ENGINEERING LIMITED

Revised: November 5th, 2024

Original: October 17th, 2024

TRAFFIC IMPACT STUDY

8640 ST. LAWRENCE AVENUE

City File No.: RZ100808 & CP100205

Client: Ridgecrest Development Group

L&M Project No.: 1432-16

L&M Engineering Limited

1210 Fourth Avenue, Prince George, BC V2L 3J4

Phone: (250) 562-1977

Permit to Practice No.: 1002375

Table of Contents

1.0 INTRODUCTION

On behalf of Ridgecrest Development Group, L&M Engineering Ltd. is pleased to submit a Traffic Impact Study (TIS) in support of the rezoning of the property located at 8640 St. Lawrence Avenue. The property is currently split-zoned **RS2: Single residential**, **AG: Greenbelt**, and **AF: Agriculture and Forestry**.

The developer is proposing to rezone approximately 1.91 ha of the subject property to RM5: Multiple Residential to facilitate future multi-phased medium-high density multi-family development on the property.

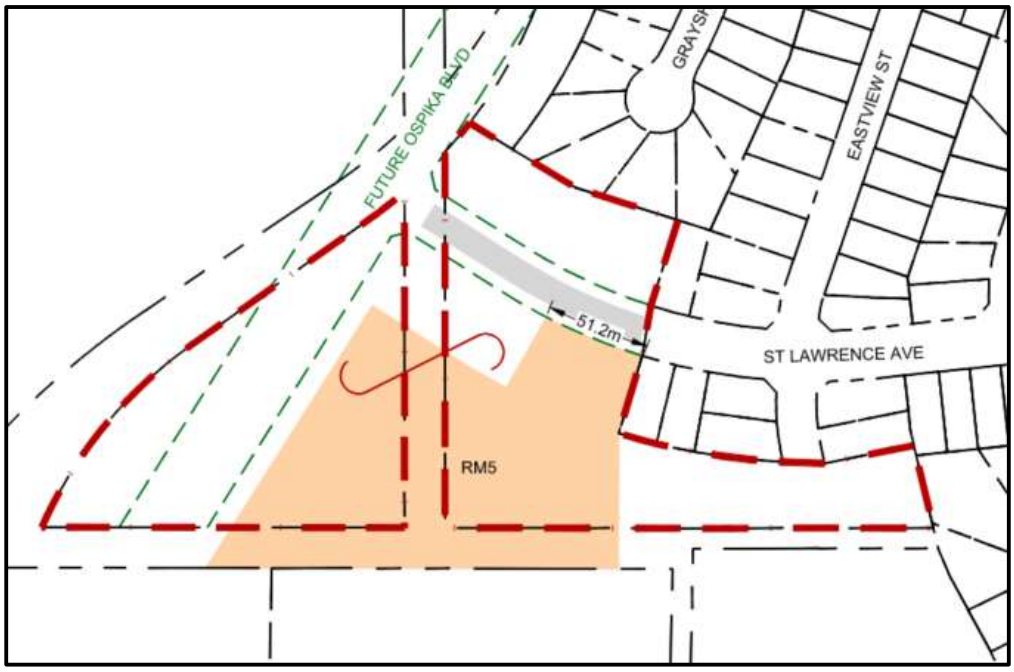


Exhibit 1: RM 5 Rezoning Area

This TIS report was prepared to determine the combined impacts to the surrounding road network and to provide guidance for future detailed design works for the various development.

2.0 SCOPE OF STUDY

2.1 Study Intersection(s)

- Southridge Avenue & St. Lawrnce Avenue
- Southridge Avenue & Dakelh Ti
- Southridge Avenue & Marleau Road
- Southridge Avenue & Private Road (at Walmart)

2.2 Study Horizons

- Existing Background Traffic - 2025
- 2025 Opening Day Traffic (Existing Volumes + Development Traffic)
- 2040 Projected Background
- 2040 Total Traffic (2040 Projected Volumes + Development Traffic)

2.3 Peak Study Periods

- Weekday AM peak 7:00am to 10:00am
- Weekday PM peak 2:30pm to 6:00pm

2.4 Background Traffic Growth Rates

- Review the MoTI permanent count station at the intersection of Highway 16 & Highway 97 to determine historic growth rates.

2.5 Trip Generation

- The Institute of Traffic Engineers (ITE) Trip Generation rates will be used. L&M will review the proposed number of dwellings and compare it with the maximum allowable units under the proposed zoning.

2.6 Trip Distribution

- Determine the trip distribution based upon the proposed land use and local traffic patterns. Engineering judgement will be applied to confirm if the existing traffic patterns will be consistent with the proposed land uses.

2.7 Analysis

- Analysis to be prepared using Trafficware Synchro 11 software.
- Review Signal Warrants, if applicable.
- Use the 95th percentile for queue lengths. Compare to TAC equation queue lengths.
- 15 min intervals.
- High-Level Safety Analysis (Based on Collision Data)

2.8 Report

- Summarize findings in a report to be submitted to Ridgecrest Development Group and CoPG.

3.0 EXISTING BACKGROUND TRAFFIC

The following background traffic counts were conducted for the AM and PM Peak Hours:

- Southridge Avenue & St. Lawrence
- Southridge Avenue & Dakelh Ti
- Southridge Avenue & Marleau Road
- Southridge Avenue & "Walmart" Private Road

The counts were conducted on weekdays from 7:00 am – 10:00 am (AM Peak) and 2:30 pm – 6:00 pm (PM Peak). The counts were categorized by vehicle type and the peak hours were determined. The Existing Background traffic volumes are illustrated on Figure 2.

4.0 PROJECTED BACKGROUND TRAFFIC

The Prince George Official Community Plan identifies the following three population growth rate scenarios:

- Low – 0.4%
- Medium – 0.8%
- High – 1.2%

The data from the nearest Ministry of Transportation (MoTI) permanent count station was reviewed. The closest permanent count station that includes commuter traffic is Count Station: P-42NS located at the intersection of Highway 16 and Highway 97 in Prince George. Based on the annual average daily traffic volume data over the past 10 years, Prince George has experienced an annual growth rate of 1.4%. To remain consistent with other traffic studies completed in the City of Prince George area, this study uses a projected growth rate of 1.5%. The 1.5% growth rate was used to project the existing traffic volumes 15 years into the future to the year 2040.

The 2040 Projected Background traffic volumes are illustrated in Figure 3.

5.0 DEVELOPMENT TRAFFIC

The peak hour trip generation for the development was established using the published Institute of Traffic Engineers (ITE) trip generation rates, using the maximum traffic density for the proposed zone.

5.1 Trip Generation

5.1.1 St. Lawrence and Eastview Trip Generation

The proposed trip generation for the proposed rezoning was developed using the Institute of Transportation Engineers (ITE) Trip Generation Manual 10th Edition rate according to the proposed land use. The trip generation is based on Multifamily Housing Mid-Rise (ITE: 221).

Additionally, the developer has an active subdivision project at the terminus of Vista Ridge Drive and Eastview Street. The intent of the subdivision application is to create 24 new single-family lots. The developer also has plans to subdivide a portion of land at the end of St Lawrence Avenue to create an additional 10 single-family lots adjacent to the proposed rezoning. In July 2024, new density regulations were put in place to allow up to four dwellings on single-family/duplex zoned properties. It is not anticipated that every lot owner will construct a four-unit dwelling on single-family sized lots; however, it is reasonable to assume that the subdivision could average approximately two dwellings per lot. As such it has been assumed that the 34 proposed lots could be occupied by approximately 68 dwelling units. The single-family trip generation for the St. Lawrence/Eastview area was calculated based on 68 single-family dwellings.

Table 1 – St. Lawrence/Eastview Peak Hour Trip Generation Rates

Peak Period	ITE Code:	Trip Gen. Variable	Trip Gen. Variable Value	Average Rate	In %	Out %	Total Trip Gen.	In (vph)	Out (vph)
St. Lawrence & Eastview Developments									
Multi-Family Housing – Mid-Rise (ITE Code 221)									
AM	221	Occupied Dwelling Units	238	0.42	26	74	**100**	26	74
PM	221	Occupied Dwelling Units	238	0.42	64	36	**100**	64	36
Single Family Detached Housing (ITE Code: 210)									
AM	210	Dwelling Units	68	0.74	23	77	**50**	12	38
PM	210	Dwelling Units	68	0.99	63	37	**67**	42	25
						AM Peak	**150**	38	112
						PM Peak	**167**	106	61

** Trip Generation for AM & PM Peaks were calculated using the methods and equations outlined in the ITE Trip Generation Manual (10Th Ed).*

5.1.2 Southridge Trip Generation

At the current terminus of Southridge Avenue, a 23-lot residential subdivision was constructed. The subdivision consists of 23 single-family lots and 1 multi-family lot. Similar to the St. Lawrence and Eastview subdivisions, it has been assumed that two dwellings

will be constructed on each of the 23 single-family lots (46 total dwellings). The proposed plan for the multifamily lot is to construct a 60-unit townhouse development.

The Southridge Avenue trip generation was developed using the Multi-Family Housing Low-Rise land use (ITE Code: 220) and the Singe Family Detached Housing land use (ITE Code: 210).

Table 2 – Southridge Peak Hour Trip Generation Rates

Peak Period	ITE Code:	Trip Gen. Variable	Trip Gen. Variable Value	Average Rate	In %	Out %	Total Trip Gen.	In (vph)	Out (vph)
Multi-Family Housing – Low-Rise (ITE Code 220)									
AM	220	Occupied Dwelling Units	60	0.39	20	80	**23**	5	18
PM	220	Occupied Dwelling Units	60	0.52	65	35	**31**	20	11
Single Family Detached Housing (ITE Code: 210)									
AM	210	Dwelling Units	46	0.74	23	77	**34**	8	26
PM	210	Dwelling Units	46	0.99	63	37	**46**	29	17
						AM Peak	**57**	13	44
						PM Peak	**77**	49	28

** Trip Generation for AM & PM Peaks were calculated using the methods and equations outlined in the ITE Trip Generation Manual (10Th Ed).*

5.2 Trip Distribution

Two separate Trip Distributions have been prepared. One for the St. Lawrence/Eastview developments (Figure 4) that will utilize St. Lawrence Avenue for access and egress and one for the Southridge Developments (Figure 5) that will use Southridge Avenue. The Trip Distributions were created using the percentages from the existing intersection movements and engineering judgement.

5.3 Trip Assignment Volumes

Based on the Trip Distributions and utilizing the trip generation volumes, the separate Trip Assignment volumes were calculated (Figures 6 & 7). Figure 8 combines Figures 6 and 7 into one comprehensive Trip Assignment.

5.4 2025 Opening Day Volumes

Adding the Trip Assignment traffic (Figure 8) to the 2025 Existing Background traffic (Figure 2) results in the 2025 Opening Day traffic shown in Figure 9.

5.5 2040 Total Traffic Volumes

Adding the Trip Assignment traffic (Figure 8) to the 2040 Projected Background traffic (Figure 3) results in the 2040 Total Traffic shown in Figure 10.

6.0 HEAVY VEHICLE PERCENTAGE

The percentage of heavy vehicles on the municipal roads was calculated using the existing percentage of heavy vehicle traffic obtained from the traffic counts. Where the heavy vehicle volumes were zero, a default value of 2% was entered into the Synchro model (see Appendix D).

7.0 CAPACITY ANALYSIS

7.1 Method of Analysis

To analyze the performance of the study intersections and calculate the capacity and "level of service" (LOS) of each intersection, Synchro Studio Software (Version 11) has been used. This software was developed by Trafficware Ltd. and is based on the methods and procedures in the Highway Capacity Manual. Computer printouts showing the detailed calculation for each movement at each study intersection are provided in Appendix C.

The concept of "Level of Service" is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists. A level of service definition generally describes these conditions in terms of factors such as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety.
The six levels of service are defined in the Highway Capacity Manual as follows:

- **Level of Service A** represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist is excellent.

- **Level of Service B** is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from Level of Service A. The level of comfort and convenience provided is somewhat less than at Level of Service A because the presence of others in the traffic stream begins to affect individual behaviour.

- **Level of Service C** is the range of stable flow but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interaction with others in the traffic stream. The selection of speed is now affected by the presence of others and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

- **Level of Service D** represents high-density, but stable, traffic flow. Speed and freedom to maneuver are severally restricted, and the driver experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

- **Level of Service E** represents operating conditions at, or near, the capacity level. All speeds are reduced to a low, but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult and is generally accomplished by forcing a vehicle to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable because small increases in flow and minor perturbations within the traffic stream will cause breakdowns.

- **Level of Service F** is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queues are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more and then be required to stop in a cyclic fashion. The Level of Service F is used to describe the operating conditions within the queue, as well as the point of the breakdown.

Levels of Service Criteria, as defined by the Highway Capacity Manual, are illustrated in Table 2.

Table 3 – Level of Service Definitions			
Level of Service	**Impact on Street Traffic**	**Unsignalized Intersection Delay(s)**	**Signalized Intersection Delay(s)**
A	Little or no delays	0 – 10	0 – 10
B	Minor delays	10 – 15	10 – 20
C	Average delays	15 – 25	20 – 35
D	Long delays	25 – 35	35 – 55
E	Very long delays	35 – 50	55 – 80
F	Undesirable	> 50	> 80

7.2 Southridge Avenue & St. Lawrence Avenue

The Southridge Avenue and St. Lawrence Avenue intersection is an unsignalized four-way intersection. The north and southbound movements along Southridge Avenue both have stop conditions and the east and westbound movements along St. Lawrence operate under free movement conditions. St. Lawrence Avenue and Southridge Avenue are both built to the City of Prince George Collector Road standard complete with a 13m wide surface and a concrete sidewalk on one side of the street. Both roads have 50km/hr speed limits. Based on past Synchro Traffic Modelling of this intersection, a four-way stop intersection was recommended to be implemented once the Level of Service (LOS) at the intersection reaches a LOS 'E'. As such the intersection was modelled using the existing configuration as well as the four-way stop configuration.

A summary of the Synchro analysis for this intersection is shown in Table 4.

Table 4: Southridge Avenue & St Lawrence Avenue Intersection Analysis Summary								
	St. Lawrence				Southridge			
Approach	Eastbound		Westbound		Northbound		Southbound	
	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
AM Peak (Existing Configuration)								
2025 Existing Background	A	6.2	A	0.3	C	17.8	B	12.2
2025 Opening Day	A	6.7	A	0.4	**E**	**36.9**	**F**	**131.7**
2040 Projected Background	A	6.5	A	0.3	C	23.0	**E**	**46.1**
2040 Total Traffic	A	7.1	A	0.4	**F**	**68.1**	**F**	**572.3**
AM Peak (4- Way Stop)								
2025 Opening Day	C	18.2	B	10.7	B	10.6	B	12.6
2040 Total Traffic	D	29.5	B	13.0	B	11.9	C	15.9
PM Peak (Existing Configuration)								
2025 Existing Background	A	6.1	A	0.1	B	11.9	B	13.8
2025 Opening Day	A	6.2	A	0.5	C	16.1	D	32.9
2040 Projected Background	A	6.2	A	0.1	B	13.1	C	17.9
2040 Total Traffic	A	6.4	A	0.4	C	18.8	**F**	**80.2**
PM Peak (4-Way Stop)								
2025 Opening Day	B	11.6	B	10.2	A	9.4	B	14.9
2040 Total Traffic	B	13.2	B	11.5	B	10.1	C	20.5

The analysis shows that during the Existing Background scenario, the intersection operates satisfactorily under the existing intersection configuration. Once the development traffic is added, the north and southbound movements along Southridge experience longer delays resulting in LOS 'E' (very long delays) and 'F' (undesirable delays) respectively during the AM peak. When the four-way stop intersection configuration is implemented, the LOS for all movements is a 'C' (average delays) or better during the Opening Day scenarios. When projecting the volumes 15 years into the future, the LOS for all movements will be a 'D' or better (long delays) during the Total Traffic scenarios.

7.2.1 St. Lawrence & Southridge 4-Way Stop Analysis

The west leg of St. Lawrence Avenue is fairly steep and runs at an approximate grade of 7.5% with an intersection approach grade of approximately 2.5-3% that extends 30m from the asphalt edge on Southridge Avenue. The City Design Guidelines indicate that the approach grade should remain at 3% or less for 15m from the adjacent road edge. The

Transportation Association of Canada (TAC) guidelines recommend 3% or less for 20m. Both the City Design Guidelines and TAC recommendations are met.

Additionally, the braking distance and stopping sight distance were reviewed for the west leg of the intersection. Based on the TAC calculation the braking distance for the 3% approach is 30m. The TAC stopping distance requirement is 65m. The current sight line to the proposed stop sign location is approximately 60m. Since the stopping sight distance requirement is not quite met, it is recommended to install a W-11 'Stop Ahead' sign further west along St. Lawrence Avenue. The MoTI Standard Traffic Signs and Pavement Marking manual recommends that the W-11 sign should be installed 45m from the stop sign location.

Exhibit 2: Stop Ahead Sign

7.3 Southridge Avenue & Dakelh Ti

The Southridge Avenue and Dakelh Ti intersection is a three-way unsignalized intersection. The westbound movement on Dakelh Ti has a stop condition. The north and southbound movements along Southridge Avenue operate under free movement conditions. Southridge Avenue and Dakelh Ti are both built to the City of Prince George Collector Road standard complete with a 13m wide surface and a concrete sidewalk on one side of the street. Both roads have 50km/hr speed limits.

A summary of the Synchro analysis for this intersection is shown in Table 5.

Table 5: Southridge Avenue & Dakelh Ti Intersection Analysis Summary						
	Dakelh Ti		Southridge			
Approach	Westbound		Northbound		Southbound	
	LOS	Delay	LOS	Delay	LOS	Delay
AM Peak						
2025 Existing Background	B	14.4	A	0.0	A	2.4
2025 Opening Day	C	19.2	A	0.0	A	2.4
2040 Projected Background	C	18.0	A	0.0	A	2.7
2040 Total Traffic	D	26.6	A	0.0	A	2.8
PM Peak						
2025 Existing Background	B	12.9	A	0.0	A	1.3
2025 Opening Day	C	18.1	A	0.0	A	1.3
2040 Projected Background	C	15.1	A	0.0	A	1.4
2040 Total Traffic	C	23.4	A	0.0	A	1.4

The analysis shows that all movements operate at a LOS 'D' (long delays) or better during all design scenarios.

7.4 Southridge Avenue & Marleau Road

The Southridge Avenue and Marleau Road intersection is an unsignalized three-way stop intersection. Both roads have a speed limit of 50 km/hr.

A summary of the Synchro analysis for this intersection is shown in Table 6.

Table 6: Southridge Avenue & Marleau Rd Intersection Analysis Summary						
	Marleau		Southridge			
Approach	Eastbound		Northbound		Southbound	
	LOS	Delay	LOS	Delay	LOS	Delay
AM Peak						
2025 Existing Background	A	8.7	B	12.6	A	8.9
2025 Opening Day	A	9.2	C	16.7	A	9.5
2040 Projected Background	A	9.4	C	17.0	A	9.6
2040 Total Traffic	A	10.0	D	26.5	B	10.5
PM Peak						
2025 Existing Background	A	9.3	B	11.0	B	11.7
2025 Opening Day	B	10.2	B	13.2	C	16.0
2040 Projected Background	B	10.4	B	13.4	C	15.1
2040 Total Traffic	B	11.6	C	17.4	C	24.4

The analysis shows that all movements operate at a LOS 'C' (average delays) or better during all design scenarios.

7.5 Southridge Avenue & Private Road (Walmart Access)

The street that runs east-west to the north of Walmart is a private road without an official road name. The road services the adjacent commercial development. The report refers to the road name as Private Road.

The Southridge Avenue and Private Road intersection is a signalized four-way intersection. Both roads are two lane roads with 50km/hr speed limits. The southbound and westbound movements have separate left turn lanes and channelized right turns. The northbound and eastbound movements each have separate left turn lanes.

A summary of the Synchro analysis for this intersection is shown in Table 7.

Table 7: Southridge Avenue & Private Road (Walmart) Intersection Analysis Summary																		
Approach	Private Road																	
	Eastbound				Westbound						Northbound				Southbound			
	EBL		EBT		WBL		WBT		WBR		NBL		NBT		SBL		SBT	
	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)
AM Peak																		
2025 Existing Background	B	16.8	B	16.6	B	16.7	B	17.8	B	16.2	B	16.0	C	23.6	A	8.9	A	8.7
2025 Opening Day	B	16.8	B	16.6	B	16.8	B	17.8	B	16.2	B	16.2	C	30.7	B	10.1	A	9.0
2040 Projected Background	B	17.1	B	16.8	B	16.9	B	18.4	B	16.3	B	16.2	C	27.4	B	10.1	A	9.2
2040 Total Traffic	B	17.1	B	16.8	B	17.0	B	18.4	B	16.3	B	16.3	D	42.8	B	11.9	A	9.5
PM Peak																		
2025 Existing Background	C	21.1	B	19.3	B	16.7	B	19.9	B	16.3	B	16.3	C	21.3	A	8.5	B	12.2
2025 Opening Day	C	21.3	B	19.4	B	17.1	B	19.9	B	16.3	B	16.6	C	23.7	A	8.9	B	14.0
2040 Projected Background	C	25.9	C	20.5	B	17.1	C	21.3	B	16.4	B	16.6	C	23.5	A	9.2	B	14.9
2040 Total Traffic	C	25.9	C	20.6	B	17.5	C	21.3	B	16.4	B	17.0	C	26.9	A	9.8	B	17.9

The analysis shows that all movements operate at a LOS D (long delays) or better during all design scenarios.

8.0 EXISTING ROAD NETWORK CAPACITIES

Southridge Avenue and St. Lawrence Avenue are the primary collector roads that will be used to access the subject property. As previously mentioned, both of these roads are built to the City of Prince George's Collector Road standard with 13m wide surfaces. The Highway Capacity Manual (HCM), Exhibit *16-14* provides generalized daily service volume capacities (average daily traffic or ADT) for two lane urban streets for use in planning purposes. The manual indicates that a LOS C/D will be maintained if average daily traffic remains at or below 12,700 vehicles/day (K-Factor = 0.1, D-Factor = 0.60, Design Speed = 50km/hr). The traffic counts collected as part of this study only capture a 6.5 hour time period; therefore the average daily traffic (ADT) needs to be estimated. The ADT can be approximated by multiplying the peak hour traffic volume by a 'K-factor'. The 'K-factor' is usually between 8 and 12. Typically, a higher factor is used in rural areas and a lower factor is used in urban areas. For the purposes of this study, a factor of 10 was used to analyze the road capacities along St. Lawrence Avenue and Southridge Avenue.

The current ADT traffic along St. Lawrence Avenue, between the subject site and the Southridge Avenue intersection is approximately 3,300 veh/day. This equates to approximately 26% of the

12,700 veh/day two lane road capacity. Once the development traffic is added the ADT will be approximately 4,750 veh/day (37% of two lane road capacity).

The current ADT along Southridge Avenue ranges between 5,200 – 6,200 depending on which section of the Southridge Avenue is being analyzed. Once the development traffic is added the approximate ADT ranges 6,500 – 7,600 veh/day. Therefore, the existing road network surrounding the subject development has the capacity to accommodate the expected traffic volumes.

9.0 FUTURE ROAD CONNECTIONS

The City of Prince George's Official Community Plan (OCP) summarizes the City's 15-Year Road Network Plan (OCP Schedule B-10). The OCP includes multiple future road connections around the subject development. The surrounding road connections outlined in Schedule B-10, 15-Year Road Network Plan include:

- **Glen Lyon Way Extension** between St. Patrick Ave and Park Dr
- **Ospika Boulevard Extension** between Marleau Rd and Glen Lyon Way
- **St. Lawrence Extension** to Henrey Road
- **Westgate Avenue Extension** to Glen Lyon Way

As it relates to this development the most beneficial road connection is the Ospika Boulevard extension between Marleau Road and St. Lawrence Avenue. This connection would reduce the amount of traffic along Southridge Avenue by providing a secondary access to the St. Lawrence neighbourhood. Based on the Synchro and two lane road capacity analysis, this connection is not required during the Existing Background or Opening Day traffic scenarios. Both Southridge Avenue and St. Lawrence Avenue are designed to accommodate the existing traffic as well as the additional traffic created by the development. However, the Vista Ridge Neighbourhood continues to develop and further development is expected to occur over the next decade. It is our recommendation that this connection continues to be analyzed as further development occurs to determine exactly when this upgrade project is required. Refer to Exhibit 3 for the Future Road Connections as outlined in the OCP's 15-Year Road Network Plan.

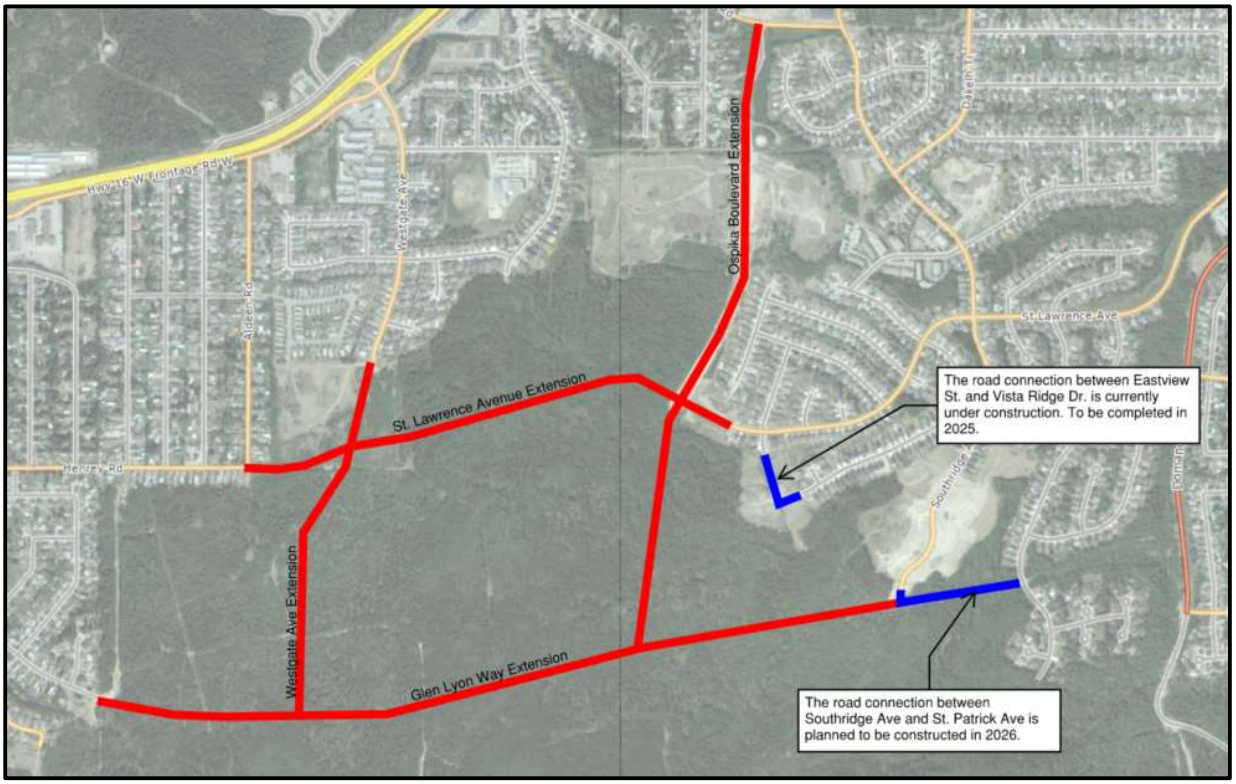


Exhibit 3: Future Road Connections

10.0 SECONDARY EMERGENCY ACCESS

In the event of an emergency, the subject property and the surrounding neighbourhood have multiple options to evacuate the area (Refer to Exhibit 4). The first option (blue) would be to utilize St. Lawrence Aveune to travel to Southridge Avenue or Domano Boulevard. If the incident were to occur along St. Lawrence Avenue, the second option (yellow) would be to utilize the connection between Eastview Street and Vista Ridge Drive. This connection is currently under construction and will be completed in the Spring of 2025. The third option (green) would be to utilize the 4m wide asphalt pathway that connects Vista Ridge Drive and Southridge Avenue. Each end of the pathway is protected by removeable bollards that are intended to be removed during an emergency event. If evacuating to Southridge Avenue is not an option, the fourth option (pink) would be to utilize the existing gravel access road at the top end of St Lawrence Avenue. The access road connects St. Lawrence Avenue to Marleau Road and is currently used for City infrasturucture maintenance purposes.

Exhibit 4: Emergency Access Routes

11.0 COLLISION HISTORY

11.1 St. Lawrence Avenue & Southridge Avenue

The City of Prince George requested L&M to review the collision history at the St. Lawrence Avenue and Southridge Avenue intersection to determine if there has been a consistent pattern in types of collisions. There has been concern, expressed by the City, about installing a four-way stop at this intersection due to the road grade of St. Lawrence Avenue and slippery winter conditions. The main objective of reviewing the collision history was to determine if rear end collisions on St. Lawrence have been an issue and if this issue would be compounded by a new four-way stop.

The available ICBC collision history was reviewed for the intersection from 2013 through 2022. Over this period there have been a total of 8 collisions related to the intersection, 2 resulting in injury and 6 resulting in property damage only. Of these 8 accidents, 7 were reported as side impacts, and 1 was reported as a rear end collision. The rear end collision occurred on Southridge Avenue. Based on the ICBC collision data, a four-way stop would likely improve the safety of the intersection. It should reduce the number of side impact collisions.

12.0 CONCLUSIONS

12.1 Synchro Analysis

Synchro analysis was conducted for the four study intersections.

1. The following intersections operated at LOS C (average delays) or better during all design horizon scenarios:

    - Southridge Avenue & Marleau Road

2. The following intersections operated at LOS D (long delays) or better during all design horizon scenarios:

    - St. Lawrence Avenue & Southridge Avenue – Four Way Stop Configuration
    - Southridge Avenue & Dakelh Ti
    - Southridge Avenue & Private Road (Walmart)

3. The following intersections operated at LOS F (undesirable delays) or better during all design horizon scenarios:

    - Southridge Avenue & Southridge Avenue – Current Configuration

12.2 Existing Road Network Capacities

1. St. Lawrence Avenue, between the subject site and Southridge Avenue, is a two-lane urban road that can accommodate approximately 12,700 veh/day while maintain a LOS C/D. The current ADT is approximately 26% of this capacity and the Opening Day ADT is approximately 37% of this capacity.

2. Southridge Avenue is a two-lane urban road that can accommodate approximately 12,700 veh/day. The current ADT ranges between 41% - 49% of this capacity and the Opening Day ADT ranges between 51% - 60% of this capacity.

13.0 RECOMMENDATIONS

13.1 Intersection Improvements

1. Install a four-way stop at the intersection of St. Lawrence Avenue and Southridge Avenue. The west leg of the intersection should include a 'Stop Ahead' sign approximately 45m before the stop sign due to limited sight lines.

14.0 CLOSURE

This Traffic Impact Study has been prepared for the exclusive use of Ridgecrest Development Group, and the City of Prince George. Any use which a third party makes of this report or any reliance on or decisions to be made based on it are the responsibility of such third parties. L&M Engineering Limited accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this study. The information and data contained within this document represent L&M Engineering Limited's professional judgment in accordance with the knowledge and information available to L&M Engineering Limited at the time of the report preparation. No other warranty, expressed or implied, is made.

Sincerely,

L&M ENGINEERING LTD

Prepared by:

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
T. A. FJELLSTROM
53444
PERMIT TO PRACTICE
NO 1002375
2024-11-05

Tanner Fjellstrom, P. Eng
Associate

Reviewed by:

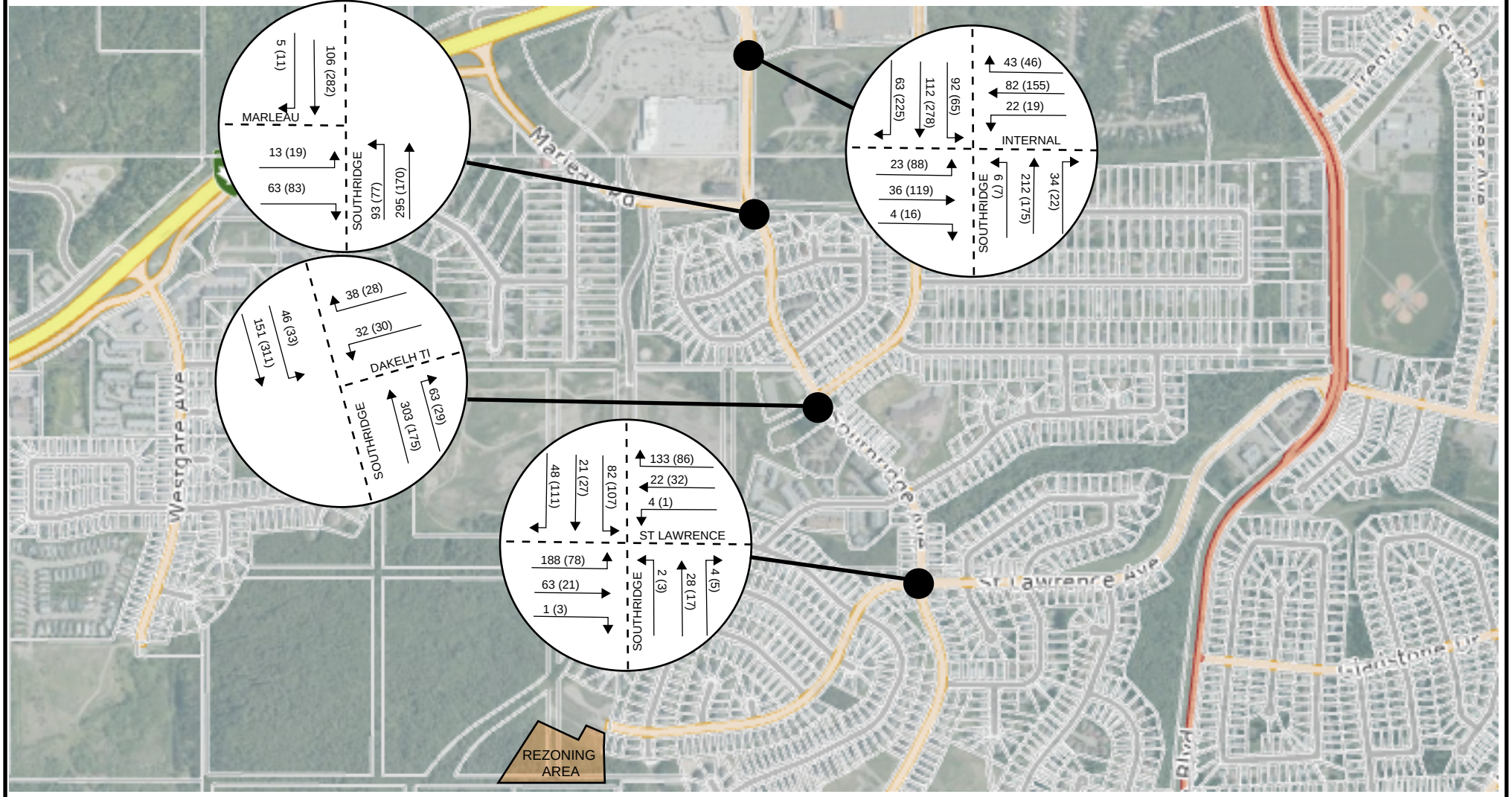
Terry Fjellstrom, P. Eng
President

G:\Job Files\1400\1432 - 657180 BC Ltd - Mo Golam\16 - St Lawrence Ave Rezoning & 2 Lots SD\00 - Planning\04 - TIS\2024 Traffic Impact Study\3 - Report\R-R.0 - St. Lawrence Ave Traffic Impact Study.docx

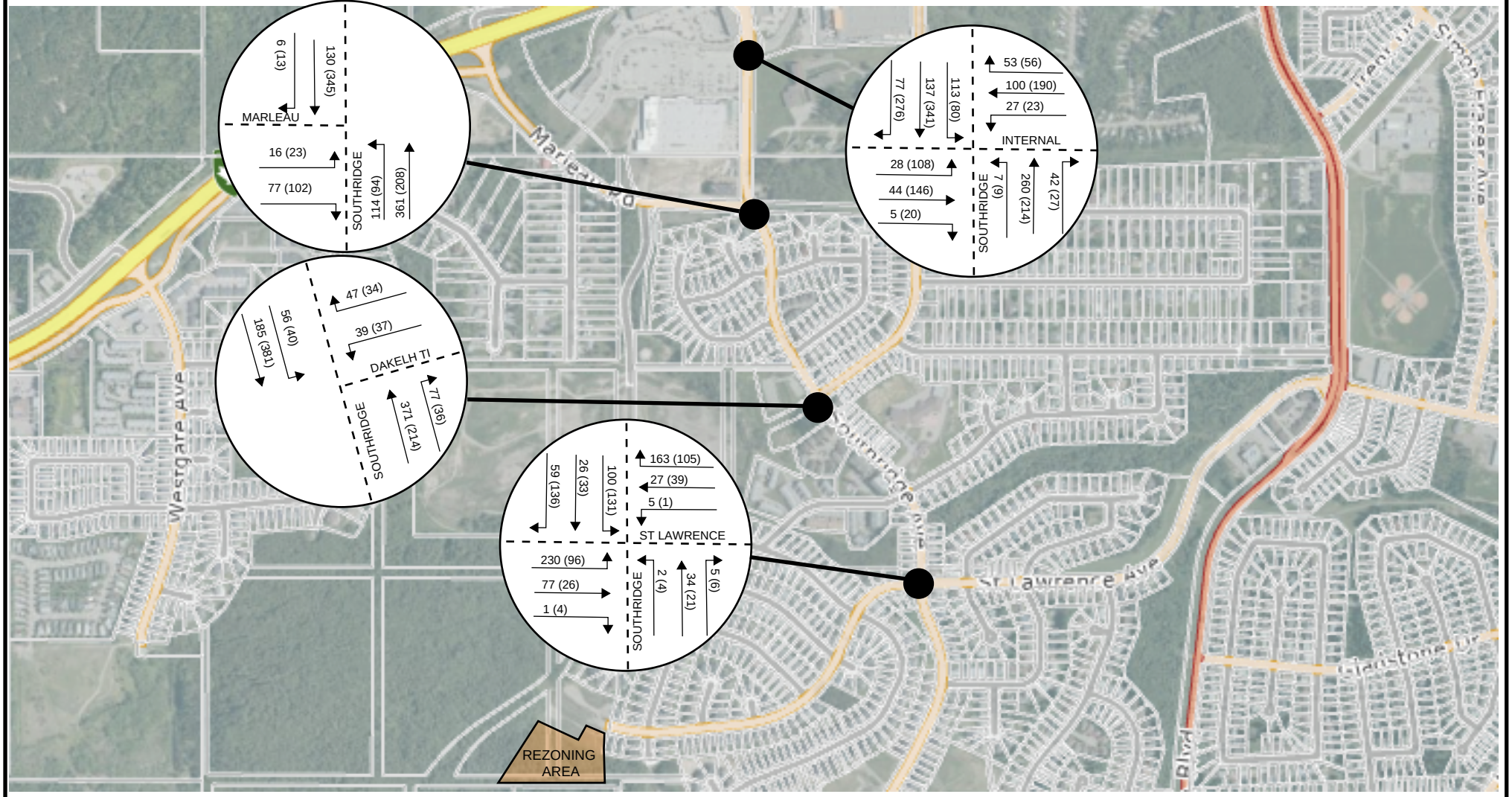
APPENDIX A

FIGURES

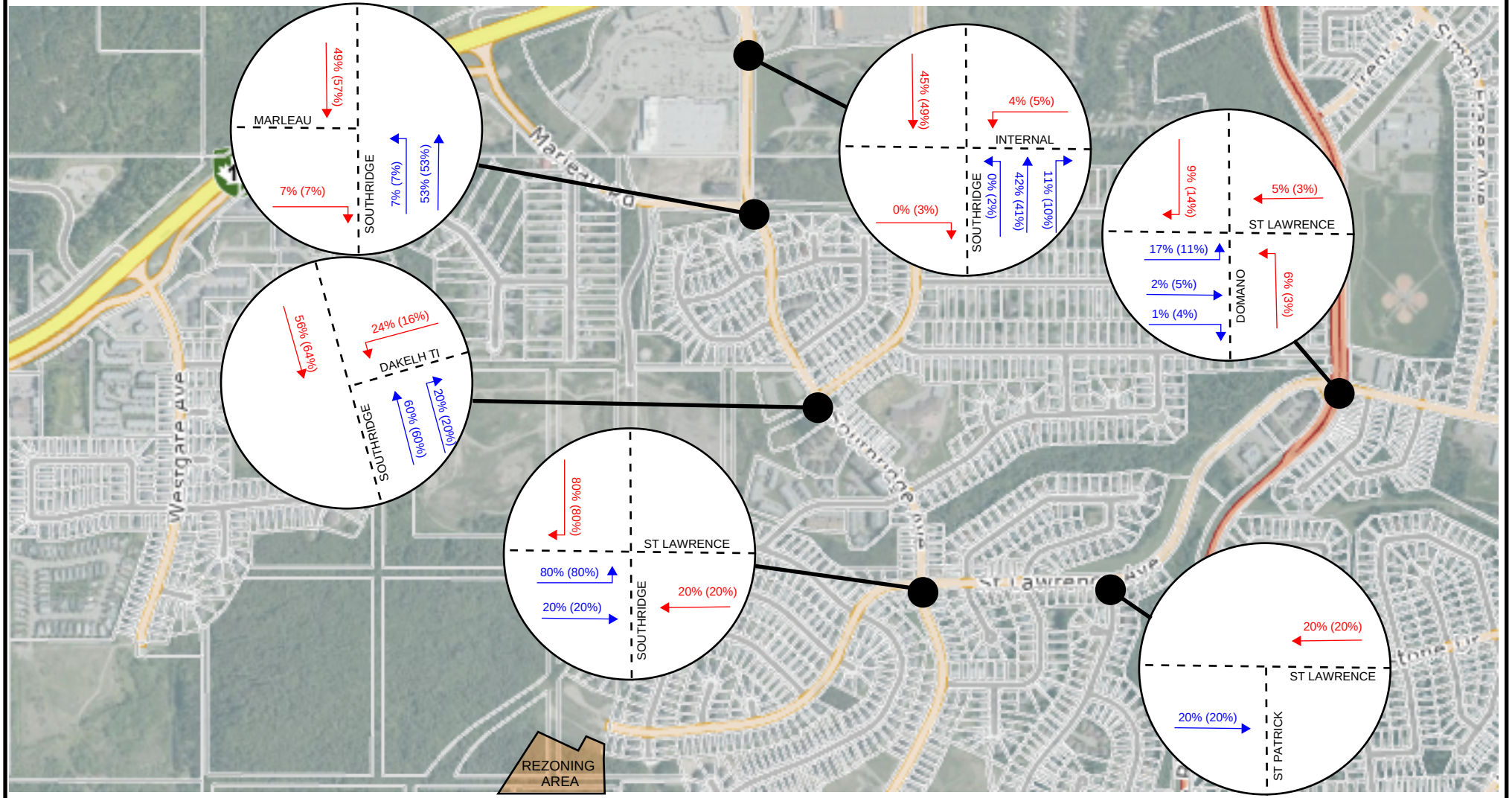
DRAWN: TF	CONSULTANTS PROJECT No.	RIDGECREST DEVELOPMENT GROUP INC.	L&M ENGINEERING LIMITED
CHECKED: TF	1432-16	ST. LAWRENCE REZONING	1210 FOURTH AVENUE PRINCE GEORGE, B.C. V2L 3J4 TEL. (250) 562-1977 FAX (250) 562-1967
ENGINEER: TF	DRAWING No.	2025 EXISTING BACKGROUND	
PROJECT FILE: 1432-16	**FIG. 1**		
DATE: OCTOBER 15TH, 2024			



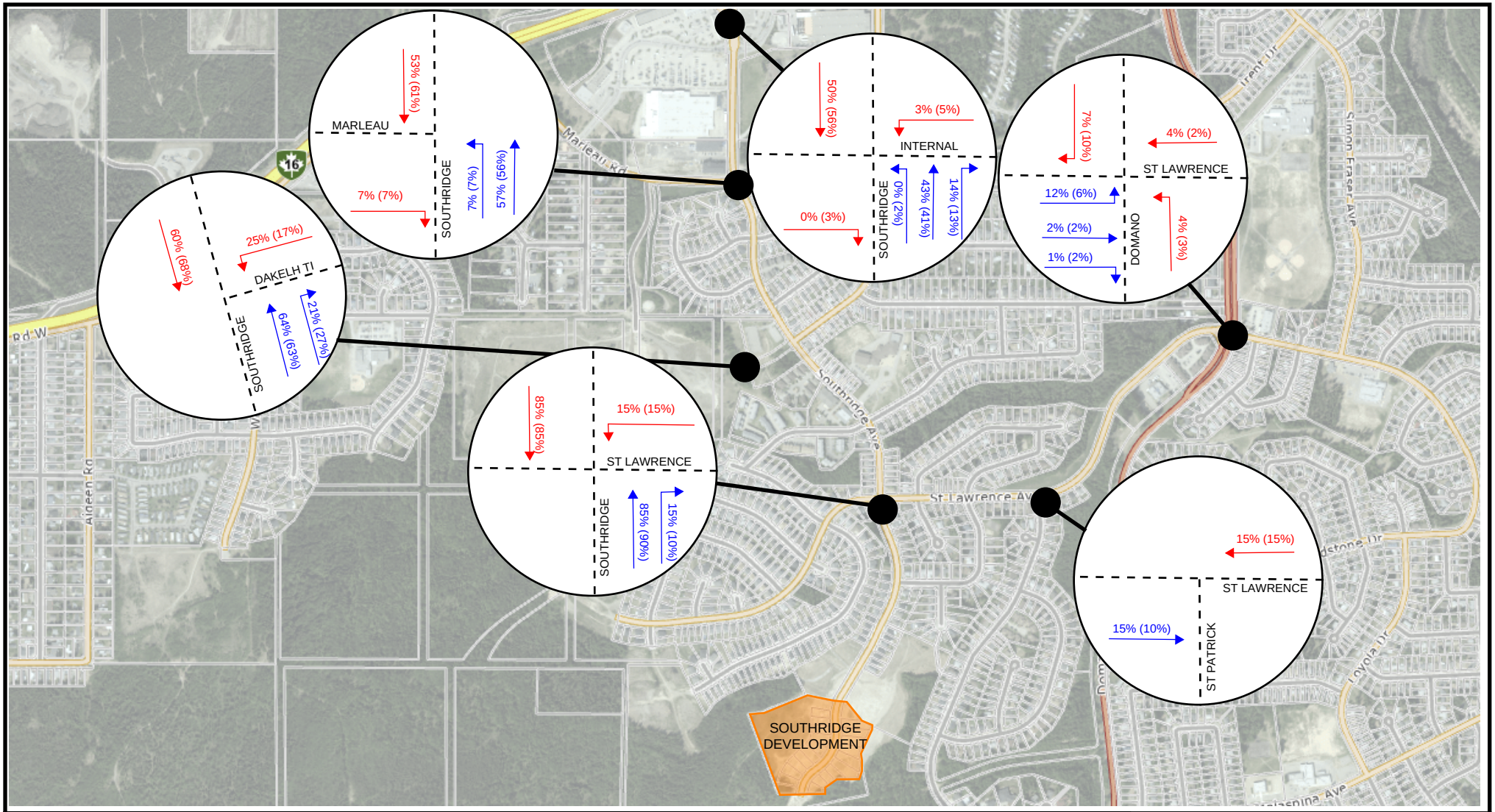
DRAWN: TF	CONSULTANTS PROJECT No.	RIDGECREST DEVELOPMENT GROUP INC.	L&M ENGINEERING LIMITED
CHECKED: TF	**1432-16**	ST. LAWRENCE REZONING	1210 FOURTH AVENUE PRINCE GEORGE, B.C. V2L 3J4 TEL. (250) 562-1977 FAX (250) 562-1967
ENGINEER: TF	DRAWING No.	2025 EXISTING BACKGROUND	
PROJECT FILE: 1432-16	**FIG. 2**		
DATE: OCTOBER 15TH, 2024			



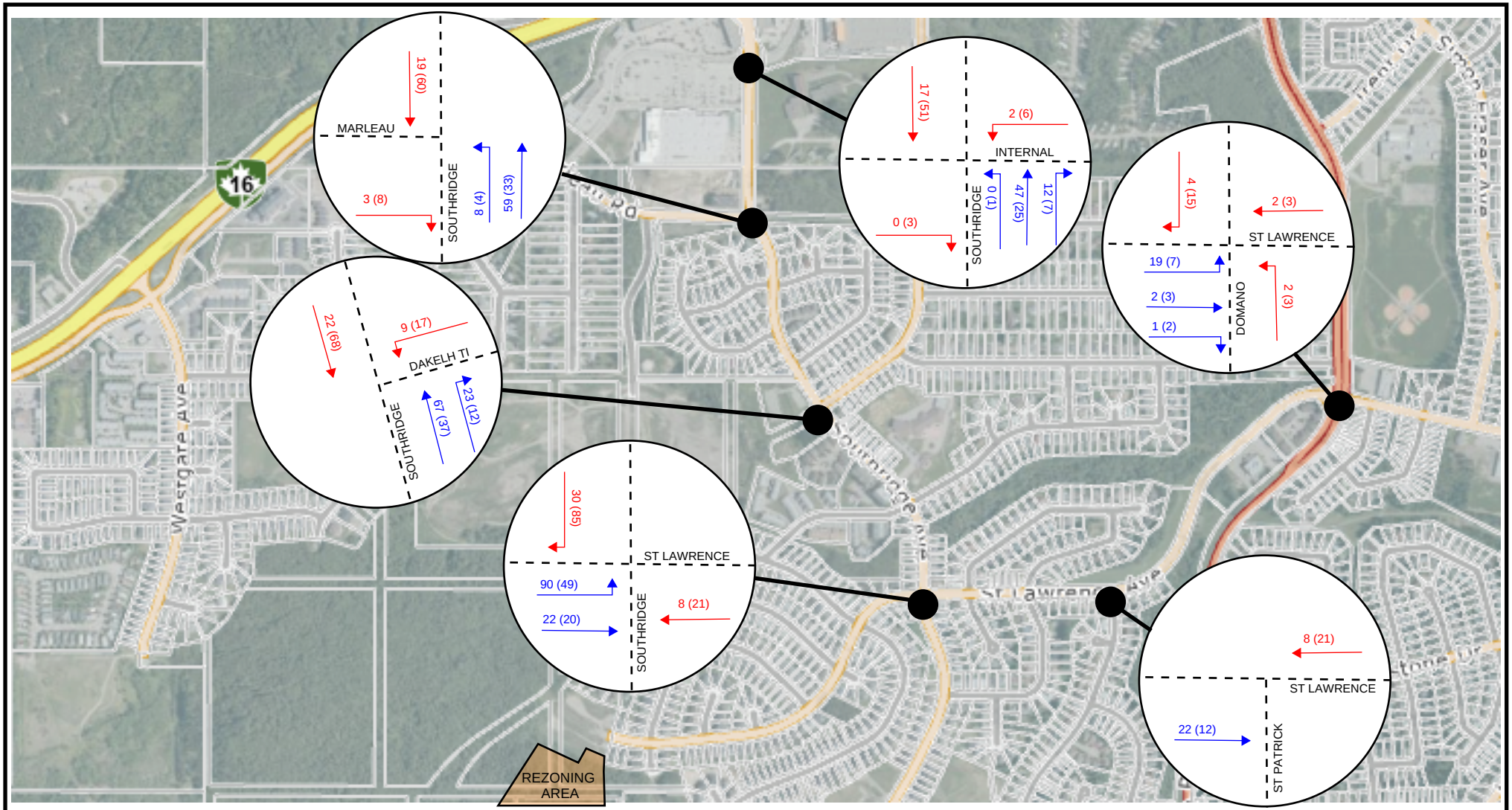
DRAWN: TF	CONSULTANTS PROJECT No.	RIDGECREST DEVELOPMENT GROUP INC.	L&M ENGINEERING LIMITED
CHECKED: TF	**1432-16**	ST. LAWRENCE REZONING	1210 FOURTH AVENUE PRINCE GEORGE, B.C. V2L 3J4 TEL. (250) 562-1977 FAX (250) 562-1967
ENGINEER: TF	DRAWING No.	2040 PROJECTED BACKGROUND	
PROJECT FILE: 1432-16	**FIG. 3**		
DATE: OCTOBER 15TH, 2024			



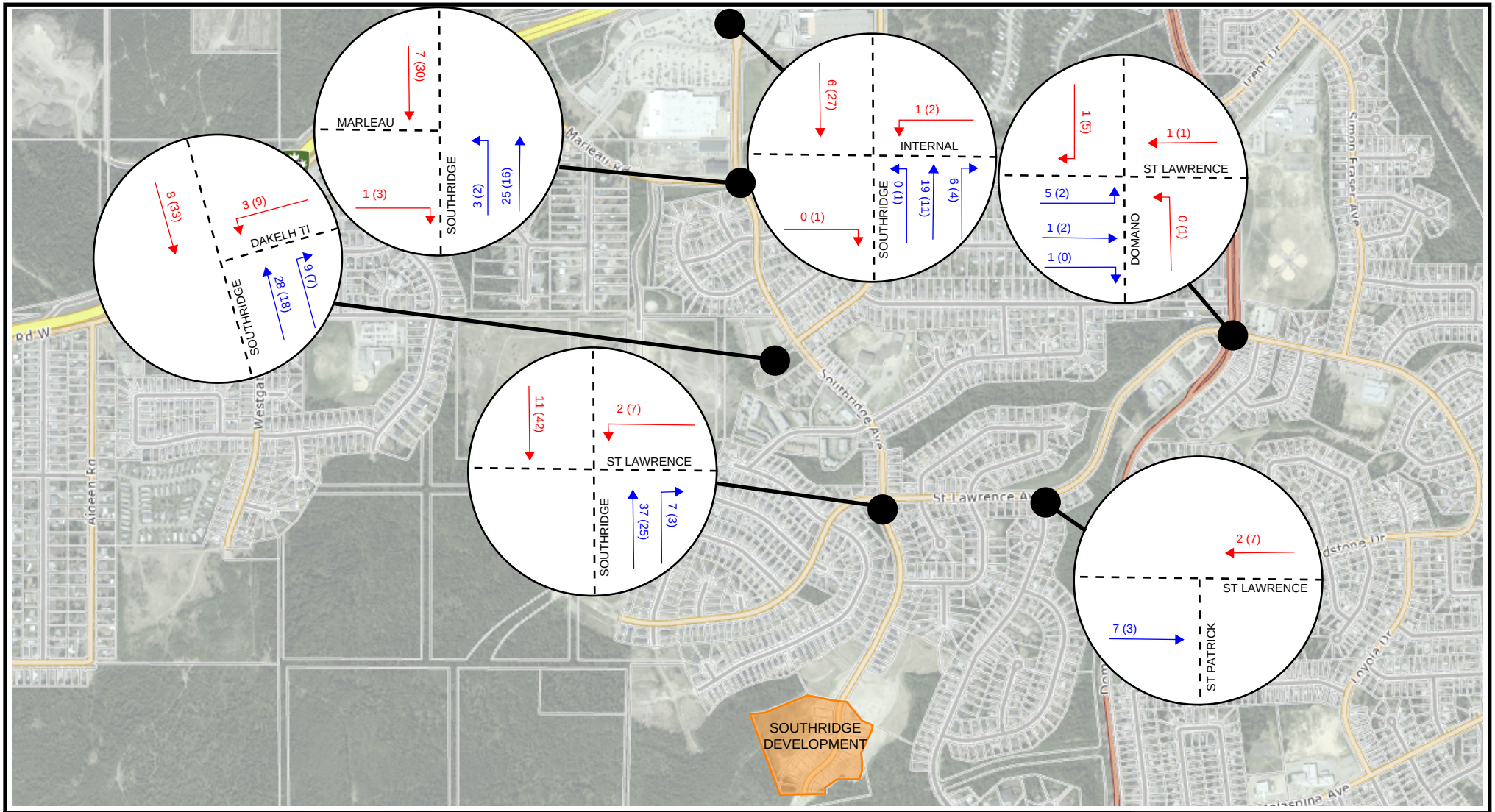
DRAWN: TF	CONSULTANTS PROJECT No.	RIDGECREST DEVELOPMENT GROUP INC.	L&M ENGINEERING LIMITED
CHECKED: TF	**1432-16**	ST. LAWRENCE REZONING	1210 FOURTH AVENUE PRINCE GEORGE, B.C. V2L 3J4 TEL. (250) 562-1977 FAX (250) 562-1967
ENGINEER: TF	DRAWING No.	ST. LAWRENCE / EASTVIEW	
PROJECT FILE: 1432-16	**FIG. 4**	TRIP DISTRIBUTION	
DATE: JULY 23rd, 2024			



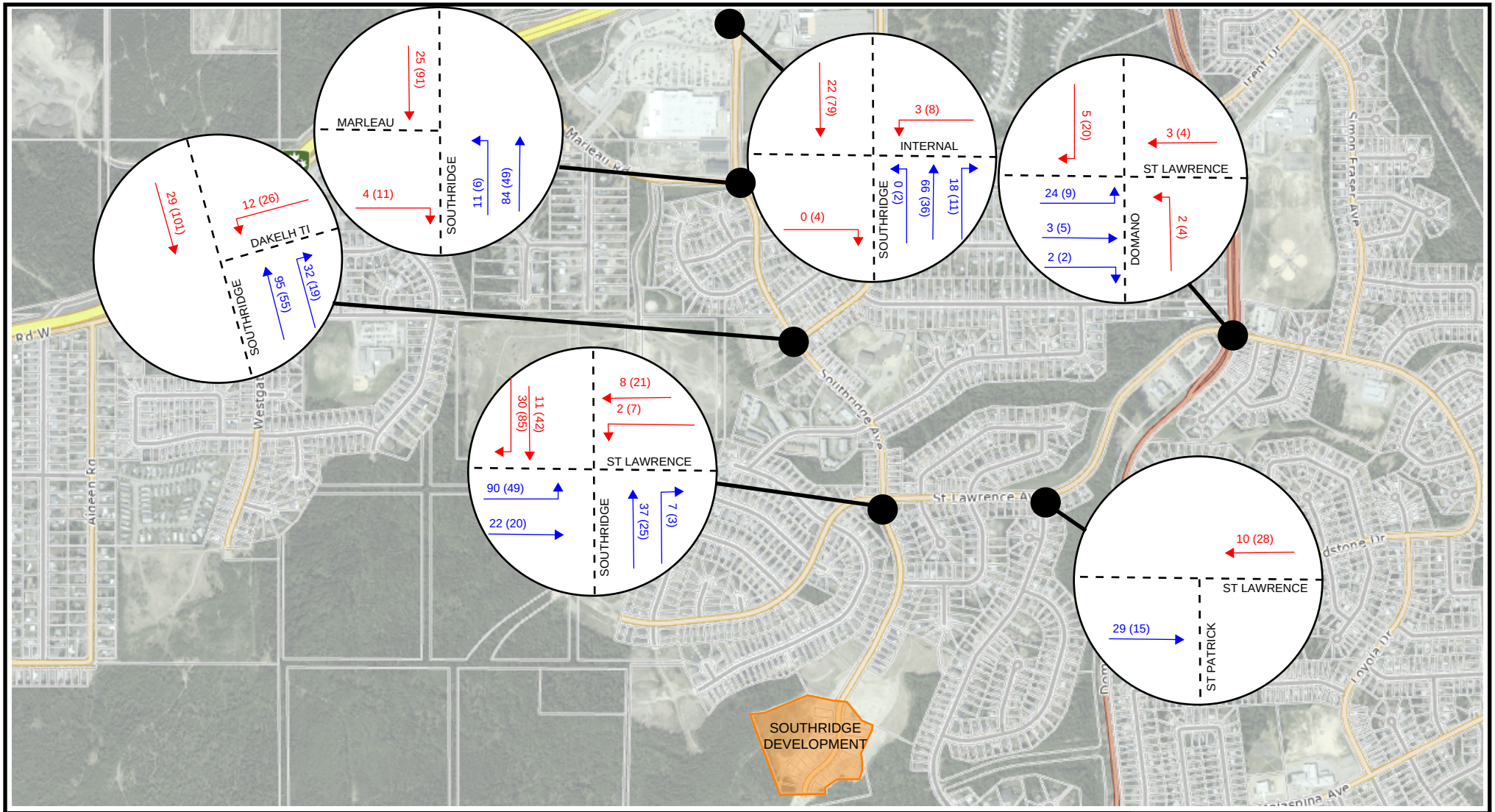
DRAWN: TF	CONSULTANTS PROJECT No. **1432-16**	RIDGECREST DEVELOPMENT GROUP INC.	L&M ENGINEERING LIMITED
CHECKED: TF		ST. LAWRENCE REZONING	1210 FOURTH AVENUE PRINCE GEORGE, B.C. V2L 3J4 TEL. (250) 562-1977 FAX (250) 562-1967
ENGINEER: TF	DRAWING No. **FIG. 5**	SOUTHRIDGE DEVELOPMENTS	
PROJECT FILE: 1432-16		TRIP DISTRIBUTION	
DATE: JULY 23rd, 2024			



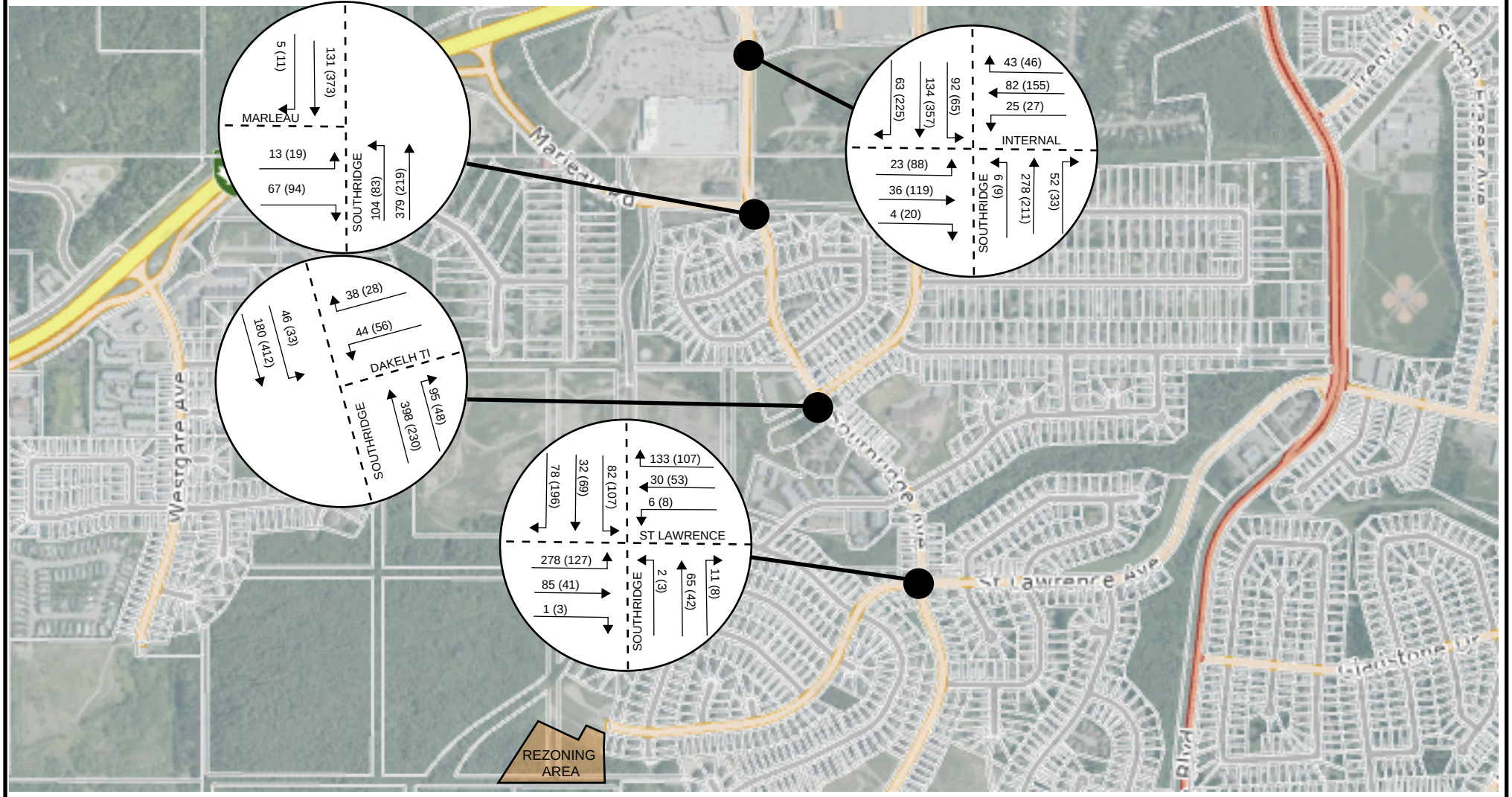
DRAWN: TF	CONSULTANTS PROJECT No.	RIDGECREST DEVELOPMENT GROUP INC.	L&M ENGINEERING LIMITED
CHECKED: TF	**1432-16**	ST. LAWRENCE REZONING	1210 FOURTH AVENUE PRINCE GEORGE, B.C. V2L 3J4 TEL. (250) 562-1977 FAX (250) 562-1967
ENGINEER: TF	DRAWING No.	ST. LAWRENCE / EASTVIEW	
PROJECT FILE: 1432-16	**FIG. 6**	TRIP ASSIGNMENT	
DATE: JULY 23rd, 2024			



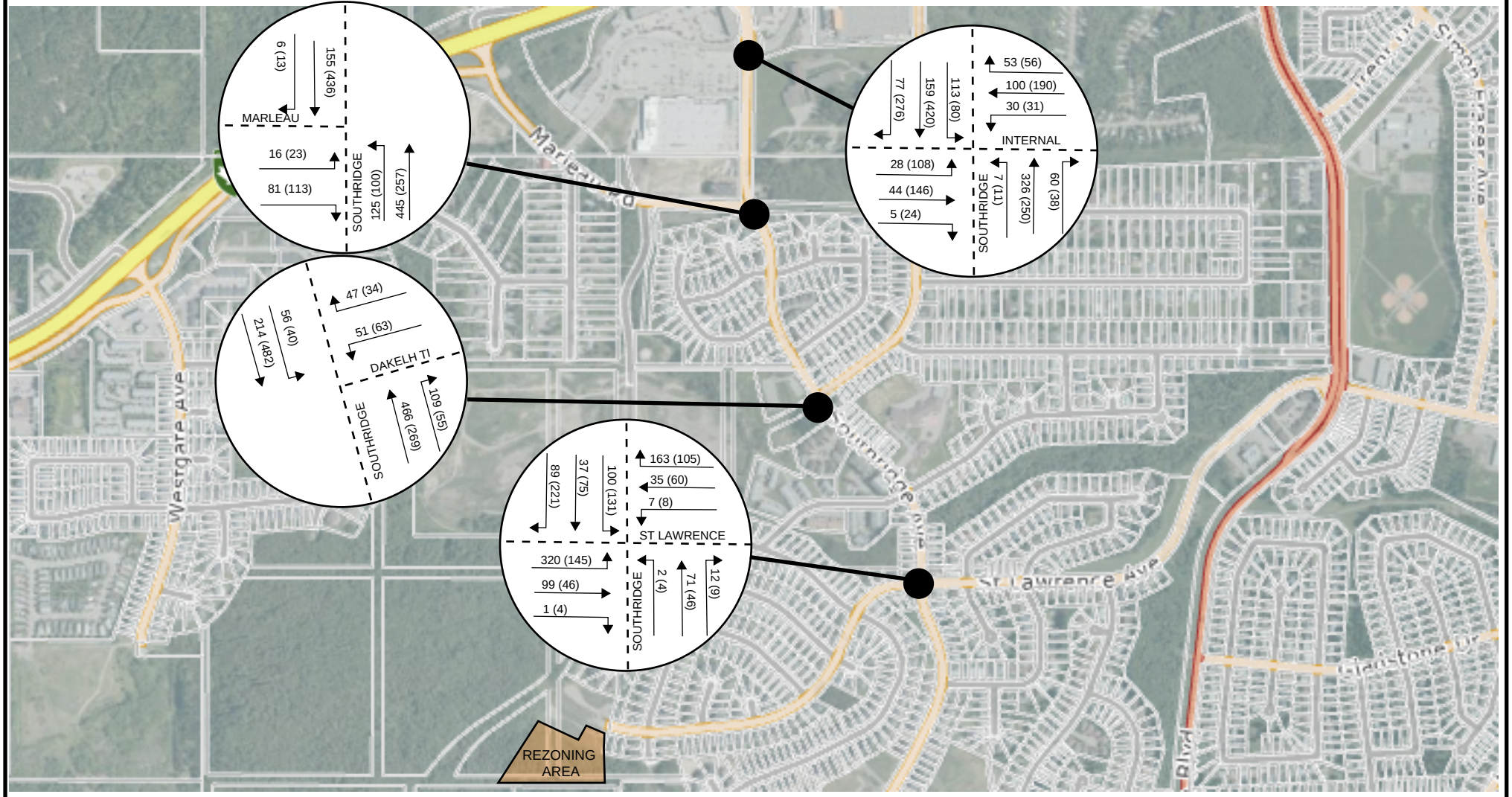
DRAWN: TF	CONSULTANTS PROJECT No. **1432-16**	RIDGECREST DEVELOPMENT GROUP INC.	L&M ENGINEERING LIMITED
CHECKED: TF	DRAWING No. **FIG. 7**	ST. LAWRENCE REZONING	1210 FOURTH AVENUE PRINCE GEORGE, B.C. V2L 3J4 TEL. (250) 562-1977 FAX (250) 562-1967
ENGINEER: TF		SOUTHRIDGE DEVELOPMENTS	
PROJECT FILE: 1432-16		TRIP ASSIGNMENT	
DATE: JULY 23rd, 2024			



DRAWN: TF	CONSULTANTS PROJECT No. **1432-16**	RIDGECREST DEVELOPMENT GROUP INC.	L&M ENGINEERING LIMITED
CHECKED: TF		ST. LAWRENCE REZONING	1210 FOURTH AVENUE PRINCE GEORGE, B.C. V2L 3J4 TEL. (250) 562-1977 FAX (250) 562-1967
ENGINEER: TF	DRAWING No. **FIG. 8**	COMBINED	
PROJECT FILE: 1432-16		TRIP ASSIGNMENT	
DATE: JULY 23rd, 2024			



DRAWN: TF	CONSULTANTS PROJECT No.	RIDGECREST DEVELOPMENT GROUP INC.	L&M ENGINEERING LIMITED
CHECKED: TF	**1432-16**	ST. LAWRENCE REZONING	1210 FOURTH AVENUE PRINCE GEORGE, B.C. V2L 3J4 TEL. (250) 562-1977 FAX (250) 562-1967
ENGINEER: TF	DRAWING No.	2025 OPENING DAY	
PROJECT FILE: 1432-16	**FIG. 9**		
DATE: OCTOBER 15TH, 2024			



DRAWN: TF	CONSULTANTS PROJECT No.	RIDGECREST DEVELOPMENT GROUP INC.	L&M ENGINEERING LIMITED
CHECKED: TF	**1432-16**	ST. LAWRENCE REZONING	1210 FOURTH AVENUE PRINCE GEORGE, B.C. V2L 3J4 TEL. (250) 562-1977 FAX (250) 562-1967
ENGINEER: TF	DRAWING No.	2040 TOTAL TRAFFIC	
PROJECT FILE: 1432-16	**FIG. 10**		
DATE: OCTOBER 15TH, 2024			

APPENDIX B

TRAFFIC COUNTS

Vehicle Turning Movement Survey

PASSENGER VEHICLES

N/S Street: ***Southridge Avenue***
E/W Street: ***St Lawrence Avenue***
LOCATION: ***Prince George***
DATE: ***October 2, 2024***
WEATHER: ***Rainy***
TOTAL HOURS= ***6.5***

Observer: ***Nioma El Fatihi***
Notes:

Speed Limit Major Street	***50***
Speed Limit Minor Street	***50***

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume
7:00 - 7:15	8	1	7		2	1	1	3	4	18	3		48	
7:15 - 7:30	4	1	4		3			1	7	15	2		37	
7:30 - 7:45	6	4	7		10	1	2		17	30	4		81	
7:45 - 8:00	11	3	6		4			2	32	42	6	1	107	273
8:00 - 8:15	21	6	7		10	1	1	3	34	50	20		153	378
8:15 - 8:30	23	3	15		8	3	1	5	39	51	18		166	507
8:30 - 8:45	24	9	18	1	6		2	12	23	38	17		150	576
8:45 -9:00	11	7	10	1	5			5	21	22	3		85	554
9:00 - 9:15	8	4	17		5	2	1	3	12	27	2	1	82	483
9:15 - 9:30	4	1	8	1	4			1	19	13	3		54	371
9:30 - 9:45	11	6	9		5	1			12	15	2		61	282
9:45 -10:00	9	6	6		7			1	12	9	4		54	251
SUB TOTAL	**140**	**51**	**114**	**3**	**69**	**9**	**8**	**36**	**232**	**330**	**84**	**2**	**1078**	
14:30 - 14:45	29	12	36	1	5	2	1	4	18	19	4	2	133	
14:45 - 15:00	13	3	27	1	4	1	2	4	11	13	8		87	
15:00 - 15:15	22	6	12	1	4		1	10	20	13	3		92	
15:15 - 15:30	25	8	19		11		1	6	14	10	3		97	409
15:30 - 15:45	21	9	27	1	5	1		9	12	24	4		113	389
15:45 - 16:00	25	9	21		7	2	1	7	28	16	6	1	123	425
16:00 - 16:15	30	4	28	1	4			7	21	17	5	2	119	452
16:15 - 16:30	29	5	31	1	1	2		9	21	20	5		124	479
16:30 - 16:45	31	8	20		6	1		13	8	16	8	1	112	478
16:45 - 17:00	25	4	33	1	2	1	1	10	19	10	7		113	468
17:00 - 17:15	23	6	31		1			7	23	16	2		109	458
17:15 - 17:30	23	7	37		3		1	9	22	13	3		118	452
17:30 - 17:45	26	10	35		5	2	2	5	12	16	2		115	455
17:45 - 18:00	28	6	16	2	3	1	1	8	13	21	4		103	445
SUB TOTAL	**350**	**97**	**373**	**9**	**61**	**13**	**11**	**108**	**242**	**224**	**64**	**6**	**1558**	

Vehicle Turning Movement Survey

LT + Bus + RV

N/S Street: Southridge Avenue
E/W Street: St Lawrence Avenue
LOCATION: Prince George
DATE: October 2, 2024
WEATHER: Rainy
TOTAL HOURS= 6.5

Observer: Nioma El Fatihi
Notes:

Speed Limit Major Street	50
Speed Limit Minor Street	50

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume
7:00 - 7:15									2				2	
7:15 - 7:30														
7:30 - 7:45														
7:45 - 8:00	1		1						1				3	5
8:00 - 8:15									1	2			3	6
8:15 - 8:30	1									1			2	8
8:30 - 8:45				1					1	1	1		4	12
8:45 -9:00									1				1	10
9:00 - 9:15														7
9:15 - 9:30														5
9:30 - 9:45								1	1				2	3
9:45 -10:00									1				1	3
SUB TOTAL	**2**		**1**	**1**				**1**	**8**	**4**	**1**		**18**	
14:30 - 14:45	1												1	
14:45 - 15:00												1	1	
15:00 - 15:15					1			1					2	
15:15 - 15:30									1	1			2	6
15:30 - 15:45			2						1		1		4	9
15:45 - 16:00									1				1	9
16:00 - 16:15									1				1	8
16:15 - 16:30														6
16:30 - 16:45									1				1	3
16:45 - 17:00									1				1	3
17:00 - 17:15									1				1	3
17:15 - 17:30														3
17:30 - 17:45									1				1	3
17:45 - 18:00				1					1			1	3	5
SUB TOTAL	**1**		**2**	**1**	**1**			**1**	**9**	**1**	**1**	**2**	**19**	

Vehicle Turning Movement Survey

HEAVY TRUCKS

N/S Street: Southridge Avenue
E/W Street: St Lawrence Avenue
LOCATION: Prince George
DATE: October 2, 2024
WEATHER: Rainy
TOTAL HOURS= 6.5

Observer: Nioma El Fatihi
Notes:

Speed Limit Major Street	50
Speed Limit Minor Street	50

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume
7:00 - 7:15														
7:15 - 7:30														
7:30 - 7:45														
7:45 - 8:00														
8:00 - 8:15														
8:15 - 8:30														
8:30 - 8:45														
8:45 -9:00														
9:00 - 9:15														
9:15 - 9:30														
9:30 - 9:45														
9:45 -10:00														
SUB TOTAL														
PH HEAVY TRUCKS														

14:30 - 14:45														
14:45 - 15:00														
15:00 - 15:15														
15:15 - 15:30														
15:30 - 15:45														
15:45 - 16:00														
16:00 - 16:15														
16:15 - 16:30														
16:30 - 16:45														
16:45 - 17:00														
17:00 - 17:15														
17:15 - 17:30														
17:30 - 17:45														
17:45 - 18:00														
SUB TOTAL														

Vehicle Turning Movement Survey

PEDESTRIAN

N/S Street: Southridge Avenue
E/W Street: St Lawrence Avenue
LOCATION: Prince George
DATE: October 2, 2024
WEATHER: Rainy
TOTAL HOURS= 6.5

Observer: Nioma El Fatihi
Notes:

Speed Limit Major Street	50
Speed Limit Minor Street	50

TIME	SOUTHBOUND *(North Approach)*	NORTHBOUND *(South Approach)*	WESTBOUND *(East Approach)*	EASTBOUND *(West Approach)*	Total Volume	Hourly Volume
7:00 - 7:15				5	5	
7:15 - 7:30	1				1	
7:30 - 7:45			1		1	
7:45 - 8:00		1	2		3	10
8:00 - 8:15	1	3		4	8	13
8:15 - 8:30	1	5	1	5	12	24
8:30 - 8:45	3	1	1		5	28
8:45 -9:00			1	4	5	30
9:00 - 9:15			1	3	4	26
9:15 - 9:30	2			2	4	18
9:30 - 9:45	1		3	3	7	20
9:45 -10:00		2	2	1	5	20
SUB TOTAL	**9**	**12**	**12**	**27**	**60**	

14:30 - 14:45	30		3		33	
14:45 - 15:00		1	4		5	
15:00 - 15:15						
15:15 - 15:30			1		1	39
15:30 - 15:45	1	1		1	3	9
15:45 - 16:00			1	1	2	6
16:00 - 16:15	2		1		3	9
16:15 - 16:30	1	1	1		3	11
16:30 - 16:45		4	4	2	10	18
16:45 - 17:00	3		3		6	22
17:00 - 17:15	1		3		4	23
17:15 - 17:30						20
17:30 - 17:45	3	1	6		10	20
17:45 - 18:00			1	1	2	16
SUB TOTAL	**41**	**8**	**28**	**5**	**82**	

Vehicle Turning Movement Survey

TOTAL

N/S Street: Southridge Avenue
E/W Street: St Lawrence Avenue
LOCATION: Prince George
DATE: October 2, 2024
WEATHER: Rainy

Observer: Nioma El Fatihi
Notes:

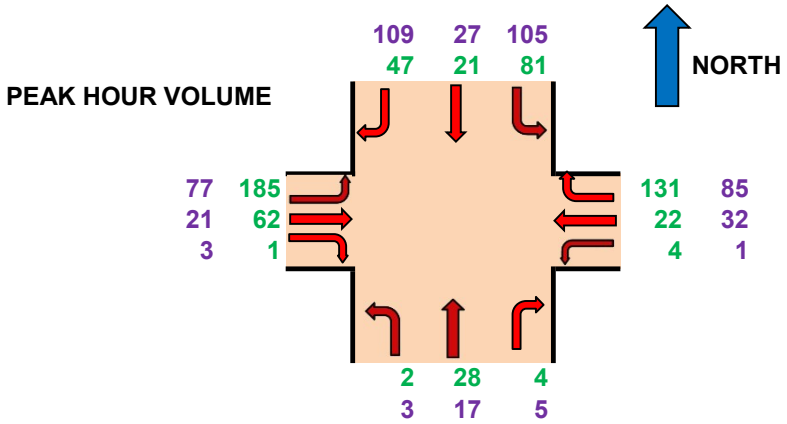
Speed Limit Major Street	50
Speed Limit Minor Street	50

TOTAL HOURS = 6.5

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly	Pedestrian			
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume	N	S	E	W
7:00 - 7:15	8	1	7		2	1	1	3	6	18	3		50					5
7:15 - 7:30	4	1	4		3			1	7	15	2		37		1			
7:30 - 7:45	6	4	7		10	1	2		17	30	4		81				1	
7:45 - 8:00	12	3	7		4			2	33	42	6	1	110	278		1	2	
8:00 - 8:15	21	6	7		10	1	1	3	35	52	20		156	384	1	3		4
8:15 - 8:30	24	3	15		8	3	1	5	39	52	18		168	515	1	5	1	5
8:30 - 8:45	24	9	18	2	6		2	12	24	39	18		154	**588**	3	1	1	
8:45 -9:00	11	7	10	1	5			5	22	22	3		86	564			1	4
9:00 - 9:15	8	4	17		5	2	1	3	12	27	2	1	82	490			1	3
9:15 - 9:30	4	1	8	1	4			1	19	13	3		54	376	2			2
9:30 - 9:45	11	6	9		5	1		1	13	15	2		63	285	1		3	3
9:45 -10:00	9	6	6		7			1	13	9	4		55	**254**		2	2	1
SUB TOTAL	**142**	**51**	**115**	**4**	**69**	**9**	**8**	**37**	**240**	**334**	**85**	**2**	**1096**		9	12	12	27
PEAK HOUR	**81**	**21**	**47**	**2**	**28**	**4**	**4**	**22**	**131**	**185**	**62**	**1**	**588**		**5**	**10**	**4**	**9**
PHF	**0.8438**	**0.58**	**0.653**	**0.25**	**0.70**	**0.333**	**0.5**	**0.458**	**0.84**	**0.889**	**0.775**	**0.25**						
14:30 - 14:45	30	12	36	1	5	2	1	4	18	19	4	2	134		30		3	
14:45 - 15:00	13	3	27	1	4	1	2	4	11	13	8	1	88			1	4	
15:00 - 15:15	22	6	12	1	5		1	11	20	13	3		94					
15:15 - 15:30	25	8	19		11		1	6	15	11	3		99	415			1	
15:30 - 15:45	21	9	29	1	5	1		9	13	24	5		117	398	1	1		1
15:45 - 16:00	25	9	21		7	2	1	7	29	16	6	1	124	434			1	1
16:00 - 16:15	30	4	28	1	4			7	22	17	5	2	120	460	2		1	
16:15 - 16:30	29	5	31	1	1	2		9	21	20	5		124	**485**	1	1	1	
16:30 - 16:45	31	8	20		6	1		13	9	16	8	1	113	481		4	4	2
16:45 - 17:00	25	4	33	1	2	1	1	10	20	10	7		114	**471**	3		3	
17:00 - 17:15	23	6	31		1			7	24	16	2		110	461	1		3	
17:15 - 17:30	23	7	37		3		1	9	22	13	3		118	455				
17:30 - 17:45	26	10	35		5	2	2	5	13	16	2		116	458	3	1	6	
17:45 - 18:00	28	6	16	3	3	1	1	8	14	21	4	1	106	450			1	1
SUB TOTAL	**351**	**97**	**375**	**10**	**62**	**13**	**11**	**109**	**251**	**225**	**65**	**8**	**1577**		41	8		5
PEAK HOUR	**105**	**27**	**109**	**3**	**17**	**5**	**1**	**32**	**85**	**77**	**21**	**3**	**485**		**4**	**2**	**3**	**2**
PHF	**0.875**	**0.75**	**0.88**	**0.75**	**0.61**	**0.625**	**0.25**	**0.889**	**0.733**	**0.80**	**0.875**	**0.38**						

PEAK HOUR VOLUME

AM PEAK
PM PEAK



Vehicle Turning Movement Survey

PASSENGER VEHICLES

N/S Street: ***Southridge Avenue***
E/W Street: ***Dakelh Ti***
LOCATION: ***Prince George***
DATE: ***October 3rd, 202***
WEATHER: ***Rainy***
TOTAL HOURS= ***6.5***

Observer: ***Nioma El Fatihi***
Notes:

Speed Limit Major Street	***50***
Speed Limit Minor Street	***50***

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume
7:00 - 7:15	1	4			18	1	1						25	
7:15 - 7:30	2	4			22	1			1				30	
7:30 - 7:45	2	1			25	4	1		3				36	
7:45 - 8:00	1	6			32	1	1		1				42	133
8:00 - 8:15		9			25	3	2		1				40	148
8:15 - 8:30	3	24			38	2	3		2				72	190
8:30 - 8:45	2	19			78	8	6		1				114	268
8:45 -9:00	7	17			71	10	2		5				112	338
9:00 - 9:15	13	36			85	15	10		10				169	467
9:15 - 9:30	15	47			64	22	11		12				171	566
9:30 - 9:45	9	41			70	14	5		8				147	599
9:45 -10:00	3	25			39	9	3		3				82	569
SUB TOTAL	**58**	**233**			**567**	**90**	**45**		**47**				**1040**	
14:30 - 14:45	8	42			49	5	7		12				123	
14:45 - 15:00	6	43			42	12	5		11				119	
15:00 - 15:15	7	43			55	19	13		9				146	
15:15 - 15:30	2	60			40	7	11		10				130	518
15:30 - 15:45	6	55			40	8	12		12				133	528
15:45 - 16:00	2	48			44	7	8		8				117	526
16:00 - 16:15	6	83			34	3	8		5				139	519
16:15 - 16:30	13	69			54	8	5		7				156	545
16:30 - 16:45	8	81			34	10	9		11				153	565
16:45 - 17:00	6	68			43	7	8		5				137	585
17:00 - 17:15	4	80			35	6	5		5				135	581
17:15 - 17:30	7	73			42	5	8		6				141	566
17:30 - 17:45	8	73			41	6	14		6				148	561
17:45 - 18:00	3	57			49	8	12		5				134	558
SUB TOTAL	**86**	**875**			**602**	**111**	**125**		**112**				**1911**	

Vehicle Turning Movement Survey

LT + Bus + RV

N/S Street: Southridge Avenue
E/W Street: Dakelh Ti
LOCATION: Prince George
DATE: October 3rd, 2024
WEATHER: Rainy
TOTAL HOURS= 6.5

Observer: Nioma El Fatihi
Notes:

Speed Limit Major Street	50
Speed Limit Minor Street	50

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume
7:00 - 7:15														
7:15 - 7:30														
7:30 - 7:45					1				1				2	
7:45 - 8:00		1											1	3
8:00 - 8:15					3								3	6
8:15 - 8:30					1								1	7
8:30 - 8:45		1			1								2	7
8:45 -9:00		2			1		1						4	10
9:00 - 9:15	1	2			2								5	12
9:15 - 9:30					1		1		1				3	14
9:30 - 9:45		2			3	1			1				7	19
9:45 -10:00					2				1				3	18
SUB TOTAL	**1**	**8**			**15**	**1**	**2**		**4**				**31**	
14:30 - 14:45		2			1								3	
14:45 - 15:00		2			2								4	
15:00 - 15:15		3			2								5	
15:15 - 15:30		2			4		1						7	19
15:30 - 15:45		2			3	1							6	22
15:45 - 16:00		5			4								9	27
16:00 - 16:15		2			1	1							4	26
16:15 - 16:30					2								2	21
16:30 - 16:45		2			3								5	20
16:45 - 17:00		1			1								2	13
17:00 - 17:15					2								2	11
17:15 - 17:30					1								1	10
17:30 - 17:45					1								1	6
17:45 - 18:00					1								1	5
SUB TOTAL		**21**			**28**	**2**	**1**						**52**	

Vehicle Turning Movement Survey

HEAVY TRUCKS

N/S Street: Southridge Avenue
E/W Street: Dakelh Ti
LOCATION: Prince George
DATE: October 3rd, 2024
WEATHER: Rainy
TOTAL HOURS= 6.5

Observer: Nioma El Fatihi
Notes:

Speed Limit Major Street	50
Speed Limit Minor Street	50

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume
7:00 - 7:15														
7:15 - 7:30														
7:30 - 7:45														
7:45 - 8:00														
8:00 - 8:15														
8:15 - 8:30														
8:30 - 8:45														
8:45 -9:00														
9:00 - 9:15		1			1		2						4	4
9:15 - 9:30		1			1								2	6
9:30 - 9:45														6
9:45 -10:00		1											1	7
SUB TOTAL		**3**			**2**		**2**						**7**	
PH HEAVY TRUCKS		**2**			**2**		**2**							

14:30 - 14:45														
14:45 - 15:00														
15:00 - 15:15														
15:15 - 15:30														
15:30 - 15:45		1											1	1
15:45 - 16:00														1
16:00 - 16:15														1
16:15 - 16:30														1
16:30 - 16:45														
16:45 - 17:00														
17:00 - 17:15														
17:15 - 17:30														
17:30 - 17:45														
17:45 - 18:00														
SUB TOTAL		**1**											**1**	

Vehicle Turning Movement Survey

PEDESTRIAN

N/S Street: Southridge Avenue
E/W Street: Dakelh Ti
LOCATION: Prince George
DATE: October 3rd, 2024
WEATHER: Rainy

Observer: Nioma El Fatihi
Notes:

Speed Limit Major Street	50
Speed Limit Minor Street	50

TOTAL HOURS= 6.5

TIME	SOUTHBOUND *(North Approach)*	NORTHBOUND *(South Approach)*	WESTBOUND *(East Approach)*	EASTBOUND *(West Approach)*	Total Volume	Hourly Volume
7:00 - 7:15						
7:15 - 7:30		1			1	
7:30 - 7:45						
7:45 - 8:00						1
8:00 - 8:15						1
8:15 - 8:30		1			1	1
8:30 - 8:45						1
8:45 -9:00		2	1		3	4
9:00 - 9:15		2			2	6
9:15 - 9:30		8			8	13
9:30 - 9:45		4			4	17
9:45 -10:00		2			2	16
SUB TOTAL		**20**	**1**		**21**	

14:30 - 14:45	4	11	4		19	
14:45 - 15:00	1	3	2		6	
15:00 - 15:15	2	1			3	
15:15 - 15:30		1			1	29
15:30 - 15:45	3		4		7	17
15:45 - 16:00	2	1			3	14
16:00 - 16:15	2	3	3		8	19
16:15 - 16:30	1	3	1		5	23
16:30 - 16:45	1	3			4	20
16:45 - 17:00	6	1	2		9	26
17:00 - 17:15	1	2	4		7	25
17:15 - 17:30	1	3	1		5	25
17:30 - 17:45	3	6	2		11	32
17:45 - 18:00	4	4	2		10	33
SUB TOTAL	**31**	**42**	**25**		**98**	

Vehicle Turning Movement Survey

TOTAL

N/S Street: Southridge Avenue
E/W Street: Dakelh Ti
LOCATION: Prince George
DATE: October 3rd, 2024
WEATHER: Rainy

Observer: Nioma El Fatihi
Notes:

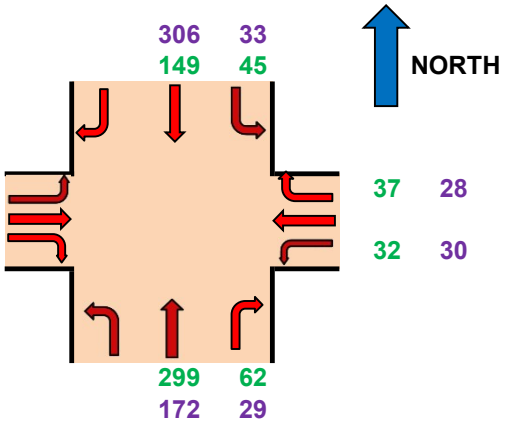
TOTAL HOURS = 6.5

Speed Limit Major Street	50
Speed Limit Minor Street	50

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly	Pedestrian			
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume	N	S	E	W
7:00 - 7:15	1	4			18	1	1						25					
7:15 - 7:30	2	4			22	1			1				30			1		
7:30 - 7:45	2	1			26	4	1		4				38					
7:45 - 8:00	1	7			32	1	1		1				43	136				
8:00 - 8:15		9			28	3	2		1				43	154				
8:15 - 8:30	3	24			39	2	3		2				73	197		1		
8:30 - 8:45	2	20			79	8	6		1				116	275				
8:45 -9:00	7	19			72	10	3		5				116	348		2	1	
9:00 - 9:15	14	39			88	15	12		10				178	483		2		
9:15 - 9:30	15	48			66	22	12		13				176	586		8		
9:30 - 9:45	9	43			73	15	5		9				154	**624**		4		
9:45 -10:00	3	26			41	9	3		4				86	**594**		2		
SUB TOTAL	**59**	**244**			**584**	**91**	**49**		**51**				**1078**			20	1	
PEAK HOUR	**45**	**149**			**299**	**62**	**32**		**37**				**624**			**16**	**1**	
PHF	**0.75**	**0.78**	#####	#####	**0.85**	**0.705**	**0.667**	#####	**0.712**	#####	#####	#####						
14:30 - 14:45	8	44			50	5	7		12				126		4	11	4	
14:45 - 15:00	6	45			44	12	5		11				123		1	3	2	
15:00 - 15:15	7	46			57	19	13		9				151		2	1		
15:15 - 15:30	2	62			44	7	12		10				137	537		1		
15:30 - 15:45	6	58			43	9	12		12				140	551	3		4	
15:45 - 16:00	2	53			48	7	8		8				126	554	2	1		
16:00 - 16:15	6	85			35	4	8		5				143	546	2	3	3	
16:15 - 16:30	13	69			56	8	5		7				158	567	1	3	1	
16:30 - 16:45	8	83			37	10	9		11				158	585	1	3		
16:45 - 17:00	6	69			44	7	8		5				139	**598**	6	1	2	
17:00 - 17:15	4	80			37	6	5		5				137	592	1	2	4	
17:15 - 17:30	7	73			43	5	8		6				142	576	1	3	1	
17:30 - 17:45	8	73			42	6	14		6				149	567	3	6	2	
17:45 - 18:00	3	57			50	8	12		5				135	563	4	4	2	
SUB TOTAL	**86**	**897**			**630**	**113**	**126**		**112**				**1964**		31	42		
PEAK HOUR	**33**	**306**			**172**	**29**	**30**		**28**				**598**		**10**	**10**	**6**	
PHF	**0.6346**	**0.90**	#####	#####	**0.77**	**0.725**	**0.833**	#####	**0.636**	#####	#####	#####						

PEAK HOUR VOLUME

AM PEAK
PM PEAK



Vehicle Turning Movement Survey

PASSENGER VEHICLES

N/S Street: ***Southridge***
E/W Street: ***Marleau***
LOCATION: ***Prince George***
DATE: ***January 26, 2022***
WEATHER: ***Clear***
TOTAL HOURS= ***HRS***

Observer: ***Diane Allen***
Notes:

Speed Limit Major Street	***50***
Speed Limit Minor Street	***50***

	SOUTHBOUND *(North Approach)*			NORTHBOUND *(South Approach)*			WESTBOUND *(East Approach)*			EASTBOUND *(West Approach)*			Total	Hourly
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume
6:00 - 6:15		1		3	23					1		2	30	
6:15 - 6:30		2		1	25							2	30	
6:30 - 6:45		6		2	18					1		2	29	
6:45 - 7:00		10	1		34					1		3	49	138
7:00 - 7:15		6	1	9	60					1		3	80	188
7:15 - 7:30		12	1	17	64					3		5	102	260
7:30 - 7:45		30	1	16	56					1		11	115	346
7:45 - 8:00		23	1	26	61					4		19	134	431
8:00 - 8:15		22	1	16	63					2		17	121	472
8:15 - 8:30		26	3	13	37					4		4	87	457
8:30 - 8:45		17	1	10	34					1		4	67	409
8:45 -9:00		22		6	19							5	52	327
SUB TOTAL		**177**	**10**	**119**	**494**					**19**		**77**	**896**	
14:30 - 14:45														
14:45 - 15:00														
15:00 - 15:15		40	1	12	37					7		10	107	
15:15 - 15:30		46	5	6	39							16	112	219
15:30 - 15:45		54	1	12	28					1		16	112	331
15:45 - 16:00		30	2	17	30					2		12	93	424
16:00 - 16:15		34	3	9	28					1		15	90	407
16:15 - 16:30		51	2	12	27					2		18	112	407
16:30 - 16:45		56	5	10	27							17	115	410
16:45 - 17:00		68	3	12	30					1		15	129	446
17:00 - 17:15		56	1	9	33					7		14	120	476
17:15 - 17:30		69	2	17	31					4		14	137	501
17:30 - 17:45		58	5	13	38					2		25	141	527
17:45 - 18:00		49	1	22	39					3		16	130	528
SUB TOTAL		**611**	**31**	**151**	**387**					**30**		**188**	**1398**	

Vehicle Turning Movement Survey

LT + Bus + RV

N/S Street: Southridge
E/W Street: Marleau
LOCATION: Prince George
DATE: January 26, 2022
WEATHER: Clear
TOTAL HOURS= HRS

Observer Diane Allen
Notes:

Speed Limit Major Street	50
Speed Limit Minor Street	50

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume
6:00 - 6:15														
6:15 - 6:30														
6:30 - 6:45				3									3	
6:45 - 7:00					4								4	7
7:00 - 7:15				1									1	8
7:15 - 7:30		1								1			2	10
7:30 - 7:45				1		1							2	9
7:45 - 8:00	1			1	1								3	8
8:00 - 8:15														7
8:15 - 8:30		1		1		3						1	6	11
8:30 - 8:45				1									1	10
8:45 -9:00														7
SUB TOTAL	**1**	**2**		**8**	**5**	**4**				**1**		**1**	**22**	

14:30 - 14:45														
14:45 - 15:00														
15:00 - 15:15				2									2	
15:15 - 15:30				1									1	3
15:30 - 15:45														3
15:45 - 16:00				2									2	5
16:00 - 16:15		1			1								2	5
16:15 - 16:30		1		2									3	7
16:30 - 16:45		1										2	3	10
16:45 - 17:00				1									1	9
17:00 - 17:15														7
17:15 - 17:30		2		2									4	8
17:30 - 17:45														5
17:45 - 18:00				1									1	5
SUB TOTAL		**5**		**11**	**1**							**2**	**19**	

Vehicle Turning Movement Survey

HEAVY TRUCKS

N/S Street: Southridge
E/W Street: Marleau
LOCATION: Prince George
DATE: January 26, 2022
WEATHER: Clear
TOTAL HOURS= HRS

Observer: Diane Allen
Notes:

Speed Limit Major Street	50
Speed Limit Minor Street	50

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume
6:00 - 6:15														
6:15 - 6:30														
6:30 - 6:45														
6:45 - 7:00										1			1	1
7:00 - 7:15					1								1	2
7:15 - 7:30														2
7:30 - 7:45														2
7:45 - 8:00														1
8:00 - 8:15														
8:15 - 8:30			1										1	1
8:30 - 8:45														1
8:45 -9:00		1											1	2
SUB TOTAL		**1**	**1**		**1**					**1**			**4**	
PH HEAVY TRUCKS														

14:30 - 14:45														
14:45 - 15:00														
15:00 - 15:15					1								1	
15:15 - 15:30														1
15:30 - 15:45														1
15:45 - 16:00														1
16:00 - 16:15														
16:15 - 16:30														
16:30 - 16:45														
16:45 - 17:00														
17:00 - 17:15														
17:15 - 17:30														
17:30 - 17:45														
17:45 - 18:00														
SUB TOTAL					**1**								**1**	

Vehicle Turning Movement Survey

PEDESTRIAN

N/S Street: Southridge
E/W Street: Marleau
LOCATION: Prince George
DATE: January 26, 2022
WEATHER: Clear

Observer: Diane Allen
Notes:

Speed Limit Major Street	50
Speed Limit Minor Street	50

TOTAL HOURS= HRS

TIME	SOUTHBOUND *(North Approach)*	NORTHBOUND *(South Approach)*	WESTBOUND *(East Approach)*	EASTBOUND *(West Approach)*	Total Volume	Hourly Volume
6:00 - 6:15				2	2	
6:15 - 6:30				1	1	
6:30 - 6:45				3	3	
6:45 - 7:00						6
7:00 - 7:15						4
7:15 - 7:30				2	2	5
7:30 - 7:45						2
7:45 - 8:00						2
8:00 - 8:15						2
8:15 - 8:30				1	1	1
8:30 - 8:45						1
8:45 -9:00		1			1	2
SUB TOTAL		**1**		**9**	**10**	

14:30 - 14:45						
14:45 - 15:00						
15:00 - 15:15				2	2	
15:15 - 15:30				6	6	8
15:30 - 15:45				1	1	9
15:45 - 16:00				2	2	11
16:00 - 16:15	1			5	6	15
16:15 - 16:30						9
16:30 - 16:45				4	4	12
16:45 - 17:00				4	4	14
17:00 - 17:15				1	1	9
17:15 - 17:30				7	7	16
17:30 - 17:45				1	1	13
17:45 - 18:00				2	2	11
SUB TOTAL	**1**			**35**	**36**	

Vehicle Turning Movement Survey

TOTAL

N/S Street: Southridge
E/W Street: Marleau
LOCATION: Prince George
DATE: January 26, 2022
WEATHER: Clear

Observer: Diane Allen
Notes:

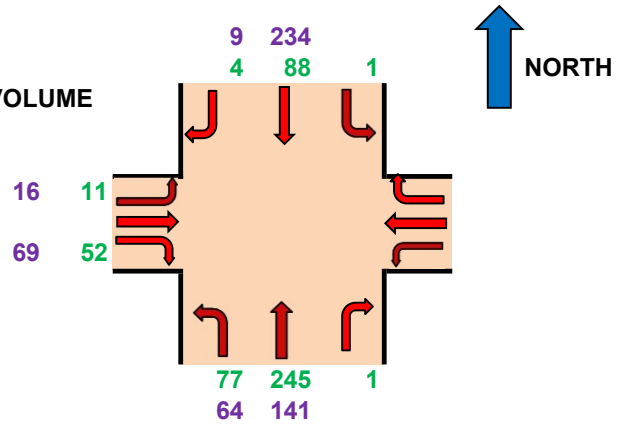
TOTAL HOURS = HRS

Speed Limit Major Street	50
Speed Limit Minor Street	50

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly	Pedestrian			
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume	N	S	E	W
6:00 - 6:15		1		3	23					1		2	30					2
6:15 - 6:30		2		1	25							2	30					1
6:30 - 6:45		6		5	18					1		2	32					3
6:45 - 7:00		10	1		38					2		3	54	146				
7:00 - 7:15		6	1	10	61					1		3	82	198				
7:15 - 7:30		13	1	17	64					4		5	104	272				2
7:30 - 7:45		30	1	17	56	1				1		11	117	357				
7:45 - 8:00	1	23	1	27	62					4		19	137	440				
8:00 - 8:15		22	1	16	63					2		17	121	**479**				
8:15 - 8:30		27	4	14	37	3				4		5	94	469				1
8:30 - 8:45		17	1	11	34					1		4	68	420				
8:45 -9:00		23		6	19							5	53	**336**		1		
SUB TOTAL	**1**	**180**	**11**	**127**	**500**	**4**				**21**		**78**	**922**			1		9
PEAK HOUR	**1**	**88**	**4**	**77**	**245**	**1**				**11**		**52**	**479**					**2**
14:30 - 14:45																		
14:45 - 15:00																		
15:00 - 15:15		40	1	14	38					7		10	110					2
15:15 - 15:30		46	5	7	39							16	113	223				6
15:30 - 15:45		54	1	12	28					1		16	112	335				1
15:45 - 16:00		30	2	19	30					2		12	95	430				2
16:00 - 16:15		35	3	9	29					1		15	92	412	1			5
16:15 - 16:30		52	2	14	27					2		18	115	414				
16:30 - 16:45		57	5	10	27							19	118	420				4
16:45 - 17:00		68	3	13	30					1		15	130	**455**				4
17:00 - 17:15		56	1	9	33					7		14	120	483				1
17:15 - 17:30		71	2	19	31					4		14	141	509				7
17:30 - 17:45		58	5	13	38					2		25	141	532				1
17:45 - 18:00		49	1	23	39					3		16	131	**533**				2
SUB TOTAL		**616**	**31**	**162**	**389**					**30**		**190**	**1418**		1			35
PEAK HOUR		**234**	**9**	**64**	**141**					**16**		**69**	**533**					**11**

PEAK HOUR VOLUME

AM PEAK
PM PEAK



Vehicle Turning Movement Survey

PASSENGER VEHICLES

N/S Street: ***Southridge***
E/W Street: ***Walmart/Home Depot***
LOCATION: ***Prince George***
DATE: ***January 27, 2022***
WEATHER: ***Clear***
TOTAL HOURS= ***HRS***

Observer: ***Misha Manohar***
Notes:

Speed Limit Major Street	***50***
Speed Limit Minor Street	***50***

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume
6:00 - 6:15	1	12	12	5	32			2	5	11	6	3	89	
6:15 - 6:30	2	10	10		20			1	2	8	4	5	62	
6:30 - 6:45	5	12	6	2	31	1		1	6	3	2	3	72	
6:45 - 7:00	9	5	4		45	7	1	3	14	2	3		93	316
7:00 - 7:15	10	10	5		54	11	1	6	13	4	5		119	346
7:15 - 7:30	12	29	5		57	10	1	7	8	6	3		138	422
7:30 - 7:45	11	33	10	1	53	7	1	8	9	3	5		141	491
7:45 - 8:00	23	26	16		40	8	6	12	10	3	9		153	551
8:00 - 8:15	24	13	14	1	58	7	4	21	8	3	6		159	591
8:15 - 8:30	16	17	11	2	24	6	7	26	9	9	8	3	138	591
8:30 - 8:45	19	19	14	1	22	5	2	10	4	8	7		111	561
8:45 -9:00	17	14	14		23	7	3	22	10	12	10	2	134	542
SUB TOTAL	**149**	**200**	**121**	**12**	**459**	**69**	**26**	**119**	**98**	**72**	**68**	**16**	**1409**	
14:30 - 14:45														
14:45 - 15:00														
15:00 - 15:15	27	48	42	6	38	8	5	27	8	22	21	2	254	
15:15 - 15:30	17	33	47	5	30	6	4	25	6	10	22	4	209	463
15:30 - 15:45	18	62	45	1	48	4	3	33	4	15	35	3	271	734
15:45 - 16:00	13	52	50	2	39	3	3	28	6	11	22	4	233	967
16:00 - 16:15	15	59	49	2	20	4	3	23	24	20	18	3	240	953
16:15 - 16:30	8	57	42	1	38	7	7	44	4	27	22	3	260	1004
16:30 - 16:45	21	64	31	1	34	4	2	34	14	15	22	2	244	977
16:45 - 17:00	11	65	42	1	39	4	6	41	15	14	21	2	261	1005
17:00 - 17:15	15	66	23	1	28	7	4	21	5	24	18	2	214	979
17:15 - 17:30	9	71	24	1	28	2	8	16	12	13	16	4	204	923
17:30 - 17:45	11	49	24	2	30	2	3	21	3	16	14	3	178	857
17:45 - 18:00	9	44	31	1	18	8	1	23	1	14	10	6	166	762
SUB TOTAL	**174**	**670**	**450**	**24**	**390**	**59**	**49**	**336**	**102**	**201**	**241**	**38**	**2734**	

Vehicle Turning Movement Survey

LT + Bus + RV

N/S Street: Southridge
E/W Street: Walmart/Home Depot
LOCATION: Prince George
DATE: January 27, 2022
WEATHER: Clear
TOTAL HOURS= HRS

Observer Misha Manohar
Notes:

Speed Limit Major Street	50
Speed Limit Minor Street	50

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume
6:00 - 6:15					1								1	
6:15 - 6:30														
6:30 - 6:45			1								1		2	
6:45 - 7:00														3
7:00 - 7:15	2	1									1		4	6
7:15 - 7:30											1		1	7
7:30 - 7:45			1					1					2	7
7:45 - 8:00				1									1	8
8:00 - 8:15					1						1		2	6
8:15 - 8:30		3									1		4	9
8:30 - 8:45											2		2	9
8:45 -9:00			1							1			2	10
SUB TOTAL	**2**	**4**	**3**	**1**	**2**			**1**		**1**	**7**		**21**	
14:30 - 14:45														
14:45 - 15:00														
15:00 - 15:15			1			1							2	
15:15 - 15:30											1		1	3
15:30 - 15:45			1					1			1		3	6
15:45 - 16:00														6
16:00 - 16:15											1		1	5
16:15 - 16:30														4
16:30 - 16:45														1
16:45 - 17:00														1
17:00 - 17:15											1		1	1
17:15 - 17:30														1
17:30 - 17:45											1		1	2
17:45 - 18:00	1												1	3
SUB TOTAL	**1**		**2**			**1**		**1**			**5**		**10**	

Vehicle Turning Movement Survey

HEAVY TRUCKS

N/S Street: Southridge
E/W Street: Walmart/Home Depot
LOCATION: Prince George
DATE: January 27, 2022
WEATHER: Clear
TOTAL HOURS= HRS

Observer: Misha Manohar
Notes:

Speed Limit Major Street	50
Speed Limit Minor Street	50

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume
6:00 - 6:15														
6:15 - 6:30														
6:30 - 6:45		1											1	
6:45 - 7:00														1
7:00 - 7:15										1			1	2
7:15 - 7:30														2
7:30 - 7:45	1	1											2	3
7:45 - 8:00	1												1	4
8:00 - 8:15														3
8:15 - 8:30										1			1	4
8:30 - 8:45														2
8:45 -9:00			1										1	2
SUB TOTAL	**2**	**2**	**1**							**2**			**7**	
PH HEAVY TRUCKS	**2**	**1**								**1**				

14:30 - 14:45														
14:45 - 15:00														
15:00 - 15:15														
15:15 - 15:30			1						1				2	2
15:30 - 15:45														2
15:45 - 16:00														2
16:00 - 16:15		1											1	3
16:15 - 16:30														1
16:30 - 16:45														1
16:45 - 17:00														1
17:00 - 17:15	1												1	1
17:15 - 17:30														1
17:30 - 17:45														1
17:45 - 18:00														1
SUB TOTAL	**1**	**1**	**1**						**1**				**4**	

Vehicle Turning Movement Survey

PEDESTRIAN

N/S Street: Southridge
E/W Street: Walmart/Home Depot
LOCATION: Prince George
DATE: January 27, 2022
WEATHER: Clear

Observer: Misha Manohar
Notes:

Speed Limit Major Street	50
Speed Limit Minor Street	50

TOTAL HOURS= HRS

TIME	SOUTHBOUND *(North Approach)*	NORTHBOUND *(South Approach)*	WESTBOUND *(East Approach)*	EASTBOUND *(West Approach)*	Total Volume	Hourly Volume
6:00 - 6:15						
6:15 - 6:30						
6:30 - 6:45			1		1	
6:45 - 7:00						1
7:00 - 7:15		1			1	2
7:15 - 7:30						2
7:30 - 7:45		1			1	2
7:45 - 8:00						2
8:00 - 8:15		4		1	5	6
8:15 - 8:30		1			1	7
8:30 - 8:45						6
8:45 -9:00						6
SUB TOTAL		**7**	**1**	**1**	**9**	

14:30 - 14:45						
14:45 - 15:00						
15:00 - 15:15	2	1		1	4	
15:15 - 15:30						4
15:30 - 15:45	1	1		1	3	7
15:45 - 16:00		1			1	8
16:00 - 16:15		2			2	6
16:15 - 16:30	2	1			3	9
16:30 - 16:45			1		1	7
16:45 - 17:00		2		2	4	10
17:00 - 17:15		1		2	3	11
17:15 - 17:30				3	3	11
17:30 - 17:45						10
17:45 - 18:00		1		1	2	8
SUB TOTAL	**5**	**10**	**1**	**10**	**26**	

Vehicle Turning Movement Survey

TOTAL

N/S Street: Southridge
E/W Street: Walmart/Home Depot
LOCATION: Prince George
DATE: January 27, 2022
WEATHER: Clear

Observer: Misha Manohar
Notes:

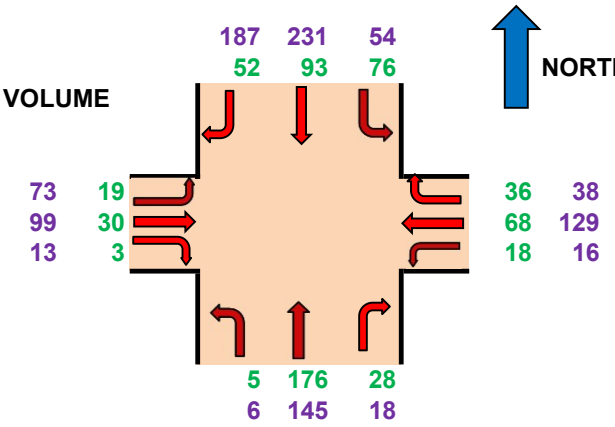
TOTAL HOURS = HRS

Speed Limit Major Street	50
Speed Limit Minor Street	50

	SOUTHBOUND (North Approach)			NORTHBOUND (South Approach)			WESTBOUND (East Approach)			EASTBOUND (West Approach)			Total	Hourly	Pedestrian			
TIME	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	LEFT	THRU	RIGHT	Volume	Volume	N	S	E	W
6:00 - 6:15	1	12	12	5	33			2	5	11	6	3	90					
6:15 - 6:30	2	10	10		20			1	2	8	4	5	62					
6:30 - 6:45	5	13	7	2	31	1		1	6	3	3	3	75				1	
6:45 - 7:00	9	5	4		45	7	1	3	14	2	3		93	320				
7:00 - 7:15	12	11	5		54	11	1	6	13	5	6		124	354		1		
7:15 - 7:30	12	29	5		57	10	1	7	8	6	4		139	431				
7:30 - 7:45	12	34	11	1	53	7	1	9	9	3	5		145	501		1		
7:45 - 8:00	24	26	16	1	40	8	6	12	10	3	9		155	563				
8:00 - 8:15	24	13	14	1	59	7	4	21	8	3	7		161	600		4		1
8:15 - 8:30	16	20	11	2	24	6	7	26	9	10	9	3	143	**604**		1		
8:30 - 8:45	19	19	14	1	22	5	2	10	4	8	9		113	572				
8:45 -9:00	17	14	16		23	7	3	22	10	13	10	2	137	**554**				
SUB TOTAL	**153**	**206**	**125**	**13**	**461**	**69**	**26**	**120**	**98**	**75**	**75**	**16**	**1437**			7	1	1
PEAK HOUR	**76**	**93**	**52**	**5**	**176**	**28**	**18**	**68**	**36**	**19**	**30**	**3**	**604**			**6**		**1**
14:30 - 14:45																		
14:45 - 15:00																		
15:00 - 15:15	27	48	43	6	38	9	5	27	8	22	21	2	256		2	1		1
15:15 - 15:30	17	33	48	5	30	6	4	25	7	10	23	4	212	468				
15:30 - 15:45	18	62	46	1	48	4	3	34	4	15	36	3	274	742	1	1		1
15:45 - 16:00	13	52	50	2	39	3	3	28	6	11	22	4	233	975		1		
16:00 - 16:15	15	60	49	2	20	4	3	23	24	20	19	3	242	961		2		
16:15 - 16:30	8	57	42	1	38	7	7	44	4	27	22	3	260	**1009**	2	1		
16:30 - 16:45	21	64	31	1	34	4	2	34	14	15	22	2	244	979			1	
16:45 - 17:00	11	65	42	1	39	4	6	41	15	14	21	2	261	**1007**		2		2
17:00 - 17:15	16	66	23	1	28	7	4	21	5	24	19	2	216	981		1		2
17:15 - 17:30	9	71	24	1	28	2	8	16	12	13	16	4	204	925				3
17:30 - 17:45	11	49	24	2	30	2	3	21	3	16	15	3	179	860				
17:45 - 18:00	10	44	31	1	18	8	1	23	1	14	10	6	167	766		1		1
SUB TOTAL	**176**	**671**	**453**	**24**	**390**	**60**	**49**	**337**	**103**	**201**	**246**	**38**	**2748**		5	10		10
PEAK HOUR	**54**	**231**	**187**	**6**	**145**	**18**	**16**	**129**	**38**	**73**	**99**	**13**	**1009**		**3**	**5**		**1**

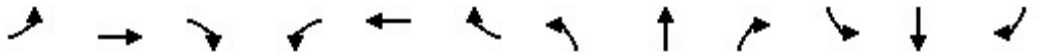
PEAK HOUR VOLUME

AM PEAK
PM PEAK



APPENDIX C

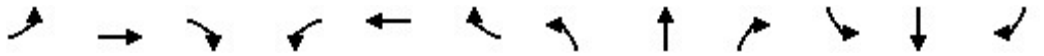
SYNCHRO



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	36	4	22	82	43	3	212	34	92	112	63
Future Volume (vph)	23	36	4	22	82	43	3	212	34	92	112	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1719	1829		1770	1863	1583	1770	1829		1752	1771	
Flt Permitted	0.68	1.00		0.73	1.00	1.00	0.61	1.00		0.36	1.00	
Satd. Flow (perm)	1234	1829		1351	1863	1583	1138	1829		656	1771	
Peak-hour factor, PHF	0.70	0.83	0.70	0.70	0.70	0.90	0.70	0.75	0.88	1.00	0.70	0.81
Adj. Flow (vph)	33	43	6	31	117	48	4	283	39	92	160	78
RTOR Reduction (vph)	0	4	0	0	0	34	0	8	0	0	27	0
Lane Group Flow (vph)	33	45	0	31	117	14	4	314	0	92	211	0
Heavy Vehicles (%)	5%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Effective Green, g (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.30	0.30		0.53	0.53	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Grp Cap (vph)	370	548		405	558	474	341	548		525	939	
v/s Ratio Prot		0.02			c0.06			c0.17		0.03	c0.12	
v/s Ratio Perm	0.03			0.02		0.01	0.00			0.06		
v/c Ratio	0.09	0.08		0.08	0.21	0.03	0.01	0.57		0.18	0.22	
Uniform Delay, d1	16.4	16.3		16.3	17.0	16.1	16.0	19.2		8.2	8.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.3		0.4	0.9	0.1	0.1	4.3		0.7	0.6	
Delay (s)	16.8	16.6		16.7	17.8	16.2	16.0	23.6		8.9	8.7	
Level of Service	B	B		B	B	B	B	C		A	A	
Approach Delay (s)		16.7			17.3			23.5			8.8	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	39.8%	ICU Level of Service	A
Analysis Period (min)	15		

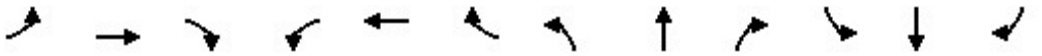
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	36	4	25	82	43	6	278	52	92	134	63
Future Volume (vph)	23	36	4	25	82	43	6	278	52	92	134	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1719	1829		1770	1863	1583	1770	1824		1752	1782	
Flt Permitted	0.68	1.00		0.73	1.00	1.00	0.59	1.00		0.23	1.00	
Satd. Flow (perm)	1234	1829		1351	1863	1583	1106	1824		422	1782	
Peak-hour factor, PHF	0.70	0.83	0.70	0.70	0.70	0.90	0.70	0.75	0.88	1.00	0.70	0.81
Adj. Flow (vph)	33	43	6	36	117	48	9	371	59	92	191	78
RTOR Reduction (vph)	0	4	0	0	0	34	0	9	0	0	23	0
Lane Group Flow (vph)	33	45	0	36	117	14	9	421	0	92	246	0
Heavy Vehicles (%)	5%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Effective Green, g (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.30	0.30		0.53	0.53	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Grp Cap (vph)	370	548		405	558	474	331	547		438	945	
v/s Ratio Prot		0.02			c0.06			c0.23		0.03	c0.14	
v/s Ratio Perm	0.03			0.03		0.01	0.01			0.08		
v/c Ratio	0.09	0.08		0.09	0.21	0.03	0.03	0.77		0.21	0.26	
Uniform Delay, d1	16.4	16.3		16.4	17.0	16.1	16.1	20.7		9.1	8.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.3		0.4	0.9	0.1	0.2	10.0		1.1	0.7	
Delay (s)	16.8	16.6		16.8	17.8	16.2	16.2	30.7		10.1	9.0	
Level of Service	B	B		B	B	B	B	C		B	A	
Approach Delay (s)		16.7			17.3			30.4			9.3	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		

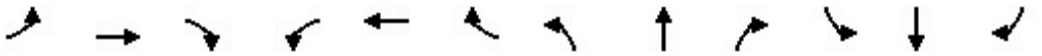
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	44	5	27	100	53	7	260	42	113	137	77
Future Volume (vph)	28	44	5	27	100	53	7	260	42	113	137	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1719	1830		1770	1863	1583	1770	1829		1752	1772	
Flt Permitted	0.67	1.00		0.72	1.00	1.00	0.58	1.00		0.27	1.00	
Satd. Flow (perm)	1205	1830		1337	1863	1583	1084	1829		496	1772	
Peak-hour factor, PHF	0.70	0.83	0.70	0.70	0.70	0.90	0.70	0.75	0.88	1.00	0.70	0.81
Adj. Flow (vph)	40	53	7	39	143	59	10	347	48	113	196	95
RTOR Reduction (vph)	0	5	0	0	0	41	0	8	0	0	27	0
Lane Group Flow (vph)	40	55	0	39	143	18	10	387	0	113	264	0
Heavy Vehicles (%)	5%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Effective Green, g (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.30	0.30		0.53	0.53	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Grp Cap (vph)	361	549		401	558	474	325	548		466	940	
v/s Ratio Prot		0.03			c0.08			c0.21		0.04	c0.15	
v/s Ratio Perm	0.03			0.03		0.01	0.01			0.09		
v/c Ratio	0.11	0.10		0.10	0.26	0.04	0.03	0.71		0.24	0.28	
Uniform Delay, d1	16.5	16.4		16.4	17.3	16.1	16.1	20.2		8.9	8.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.4		0.5	1.1	0.1	0.2	7.5		1.2	0.7	
Delay (s)	17.1	16.8		16.9	18.4	16.3	16.2	27.7		10.1	9.2	
Level of Service	B	B		B	B	B	B	C		B	A	
Approach Delay (s)		16.9			17.6			27.4			9.4	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

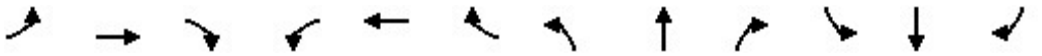
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	44	5	30	100	53	7	326	60	113	159	77
Future Volume (vph)	28	44	5	30	100	53	7	326	60	113	159	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1719	1830		1770	1863	1583	1770	1825		1752	1780	
Flt Permitted	0.67	1.00		0.72	1.00	1.00	0.57	1.00		0.17	1.00	
Satd. Flow (perm)	1205	1830		1337	1863	1583	1053	1825		307	1780	
Peak-hour factor, PHF	0.70	0.83	0.70	0.70	0.70	0.90	0.70	0.75	0.88	1.00	0.70	0.81
Adj. Flow (vph)	40	53	7	43	143	59	10	435	68	113	227	95
RTOR Reduction (vph)	0	5	0	0	0	41	0	8	0	0	23	0
Lane Group Flow (vph)	40	55	0	43	143	18	10	495	0	113	299	0
Heavy Vehicles (%)	5%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Effective Green, g (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.30	0.30		0.53	0.53	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Grp Cap (vph)	361	549		401	558	474	315	547		396	944	
v/s Ratio Prot		0.03			c0.08			c0.27		0.05	c0.17	
v/s Ratio Perm	0.03			0.03		0.01	0.01			0.11		
v/c Ratio	0.11	0.10		0.11	0.26	0.04	0.03	0.90		0.29	0.32	
Uniform Delay, d1	16.5	16.4		16.5	17.3	16.1	16.1	21.9		10.1	8.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.4		0.5	1.1	0.1	0.2	20.9		1.8	0.9	
Delay (s)	17.1	16.8		17.0	18.4	16.3	16.3	42.8		11.9	9.5	
Level of Service	B	B		B	B	B	B	D		B	A	
Approach Delay (s)		16.9			17.6			42.3			10.1	
Approach LOS		B			B			D			B	

Intersection Summary			
HCM 2000 Control Delay	24.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

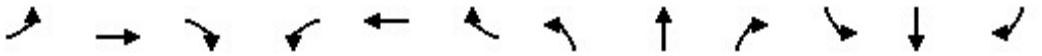
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	119	16	19	155	46	7	175	22	65	278	225
Future Volume (vph)	88	119	16	19	155	46	7	175	22	65	278	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1719	1833		1770	1863	1583	1770	1830		1752	1739	
Flt Permitted	0.61	1.00		0.64	1.00	1.00	0.46	1.00		0.43	1.00	
Satd. Flow (perm)	1098	1833		1188	1863	1583	864	1830		794	1739	
Peak-hour factor, PHF	0.70	0.70	0.81	0.70	0.73	0.70	0.75	0.76	0.70	0.75	0.93	0.94
Adj. Flow (vph)	126	170	20	27	212	66	9	230	31	87	299	239
RTOR Reduction (vph)	0	6	0	0	0	46	0	8	0	0	44	0
Lane Group Flow (vph)	126	184	0	27	212	20	9	253	0	87	494	0
Heavy Vehicles (%)	5%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Effective Green, g (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.30	0.30		0.53	0.53	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Grp Cap (vph)	329	549		356	558	474	259	549		576	923	
v/s Ratio Prot		0.10			0.11			0.14		0.02	c0.28	
v/s Ratio Perm	c0.11			0.02		0.01	0.01			0.06		
v/c Ratio	0.38	0.33		0.08	0.38	0.04	0.03	0.46		0.15	0.54	
Uniform Delay, d1	18.0	17.7		16.3	18.0	16.1	16.1	18.5		7.9	10.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	1.6		0.4	2.0	0.2	0.3	2.8		0.6	2.2	
Delay (s)	21.3	19.3		16.7	19.9	16.3	16.3	21.3		8.5	12.2	
Level of Service	C	B		B	B	B	B	C		A	B	
Approach Delay (s)		20.1			18.9			21.1			11.7	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

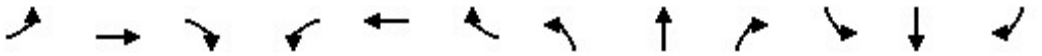
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	119	20	27	155	46	9	211	33	65	357	225
Future Volume (vph)	88	119	20	27	155	46	9	211	33	65	357	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1719	1827		1770	1863	1583	1770	1822		1752	1756	
Flt Permitted	0.61	1.00		0.63	1.00	1.00	0.43	1.00		0.35	1.00	
Satd. Flow (perm)	1098	1827		1181	1863	1583	798	1822		649	1756	
Peak-hour factor, PHF	0.70	0.70	0.81	0.70	0.73	0.70	0.75	0.76	0.70	0.75	0.93	0.94
Adj. Flow (vph)	126	170	25	39	212	66	12	278	47	87	384	239
RTOR Reduction (vph)	0	8	0	0	0	46	0	9	0	0	34	0
Lane Group Flow (vph)	126	187	0	39	212	20	12	316	0	87	589	0
Heavy Vehicles (%)	5%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Effective Green, g (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.30	0.30		0.53	0.53	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Grp Cap (vph)	329	548		354	558	474	239	546		522	932	
v/s Ratio Prot		0.10			0.11			0.17		0.03	c0.34	
v/s Ratio Perm	c0.11			0.03		0.01	0.02			0.06		
v/c Ratio	0.38	0.34		0.11	0.38	0.04	0.05	0.58		0.17	0.63	
Uniform Delay, d1	18.0	17.7		16.5	18.0	16.1	16.2	19.3		8.2	10.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	1.7		0.6	2.0	0.2	0.4	4.4		0.7	3.2	
Delay (s)	21.3	19.4		17.1	19.9	16.3	16.6	23.7		8.9	14.0	
Level of Service	C	B		B	B	B	B	C		A	B	
Approach Delay (s)		20.2			18.8			23.4			13.4	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		

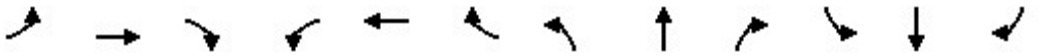
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	146	20	23	190	56	9	214	27	80	341	276
Future Volume (vph)	108	146	20	23	190	56	9	214	27	80	341	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1719	1833		1770	1863	1583	1770	1829		1752	1738	
Flt Permitted	0.53	1.00		0.57	1.00	1.00	0.41	1.00		0.36	1.00	
Satd. Flow (perm)	962	1833		1066	1863	1583	771	1829		658	1738	
Peak-hour factor, PHF	0.70	0.70	0.81	0.70	0.73	0.70	0.75	0.76	0.70	0.75	0.93	0.94
Adj. Flow (vph)	154	209	25	33	260	80	12	282	39	107	367	294
RTOR Reduction (vph)	0	6	0	0	0	56	0	8	0	0	45	0
Lane Group Flow (vph)	154	228	0	33	260	24	12	313	0	107	616	0
Heavy Vehicles (%)	5%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Effective Green, g (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.30	0.30		0.53	0.53	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Grp Cap (vph)	288	549		319	558	474	231	548		525	922	
v/s Ratio Prot		0.12			0.14			0.17		0.03	c0.35	
v/s Ratio Perm	c0.16			0.03		0.02	0.02			0.08		
v/c Ratio	0.53	0.41		0.10	0.47	0.05	0.05	0.57		0.20	0.67	
Uniform Delay, d1	19.0	18.2		16.4	18.5	16.2	16.2	19.2		8.3	11.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.0	2.3		0.7	2.8	0.2	0.4	4.3		0.9	3.8	
Delay (s)	25.9	20.5		17.1	21.3	16.4	16.6	23.5		9.2	14.9	
Level of Service	C	C		B	C	B	B	C		A	B	
Approach Delay (s)		22.6			19.9			23.3			14.1	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	77.5%	ICU Level of Service	D
Analysis Period (min)	15		

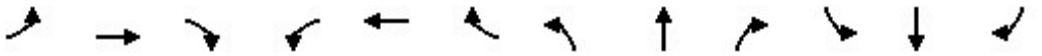
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	146	24	31	190	56	11	250	38	80	420	276
Future Volume (vph)	108	146	24	31	190	56	11	250	38	80	420	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1719	1828		1770	1863	1583	1770	1823		1752	1753	
Flt Permitted	0.53	1.00		0.56	1.00	1.00	0.36	1.00		0.28	1.00	
Satd. Flow (perm)	962	1828		1051	1863	1583	672	1823		522	1753	
Peak-hour factor, PHF	0.70	0.70	0.81	0.70	0.73	0.70	0.75	0.76	0.70	0.75	0.93	0.94
Adj. Flow (vph)	154	209	30	44	260	80	15	329	54	107	452	294
RTOR Reduction (vph)	0	8	0	0	0	56	0	9	0	0	36	0
Lane Group Flow (vph)	154	231	0	44	260	24	15	374	0	107	710	0
Heavy Vehicles (%)	5%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Effective Green, g (s)	19.5	19.5		19.5	19.5	19.5	19.5	19.5		34.5	34.5	
Actuated g/C Ratio	0.30	0.30		0.30	0.30	0.30	0.30	0.30		0.53	0.53	
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	5.5		4.5	5.5	
Lane Grp Cap (vph)	288	548		315	558	474	201	546		475	930	
v/s Ratio Prot		0.13			0.14			0.21		0.04	c0.41	
v/s Ratio Perm	c0.16			0.04		0.02	0.02			0.08		
v/c Ratio	0.53	0.42		0.14	0.47	0.05	0.07	0.68		0.23	0.76	
Uniform Delay, d1	19.0	18.2		16.6	18.5	16.2	16.3	20.0		8.7	12.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.0	2.4		0.9	2.8	0.2	0.7	6.8		1.1	5.9	
Delay (s)	25.9	20.6		17.5	21.3	16.4	17.0	26.9		9.8	17.9	
Level of Service	C	C		B	C	B	B	C		A	B	
Approach Delay (s)		22.7			19.8			26.5			16.9	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		

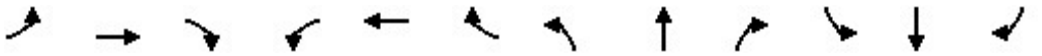
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	188	63	1	4	22	133	2	28	4	2	21	48
Future Volume (Veh/h)	188	63	1	4	22	133	2	28	4	2	21	48
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.78	0.70	0.70	0.70	0.84	0.70	0.70	0.70	0.84	0.70	0.70
Hourly flow rate (vph)	211	81	1	6	31	158	3	40	6	2	30	69
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	189			82			710	704	82	652	626	110
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	189			82			710	704	82	652	626	110
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	85			100			99	87	99	99	91	93
cM capacity (veh/h)	1385			1515			266	305	978	301	338	943

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	293	195	49	101
Volume Left	211	6	3	2
Volume Right	1	158	6	69
cSH	1385	1515	330	600
Volume to Capacity	0.15	0.00	0.15	0.17
Queue Length 95th (m)	4.3	0.1	4.1	4.8
Control Delay (s)	6.2	0.3	17.8	12.2
Lane LOS	A	A	C	B
Approach Delay (s)	6.2	0.3	17.8	12.2
Approach LOS			C	B

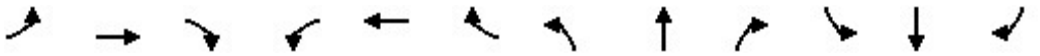
Intersection Summary				
Average Delay	6.2			
Intersection Capacity Utilization	38.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	278	85	1	6	30	133	2	65	11	82	32	78
Future Volume (Veh/h)	278	85	1	6	30	133	2	65	11	82	32	78
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.78	0.70	0.70	0.70	0.84	0.70	0.70	0.70	0.84	0.70	0.70
Hourly flow rate (vph)	312	109	1	9	43	158	3	93	16	98	46	111
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	201			110			1008	952	110	936	874	122
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	201			110			1008	952	110	936	874	122
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	77			99			98	53	98	23	79	88
cM capacity (veh/h)	1371			1480			134	199	944	128	221	929

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	422	210	112	255
Volume Left	312	9	3	98
Volume Right	1	158	16	111
cSH	1371	1480	221	233
Volume to Capacity	0.23	0.01	0.51	1.09
Queue Length 95th (m)	7.0	0.1	20.7	90.1
Control Delay (s)	6.7	0.4	36.9	131.7
Lane LOS	A	A	E	F
Approach Delay (s)	6.7	0.4	36.9	131.7
Approach LOS			E	F

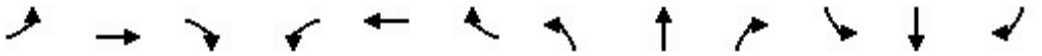
Intersection Summary				
Average Delay	40.7			
Intersection Capacity Utilization	57.7%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	278	85	1	6	30	133	2	65	11	82	32	78
Future Volume (vph)	278	85	1	6	30	133	2	65	11	82	32	78
Peak Hour Factor	0.89	0.78	0.70	0.70	0.70	0.84	0.70	0.70	0.70	0.84	0.70	0.70
Hourly flow rate (vph)	312	109	1	9	43	158	3	93	16	98	46	111

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	422	210	112	255
Volume Left (vph)	312	9	3	98
Volume Right (vph)	1	158	16	111
Hadj (s)	0.18	-0.41	-0.05	-0.15
Departure Headway (s)	5.5	5.3	6.1	5.7
Degree Utilization, x	0.65	0.31	0.19	0.41
Capacity (veh/h)	623	600	497	570
Control Delay (s)	18.2	10.7	10.6	12.6
Approach Delay (s)	18.2	10.7	10.6	12.6
Approach LOS	C	B	B	B

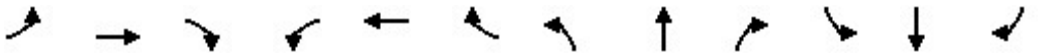
Intersection Summary				
Delay	14.3			
Level of Service	B			
Intersection Capacity Utilization	57.7%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	77	1	5	21	163	2	34	5	100	26	59
Future Volume (Veh/h)	230	77	1	5	21	163	2	34	5	100	26	59
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.78	0.70	0.70	0.70	0.84	0.70	0.70	0.70	0.84	0.70	0.70
Hourly flow rate (vph)	258	99	1	7	30	194	3	49	7	119	37	84
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	224			100			859	854	100	788	757	127
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	224			100			859	854	100	788	757	127
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	81			100			98	79	99	46	86	91
cM capacity (veh/h)	1345			1493			192	238	956	221	271	923

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	358	231	59	240
Volume Left	258	7	3	119
Volume Right	1	194	7	84
cSH	1345	1493	258	313
Volume to Capacity	0.19	0.00	0.23	0.77
Queue Length 95th (m)	5.7	0.1	6.9	47.8
Control Delay (s)	6.5	0.3	23.0	46.1
Lane LOS	A	A	C	E
Approach Delay (s)	6.5	0.3	23.0	46.1
Approach LOS			C	E

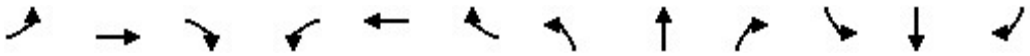
Intersection Summary				
Average Delay	16.7			
Intersection Capacity Utilization	55.5%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	99	1	7	35	163	2	71	12	100	37	89
Future Volume (Veh/h)	320	99	1	7	35	163	2	71	12	100	37	89
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.78	0.70	0.70	0.70	0.84	0.70	0.70	0.70	0.84	0.70	0.70
Hourly flow rate (vph)	360	127	1	10	50	194	3	101	17	119	53	127
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	244			128			1168	1112	128	1082	1015	147
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	244			128			1168	1112	128	1082	1015	147
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	73			99			97	33	98	0	69	86
cM capacity (veh/h)	1322			1458			89	151	923	72	172	900

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	488	254	121	299
Volume Left	360	10	3	119
Volume Right	1	194	17	127
cSH	1322	1458	168	142
Volume to Capacity	0.27	0.01	0.72	2.11
Queue Length 95th (m)	8.9	0.2	35.4	194.0
Control Delay (s)	7.1	0.4	68.1	572.3
Lane LOS	A	A	F	F
Approach Delay (s)	7.1	0.4	68.1	572.3
Approach LOS			F	F

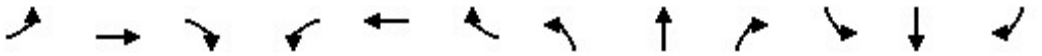
Intersection Summary				
Average Delay	157.4			
Intersection Capacity Utilization	64.9%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	320	99	1	7	35	163	2	71	12	100	37	89
Future Volume (vph)	320	99	1	7	35	163	2	71	12	100	37	89
Peak Hour Factor	0.89	0.78	0.70	0.70	0.70	0.84	0.70	0.70	0.70	0.84	0.70	0.70
Hourly flow rate (vph)	360	127	1	10	50	194	3	101	17	119	53	127

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	488	254	121	299
Volume Left (vph)	360	10	3	119
Volume Right (vph)	1	194	17	127
Hadj (s)	0.18	-0.42	-0.05	-0.14
Departure Headway (s)	6.0	5.9	6.9	6.3
Degree Utilization, x	0.81	0.41	0.23	0.52
Capacity (veh/h)	587	549	453	514
Control Delay (s)	29.5	13.0	11.9	15.9
Approach Delay (s)	29.5	13.0	11.9	15.9
Approach LOS	D	B	B	C

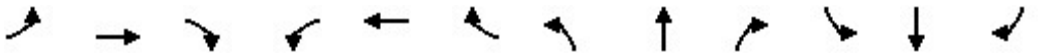
Intersection Summary				
Delay	20.6			
Level of Service	C			
Intersection Capacity Utilization	64.9%	ICU Level of Service	C	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	78	21	3	1	32	86	3	17	5	107	27	111
Future Volume (Veh/h)	78	21	3	1	32	86	3	17	5	107	27	111
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.88	0.70	0.70	1.00	0.73	0.75	0.70	0.70	0.88	0.75	0.88
Hourly flow rate (vph)	98	24	4	1	32	118	4	24	7	122	36	126
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	150			28			459	374	26	334	317	91
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	150			28			459	374	26	334	317	91
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	93			100			99	95	99	78	94	87
cM capacity (veh/h)	1431			1585			401	518	1050	563	558	967

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	126	151	35	284
Volume Left	98	1	4	122
Volume Right	4	118	7	126
cSH	1431	1585	556	690
Volume to Capacity	0.07	0.00	0.06	0.41
Queue Length 95th (m)	1.8	0.0	1.6	16.2
Control Delay (s)	6.1	0.1	11.9	13.8
Lane LOS	A	A	B	B
Approach Delay (s)	6.1	0.1	11.9	13.8
Approach LOS			B	B

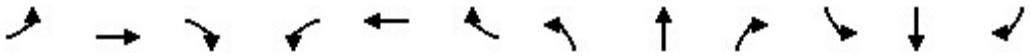
Intersection Summary				
Average Delay	8.6			
Intersection Capacity Utilization	39.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	41	3	8	53	86	3	42	8	107	69	196
Future Volume (Veh/h)	127	41	3	8	53	86	3	42	8	107	69	196
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.88	0.70	0.70	1.00	0.73	0.75	0.70	0.70	0.88	0.75	0.88
Hourly flow rate (vph)	159	47	4	11	53	118	4	60	11	122	92	223
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	171			51			770	560	49	542	503	112
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	171			51			770	560	49	542	503	112
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	89			99			98	84	99	66	78	76
cM capacity (veh/h)	1406			1555			183	385	1020	358	415	941

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	210	182	75	437
Volume Left	159	11	4	122
Volume Right	4	118	11	223
cSH	1406	1555	398	546
Volume to Capacity	0.11	0.01	0.19	0.80
Queue Length 95th (m)	3.1	0.2	5.5	61.4
Control Delay (s)	6.2	0.5	16.1	32.9
Lane LOS	A	A	C	D
Approach Delay (s)	6.2	0.5	16.1	32.9
Approach LOS			C	D

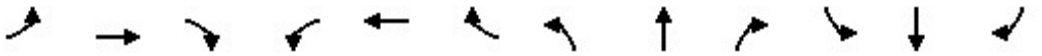
Intersection Summary				
Average Delay	18.8			
Intersection Capacity Utilization	56.1%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	127	41	3	8	53	86	3	42	8	107	69	196
Future Volume (vph)	127	41	3	8	53	86	3	42	8	107	69	196
Peak Hour Factor	0.80	0.88	0.70	0.70	1.00	0.73	0.75	0.70	0.70	0.88	0.75	0.88
Hourly flow rate (vph)	159	47	4	11	53	118	4	60	11	122	92	223

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	210	182	75	437
Volume Left (vph)	159	11	4	122
Volume Right (vph)	4	118	11	223
Hadj (s)	0.17	-0.34	-0.04	-0.22
Departure Headway (s)	5.7	5.3	5.7	4.9
Degree Utilization, x	0.33	0.27	0.12	0.60
Capacity (veh/h)	577	612	551	698
Control Delay (s)	11.6	10.2	9.4	14.9
Approach Delay (s)	11.6	10.2	9.4	14.9
Approach LOS	B	B	A	B

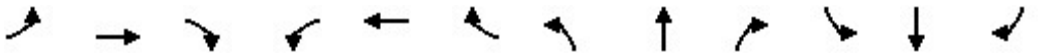
Intersection Summary				
Delay	12.7			
Level of Service	B			
Intersection Capacity Utilization	56.1%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	26	4	1	39	105	4	21	6	131	33	136
Future Volume (Veh/h)	96	26	4	1	39	105	4	21	6	131	33	136
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.88	0.70	0.70	1.00	0.73	0.75	0.70	0.70	0.88	0.75	0.88
Hourly flow rate (vph)	120	30	6	1	39	144	5	30	9	149	44	155
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	183			36			563	458	33	410	389	111
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	183			36			563	458	33	410	389	111
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	91			100			98	93	99	69	91	84
cM capacity (veh/h)	1392			1575			318	456	1041	486	499	942

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	156	184	44	348
Volume Left	120	1	5	149
Volume Right	6	144	9	155
cSH	1392	1575	488	622
Volume to Capacity	0.09	0.00	0.09	0.56
Queue Length 95th (m)	2.3	0.0	2.4	27.7
Control Delay (s)	6.2	0.0	13.1	17.9
Lane LOS	A	A	B	C
Approach Delay (s)	6.2	0.0	13.1	17.9
Approach LOS			B	C

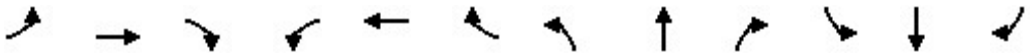
Intersection Summary			
Average Delay	10.6		
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	46	4	8	60	105	4	46	9	131	75	221
Future Volume (Veh/h)	145	46	4	8	60	105	4	46	9	131	75	221
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.88	0.70	0.70	1.00	0.73	0.75	0.70	0.70	0.88	0.75	0.88
Hourly flow rate (vph)	181	52	6	11	60	144	5	66	13	149	100	251
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	204			58			872	643	55	617	574	132
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	204			58			872	643	55	617	574	132
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	87			99			96	80	99	51	73	73
cM capacity (veh/h)	1368			1546			140	338	1012	303	370	917

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	239	215	84	500
Volume Left	181	11	5	149
Volume Right	6	144	13	251
cSH	1368	1546	344	482
Volume to Capacity	0.13	0.01	0.24	1.04
Queue Length 95th (m)	3.6	0.2	7.5	118.7
Control Delay (s)	6.4	0.4	18.8	80.2
Lane LOS	A	A	C	F
Approach Delay (s)	6.4	0.4	18.8	80.2
Approach LOS			C	F

Intersection Summary				
Average Delay	41.7			
Intersection Capacity Utilization	62.1%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	145	46	4	8	60	105	4	46	9	131	75	221
Future Volume (vph)	145	46	4	8	60	105	4	46	9	131	75	221
Peak Hour Factor	0.80	0.88	0.70	0.70	1.00	0.73	0.75	0.70	0.70	0.88	0.75	0.88
Hourly flow rate (vph)	181	52	6	11	60	144	5	66	13	149	100	251

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	239	215	84	500
Volume Left (vph)	181	11	5	149
Volume Right (vph)	6	144	13	251
Hadj (s)	0.17	-0.36	-0.05	-0.21
Departure Headway (s)	6.1	5.7	6.1	5.2
Degree Utilization, x	0.41	0.34	0.14	0.72
Capacity (veh/h)	537	570	496	500
Control Delay (s)	13.2	11.5	10.1	20.5
Approach Delay (s)	13.2	11.5	10.1	20.5
Approach LOS	B	B	B	C

Intersection Summary				
Delay	16.1			
Level of Service	C			
Intersection Capacity Utilization	62.1%	ICU Level of Service	B	
Analysis Period (min)	15			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	32	38	303	63	46	151
Future Volume (Veh/h)	32	38	303	63	46	151
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.70	0.71	0.85	0.70	0.75	0.78
Hourly flow rate (vph)	46	54	356	90	61	194
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	717	401			446	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	717	401			446	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	88	92			95	
cM capacity (veh/h)	369	649			1114	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	100	446	255
Volume Left	46	0	61
Volume Right	54	90	0
cSH	481	1700	1114
Volume to Capacity	0.21	0.26	0.05
Queue Length 95th (m)	6.2	0.0	1.4
Control Delay (s)	14.4	0.0	2.4
Lane LOS	B		A
Approach Delay (s)	14.4	0.0	2.4
Approach LOS	B		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	44.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	44	38	398	95	46	180
Future Volume (Veh/h)	44	38	398	95	46	180
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.70	0.71	0.85	0.70	0.75	0.78
Hourly flow rate (vph)	63	54	468	136	61	231
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	889	536			604	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	889	536			604	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	78	90			94	
cM capacity (veh/h)	289	545			974	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	117	604	292
Volume Left	63	0	61
Volume Right	54	136	0
cSH	369	1700	974
Volume to Capacity	0.32	0.36	0.06
Queue Length 95th (m)	10.7	0.0	1.6
Control Delay (s)	19.2	0.0	2.4
Lane LOS	C		A
Approach Delay (s)	19.2	0.0	2.4
Approach LOS	C		

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	39	47	371	77	56	185
Future Volume (Veh/h)	39	47	371	77	56	185
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.70	0.71	0.85	0.70	0.75	0.78
Hourly flow rate (vph)	56	66	436	110	75	237
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	878	491			546	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	878	491			546	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	81	89			93	
cM capacity (veh/h)	290	578			1023	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	122	546	312
Volume Left	56	0	75
Volume Right	66	110	0
cSH	397	1700	1023
Volume to Capacity	0.31	0.32	0.07
Queue Length 95th (m)	10.3	0.0	1.9
Control Delay (s)	18.0	0.0	2.7
Lane LOS	C		A
Approach Delay (s)	18.0	0.0	2.7
Approach LOS	C		

Intersection Summary			
Average Delay	3.1		
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	51	47	466	109	56	214
Future Volume (Veh/h)	51	47	466	109	56	214
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.70	0.71	0.85	0.70	0.75	0.78
Hourly flow rate (vph)	73	66	548	156	75	274
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	1050	626			704	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1050	626			704	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	68	86			92	
cM capacity (veh/h)	226	484			894	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	139	704	349
Volume Left	73	0	75
Volume Right	66	156	0
cSH	303	1700	894
Volume to Capacity	0.46	0.41	0.08
Queue Length 95th (m)	18.3	0.0	2.2
Control Delay (s)	26.6	0.0	2.8
Lane LOS	D		A
Approach Delay (s)	26.6	0.0	2.8
Approach LOS	D		

Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	28	175	29	33	311
Future Volume (Veh/h)	30	28	175	29	33	311
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.70	0.77	0.73	0.70	0.90
Hourly flow rate (vph)	36	40	227	40	47	346
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	687	247			267	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	687	247			267	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	91	95			96	
cM capacity (veh/h)	392	792			1297	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	76	267	393
Volume Left	36	0	47
Volume Right	40	40	0
cSH	534	1700	1297
Volume to Capacity	0.14	0.16	0.04
Queue Length 95th (m)	4.0	0.0	0.9
Control Delay (s)	12.9	0.0	1.3
Lane LOS	B		A
Approach Delay (s)	12.9	0.0	1.3
Approach LOS	B		

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	42.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	56	28	230	48	33	412
Future Volume (Veh/h)	56	28	230	48	33	412
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.70	0.77	0.73	0.70	0.90
Hourly flow rate (vph)	67	40	299	66	47	458
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	884	332			365	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	884	332			365	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	78	94			96	
cM capacity (veh/h)	299	710			1194	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	107	365	505
Volume Left	67	0	47
Volume Right	40	66	0
cSH	381	1700	1194
Volume to Capacity	0.28	0.21	0.04
Queue Length 95th (m)	9.1	0.0	1.0
Control Delay (s)	18.1	0.0	1.2
Lane LOS	C		A
Approach Delay (s)	18.1	0.0	1.2
Approach LOS	C		

Intersection Summary			
Average Delay	2.6		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	37	34	214	36	40	381
Future Volume (Veh/h)	37	34	214	36	40	381
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.70	0.77	0.73	0.70	0.90
Hourly flow rate (vph)	45	49	278	49	57	423
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	840	302			327	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	840	302			327	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	86	93			95	
cM capacity (veh/h)	315	737			1233	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	94	327	480
Volume Left	45	0	57
Volume Right	49	49	0
cSH	449	1700	1233
Volume to Capacity	0.21	0.19	0.05
Queue Length 95th (m)	6.2	0.0	1.2
Control Delay (s)	15.1	0.0	1.4
Lane LOS	C		A
Approach Delay (s)	15.1	0.0	1.4
Approach LOS	C		

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	63	34	269	55	40	482
Future Volume (Veh/h)	63	34	269	55	40	482
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.83	0.70	0.77	0.73	0.70	0.90
Hourly flow rate (vph)	76	49	349	75	57	536
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	1036	386			424	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1036	386			424	
tC, single (s)	6.5	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.6	3.3			2.2	
p0 queue free %	68	93			95	
cM capacity (veh/h)	239	661			1135	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	125	424	593
Volume Left	76	0	57
Volume Right	49	75	0
cSH	319	1700	1135
Volume to Capacity	0.39	0.25	0.05
Queue Length 95th (m)	14.4	0.0	1.3
Control Delay (s)	23.4	0.0	1.4
Lane LOS	C		A
Approach Delay (s)	23.4	0.0	1.4
Approach LOS	C		

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	13	63	93	295	106	5
Future Volume (vph)	13	63	93	295	106	5
Peak Hour Factor	0.70	0.70	0.71	0.96	0.70	0.73
Hourly flow rate (vph)	19	90	131	307	151	7

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	109	438	158
Volume Left (vph)	19	131	0
Volume Right (vph)	90	0	7
Hadj (s)	-0.43	0.09	0.01
Departure Headway (s)	4.8	4.5	4.7
Degree Utilization, x	0.15	0.54	0.21
Capacity (veh/h)	666	791	734
Control Delay (s)	8.7	12.6	8.9
Approach Delay (s)	8.7	12.6	8.9
Approach LOS	A	B	A

Intersection Summary			
Delay	11.2		
Level of Service	B		
Intersection Capacity Utilization	38.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	13	67	104	379	131	5
Future Volume (vph)	13	67	104	379	131	5
Peak Hour Factor	0.70	0.70	0.71	0.96	0.70	0.73
Hourly flow rate (vph)	19	96	146	395	187	7

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	115	541	194
Volume Left (vph)	19	146	0
Volume Right (vph)	96	0	7
Hadj (s)	-0.43	0.09	0.01
Departure Headway (s)	5.1	4.5	4.8
Degree Utilization, x	0.16	0.68	0.26
Capacity (veh/h)	618	772	709
Control Delay (s)	9.2	16.7	9.5
Approach Delay (s)	9.2	16.7	9.5
Approach LOS	A	C	A

Intersection Summary			
Delay	14.0		
Level of Service	B		
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	16	77	114	361	130	6
Future Volume (vph)	16	77	114	361	130	6
Peak Hour Factor	0.70	0.70	0.71	0.96	0.70	0.73
Hourly flow rate (vph)	23	110	161	376	186	8

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	133	537	194
Volume Left (vph)	23	161	0
Volume Right (vph)	110	0	8
Hadj (s)	-0.43	0.09	0.01
Departure Headway (s)	5.2	4.6	4.9
Degree Utilization, x	0.19	0.69	0.26
Capacity (veh/h)	618	762	698
Control Delay (s)	9.4	17.0	9.6
Approach Delay (s)	9.4	17.0	9.6
Approach LOS	A	C	A

Intersection Summary			
Delay	14.2		
Level of Service	B		
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	16	81	125	445	155	6
Future Volume (vph)	16	81	125	445	155	6
Peak Hour Factor	0.70	0.70	0.71	0.96	0.70	0.73
Hourly flow rate (vph)	23	116	176	464	221	8

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	139	640	229
Volume Left (vph)	23	176	0
Volume Right (vph)	116	0	8
Hadj (s)	-0.43	0.09	0.01
Departure Headway (s)	5.5	4.7	5.1
Degree Utilization, x	0.21	0.83	0.32
Capacity (veh/h)	603	755	674
Control Delay (s)	10.0	26.5	10.5
Approach Delay (s)	10.0	26.5	10.5
Approach LOS	A	D	B

Intersection Summary			
Delay	20.6		
Level of Service	C		
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	19	83	77	170	282	11
Future Volume (vph)	19	83	77	170	282	11
Peak Hour Factor	0.70	0.70	0.70	0.90	0.82	0.70
Hourly flow rate (vph)	27	119	110	189	344	16

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	146	299	360
Volume Left (vph)	27	110	0
Volume Right (vph)	119	0	16
Hadj (s)	-0.42	0.11	0.01
Departure Headway (s)	5.0	4.8	4.7
Degree Utilization, x	0.20	0.40	0.47
Capacity (veh/h)	643	719	744
Control Delay (s)	9.3	11.0	11.7
Approach Delay (s)	9.3	11.0	11.7
Approach LOS	A	B	B

Intersection Summary			
Delay	11.0		
Level of Service	B		
Intersection Capacity Utilization	44.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	19	94	83	219	373	11
Future Volume (vph)	19	94	83	219	373	11
Peak Hour Factor	0.70	0.70	0.70	0.90	0.82	0.70
Hourly flow rate (vph)	27	134	119	243	455	16

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	161	362	471
Volume Left (vph)	27	119	0
Volume Right (vph)	134	0	16
Hadj (s)	-0.43	0.10	0.01
Departure Headway (s)	5.5	5.1	4.9
Degree Utilization, x	0.24	0.51	0.64
Capacity (veh/h)	588	688	721
Control Delay (s)	10.2	13.2	16.0
Approach Delay (s)	10.2	13.2	16.0
Approach LOS	B	B	C

Intersection Summary			
Delay	14.0		
Level of Service	B		
Intersection Capacity Utilization	53.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	23	102	94	208	345	13
Future Volume (vph)	23	102	94	208	345	13
Peak Hour Factor	0.70	0.70	0.70	0.90	0.82	0.70
Hourly flow rate (vph)	33	146	134	231	421	19

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	179	365	440
Volume Left (vph)	33	134	0
Volume Right (vph)	146	0	19
Hadj (s)	-0.42	0.11	0.01
Departure Headway (s)	5.4	5.1	4.9
Degree Utilization, x	0.27	0.52	0.60
Capacity (veh/h)	595	683	710
Control Delay (s)	10.4	13.4	15.1
Approach Delay (s)	10.4	13.4	15.1
Approach LOS	B	B	C

Intersection Summary			
Delay	13.6		
Level of Service	B		
Intersection Capacity Utilization	52.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Stop	Stop	
Traffic Volume (vph)	23	113	100	257	436	13
Future Volume (vph)	23	113	100	257	436	13
Peak Hour Factor	0.70	0.70	0.70	0.90	0.82	0.70
Hourly flow rate (vph)	33	161	143	286	532	19

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total (vph)	194	429	551
Volume Left (vph)	33	143	0
Volume Right (vph)	161	0	19
Hadj (s)	-0.43	0.10	0.01
Departure Headway (s)	5.9	5.4	5.1
Degree Utilization, x	0.32	0.64	0.79
Capacity (veh/h)	560	646	688
Control Delay (s)	11.6	17.4	24.4
Approach Delay (s)	11.6	17.4	24.4
Approach LOS	B	C	C

Intersection Summary			
Delay	19.7		
Level of Service	C		
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		