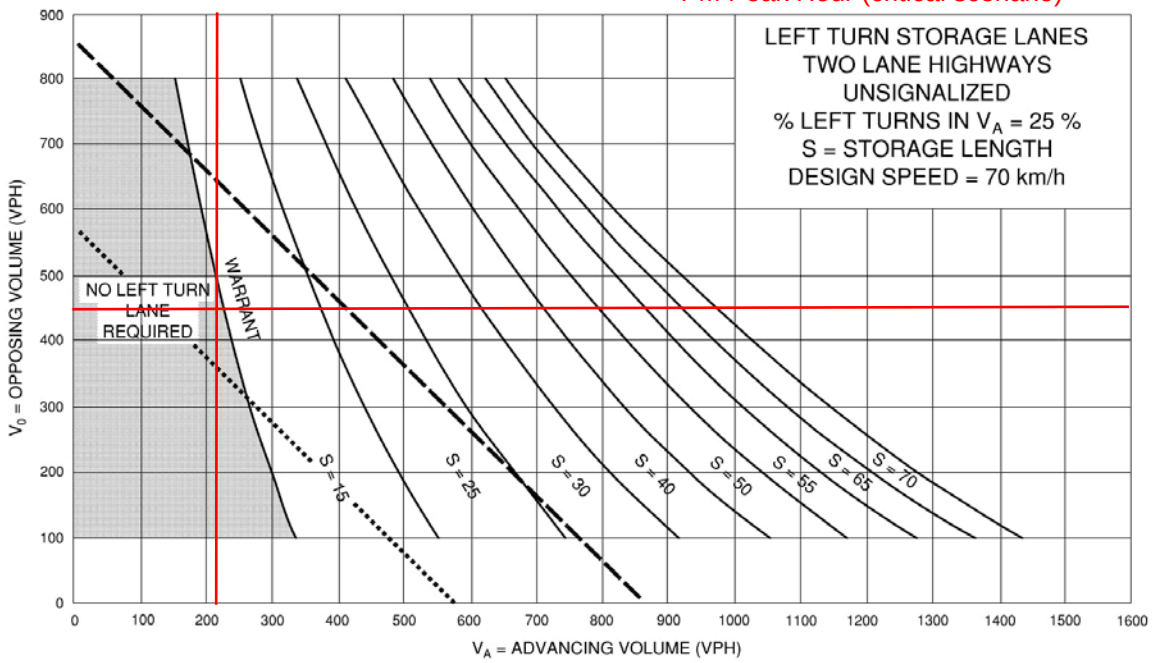


Exhibit 9A-12

Fuller Ave / Sheffcote St & Pine Grove Rd
Background (2028) - northbound
PM Peak Hour (critical scenario)



TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW

TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

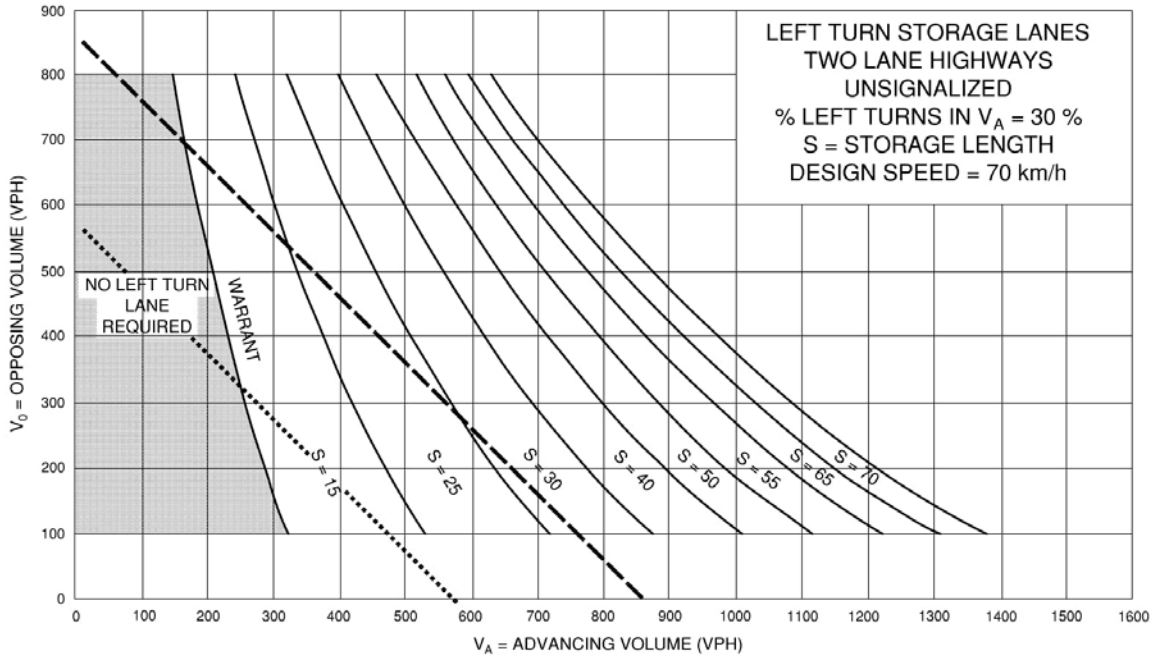
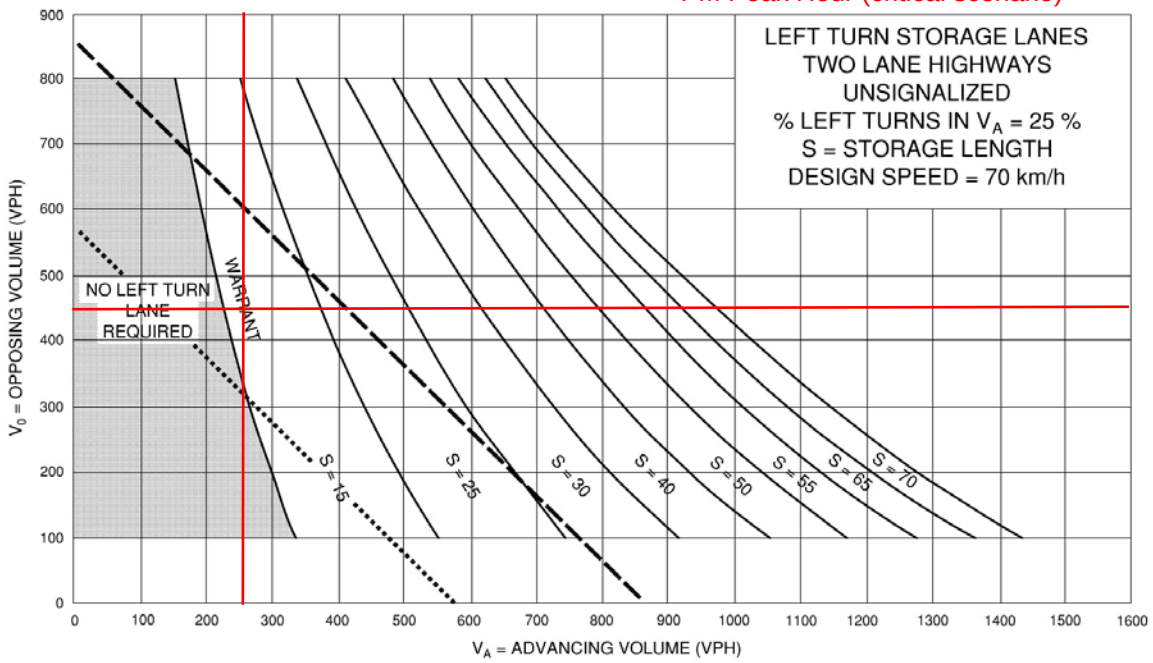


Exhibit 9A-12

Fuller Ave / Sheffcote St & Pine Grove Rd
Total (2028) - northbound
PM Peak Hour (critical scenario)



TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW

TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

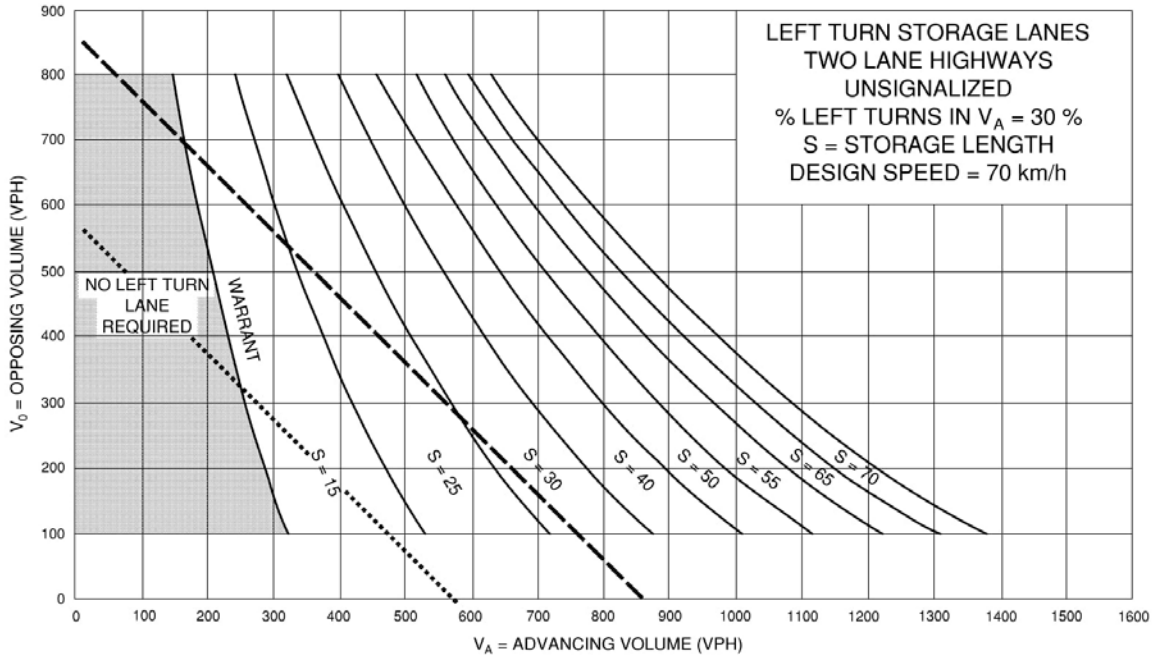
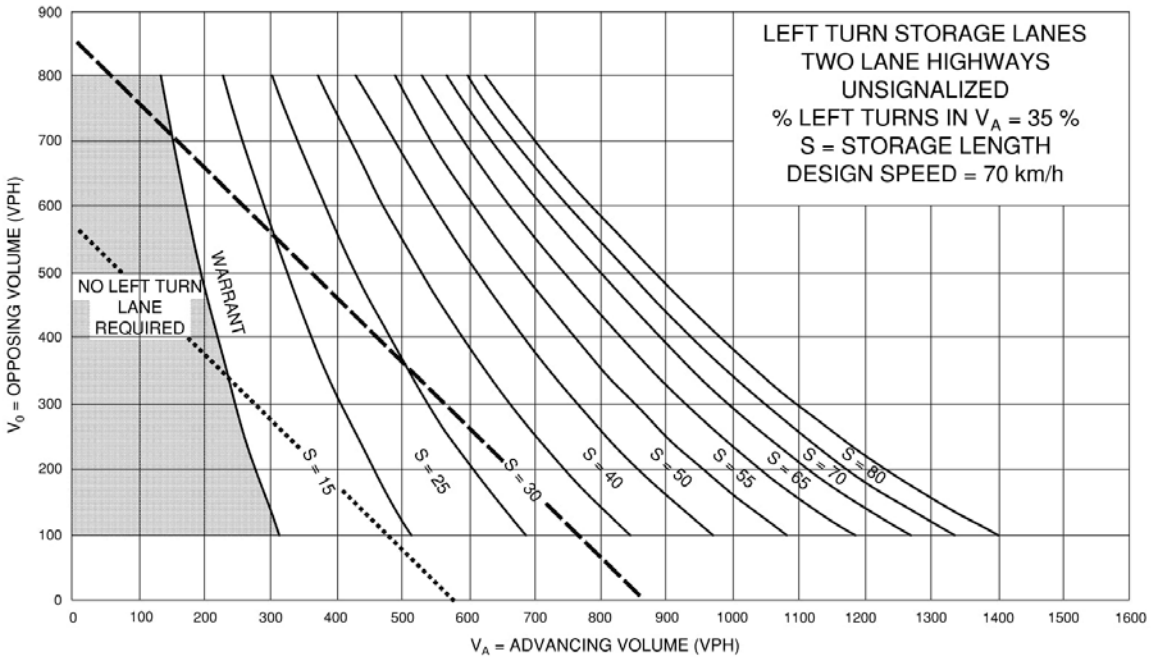


Exhibit 9A-13



TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW

TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

Robert Street / Fuller Street
Existing (2018) - northbound
AM Peak Hour (critical scenario)

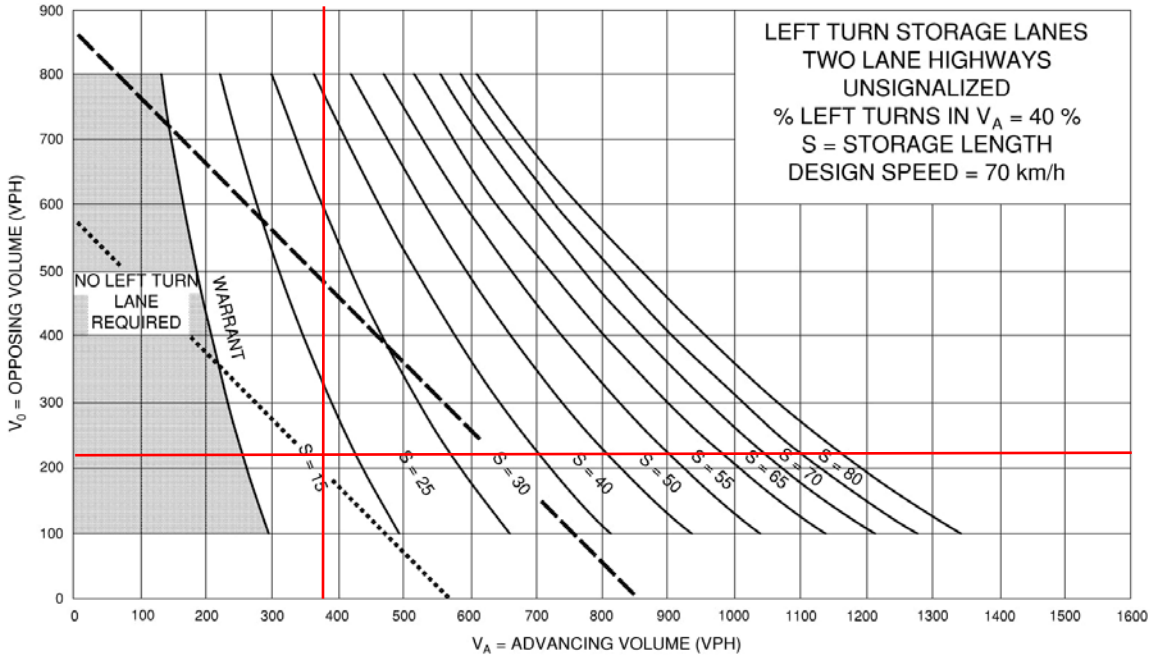
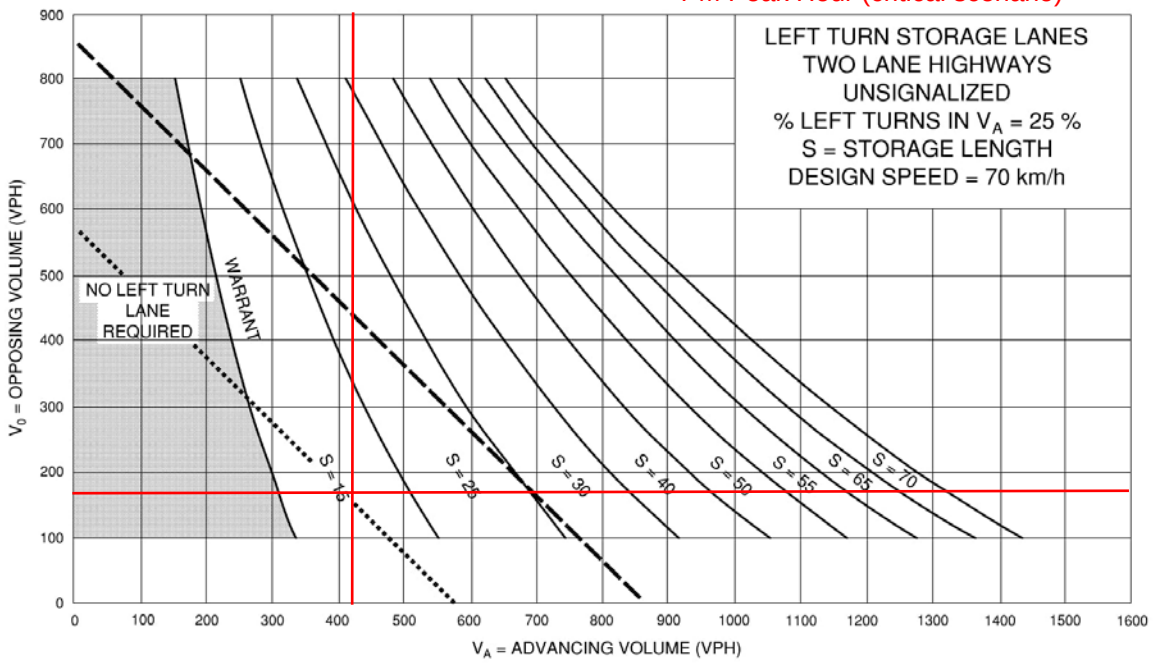


Exhibit 9A-12

Robert St / Thompsons Rd & Centennial Dr
Existing (2018) - westbound
PM Peak Hour (critical scenario)



TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW

TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS

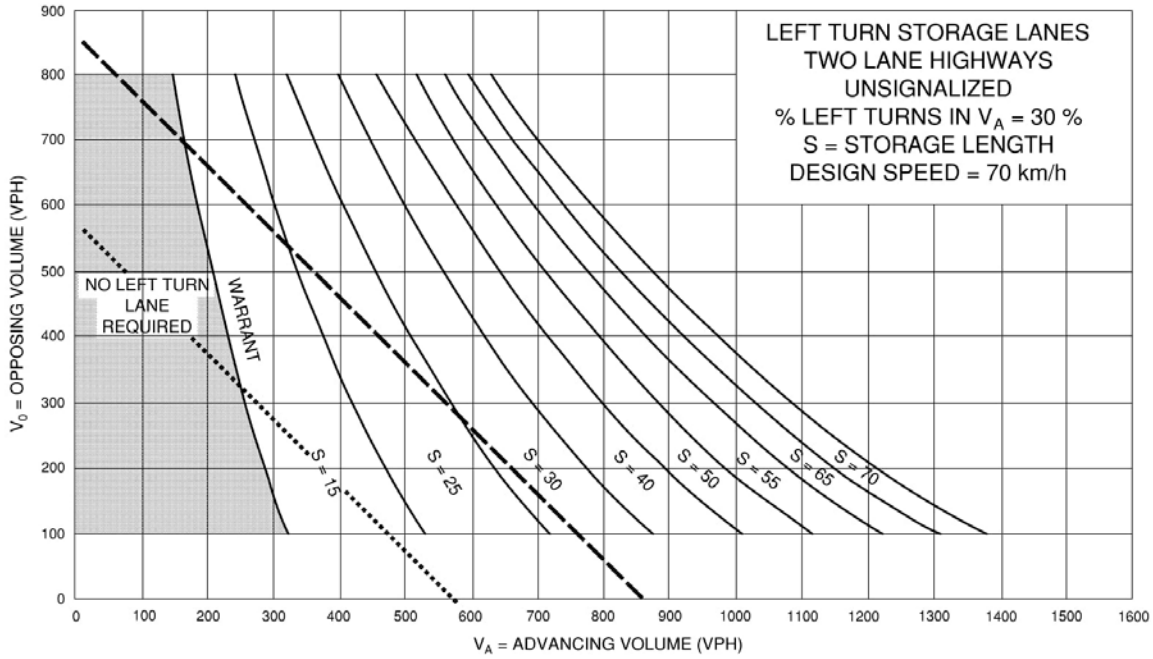
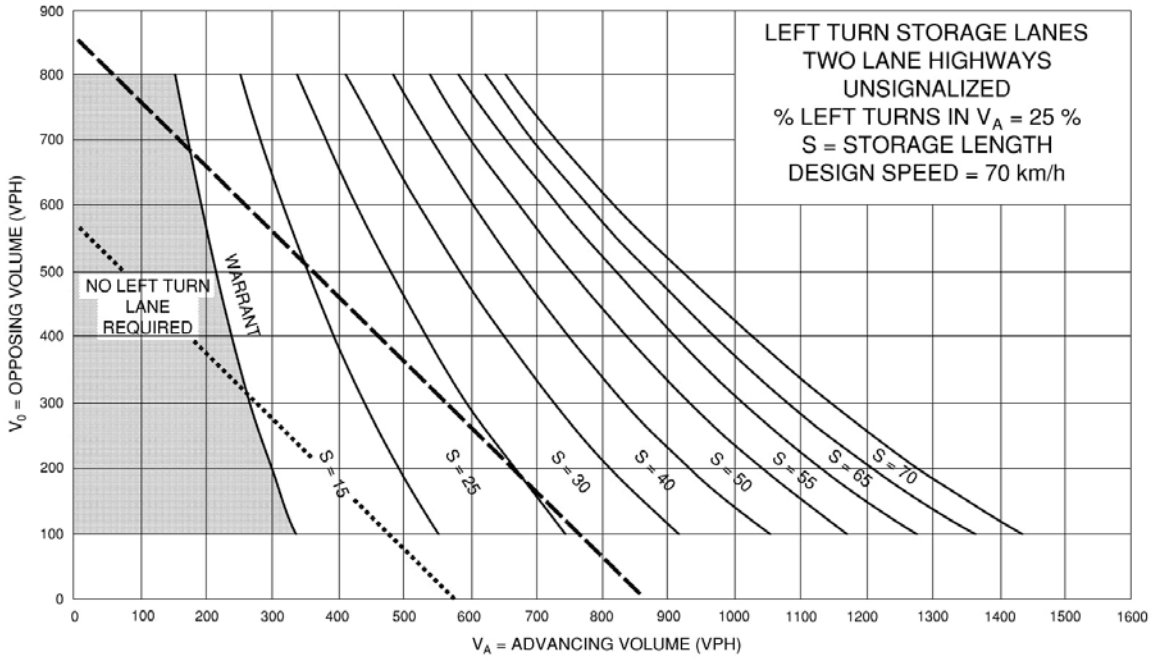


Exhibit 9A-12



Robert St / Thompsons Rd & Centennial Dr
Background (2028) - westbound
PM Peak Hour (critical scenario)

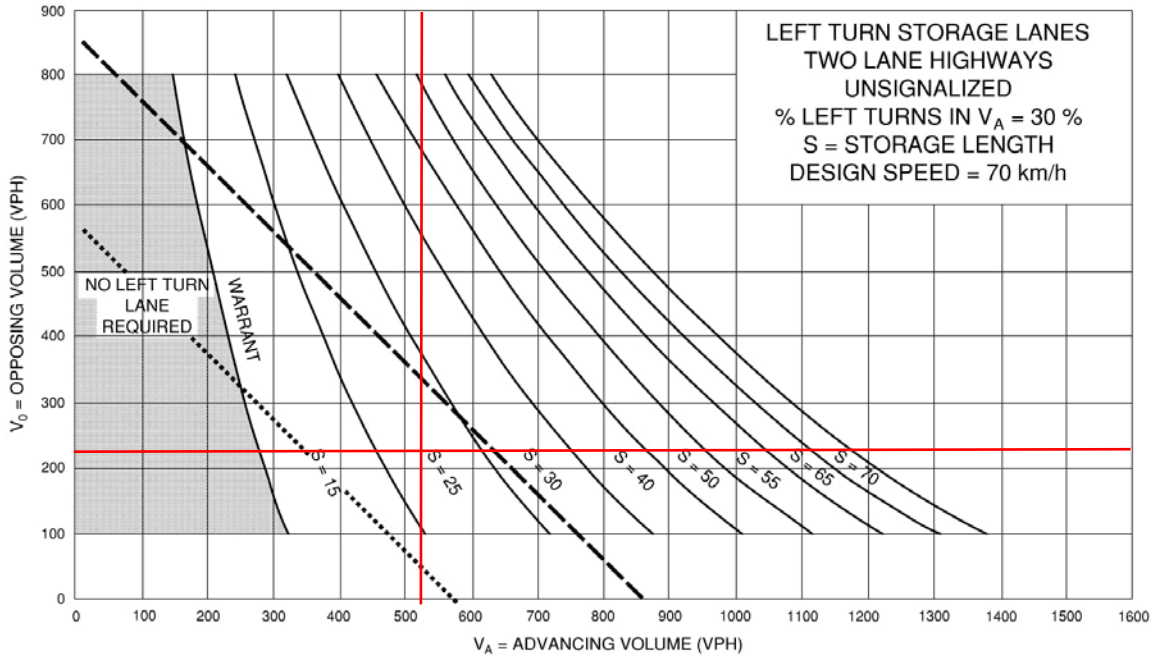
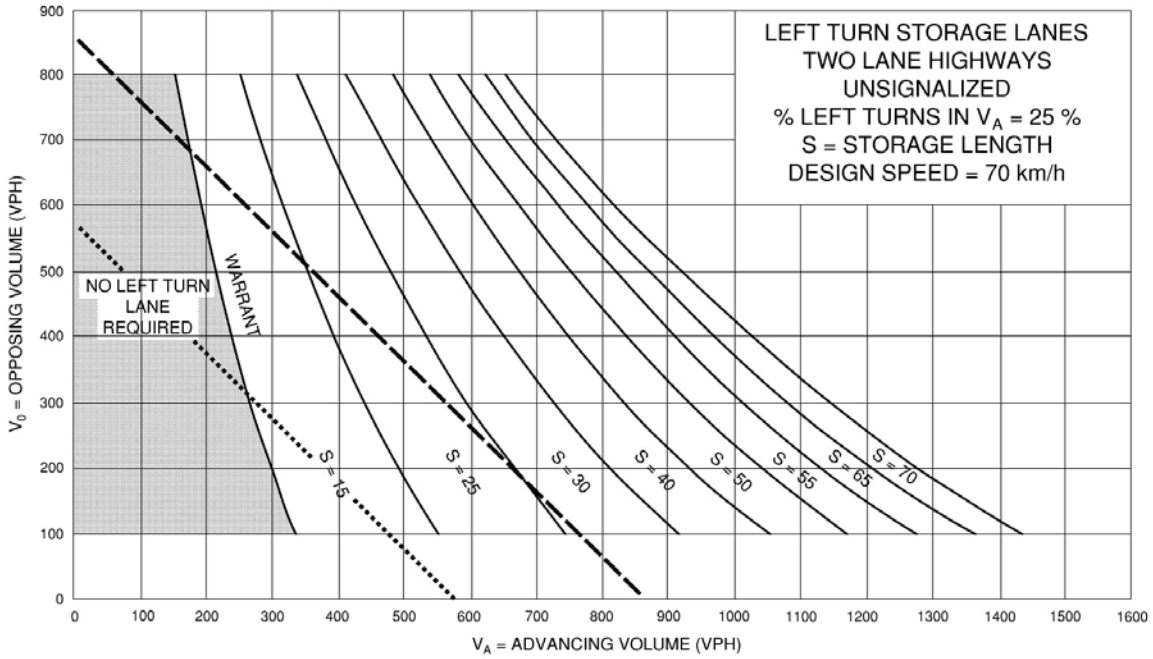


Exhibit 9A-12



Robert St / Thompsons Rd & Centennial Dr
Total (2028) - westbound
PM Peak Hour (critical scenario)

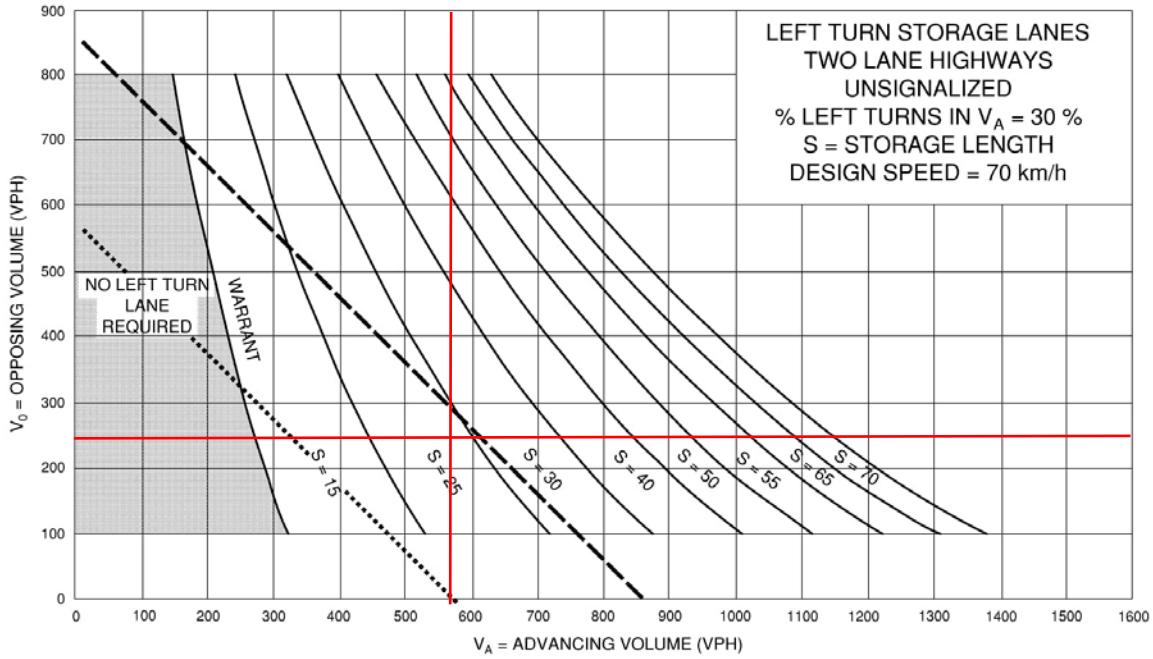
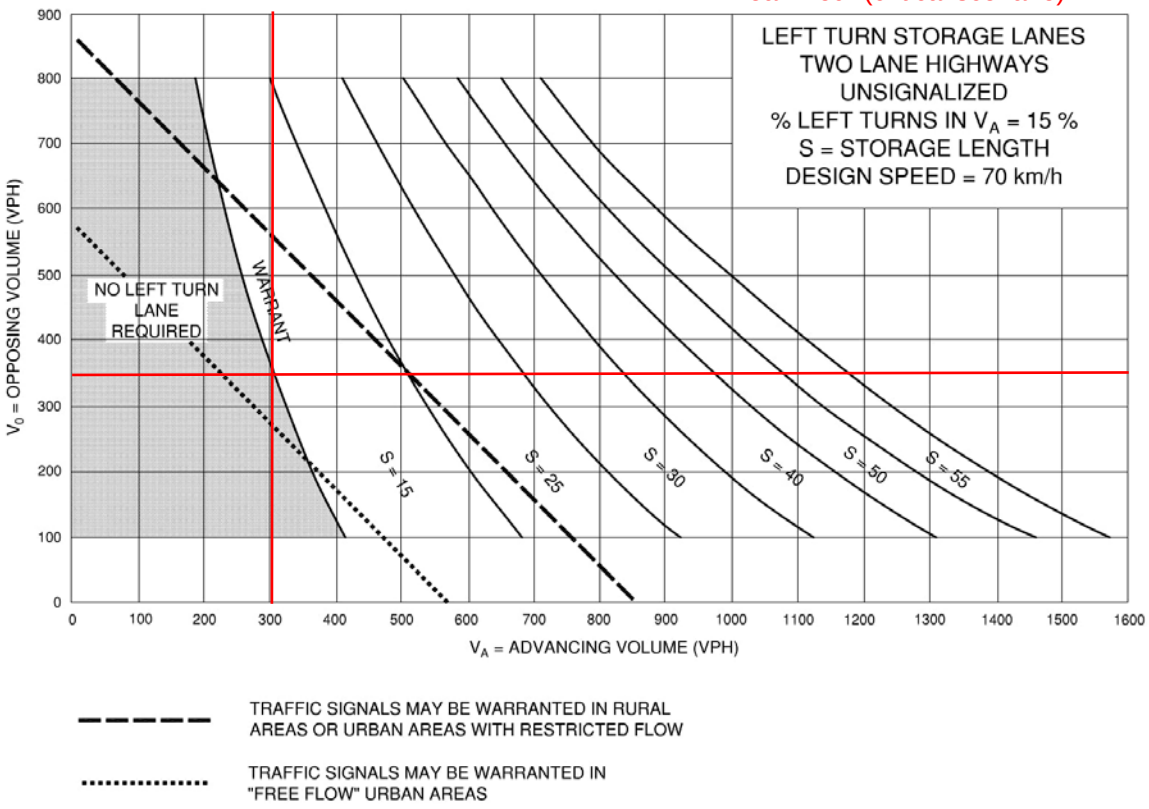
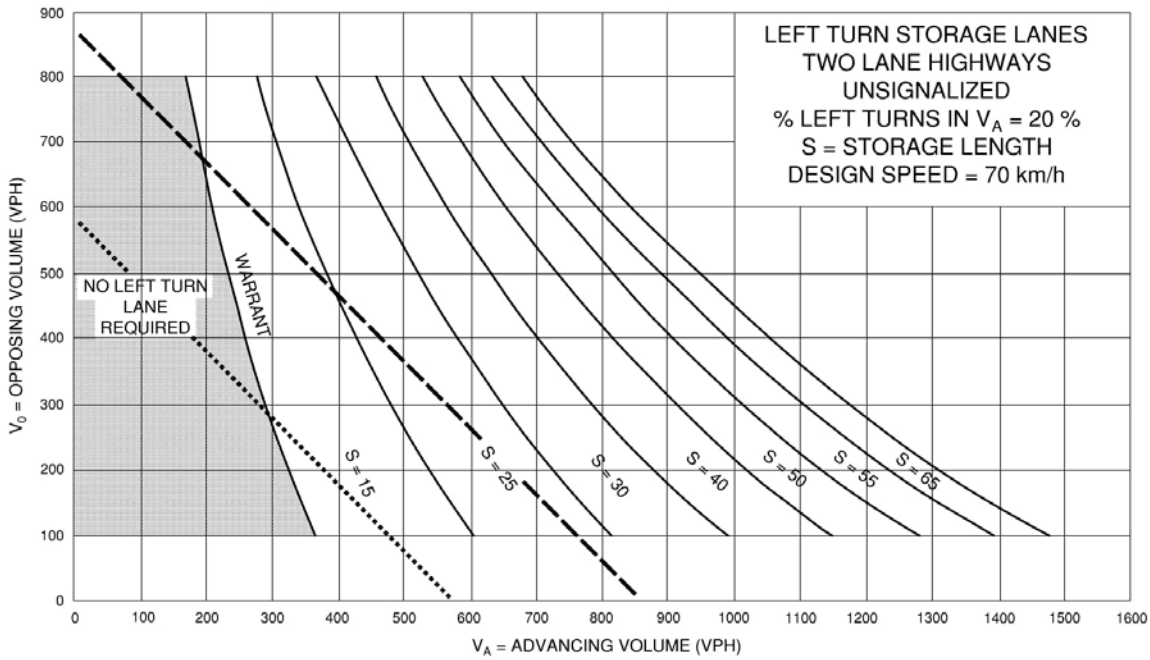


Exhibit 9A-11

Robert St / Thompsons Rd & Centennial Dr
Total (2028) - eastbound
AM Peak Hour (critical scenario)





Appendix E –
OTM Signal Justification Sheets

Justification No. 7 - 2028 Total Traffic (Critical Case)

Pine Grove Road / North Access

Justification	Description		Compliance			Signal Warrant	Underground Provisions Warrant
			Sectional		Entire %		
		Rest. Flow	Numerical	%			
1. Minimum Vehicluar Volume	A. Vehicle volume, all aproaches (average hour)	720	44	6%	3%	NO	NO
	B. Vehicle volume, along minor streets (average hour)	255	12	5%		NO	NO
2. Delay to cross traffic	A. Vehicle volume, major street (average hour)	720	22	3%	2%	NO	NO
	B. Combined vehicle and pedestrian volume crossing artery from minor streets (average hour)	75	12	16%		NO	NO

Justification No. 7 - 2028 Total Traffic (Critical Case)

South Access / Fuller Avenue

Justification	Description		Compliance			Signal Warrant	Underground Provisions Warrant
			Sectional		Entire %		
		Rest. Flow	Numerical	%			
1. Minimum Vehicluar Volume	A. Vehicle volume, all aproaches (average hour)	720	410	57%	7%	NO	NO
	B. Vehicle volume, along minor streets (average hour)	255	26	10%		NO	NO
2. Delay to cross traffic	A. Vehicle volume, major street (average hour)	720	363	50%	23%	NO	NO
	B. Combined vehicle and pedestrian volume crossing artery from minor streets (average hour)	75	26	34%		NO	NO

Justification No. 7 - 2028 Total Traffic (Critical Case)

Commercial Access / Fuller Avenue

Justification	Description		Compliance			Signal Warrant	Underground Provisions Warrant
			Sectional		Entire %		
		Rest. Flow	Numerical	%			
1. Minimum Vehicluar Volume	A. Vehicle volume, all aproaches (average hour)	720	369	51%	2%	NO	NO
	B. Vehicle volume, along minor streets (average hour)	255	8	3%		NO	NO
2. Delay to cross traffic	A. Vehicle volume, major street (average hour)	720	355	49%	5%	NO	NO
	B. Combined vehicle and pedestrian volume crossing artery from minor streets (average hour)	75	6	8%		NO	NO

Justification No. 7 - 2028 Total Traffic (Critical Case)

Robert Street / Fuller Avenue

Justification	Description		Compliance			Signal Warrant	Underground Provisions Warrant
			Sectional		Entire %		
		Rest. Flow	Numerical	%			
1. Minimum Vehicluar Volume	A. Vehicle volume, all aproaches (average hour)	720	669	93%	58%	NO	NO
	B. Vehicle volume, along minor streets (average hour)	255	179	70%		NO	NO
2. Delay to cross traffic	A. Vehicle volume, major street (average hour)	720	387	54%	45%	NO	NO
	B. Combined vehicle and pedestrian volume crossing artery from minor streets (average hour)	75	72	96%		NO	NO

Justification No. 7 - 2028 Total Traffic (Critical Case)

Robert Street / Thomspons Road & Centennial Dr

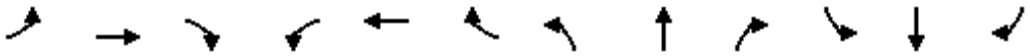
Justification	Description		Compliance			Signal Warrant	Underground Provisions Warrant
			Sectional		Entire %		
		Rest. Flow	Numerical	%			
1. Minimum Vehicluar Volume	A. Vehicle volume, all aproaches (average hour)	720	486	67%	56%	NO	NO
	B. Vehicle volume, along minor streets (average hour)	170	118	69%		NO	NO
2. Delay to cross traffic	A. Vehicle volume, major street (average hour)	720	350	49%	41%	NO	NO
	B. Combined vehicle and pedestrian volume crossing artery from minor streets (average hour)	75	37	50%		NO	NO

Justification No. 7 - 2028 Total Traffic (Critical Case)

Sheffcote Road & Pine Grove Road / Fuller Avenue

Justification	Description		Compliance			Signal Warrant	Underground Provisions Warrant
			Sectional		Entire %		
		Rest. Flow	Numerical	%			
1. Minimum Vehicluar Volume	A. Vehicle volume, all aproaches (average hour)	720	369	51%	25%	NO	NO
	B. Vehicle volume, along minor streets (average hour)	170	51	30%		NO	NO
2. Delay to cross traffic	A. Vehicle volume, major street (average hour)	720	298	41%	29%	NO	NO
	B. Combined vehicle and pedestrian volume crossing artery from minor streets (average hour)	75	27	35%		NO	NO

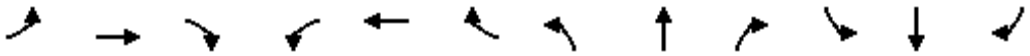
Appendix F –
Synchro Analysis Output –
Background Traffic Volumes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	1	47	23	2	1	12	393	11	1	136	2
Future Volume (Veh/h)	8	1	47	23	2	1	12	393	11	1	136	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	11	1	65	32	3	1	17	546	15	1	189	3
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	782	788	190	846	782	554	192			561		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	782	788	190	846	782	554	192			561		
tC, single (s)	7.4	7.5	6.2	7.1	7.5	7.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.9	3.3	3.5	4.9	4.2	2.3			2.2		
p0 queue free %	96	100	92	88	99	100	99			100		
cM capacity (veh/h)	271	229	849	259	231	385	1318			1020		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	77	36	578	193
Volume Left	11	32	17	1
Volume Right	65	1	15	3
cSH	633	259	1318	1020
Volume to Capacity	0.12	0.14	0.01	0.00
Queue Length 95th (m)	3.3	3.8	0.3	0.0
Control Delay (s)	11.5	21.1	0.4	0.1
Lane LOS	B	C	A	A
Approach Delay (s)	11.5	21.1	0.4	0.1
Approach LOS	B	C		

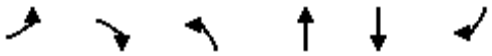
Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	42.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	246	2	35	231	33	4	61	72	18	27	12
Future Volume (Veh/h)	48	246	2	35	231	33	4	61	72	18	27	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	52	265	2	38	248	35	4	66	77	19	29	13
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	283			267			739	729	266	822	712	266
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	283			267			739	729	266	822	712	266
tC, single (s)	4.1			4.2			7.1	6.6	6.2	7.2	6.7	6.4
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.1	3.3	3.6	4.2	3.5
p0 queue free %	96			97			99	79	90	91	91	98
cM capacity (veh/h)	1262			1252			290	312	768	205	315	732

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	319	321	147	61
Volume Left	52	38	4	19
Volume Right	2	35	77	13
cSH	1262	1252	451	301
Volume to Capacity	0.04	0.03	0.33	0.20
Queue Length 95th (m)	1.0	0.8	11.2	5.9
Control Delay (s)	1.6	1.2	16.8	20.0
Lane LOS	A	A	C	C
Approach Delay (s)	1.6	1.2	16.8	20.0
Approach LOS			C	C

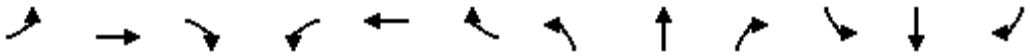
Intersection Summary				
Average Delay	5.4			
Intersection Capacity Utilization	42.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	125	206	236	239	193	74
Future Volume (Veh/h)	125	206	236	239	193	74
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.79	0.79	0.79	0.79	0.79	0.79
Hourly flow rate (vph)	158	261	299	303	244	94
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	1192	291	338			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1192	291	338			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	65	75			
cM capacity (veh/h)	156	743	1216			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	419	602	338
Volume Left	158	299	0
Volume Right	261	0	94
cSH	307	1216	1700
Volume to Capacity	1.36	0.25	0.20
Queue Length 95th (m)	170.8	7.8	0.0
Control Delay (s)	216.7	5.8	0.0
Lane LOS	F	A	
Approach Delay (s)	216.7	5.8	0.0
Approach LOS	F		

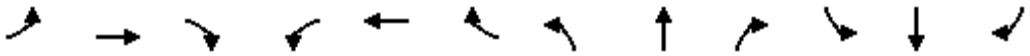
Intersection Summary			
Average Delay	69.4		
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	38	16	2	5	56	140	22	1	436	12
Future Volume (Veh/h)	6	0	38	16	2	5	56	140	22	1	436	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	8	0	51	22	3	7	76	189	30	1	589	16
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	964	970	597	1006	963	204	605			219		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	964	970	597	1006	963	204	605			219		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	100	90	88	99	99	92			100		
cM capacity (veh/h)	219	235	507	187	237	842	983			1362		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	59	32	295	606
Volume Left	8	22	76	1
Volume Right	51	7	30	16
cSH	430	231	983	1362
Volume to Capacity	0.14	0.14	0.08	0.00
Queue Length 95th (m)	3.8	3.8	2.0	0.0
Control Delay (s)	14.7	23.0	2.9	0.0
Lane LOS	B	C	A	A
Approach Delay (s)	14.7	23.0	2.9	0.0
Approach LOS	B	C		

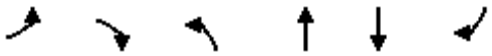
Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	50.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	193	13	142	367	19	6	33	74	26	48	46
Future Volume (Veh/h)	23	193	13	142	367	19	6	33	74	26	48	46
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	25	208	14	153	395	20	6	35	80	28	52	49
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	415			222			1051	986	215	1074	983	405
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	415			222			1051	986	215	1074	983	405
tC, single (s)	4.2			4.1			7.1	6.7	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	98			89			96	83	90	80	76	92
cM capacity (veh/h)	1097			1353			140	204	830	138	213	639

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	247	568	121	129
Volume Left	25	153	6	28
Volume Right	14	20	80	49
cSH	1097	1353	389	246
Volume to Capacity	0.02	0.11	0.31	0.52
Queue Length 95th (m)	0.6	3.1	10.4	22.2
Control Delay (s)	1.0	3.0	18.4	34.6
Lane LOS	A	A	C	D
Approach Delay (s)	1.0	3.0	18.4	34.6
Approach LOS			C	D

Intersection Summary				
Average Delay	8.1			
Intersection Capacity Utilization	64.0%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	86	222	266	161	308	251
Future Volume (Veh/h)	86	222	266	161	308	251
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Hourly flow rate (vph)	102	264	317	192	367	299
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	1342	516	666			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1342	516	666			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	8	53	66			
cM capacity (veh/h)	111	561	923			

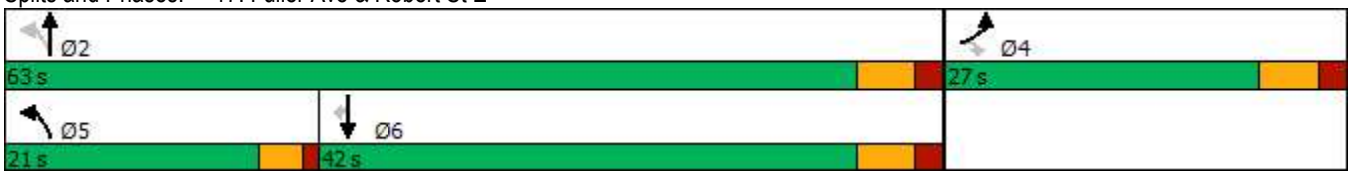
Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	366	509	666
Volume Left	102	317	0
Volume Right	264	0	299
cSH	264	923	1700
Volume to Capacity	1.39	0.34	0.39
Queue Length 95th (m)	158.0	12.3	0.0
Control Delay (s)	233.1	8.4	0.0
Lane LOS	F	A	
Approach Delay (s)	233.1	8.4	0.0
Approach LOS	F		

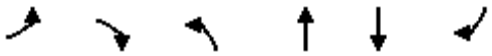
Intersection Summary			
Average Delay	58.1		
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	125	206	236	239	193	74
Future Volume (vph)	125	206	236	239	193	74
Lane Group Flow (vph)	158	261	299	303	244	94
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	25.0	25.0	9.0	30.0	30.0	30.0
Total Split (s)	27.0	27.0	21.0	63.0	42.0	42.0
Total Split (%)	30.0%	30.0%	23.3%	70.0%	46.7%	46.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
v/c Ratio	0.56	0.56	0.36	0.24	0.26	0.11
Control Delay	40.0	9.3	5.6	5.5	13.2	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	9.3	5.6	5.5	13.2	3.5
Queue Length 50th (m)	24.3	0.0	13.3	14.9	20.4	0.0
Queue Length 95th (m)	37.0	11.8	23.6	25.7	37.1	6.1
Internal Link Dist (m)	446.9			844.6	1189.7	
Turn Bay Length (m)		30.0	45.0			30.0
Base Capacity (vph)	453	591	885	1282	948	851
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.44	0.34	0.24	0.26	0.11

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 82.1
Natural Cycle: 65
Control Type: Semi Act-Uncoord

Splits and Phases: 17: Fuller Ave & Robert St E





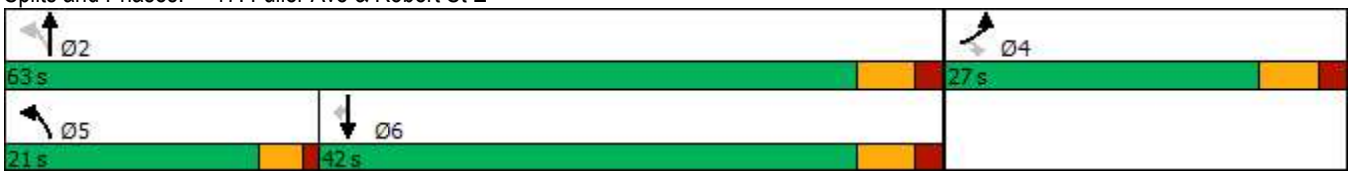
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	125	206	236	239	193	74
Future Volume (vph)	125	206	236	239	193	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1553	1752	1845	1827	1553
Flt Permitted	0.95	1.00	0.55	1.00	1.00	1.00
Satd. Flow (perm)	1770	1553	1020	1845	1827	1553
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	158	261	299	303	244	94
RTOR Reduction (vph)	0	220	0	0	0	45
Lane Group Flow (vph)	158	41	299	303	244	49
Heavy Vehicles (%)	2%	4%	3%	3%	4%	4%
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	13.0	13.0	57.1	57.1	42.7	42.7
Effective Green, g (s)	13.0	13.0	57.1	57.1	42.7	42.7
Actuated g/C Ratio	0.16	0.16	0.70	0.70	0.52	0.52
Clearance Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	280	245	802	1283	950	807
v/s Ratio Prot	c0.09		c0.05	0.16	0.13	
v/s Ratio Perm		0.03	c0.21			0.03
v/c Ratio	0.56	0.17	0.37	0.24	0.26	0.06
Uniform Delay, d1	31.9	29.9	4.7	4.6	10.9	9.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	0.3	0.3	0.4	0.7	0.1
Delay (s)	34.5	30.2	5.0	5.0	11.6	9.9
Level of Service	C	C	A	A	B	A
Approach Delay (s)	31.8			5.0	11.1	
Approach LOS	C			A	B	

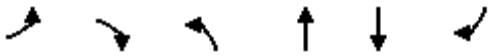
Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	82.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	86	222	266	161	308	251
Future Volume (vph)	86	222	266	161	308	251
Lane Group Flow (vph)	102	264	317	192	367	299
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	25.0	25.0	9.0	30.0	30.0	30.0
Total Split (s)	27.0	27.0	21.0	63.0	42.0	42.0
Total Split (%)	30.0%	30.0%	23.3%	70.0%	46.7%	46.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
v/c Ratio	0.41	0.59	0.43	0.14	0.37	0.31
Control Delay	36.9	10.4	5.4	4.2	12.9	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.9	10.4	5.4	4.2	12.9	3.4
Queue Length 50th (m)	15.1	0.0	12.0	7.6	30.3	2.8
Queue Length 95th (m)	27.7	15.9	22.1	14.8	54.2	13.9
Internal Link Dist (m)	446.9			844.6	1189.7	
Turn Bay Length (m)		30.0	45.0			30.0
Base Capacity (vph)	473	614	821	1328	996	958
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.43	0.39	0.14	0.37	0.31

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 80
Natural Cycle: 65
Control Type: Semi Act-Uncoord

Splits and Phases: 17: Fuller Ave & Robert St E





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	86	222	266	161	308	251
Future Volume (vph)	86	222	266	161	308	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1599	1770	1863	1863	1568
Flt Permitted	0.95	1.00	0.46	1.00	1.00	1.00
Satd. Flow (perm)	1805	1599	848	1863	1863	1568
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	102	264	317	192	367	299
RTOR Reduction (vph)	0	228	0	0	0	120
Lane Group Flow (vph)	102	36	317	192	367	179
Heavy Vehicles (%)	0%	1%	2%	2%	2%	3%
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	11.0	11.0	57.0	57.0	42.8	42.8
Effective Green, g (s)	11.0	11.0	57.0	57.0	42.8	42.8
Actuated g/C Ratio	0.14	0.14	0.71	0.71	0.53	0.53
Clearance Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	248	219	721	1327	996	838
v/s Ratio Prot	c0.06		c0.06	0.10	0.20	
v/s Ratio Perm		0.02	c0.26			0.11
v/c Ratio	0.41	0.17	0.44	0.14	0.37	0.21
Uniform Delay, d1	31.5	30.5	4.5	3.7	10.8	9.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.4	0.4	0.2	1.1	0.6
Delay (s)	32.7	30.8	5.0	3.9	11.8	10.3
Level of Service	C	C	A	A	B	B
Approach Delay (s)	31.3			4.6	11.2	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	52.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Appendix G –
Transportation Tomorrow Survey – Excerpt

datamanagementgroup

Hello John Northcote

Database Index | DMG | TTS | CCP | Contact | Logout

TTS Cross Tabulation

Cross Tabulation Query Form - Trip - 2016 v1.1

Filter Variables

2006 GTA zone of desti... × | 2006 GTA zone of hous... × | (Optional) Table Attribute

Group Attributes

Row Grouping | Column Grouping | Table Grouping

Grouping file: Choose File No file chosen

Filter Selection +

☑	2006 GTA zone of household	In	8573
	And		
☑	Start time of trip	In	700-900
	And		
☑	Trip purpose of destination	In	w,r

Add | Delete

Output

◉ Comma-delimited table ○ Column format | Expansion Factor On | Click to Select Load | Load

Execute Query | Select All | Save As

```
Wed Nov 07 2018 19:07:51 GMT-0500 (Eastern Standard Time) - Run Time: 2197ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of household - gta06_hhld


Filters:
(2006 GTA zone of household - gta06_hhld In 8573
and
Start time of trip - start_time In 700-900
and
Trip purpose of destination - purp_dest In w,r)

Trip 2016
Table:

,8573
```

TTS Cross Tabulation

Cross Tabulation Query Form - Trip - 2016 v1.1

Filter Variables

2006 GTA zone of desti... × | 2006 GTA zone of hous... × | (Optional) Table Attribute

Group Attributes

Row Grouping | Column Grouping | Table Grouping

Grouping file: Choose File No file chosen

Filter Selection +

2006 GTA zone of household | In | 8573

And

Start time of trip | In | 700-900

And

Trip purpose of destination | In | w,r

Add | Delete

Output

Comma-delimited table | Column format | Expansion Factor On | Click to Select Load | Load

Execute Query | Select All | Save As

```
Wed Nov 07 2018 19:07:51 GMT-0500 (Eastern Standard Time) - Run Time: 2197ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of destination - gta06_dest
Column: 2006 GTA zone of household - gta06_hhld


Filters:
(2006 GTA zone of household - gta06_hhld In 8573
and
Start time of trip - start_time In 700-900
and
Trip purpose of destination - purp_dest In w,r)

Trip 2016
Table:

,8573
2095,18
2207,12
8571,12
8574,6
8576,18
8578,25
8604,31
8660,44
8665,31
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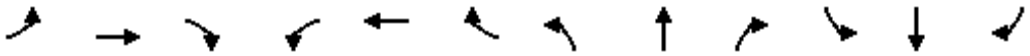
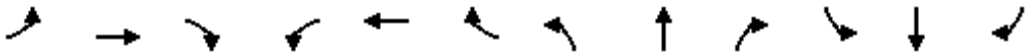
Appendix H –
Synchro Analysis Output –
Total Traffic Volumes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	2	48	51	4	2	13	395	20	1	137	2
Future Volume (Veh/h)	8	2	48	51	4	2	13	395	20	1	137	2
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Hourly flow rate (vph)	11	3	67	71	6	3	18	549	28	1	190	3
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	798	806	192	861	794	563	193			577		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	798	806	192	861	794	563	193			577		
tC, single (s)	7.4	7.5	6.2	7.1	7.5	7.2	4.2			4.1		
tC, 2 stage (s)												
tF (s)	3.8	4.9	3.3	3.5	4.9	4.2	2.3			2.2		
p0 queue free %	96	99	92	72	97	99	99			100		
cM capacity (veh/h)	259	222	848	250	226	379	1317			1006		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	81	80	595	194
Volume Left	11	71	18	1
Volume Right	67	3	28	3
cSH	600	252	1317	1006
Volume to Capacity	0.13	0.32	0.01	0.00
Queue Length 95th (m)	3.7	10.5	0.3	0.0
Control Delay (s)	11.9	25.8	0.4	0.1
Lane LOS	B	D	A	A
Approach Delay (s)	11.9	25.8	0.4	0.1
Approach LOS	B	D		

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	47.2%	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)	48	254	2	65	251	34	4	61	82	18	27	12
Future Volume (Veh/h)	48	254	2	65	251	34	4	61	82	18	27	12
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	52	273	2	70	270	37	4	66	88	19	29	13
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	307			275			834	825	274	928	808	288
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	307			275			834	825	274	928	808	288
tC, single (s)	4.1			4.2			7.1	6.6	6.2	7.2	6.7	6.4
tC, 2 stage (s)												
tF (s)	2.2			2.3			3.5	4.1	3.3	3.6	4.2	3.5
p0 queue free %	96			94			98	75	88	88	89	98
cM capacity (veh/h)	1237			1243			242	266	760	162	269	710

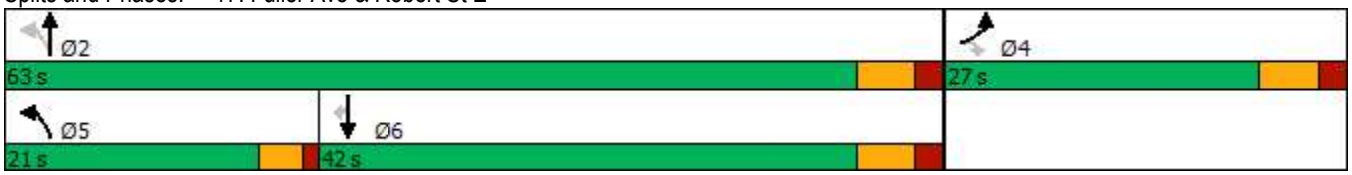
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	327	377	158	61
Volume Left	52	70	4	19
Volume Right	2	37	88	13
cSH	1237	1243	416	250
Volume to Capacity	0.04	0.06	0.38	0.24
Queue Length 95th (m)	1.1	1.4	14.0	7.4
Control Delay (s)	1.6	1.9	18.9	23.9
Lane LOS	A	A	C	C
Approach Delay (s)	1.6	1.9	18.9	23.9
Approach LOS			C	C

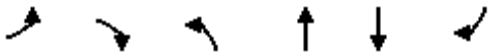
Intersection Summary				
Average Delay	6.2			
Intersection Capacity Utilization	45.6%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	143	206	236	256	239	125
Future Volume (vph)	143	206	236	256	239	125
Lane Group Flow (vph)	181	261	299	324	303	158
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	25.0	25.0	9.0	30.0	30.0	30.0
Total Split (s)	27.0	27.0	21.0	63.0	42.0	42.0
Total Split (%)	30.0%	30.0%	23.3%	70.0%	46.7%	46.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
v/c Ratio	0.61	0.55	0.39	0.26	0.33	0.18
Control Delay	41.0	8.7	6.3	6.0	14.7	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	8.7	6.3	6.0	14.7	3.2
Queue Length 50th (m)	28.2	0.0	14.1	17.2	27.4	0.0
Queue Length 95th (m)	41.5	11.7	25.3	29.5	48.4	7.4
Internal Link Dist (m)	446.9			844.6	1189.7	
Turn Bay Length (m)		30.0	45.0			30.0
Base Capacity (vph)	448	588	824	1268	932	869
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.44	0.36	0.26	0.33	0.18

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 83.1
Natural Cycle: 65
Control Type: Semi Act-Uncoord

Splits and Phases: 17: Fuller Ave & Robert St E





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	143	206	236	256	239	125
Future Volume (vph)	143	206	236	256	239	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1770	1553	1752	1845	1827	1553
Flt Permitted	0.95	1.00	0.50	1.00	1.00	1.00
Satd. Flow (perm)	1770	1553	919	1845	1827	1553
Peak-hour factor, PHF	0.79	0.79	0.79	0.79	0.79	0.79
Adj. Flow (vph)	181	261	299	324	303	158
RTOR Reduction (vph)	0	217	0	0	0	77
Lane Group Flow (vph)	181	44	299	324	303	81
Heavy Vehicles (%)	2%	4%	3%	3%	4%	4%
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	14.0	14.0	57.1	57.1	42.4	42.4
Effective Green, g (s)	14.0	14.0	57.1	57.1	42.4	42.4
Actuated g/C Ratio	0.17	0.17	0.69	0.69	0.51	0.51
Clearance Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	298	261	738	1267	932	792
v/s Ratio Prot	c0.10		c0.05	0.18	0.17	
v/s Ratio Perm		0.03	c0.23			0.05
v/c Ratio	0.61	0.17	0.41	0.26	0.33	0.10
Uniform Delay, d1	32.0	29.6	5.2	4.9	11.9	10.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5	0.3	0.4	0.5	0.9	0.3
Delay (s)	35.5	29.9	5.6	5.4	12.9	10.8
Level of Service	D	C	A	A	B	B
Approach Delay (s)	32.2			5.5	12.2	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	83.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	13	10	0	27	31	0
Future Volume (Veh/h)	13	10	0	27	31	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	14	11	0	29	34	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			25		48	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			25		48	20
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	100
cM capacity (veh/h)			1589		961	1058

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	25	29	34
Volume Left	0	0	34
Volume Right	11	0	0
cSH	1700	1589	961
Volume to Capacity	0.01	0.00	0.04
Queue Length 95th (m)	0.0	0.0	0.9
Control Delay (s)	0.0	0.0	8.9
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	5	2	426	6	2	234
Future Volume (Veh/h)	5	2	426	6	2	234
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	2	463	7	2	254
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	724	466			470	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	724	466			470	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	99	100			100	
cM capacity (veh/h)	392	596			1092	

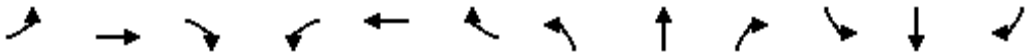
Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	7	470	256
Volume Left	5	0	2
Volume Right	2	7	0
cSH	434	1700	1092
Volume to Capacity	0.02	0.28	0.00
Queue Length 95th (m)	0.4	0.0	0.0
Control Delay (s)	13.4	0.0	0.1
Lane LOS	B		A
Approach Delay (s)	13.4	0.0	0.1
Approach LOS	B		

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	32.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	64	1	431	20	0	239
Future Volume (Veh/h)	64	1	431	20	0	239
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	70	1	468	22	0	260
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	739	479			490	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	739	479			490	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	82	100			100	
cM capacity (veh/h)	385	587			1073	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	71	490	260
Volume Left	70	0	0
Volume Right	1	22	0
cSH	387	1700	1073
Volume to Capacity	0.18	0.29	0.00
Queue Length 95th (m)	5.3	0.0	0.0
Control Delay (s)	16.4	0.0	0.0
Lane LOS	C		
Approach Delay (s)	16.4	0.0	0.0
Approach LOS	C		

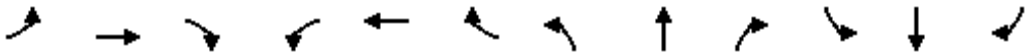
Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	2	39	33	3	5	58	142	49	2	442	12
Future Volume (Veh/h)	6	2	39	33	3	5	58	142	49	2	442	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74	0.74
Hourly flow rate (vph)	8	3	53	45	4	7	78	192	66	3	597	16
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	1001	1025	605	1046	1000	225	613			258		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1001	1025	605	1046	1000	225	613			258		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	99	89	74	98	99	92			100		
cM capacity (veh/h)	205	217	501	173	225	819	976			1318		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	64	56	336	616
Volume Left	8	45	78	3
Volume Right	53	7	66	16
cSH	404	195	976	1318
Volume to Capacity	0.16	0.29	0.08	0.00
Queue Length 95th (m)	4.5	9.1	2.1	0.1
Control Delay (s)	15.6	30.7	2.7	0.1
Lane LOS	C	D	A	A
Approach Delay (s)	15.6	30.7	2.7	0.1
Approach LOS	C	D		

Intersection Summary				
Average Delay	3.4			
Intersection Capacity Utilization	56.7%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	215	13	163	382	21	6	32	107	28	47	46
Future Volume (Veh/h)	23	215	13	163	382	21	6	32	107	28	47	46
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Hourly flow rate (vph)	25	231	14	175	411	23	6	34	115	30	51	49
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	434			245			1135	1072	238	1192	1068	422
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	434			245			1135	1072	238	1192	1068	422
tC, single (s)	4.2			4.1			7.1	6.7	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.3			2.2			3.5	4.1	3.3	3.5	4.0	3.3
p0 queue free %	98			87			95	81	86	71	73	92
cM capacity (veh/h)	1079			1327			117	177	806	105	186	625

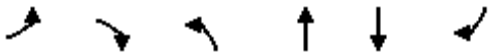
Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	270	609	155	130
Volume Left	25	175	6	30
Volume Right	14	23	115	49
cSH	1079	1327	402	203
Volume to Capacity	0.02	0.13	0.39	0.64
Queue Length 95th (m)	0.6	3.6	14.3	30.1
Control Delay (s)	1.0	3.4	19.5	49.6
Lane LOS	A	A	C	E
Approach Delay (s)	1.0	3.4	19.5	49.6
Approach LOS			C	E

Intersection Summary				
Average Delay	10.1			
Intersection Capacity Utilization	71.9%	ICU Level of Service	C	
Analysis Period (min)	15			

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	144	221	266	210	340	289
Future Volume (vph)	144	221	266	210	340	289
Lane Group Flow (vph)	171	263	317	250	405	344
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	25.0	25.0	9.0	30.0	30.0	30.0
Total Split (s)	27.0	27.0	21.0	63.0	42.0	42.0
Total Split (%)	30.0%	30.0%	23.3%	70.0%	46.7%	46.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0
All-Red Time (s)	2.0	2.0	1.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	Max	Max	Max
v/c Ratio	0.59	0.55	0.46	0.19	0.42	0.37
Control Delay	40.4	8.8	6.8	5.4	15.7	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.4	8.8	6.8	5.4	15.7	4.9
Queue Length 50th (m)	26.5	0.0	14.5	12.1	38.4	5.8
Queue Length 95th (m)	42.6	15.3	27.8	23.4	70.1	20.5
Internal Link Dist (m)	446.9			844.6	1189.7	
Turn Bay Length (m)		30.0	45.0			30.0
Base Capacity (vph)	460	603	758	1289	953	934
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.44	0.42	0.19	0.42	0.37

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 82.5
Natural Cycle: 65
Control Type: Semi Act-Uncoord

Splits and Phases: 17: Fuller Ave & Robert St E



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	144	221	266	210	340	289
Future Volume (vph)	144	221	266	210	340	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1805	1599	1770	1863	1863	1568
Flt Permitted	0.95	1.00	0.41	1.00	1.00	1.00
Satd. Flow (perm)	1805	1599	771	1863	1863	1568
Peak-hour factor, PHF	0.84	0.84	0.84	0.84	0.84	0.84
Adj. Flow (vph)	171	263	317	250	405	344
RTOR Reduction (vph)	0	220	0	0	0	131
Lane Group Flow (vph)	171	43	317	250	405	213
Heavy Vehicles (%)	0%	1%	2%	2%	2%	3%
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	13.4	13.4	57.1	57.1	42.2	42.2
Effective Green, g (s)	13.4	13.4	57.1	57.1	42.2	42.2
Actuated g/C Ratio	0.16	0.16	0.69	0.69	0.51	0.51
Clearance Time (s)	6.0	6.0	4.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	293	259	665	1289	952	802
v/s Ratio Prot	c0.09		c0.06	0.13	0.22	
v/s Ratio Perm		0.03	c0.27			0.14
v/c Ratio	0.58	0.16	0.48	0.19	0.43	0.27
Uniform Delay, d1	32.0	29.7	5.6	4.5	12.6	11.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.0	0.3	0.5	0.3	1.4	0.8
Delay (s)	34.9	30.0	6.1	4.9	14.0	12.2
Level of Service	C	C	A	A	B	B
Approach Delay (s)	32.0			5.6	13.2	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay	15.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	82.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	23	30	0	23	18	0
Future Volume (Veh/h)	23	30	0	23	18	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	25	33	0	25	20	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			58		66	42
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			58		66	42
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		98	100
cM capacity (veh/h)			1546		939	1029

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	58	25	20
Volume Left	0	0	20
Volume Right	33	0	0
cSH	1700	1546	939
Volume to Capacity	0.03	0.00	0.02
Queue Length 95th (m)	0.0	0.0	0.5
Control Delay (s)	0.0	0.0	8.9
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	18	6	243	19	9	505
Future Volume (Veh/h)	18	6	243	19	9	505
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	7	264	21	10	549
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	844	274			285	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	844	274			285	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	99			99	
cM capacity (veh/h)	331	764			1277	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	27	285	559
Volume Left	20	0	10
Volume Right	7	21	0
cSH	388	1700	1277
Volume to Capacity	0.07	0.17	0.01
Queue Length 95th (m)	1.8	0.0	0.2
Control Delay (s)	15.0	0.0	0.2
Lane LOS	B		A
Approach Delay (s)	15.0	0.0	0.2
Approach LOS	B		

Intersection Summary			
Average Delay		0.6	
Intersection Capacity Utilization		43.8%	ICU Level of Service A
Analysis Period (min)		15	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	38	1	261	64	1	522
Future Volume (Veh/h)	38	1	261	64	1	522
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	41	1	284	70	1	567
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	888	319			354	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	888	319			354	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	87	100			100	
cM capacity (veh/h)	314	722			1205	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	42	354	568
Volume Left	41	0	1
Volume Right	1	70	0
cSH	318	1700	1205
Volume to Capacity	0.13	0.21	0.00
Queue Length 95th (m)	3.6	0.0	0.0
Control Delay (s)	18.0	0.0	0.0
Lane LOS	C		A
Approach Delay (s)	18.0	0.0	0.0
Approach LOS	C		

Intersection Summary			
Average Delay		0.8	
Intersection Capacity Utilization		38.3%	ICU Level of Service A
Analysis Period (min)		15	