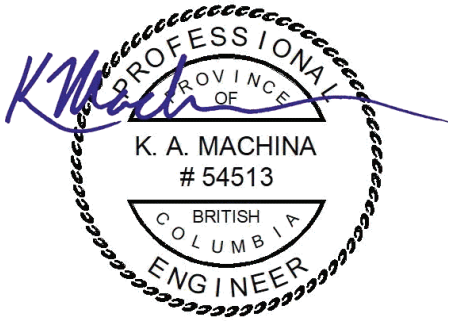
1055 ALSTON STREET

Traffic Impact Assessment



Kristen Bacler
Transportation Technologist
Author

Kristen Machina, P.Eng.
Senior Transportation Engineer
Reviewer

Prepared For: Sakura Property Development
Date: July 17, 2023
Our File No: 3550.B01

WATT VICTORIA
302 – 740 Hillside Ave
Victoria, BC V8T 1Z4
250-388-9877

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

1.0 INTRODUCTION

Watt Consulting Group was retained by Sakura Property Development to conduct a Traffic Impact Assessment (TIA) for the proposed residential development at 1055 Alston Street in the City of Victoria. This study assesses the traffic impacts of the proposed land use, reviews traffic conditions at key intersections, and assesses the need for any mitigation measures. The study reviews the existing traffic operations along with the post development and long-term conditions for all modes of transportation.

1.1 Study Area

See **Figure 1** for the study area and location. The study area includes the site accesses and following intersections:

- Skinner Street / Alston Street
- Skinner Street / Tyee Road

1.2 The Site Today

The site today has one commercial business with a parking lot.

1.3 Proposed Development

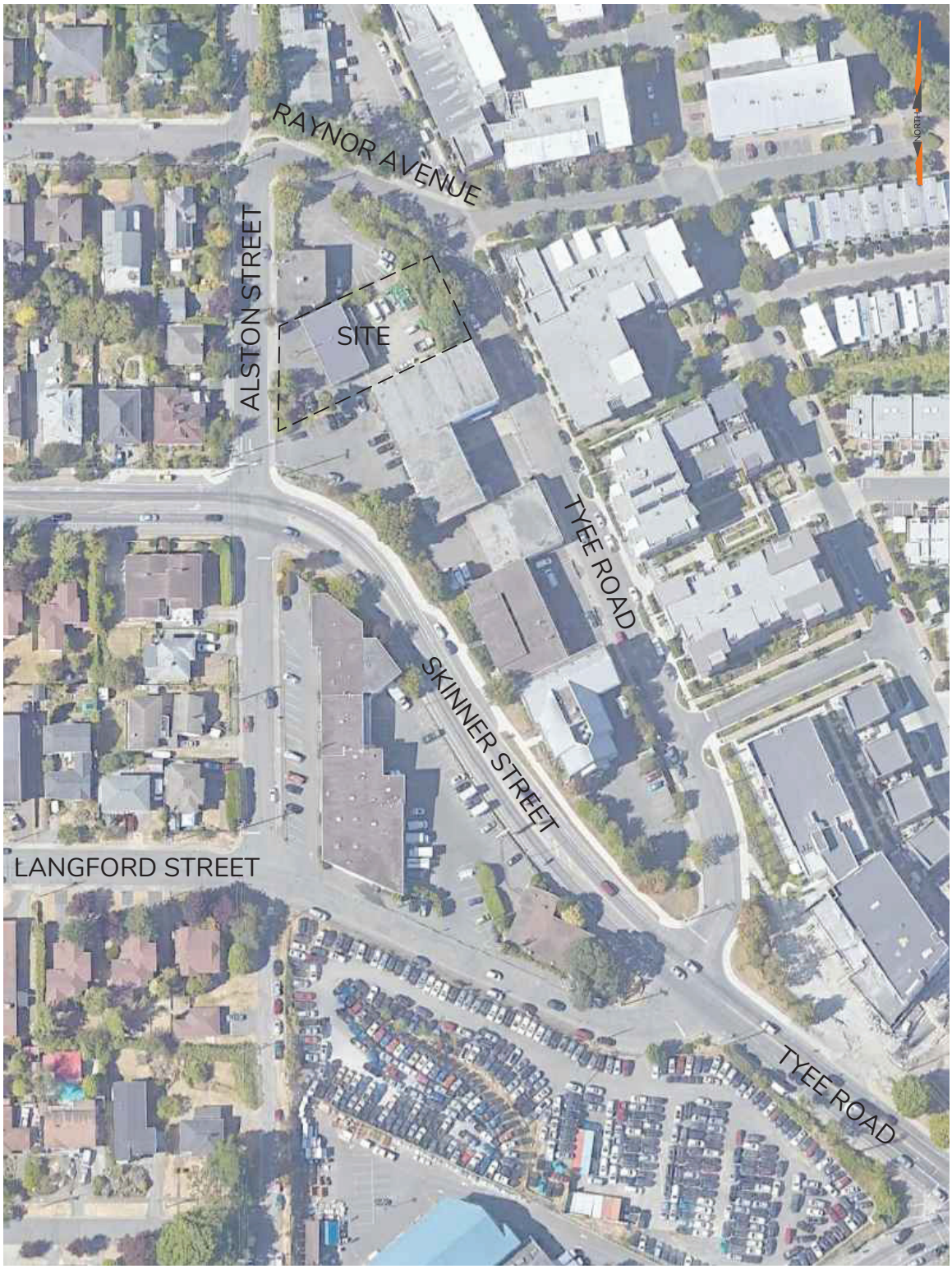
The proposed development consists of a 6-storey, 56-unit condo building with 906 m^2 of basement level commercial/industrial space.

1.4 This Report

This report is provided as part of the Zoning Bylaw Amendment application being submitted to the City of Victoria. It provides the following:

- An overview of the existing and evolving transportation context in the vicinity of the site, including vehicular, pedestrian, cycling, and transit facilities.
- An overview of the proposed development programme.
- An assessment of the existing traffic activity patterns and volumes in the study area during the weekday morning and afternoon peak periods.
- A comprehensive review of the vehicular traffic volume changes that may occur in the area in the future with the construction of other area development projects.
- An assessment of the trip generation and assignment characteristics of the proposed development.

- A review of vehicular traffic operations at intersections in the area under existing and future conditions, including an assessment of the operational impacts of the proposed development.


RAYNOR AVENUE
ALSTON STREET
SITE
TYEE ROAD
SKINNER STREET
LANGFORD STREET
TYEE ROAD

2.0 TRANSPORTATION CONTEXT

2.1 Land Use

The site is located north of Skinner Street between Alston Street and Tyee Road. The proposed site is currently zoned as Songhees Light Industrial District (M2-S) and is proposed to be re-zoned to allow a mixed-use (industrial and residential) development. The surrounding land use is a mix of apartments/condos, low-rise residential, and commercial.

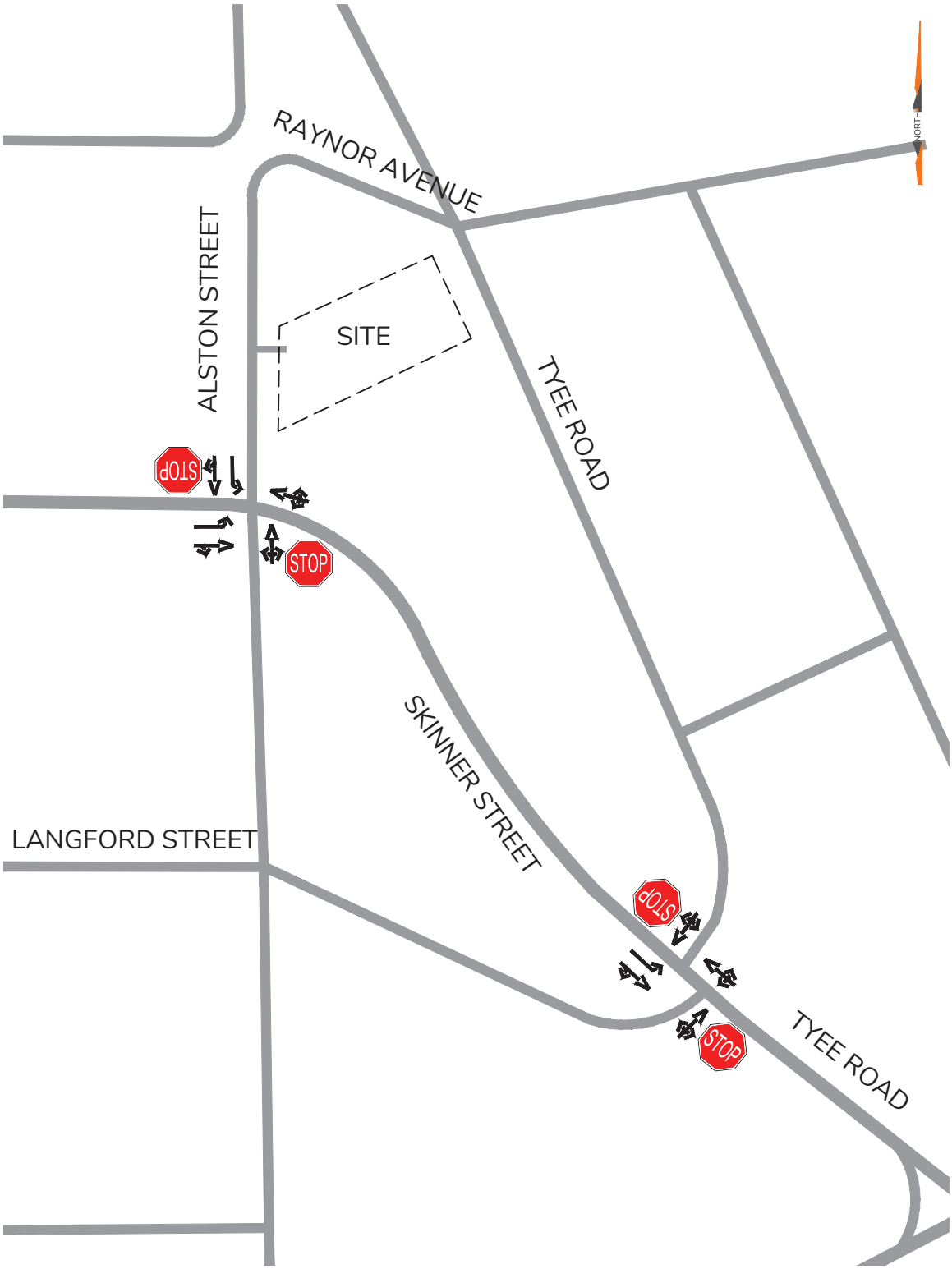
2.2 Road Network

The existing road network, lane configuration and intersection control are illustrated in **Figure 2**.

- **Alston Street** is an undivided, two-lane, urban local road that runs north/south within the study area. There are no bicycle lanes and there is parking on the northeast side of the street by the proposed site.
- **Skinner Street** is a two-lane, collector road that runs east/west within the study area. There are bicycle lanes on both sides of the street and parking is allowed on lay-bys along the street.
- **Tyee Road** is an undivided, two-lane local road that runs north/south within the study area. There are no bicycle lanes, and parking is allowed on both sides of the street.

The speed limit on all study roads is 30 km/h. Two key intersections were identified within the study area:

- **Skinner Street / Alston Street** is a four-leg, stop-controlled intersection. The eastbound and westbound approaches are free flow, and the northbound and southbound approaches are stop-controlled. The eastbound and southbound approaches have a separate left turn lane.
- **Skinner Street / Tyee Road** is a three-leg, stop-controlled intersection. The eastbound and westbound approaches are free flow, and the southbound approach is stop-controlled. The eastbound approach has a separate left turn lane and east of the intersection the eastbound approach widens to two through lanes.


RAYNOR AVENUE
ALSTON STREET
SITE
TYEE ROAD
STOP
STOP
SKINNER STREET
LANGFORD STREET
STOP
STOP
TYEE ROAD
NORTH

2.3 Transit Network

2.3.1 Existing Transit Network

The area transit network is illustrated in **Figure 3**.

Route 10 – James Bay / Royal Jubilee operates between the Legislature in James Bay and the Royal Jubilee Hospital, passing through central Victoria. The closest stop is approximately 500 metres (i.e., a 6-minute walk) from the site at Bay Street / Wilson Street. Buses operate at 30-to-60-minute headways on weekdays and 60-minute headways on weekends.

Route 14 – Vic General / UVic operates between the University of Victoria and the Victoria General Hospital, passing by the Oak Bay Junction. The closest stop is approximately 190 metres (i.e., a 2-minute walk) from the site at Skinner Street / Catherine Street. Buses operate at 15-to-30-minute headways on weekdays and Saturdays, and 20-to-30-minute headways on Sundays.

Route 15 – Esquimalt / UVic operates between the University of Victoria and the HMC Dockyard, passing by the Oak Bay Junction. The closest stop is approximately 700 metres (i.e., a 9-minute walk) from the site at Esquimalt Road / Catherine Street. Buses operate at 15-to-30-minute headways on weekdays, and 20-to-30-minute headways on weekends.

Route 24 – Cedar Hill / Tillicum Centre operates between the Tillicum Centre Mall and the McKenzie Avenue / Shelbourne Street, passing the Admirals Walk Shopping Centre and the Cedar Hill Middle School. The closest stop is approximately 400 metres (i.e., a 4-minute walk) from the site at Wilson Street / Bay Street. Buses operate at 30-to-80-minute headways on weekdays, 50-to-80-minute headways on Saturdays, and 50-to-80-minute headways on Sundays.

Route 25 – Maplewood / Tillicum Centre – operates between the Tillicum Centre Mall and the Saanich Centre, passing the Admirals Walk Shopping Centre. The closest stop is approximately 700 metres (i.e., a 9-minute walk) from the site at Esquimalt Road / Catherine Street. Buses operate at 50-to-80-minute headways on weekdays and Saturdays, and 80-minute headways on Sundays.

2.3.2 Evolving Transit Network

BC Transit is collaborating with municipal, regional, and provincial partners to develop the Victoria Regional RapidBus Implementation Strategy. RapidBus routes are planned to operate two-ways, 18-20 hours per day, 7 days a week. Phase 1 is complete and includes the Westshore Line which will run from Langford to Victoria's Downtown Core. The implementation plan lists as one of its long-term priorities the conversion of Route 15 (Esquimalt/UVic) into a potential corridor for future RapidBus service.


Vic General
14 22 53
Colwood
95 39 43 46 48
51 52 54 61
VIEW ROYAL
COLWOOD
ESQUIMALT
Legislature
95 70 3 10 30
31 32 47 48 53
61 65 71 72 75
SITE
Legend
Direction of Travel
Route Name
UVic
Transit Exchange
Park & Ride Lot
(no overnight parking)
Major Stop
Bike Lockers

2.4 Cycling Network

The site currently has excellent cycling facilities in its immediate vicinity. Skinner Road has on-street bike lanes, as well as the close by streets of Tyee Road from Esquimalt Road to Skinner Street, Bay Street, Craigflower Road, and Esquimalt Road. Shared streets are available on Catherine Street between Skinner Street and Raynor Avenue, Raynor Avenue between Catherines Street and Tyee Road, and Tyee Road from Regatta Landing to where it connects to Galloping Goose Regional Trail. These facilities provide access to a variety of commercial and employment destinations in the area, as well as the Galloping Goose Regional Trail and the E&N Rail Trail, which provide connections for cyclists across the Greater Victoria Area as a whole. The area cycling network is illustrated in **Figure 4**.

2.5 Pedestrian Environment

Pedestrian infrastructure around the site is very good. Alston Street has sidewalks on both sides of the street until south of Langford Street and Skinner Street has sidewalks on both sides of the street.

This site has great existing pedestrian infrastructure to all key destinations in the area. There are no gaps in the sidewalk network in the vicinity. At the north end of Alston Street there is a pedestrian connection to Raynor Avenue that links up to Banfield Park and there are multiple connections to the Galloping Goose Regional Trail within 100 metres of the site. There is an existing signalized intersection at Catherine Street / Skinner Street that offers crossing opportunities to the west for pedestrians travelling to / from the Victoria West Elementary School. To the south the Westside Village Shopping Centre can be safely accessed by the signalized intersection at Bay Street / Tyee Road.


Halkett Island
Banfield Park
RAYNOR AVE
SKINNER ST
SITE
CATHERINE ST
ALSTON ST
MARY ST
FRONT ST
WILSON ST
HIGHROCK
PLEASANT ST
TURNER ST
POINT ELLICE
Victoria West Park
ESQUIMALT RD
ROBERT ST
RUSSELL ST
SAGHALIE RD
KINKORA RD
E&N Rail Trail - Humpback Connector
SONGHEES RD
SONGHEES POINT
Legend:
Paved Multi-Use Trails / Protected Bike Lanes
Unpaved Multi-Use Trails
Bike Lanes / Road Shoulders
Shared Streets (may include traffic calming, signs, lower vehicle volume or municipal designation)
Difficult Connections (may include higher vehicle speeds and/or volumes, narrow lane widths or other problems for cyclists)

2.6 Area Travel Characteristics

2.6.1 Existing Area Travel Characteristics

The 2017 CRD Household Travel Survey provides information on area travel characteristics for southern Vancouver Island. **Table 1** outlines the mode share for the area.

Table 1 – Existing Mode Share

Mode	AM Peak	PM Peak
Auto Driver	56%	53%
Auto Passenger	15%	11%
Transit	9%	12%
Bicycle	7%	11%
Walk	13%	12%
Other	1%	1%

Notes:

1. Based on 2017 CRD Household Travel Survey data for District 6 – Victoria North
2. Travel mode split calculation based on overall number of trips to, from, and within district.

2.6.2 Evolving Area Travel Characteristics

The December 2020 Go Victoria – Sustainable Mobility Strategy outlines mode share targets that the City of Victoria is aiming for to reduce GHG emissions and energy use. The City would like to double transit ridership and have 55% of all trips to, from, and within the City be by walking, rolling, or cycling by 2030.

3.0 DEVELOPMENT PROPOSAL

The proposed development at 1055 Alston Street consists of a 6-storey, 56-unit condo building with 906 m^2 of basement level commercial/industrial. **Table 2** outlines the development programme and transportation-related elements of the proposed site plan. The architectural site plan is provided in **Appendix A**.

Table 2 - Development Proposal

Site Element	Details	
Residential Units	56 units	
Commercial/Industrial	906 m^2	
Vehicular Parking Supply	Regular	17 spaces
	Accessible	2 spaces
	Total	19 spaces
Bicycle Parking Supply	65 spaces	
Loading Operations	Loading space is provided from the Tyee Road. Maneuvering will be on street with parking in the industrial basement.	
Vehicular Access	Residential access is provided from Alston Street. Industrial access is provided from Tyee Road.	
Cyclist Access	Bicycle parking spaces are accessible within the parking garage in the southeast corner and from a stairwell with a bike ramp in the southwest corner.	
Pedestrian Access	Pedestrian access to the residential lobby is provided from Alston Street.	

Notes: Site statistics based on architectural site plans prepared by dHKarchitects, dated March 30, 2023.

3.1 Site Access

Access to the underground parking garage for residents is provided from a full movement driveway on Alston Street. Access to the industrial portion of the site is provided from a full movement driveway on Tyee Road. Both driveways comply with the Highway Access Bylaw.

3.2 Sight Distance

To promote safety and visibility between pedestrians and motorists when entering and leaving the right of way a 3.0 metre x 3.0 metre sight triangle is required on each side of the driveway crossing. Both driveways as designed exceed this distance.

3.3 Loading Operations

Loading space is provided in the industrial basement accessed from Tyee Road. Maneuvering space within the site is limited and the contemplated uses for the space are such that large trucks are not anticipated, so maneuvering for industrial loading operations will happen on the street.

3.4 Parking Garage Lobby

Access to the lobby in the parking garage is provided from a door located at the bottom of the entrance ramp behind the garage door from Alston Street. This is a major safety issue. It is recommended that the lobby access be moved to the side or that an alcove or marked walkway be added so that access to the lobby can be provided out of the way of active vehicle traffic.

4.0 TRAFFIC VOLUMES

4.1 Traffic Analysis Scenarios and Design Periods

Traffic operations analyses have been undertaken for the weekday morning and afternoon peak hours under the following conditions:

- Existing traffic – traffic activity under current conditions
- Post-development traffic – traffic activity levels into the future with the site redeveloped and projected site generated traffic added to the road network.

Traffic operations are discussed in the following sections for these scenarios:

- Existing conditions
- Opening day post-development conditions

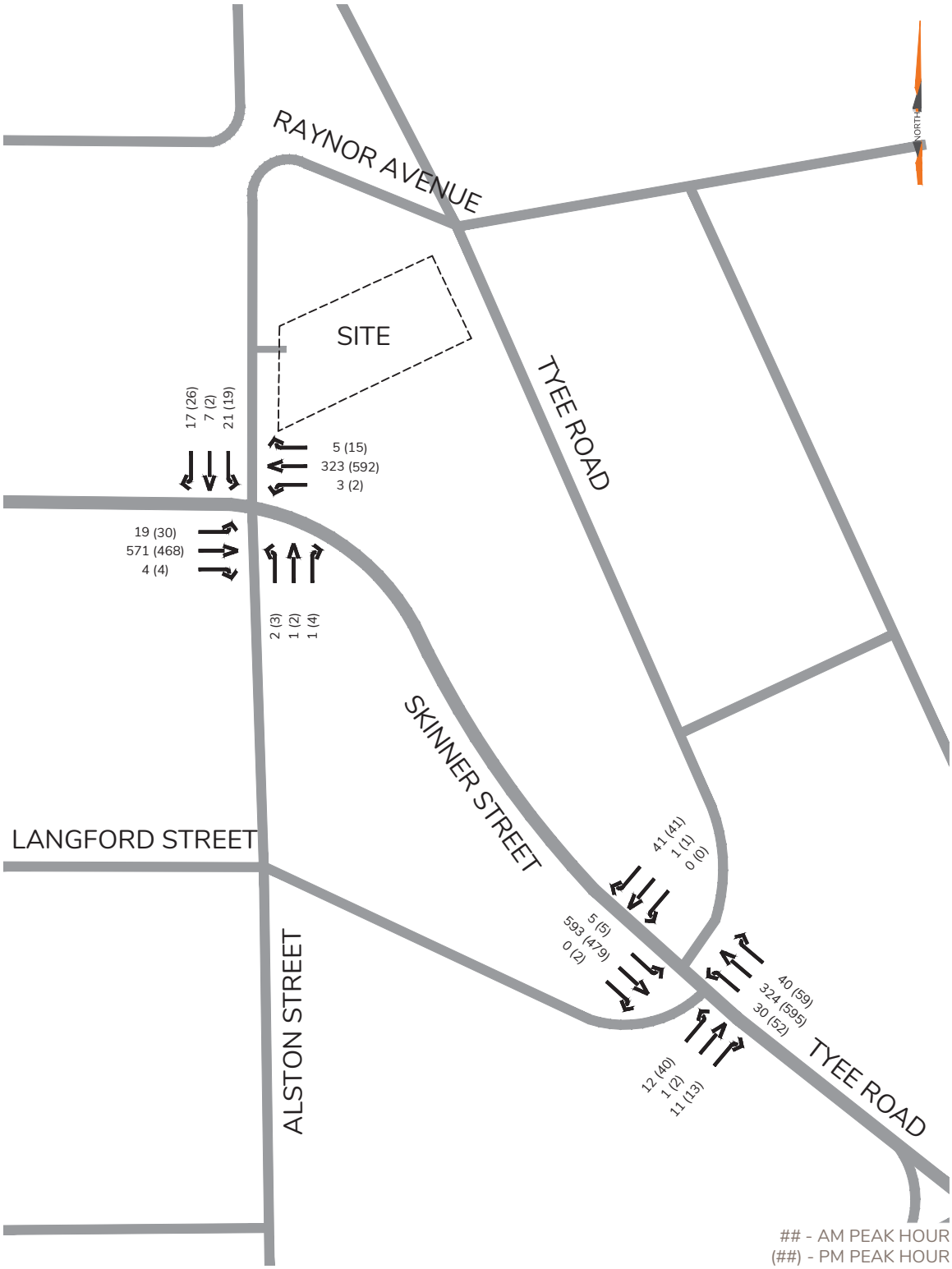
4.2 Existing Traffic Intersection Analysis

Base existing turning movement volumes were established for intersections within the study area for the weekday morning and afternoon peak periods. Traffic count information adopted as the basis for the traffic operations analysis is summarized in **Table 3**.

Table 3 – Existing Traffic Count Information

Intersection	Date of Count	Source
Skinner Street / Alston Street	May 31, 2023	WATT
Skinner Street / Tyee Road / Langford Street	May 31, 2023	WATT

The existing turning movement counts were reviewed in detail to ensure general consistency in the traffic volumes between intersections. The existing area traffic volumes for the weekday morning and afternoon peak hours are illustrated in **Figure 5**.


RAYNOR AVENUE
SITE
TYEE ROAD
SKINNER STREET
LANGFORD STREET
ALSTON STREET
TYEE ROAD
NORTH
17 (26)
7 (2)
21 (19)
5 (15)
323 (592)
3 (2)
19 (30)
571 (468)
4 (4)
2 (3)
1 (2)
1 (4)
41 (41)
1 (1)
0 (0)
5 (5)
593 (479)
0 (2)
40 (59)
324 (595)
30 (52)
12 (40)
1 (2)
11 (13)
- AM PEAK HOUR
(##) - PM PEAK HOUR

4.3 Background Traffic Volumes

No concurrent background developments were requested for this analysis. City of Victoria's Screenline (2019) shows traffic volumes are not increasing and may be decreasing at times; therefore, the corridor growth on all streets in the study area was forecast using a 0.0% annual linear growth rate.

Based on the above, background traffic volumes into the future are assumed to be generally consistent with existing conditions and have not been analysed as part of this study.

4.4 Site Traffic Volumes

4.4.1 New Site Trip Generation

The proposed site includes 56 residential condo units and 906 m^2 of basement level light industrial. Vehicular trip generation rates for the proposed development are based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual (11th Edition)*.

The trip generation forecast is summarized in **Table 4**.

Table 4 – Vehicle Trip Generation Rates

ITE Trip Generation Manual 11th Edition Rates						
Land Use	**AM**			**PM**		
	In	**Out**	**2-Way**	**In**	**Out**	**2-Way**
Multifamily Housing (Mid-Rise) (Not Close to Rail Transit) (LU 221)[1]	0.09	0.28	0.37	0.24	0.15	0.39
General Light Industrial (All Sites) (LU 110)[2]	0.65	0.09	0.74	0.09	0.56	0.65
Vehicular Trip Generation						
Land Use	**AM**			**PM**		
	In	**Out**	**2-Way**	**In**	**Out**	**2-Way**
Residential (56 units)	5	16	21	13	9	22
Commercial (9,752 ft^2 GFA)	6	1	7	1	5	6
Total	**11**	**17**	**28**	**14**	**14**	**28**

Notes:
1. Trip rates are per dwelling unit
2. Trip rates are per 1000 ft^2 GFA

The proposed development is forecast to generate 28 two-way trips in both the weekday morning and afternoon peak hours.

4.4.2 Trip Distribution and Assignment

The trip distribution pattern for site-generated traffic was established based on the person-trip OD matrix for the City of Victoria provided in the 2017 CRD Household Travel Survey. The residential units will have driveway access on Alston Street and the industrial parking will be accessed from Tyee Road. The distribution of inbound and outbound traffic adopted for the proposed development is outlined in **Table 5**.

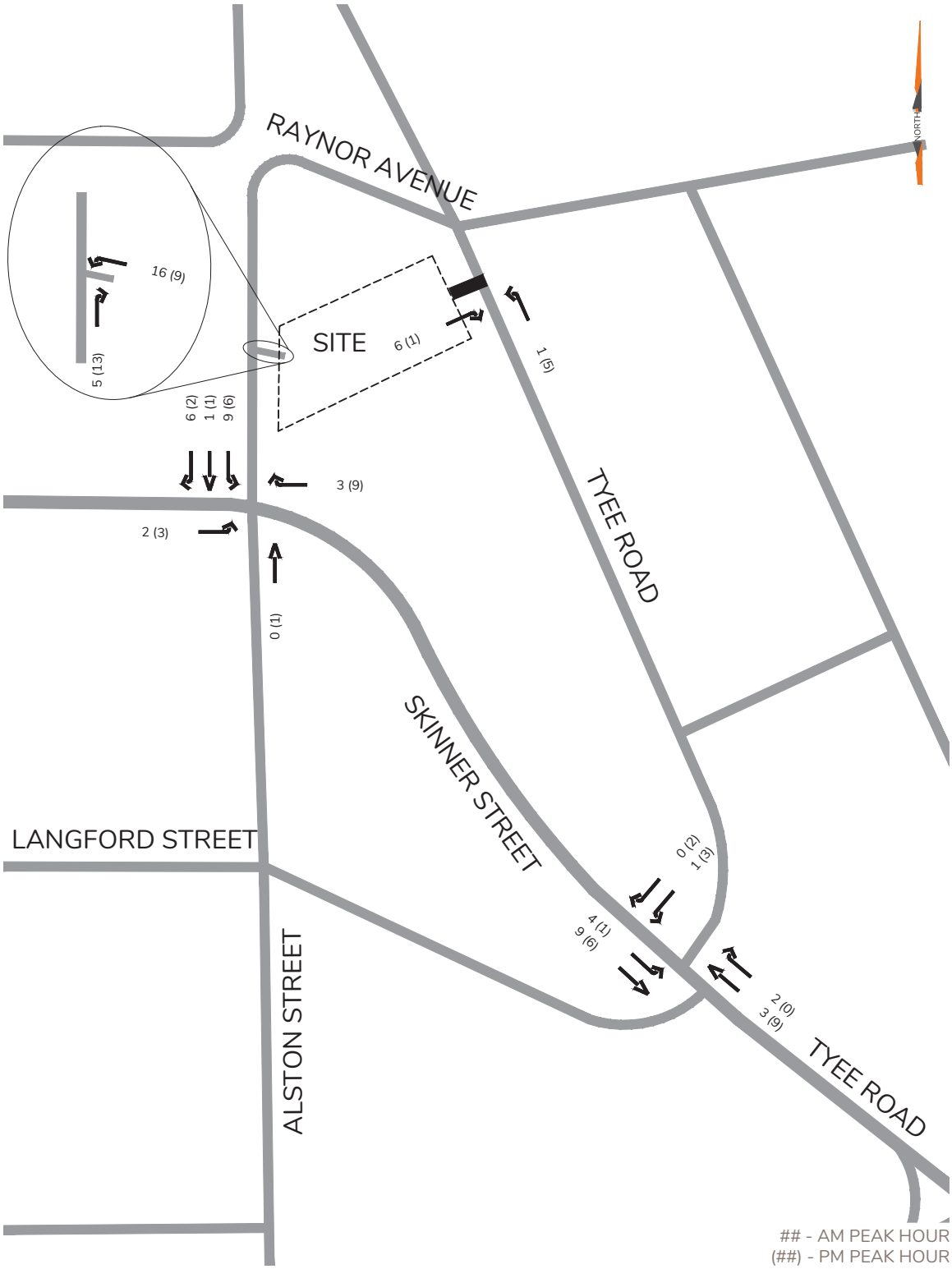
Table 5 – Site Traffic Distribution

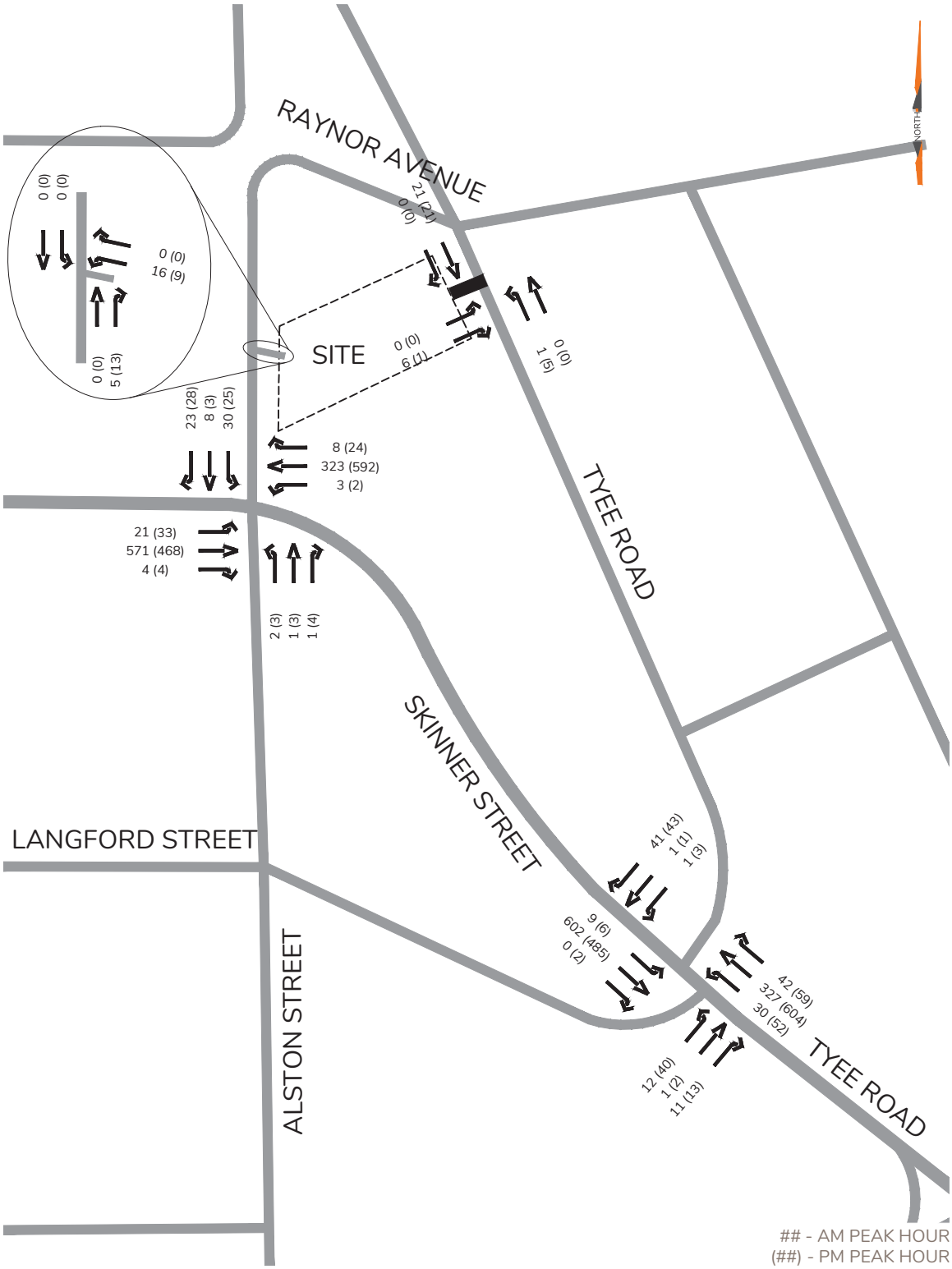
1055 Alston Street			
Street	Direction	Total Trips (%)	
		AM	PM
Skinner Street	East	60	70
	West	35	25
Alston Street	South	5	5

The site traffic volumes assigned to the area road network are illustrated in **Figure 6.**

4.5 Post-Development Traffic Volumes

Post-development traffic volumes are the sum of the existing traffic volumes and the new site traffic volumes. Post-development traffic volumes for opening day are illustrated in **Figure 7**.


RAYNOR AVENUE
SITE
TYEE ROAD
SKINNER STREET
LANGFORD STREET
ALSTON STREET
TYEE ROAD
NORTH
16 (9)
5 (13)
6 (2)
1 (1)
9 (6)
6 (1)
1 (5)
3 (9)
2 (3)
0 (1)
0 (2)
1 (3)
4 (1)
9 (6)
2 (0)
3 (9)
- AM PEAK HOUR
(##) - PM PEAK HOUR


RAYNOR AVENUE
TYEE ROAD
SKINNER STREET
LANGFORD STREET
ALSTON STREET
TYEE ROAD
SITE
NORTH
0 (0)
0 (0)
0 (0)
16 (9)
0 (0)
5 (13)
23 (28)
8 (3)
30 (25)
21 (21)
0 (0)
0 (0)
1 (5)
0 (0)
5 (1)
8 (24)
323 (592)
3 (2)
21 (33)
571 (468)
4 (4)
2 (3)
1 (3)
1 (4)
41 (43)
1 (1)
1 (3)
9 (6)
602 (485)
0 (2)
42 (59)
327 (604)
30 (52)
12 (40)
1 (2)
11 (13)
- AM PEAK HOUR
(##) - PM PEAK HOUR

5.0 TRAFFIC OPERATIONS ANALYSIS

5.1 Methodology

Analysis of the traffic conditions at the intersections within the study area were undertaken using Synchro software (for signalized and stop-controlled intersections). Synchro / SimTraffic is a two-part traffic modelling software that provides analysis of traffic conditions based on traffic control, geometry, volumes, and traffic operations. Synchro software is used because of its ability to provide analysis using the *Highway Capacity Manual (6th edition)* methodology, while SimTraffic integrates established driver behaviours and characteristics to simulate actual conditions by randomly "seeding" or positioning vehicles travelling throughout the network. These measures of effectiveness include Level of Service (LOS), delay (s/veh), 95th percentile queue length, and v/c ratios.

The delays and type of traffic control are used to determine the LOS. The LOS is broken down into six letter grades with LOS A being excellent operations and LOS F being unstable / failure operations. LOS C is generally considered to be an acceptable LOS by most municipalities. LOS D is generally considered to be on the threshold between acceptable and unacceptable operations. A description of LOS and Synchro is provided in **Appendix B**. The Synchro reports are provided in **Appendix C**.

5.2 Input and Calibration Parameters

Heavy Vehicle Assumptions

Heavy and medium truck percentages incorporated into the analysis were based on intersection turning movement counts. Where not available, a default value of 2 percent heavy vehicles was assumed.

Peak Hour Factor

Peak hour factors for each intersection were calculated from the existing traffic count information. Where these values were unavailable, a default peak hour factor of 0.90 was adopted for all movements.

5.3 Existing Traffic Operations

Existing conditions were analyzed based on the collected 2023 volumes and existing roadway network. A summary of the traffic analysis results for the current condition of the intersections in the study area is provided in **Table 6.**

Table 6 – Existing Traffic Operations

Key Movement	AM				PM			
	LOS	Delay (s)	95th % Queue (m)	v/c	LOS	Delay (s)	95th % Queue (m)	v/c
Skinner Street / Alston Street								
EBL	A	8.1	7	0.018	A	8.9	10	0.033
EBTR	A	0	0	-	A	0	0	-
WB	A	8.8	8	0.004	A	8.4	4	0.002
NB	C	21.1	7	0.02	C	21.3	9	0.041
SBL	D	25.7	11	0.12	D	31.4	12	0.128
SBTR	B	14.1	12	0.064	B	14	14	0.069
Skinner Street / Tyee Road / Langford Street								
EB	B	13.9	15	0.104	B	12.3	16	0.08
WB	C	21.9	13	0.111	E	42.9	18	0.378
NB	A	9	13	0.036	A	8.5	26	0.05
SBL	A	8.1	4	0.005	A	8.9	4	0.006
SBTR	A	0	0	-	A	0	0	-

Note: ## - Exceeds storage/acceptable limits

All intersections within the study area currently perform at an acceptable Level of Service (LOS), operating at LOS D or better with delays of 32 seconds or less, except for the westbound movement at Skinner Street / Tyee Road / Langford Street which has reached LOS E with a delay of 43 seconds in the PM peak hour. The 95th percentile queues are acceptable on all movements and the Volume to Capacity ratio (v/c) ratios for all approaches is 0.38 or less for all movements.

5.4 Post Development Traffic Operations

A summary of the traffic analysis results for the intersections in the study area post development is provided in **Table 7.**

Table 7 – Opening Day Post Development Traffic Operations

Key Movement	AM				PM			
	LOS	Delay (s)	95th % Queue (m)	v/c	LOS	Delay (s)	95th % Queue (m)	v/c
Skinner Street / Alston Street								
EBL	A	8.1	6	0.02	A	9	11	0.037
EBTR	A	0	0	-	A	0	0	-
WB	A	8.8	4	0.004	A	8.4	7	0.02
NB	C	21.6	6	0.02	C	22.2	11	0.048
SBL	D	27.3	14	0.173	D	33.6	14	0.173
SBTR	B	13.9	14	0.08	B	14.5	14	0.08
Skinner Street / Tyee Road / Langford Street								
EB	B	14.5	15	0.112	B	14.1	15	0.109
WB	C	22.5	13	0.115	E	44.5	20	0.388
NB	A	9.1	18	0.036	A	8.6	24	0.05
SBL	A	8.2	4	0.009	A	9	5	0.007
SBTR	A	0	0	-	A	0	0	-
Alston Street / Site Entrance								
WBLR	A	8.6	10	0.017	A	8.6	8	0.01
NBTR	A	0	0	-	A	0	0	-
SBLT	A	0	0	-	A	0	0	-
Tyee Road / Site Entrance								
EBLR	A	8.4	7	0.006	A	8.4	2	0.001
NBLT	A	7.3	0	0.001	A	7.3	0	0.003
SBTR	A	0	0	-	A	0	1	-

Note: ## - Exceeds storage/acceptable limits

The addition of site traffic post development has very minor impacts on the network. The delay sees a maximum change of 3 seconds or less on any movement and LOS remains within acceptable parameters at LOS D or better except where it had previously failed. The 95th percentile queues remain acceptable on all approaches with an increase of 5 metres or less (i.e., one car length) from existing conditions. The v/c ratios for all approaches are 0.39 or less for all movements.

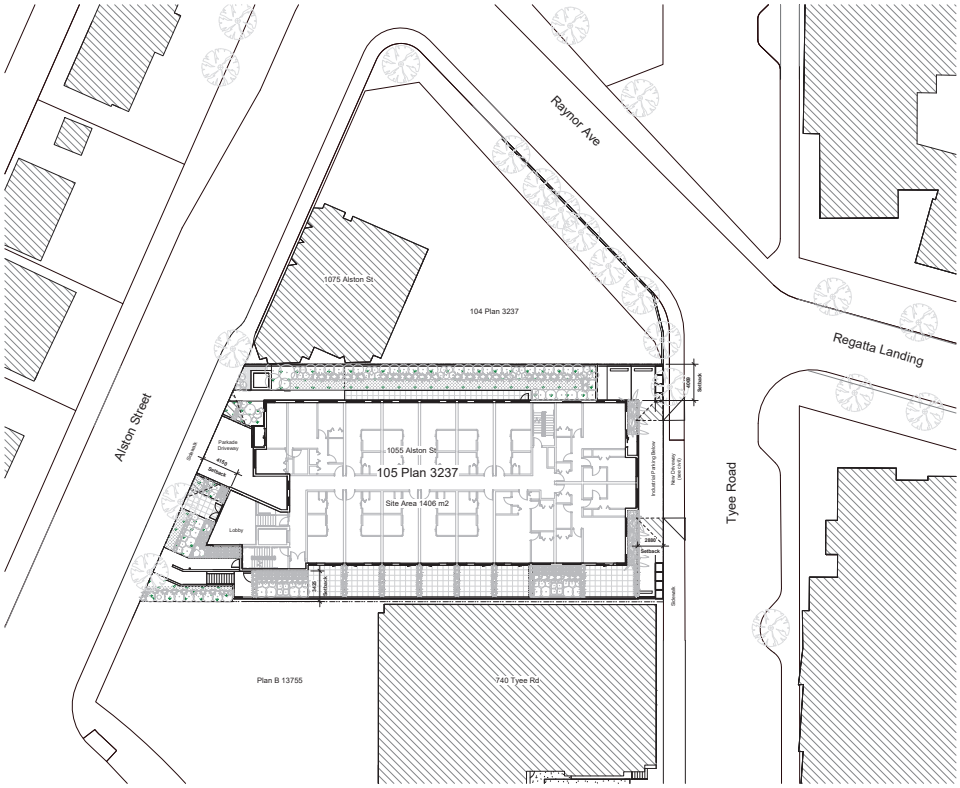
6.0 CONCLUSIONS

Traffic generated by the proposed development can be acceptably accommodated on the existing road network on opening day with no changes. Impacts to the surrounding road network will be minor and no geometric / traffic-control changes to intersections in the study area are required as a result of this development.

7.0 RECOMMENDATIONS

No roadway changes are recommended as a consequence of this development.

APPENDIX A – SITE PLAN



1 / A101 Site Plan - Overall
SCALE: 1 : 200

General Notes:

1. Refer to Civil drawings for all roadways, driveways, curbs, and grading.

2. Refer to Landscape drawings for all hard and soft landscaping on site.

2	March 30		DP / Rezoning
1	March 25 2023		CALUC

Rev	2	Description	DP / Rezoning
Print Date	06/15/23	Project Status	DP / Rezoning
Drawn By	SWS	Checked By	CRK
Scale	1 : 200	Project Number	2304

NOTE: All dimensions are shown in millimeters.

Alston

1055 Alston St, Victoria, BC
V9A 3S6

Site Plan Overall

A101

0 7500 15000 mm
1 : 300

dHKarchitects
Victoria
977 Fort Street V8V 3K3 T 1-250-658-3367
Nanaimo
102-5190 Dublin Way V9T 0H2 T 1-250-585-5810

APPENDIX B – SYNCHRO BACKGROUND

SYNCHRO MODELLING SOFTWARE DESCRIPTION

The traffic analysis was completed using Synchro and SimTraffic traffic modelling software. Results were measured in delay, level of service (LOS), 95th percentile queue length and volume to capacity ratio. Synchro is based on the Highway Capacity Manual (HCM) methodology. SimTraffic integrates established driver behaviours and characteristics to simulate actual conditions by randomly "seeding" or positioning vehicles travelling throughout the network. The simulation is run ten times (ten different random seedings of vehicle types, behaviours, and arrivals) to obtain statistical significance of the results.

Levels of Service

Traffic operations are typically described in terms of levels of service, which rates the amount of delay per vehicle for each movement and the entire intersection. Levels of service range from LOS A (representing best operations) to LOS E/F (LOS E being poor operations and LOS F being unpredictable/disruptive operations). LOS E/F are generally unacceptable levels of service under normal everyday conditions. A LOS C or better is considered acceptable operations, while D is on the threshold between acceptable and unacceptable operations. Highway operations will typically need to operate at LOS C or better for through movements and LOS E or better for other traffic movements with lower order roads.

The hierarchy of criteria for grading an intersection or movement not only includes delay times, but also considers traffic control type (stop signs or traffic signal). For example, if a vehicle is delayed for 19 seconds at an unsignalized intersection, it is considered to have an average operation, and would therefore be graded as an LOS C. However, at a signalized intersection, a 19 second delay would be considered a good operation and therefore it would be given an LOS B. The table below indicates the range of delay for LOS for signalized and unsignalized intersections.

Table A1: LOS Criteria, by Intersection Traffic Control

Level of Service (LOS)	Unsignalized Intersection Average Vehicle Delay (sec / veh)	Signalized Intersection Average Vehicle Delay (sec / veh)
A	0 – 10	0 – 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F	> 50	> 80

APPENDIX C – SYNCHRO REPORTS

Intersection: 1: Alston St & Skinner St

Movement	EB	WB	NB	SB	SB
Directions Served	L	LTR	LTR	L	TR
Maximum Queue (m)	10.2	19.1	10.3	11.5	13.4
Average Queue (m)	1.6	0.9	1.3	4.0	4.5
95th Queue (m)	7.3	8.2	6.7	11.4	12.3
Link Distance (m)		171.4			
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	25.0			35.0	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Tyee Rd & Langford St & Skinner St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	L
Maximum Queue (m)	16.0	11.9	17.7	7.3
Average Queue (m)	7.7	4.7	3.7	0.6
95th Queue (m)	15.3	12.7	13.2	4.2
Link Distance (m)	190.2		132.6	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				25.0
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Alston St & Site Driveway

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

Intersection: 4: Tyee Rd & Site Driveway

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

Intersection: 8: Langford St & Alston St

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

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	571	4	3	323	5	2	1	1	21	7	17
Future Vol, veh/h	19	571	4	3	323	5	2	1	1	21	7	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	-	-	-	-	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	642	4	3	363	6	2	1	1	24	8	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	369	0	0	646	0	0	1072	1061	644	1059	1060	366
Stage 1	-	-	-	-	-	-	686	686	-	372	372	-
Stage 2	-	-	-	-	-	-	386	375	-	687	688	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1190	-	-	939	-	-	198	224	473	202	224	679
Stage 1	-	-	-	-	-	-	438	448	-	648	619	-
Stage 2	-	-	-	-	-	-	637	617	-	437	447	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1190	-	-	939	-	-	184	219	473	197	219	679
Mov Cap-2 Maneuver	-	-	-	-	-	-	184	219	-	197	219	-
Stage 1	-	-	-	-	-	-	430	440	-	636	617	-
Stage 2	-	-	-	-	-	-	609	615	-	427	439	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	21.1	19.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	228	1190	-	-	939	-	-	197	421
HCM Lane V/C Ratio	0.02	0.018	-	-	0.004	-	-	0.12	0.064
HCM Control Delay (s)	21.1	8.1	-	-	8.8	0	-	25.7	14.1
HCM Lane LOS	C	A	-	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.4	0.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	0	1	41	12	1	11	30	324	40	5	593	0
Future Vol, veh/h	0	1	41	12	1	11	30	324	40	5	593	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	46	13	1	12	33	360	44	6	659	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1126	1141	659	1143	1119	382	659	0	0	404	0	0
Stage 1	671	671	-	448	448	-	-	-	-	-	-	-
Stage 2	455	470	-	695	671	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	182	201	464	177	207	665	929	-	-	1155	-	-
Stage 1	446	455	-	590	573	-	-	-	-	-	-	-
Stage 2	585	560	-	433	455	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	171	191	464	153	196	665	929	-	-	1155	-	-
Mov Cap-2 Maneuver	171	191	-	153	196	-	-	-	-	-	-	-
Stage 1	425	453	-	563	547	-	-	-	-	-	-	-
Stage 2	547	534	-	388	453	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	21.9	0.7	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	929	-	-	449	240	1155	-	-
HCM Lane V/C Ratio	0.036	-	-	0.104	0.111	0.005	-	-
HCM Control Delay (s)	9	0	-	13.9	21.9	8.1	-	-
HCM Lane LOS	A	A	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.4	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	21	0
Future Vol, veh/h	0	0	0	0	21	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	23	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	23	23	23	0	-	0
Stage 1	23	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	993	1054	1592	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	993	1054	1592	-	-	-
Mov Cap-2 Maneuver	993	-	-	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Alston St & Skinner St

Movement	EB	EB	WB	NB	SB	SB
Directions Served	L	TR	LTR	LTR	L	TR
Maximum Queue (m)	10.2	3.1	14.4	9.1	10.2	14.2
Average Queue (m)	1.6	0.1	0.5	1.3	4.5	4.8
95th Queue (m)	7.3	2.2	6.5	6.4	11.5	12.5
Link Distance (m)		233.8	169.0			
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (m)	25.0				35.0	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 2: Tyee Rd & Langford St & Skinner St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	L
Maximum Queue (m)	16.9	11.2	19.5	8.1
Average Queue (m)	7.3	5.1	3.5	0.4
95th Queue (m)	14.7	12.4	12.9	3.4
Link Distance (m)		186.2	133.0	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				25.0
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Alston St & Site Driveway

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

Intersection: 4: Tyee Rd & Site Driveway

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

Intersection: 8: Langford St & Alston St

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

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	571	4	3	323	5	2	1	1	21	7	17
Future Vol, veh/h	19	571	4	3	323	5	2	1	1	21	7	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	-	-	-	-	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	642	4	3	363	6	2	1	1	24	8	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	369	0	0	646	0	0	1072	1061	644	1059	1060	366
Stage 1	-	-	-	-	-	-	686	686	-	372	372	-
Stage 2	-	-	-	-	-	-	386	375	-	687	688	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1190	-	-	939	-	-	198	224	473	202	224	679
Stage 1	-	-	-	-	-	-	438	448	-	648	619	-
Stage 2	-	-	-	-	-	-	637	617	-	437	447	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1190	-	-	939	-	-	184	219	473	197	219	679
Mov Cap-2 Maneuver	-	-	-	-	-	-	184	219	-	197	219	-
Stage 1	-	-	-	-	-	-	430	440	-	636	617	-
Stage 2	-	-	-	-	-	-	609	615	-	427	439	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	21.1	19.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	228	1190	-	-	939	-	-	197	421
HCM Lane V/C Ratio	0.02	0.018	-	-	0.004	-	-	0.12	0.064
HCM Control Delay (s)	21.1	8.1	-	-	8.8	0	-	25.7	14.1
HCM Lane LOS	C	A	-	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.4	0.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	0	1	41	12	1	11	30	324	40	5	593	0
Future Vol, veh/h	0	1	41	12	1	11	30	324	40	5	593	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	46	13	1	12	33	360	44	6	659	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1126	1141	659	1143	1119	382	659	0	0	404	0	0
Stage 1	671	671	-	448	448	-	-	-	-	-	-	-
Stage 2	455	470	-	695	671	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	182	201	464	177	207	665	929	-	-	1155	-	-
Stage 1	446	455	-	590	573	-	-	-	-	-	-	-
Stage 2	585	560	-	433	455	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	171	191	464	153	196	665	929	-	-	1155	-	-
Mov Cap-2 Maneuver	171	191	-	153	196	-	-	-	-	-	-	-
Stage 1	425	453	-	563	547	-	-	-	-	-	-	-
Stage 2	547	534	-	388	453	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	21.9	0.7	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	929	-	-	449	240	1155	-	-
HCM Lane V/C Ratio	0.036	-	-	0.104	0.111	0.005	-	-
HCM Control Delay (s)	9	0	-	13.9	21.9	8.1	-	-
HCM Lane LOS	A	A	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.4	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	12	0
Future Vol, veh/h	0	0	0	0	12	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	13	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	13	13	0	-	0
Stage 1	13	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	1006	1067	1606	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1006	1067	1606	-	-	-
Mov Cap-2 Maneuver	1006	-	-	-	-	-
Stage 1	1010	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1606	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Alston St & Skinner St

Movement	EB	WB	NB	SB	SB
Directions Served	L	LTR	LTR	L	TR
Maximum Queue (m)	12.1	7.5	10.4	8.5	17.8
Average Queue (m)	3.1	0.2	2.4	4.4	5.9
95th Queue (m)	10.4	4.2	9.1	11.2	13.7
Link Distance (m)		169.0			
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	25.0			35.0	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Tyee Rd & Langford St & Skinner St

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	LTR	L	TR
Maximum Queue (m)	17.0	22.7	27.4	6.6	1.1
Average Queue (m)	7.0	8.8	6.7	0.6	0.0
95th Queue (m)	14.9	17.8	20.6	4.1	0.8
Link Distance (m)		186.2	133.0		169.0
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)				25.0	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Alston St & Site Driveway

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

Intersection: 4: Tyee Rd & Site Driveway

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

Intersection: 8: Langford St & Alston St

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

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	468	4	2	592	15	3	2	4	19	2	26
Future Vol, veh/h	30	468	4	2	592	15	3	2	4	19	2	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	-	-	-	-	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	493	4	2	623	16	3	2	4	20	2	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	639	0	0	497	0	0	1209	1202	495	1197	1196	631
Stage 1	-	-	-	-	-	-	559	559	-	635	635	-
Stage 2	-	-	-	-	-	-	650	643	-	562	561	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	945	-	-	1067	-	-	160	185	575	163	186	481
Stage 1	-	-	-	-	-	-	513	511	-	467	472	-
Stage 2	-	-	-	-	-	-	458	468	-	512	510	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	945	-	-	1067	-	-	145	178	575	156	179	481
Mov Cap-2 Maneuver	-	-	-	-	-	-	145	178	-	156	179	-
Stage 1	-	-	-	-	-	-	496	494	-	451	471	-
Stage 2	-	-	-	-	-	-	429	467	-	489	493	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	21.3	21
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	231	945	-	-	1067	-	-	156	429
HCM Lane V/C Ratio	0.041	0.033	-	-	0.002	-	-	0.128	0.069
HCM Control Delay (s)	21.3	8.9	-	-	8.4	0	-	31.4	14
HCM Lane LOS	C	A	-	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.4	0.2

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	0	1	41	40	2	13	52	595	59	5	479	2
Future Vol, veh/h	0	1	41	40	2	13	52	595	59	5	479	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	42	41	2	13	54	613	61	5	494	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1264	1287	495	1279	1258	644	496	0	0	674	0	0
Stage 1	505	505	-	752	752	-	-	-	-	-	-	-
Stage 2	759	782	-	527	506	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	146	164	575	143	171	473	1068	-	-	917	-	-
Stage 1	549	540	-	402	418	-	-	-	-	-	-	-
Stage 2	399	405	-	535	540	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	131	150	575	123	156	473	1068	-	-	917	-	-
Mov Cap-2 Maneuver	131	150	-	123	156	-	-	-	-	-	-	-
Stage 1	504	537	-	369	384	-	-	-	-	-	-	-
Stage 2	354	372	-	492	537	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	42.9	0.6	0.1
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1068	-	-	539	150	917	-	-
HCM Lane V/C Ratio	0.05	-	-	0.08	0.378	0.006	-	-
HCM Control Delay (s)	8.5	0	-	12.3	42.9	8.9	-	-
HCM Lane LOS	A	A	-	B	E	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	1.6	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	28	0
Future Vol, veh/h	0	0	0	0	28	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	31	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	31	31	31	0	-	0
Stage 1	31	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	983	1043	1582	-	-	-
Stage 1	992	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	983	1043	1582	-	-	-
Mov Cap-2 Maneuver	983	-	-	-	-	-
Stage 1	992	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1582	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Alston St & Skinner St

Movement	EB	WB	NB	SB	SB
Directions Served	L	LTR	LTR	L	TR
Maximum Queue (m)	11.4	8.2	9.1	12.1	16.6
Average Queue (m)	3.1	0.3	2.5	4.6	6.1
95th Queue (m)	10.2	3.5	9.2	11.9	13.8
Link Distance (m)		171.4			
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	25.0			35.0	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Tyee Rd & Langford St & Skinner St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	L
Maximum Queue (m)	18.4	20.4	41.3	9.0
Average Queue (m)	7.9	9.2	7.9	0.5
95th Queue (m)	15.8	18.2	26.1	4.0
Link Distance (m)	190.2		132.6	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				25.0
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Alston St & Site Driveway

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

Intersection: 4: Tyee Rd & Site Driveway

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

Intersection: 8: Langford St & Alston St

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

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	468	4	2	592	15	3	2	4	19	2	26
Future Vol, veh/h	30	468	4	2	592	15	3	2	4	19	2	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	-	-	-	-	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	493	4	2	623	16	3	2	4	20	2	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	639	0	0	497	0	0	1209	1202	495	1197	1196	631
Stage 1	-	-	-	-	-	-	559	559	-	635	635	-
Stage 2	-	-	-	-	-	-	650	643	-	562	561	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	945	-	-	1067	-	-	160	185	575	163	186	481
Stage 1	-	-	-	-	-	-	513	511	-	467	472	-
Stage 2	-	-	-	-	-	-	458	468	-	512	510	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	945	-	-	1067	-	-	145	178	575	156	179	481
Mov Cap-2 Maneuver	-	-	-	-	-	-	145	178	-	156	179	-
Stage 1	-	-	-	-	-	-	496	494	-	451	471	-
Stage 2	-	-	-	-	-	-	429	467	-	489	493	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	21.3	21
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	231	945	-	-	1067	-	-	156	429
HCM Lane V/C Ratio	0.041	0.033	-	-	0.002	-	-	0.128	0.069
HCM Control Delay (s)	21.3	8.9	-	-	8.4	0	-	31.4	14
HCM Lane LOS	C	A	-	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.4	0.2

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	0	1	41	40	2	13	52	595	59	5	479	2
Future Vol, veh/h	0	1	41	40	2	13	52	595	59	5	479	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1	42	41	2	13	54	613	61	5	494	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1264	1287	495	1279	1258	644	496	0	0	674	0	0
Stage 1	505	505	-	752	752	-	-	-	-	-	-	-
Stage 2	759	782	-	527	506	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	146	164	575	143	171	473	1068	-	-	917	-	-
Stage 1	549	540	-	402	418	-	-	-	-	-	-	-
Stage 2	399	405	-	535	540	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	131	150	575	123	156	473	1068	-	-	917	-	-
Mov Cap-2 Maneuver	131	150	-	123	156	-	-	-	-	-	-	-
Stage 1	504	537	-	369	384	-	-	-	-	-	-	-
Stage 2	354	372	-	492	537	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	42.9	0.6	0.1
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1068	-	-	539	150	917	-	-
HCM Lane V/C Ratio	0.05	-	-	0.08	0.378	0.006	-	-
HCM Control Delay (s)	8.5	0	-	12.3	42.9	8.9	-	-
HCM Lane LOS	A	A	-	B	E	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	1.6	0	-	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1022	-	-	-	-	-
Mov Cap-2 Maneuver	1022	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	21	0
Future Vol, veh/h	0	0	0	0	21	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	23	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	23	23	23	0	-	0
Stage 1	23	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	993	1054	1592	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	993	1054	1592	-	-	-
Mov Cap-2 Maneuver	993	-	-	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1592	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection: 1: Alston St & Skinner St

Movement	EB	WB	NB	SB	SB
Directions Served	L	LTR	LTR	L	TR
Maximum Queue (m)	8.8	6.4	9.1	16.1	15.3
Average Queue (m)	1.2	0.4	1.0	6.1	6.1
95th Queue (m)	6.2	3.6	5.5	14.2	13.6
Link Distance (m)		171.4			30.6
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	25.0			35.0	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Tyee Rd & Langford St & Skinner St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	L
Maximum Queue (m)	15.6	15.5	28.2	7.2
Average Queue (m)	7.8	4.8	5.2	0.5
95th Queue (m)	15.2	12.8	18.3	4.1
Link Distance (m)	190.2		132.6	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				25.0
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Alston St & Site Driveway

Movement	WB
Directions Served	LR
Maximum Queue (m)	8.6
Average Queue (m)	3.3
95th Queue (m)	10.1
Link Distance (m)	22.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Tyee Rd & Site Driveway

Movement	EB
Directions Served	LR
Maximum Queue (m)	8.9
Average Queue (m)	1.5
95th Queue (m)	6.5
Link Distance (m)	12.3
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 8: Langford St & Alston St

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

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	571	4	3	323	8	2	1	1	30	8	23
Future Vol, veh/h	21	571	4	3	323	8	2	1	1	30	8	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	-	-	-	-	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	89	89	89	89	89	89	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	642	4	3	363	9	2	1	1	34	9	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	372	0	0	646	0	0	1083	1070	644	1067	1068	368
Stage 1	-	-	-	-	-	-	692	692	-	374	374	-
Stage 2	-	-	-	-	-	-	391	378	-	693	694	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1186	-	-	939	-	-	195	221	473	200	222	677
Stage 1	-	-	-	-	-	-	434	445	-	647	618	-
Stage 2	-	-	-	-	-	-	633	615	-	434	444	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1186	-	-	939	-	-	178	216	473	195	217	677
Mov Cap-2 Maneuver	-	-	-	-	-	-	178	216	-	195	217	-
Stage 1	-	-	-	-	-	-	425	436	-	634	616	-
Stage 2	-	-	-	-	-	-	598	613	-	423	435	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.1	21.6	20.5
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	222	1186	-	-	939	-	-	195	438
HCM Lane V/C Ratio	0.02	0.02	-	-	0.004	-	-	0.173	0.08
HCM Control Delay (s)	21.6	8.1	-	-	8.8	0	-	27.3	13.9
HCM Lane LOS	C	A	-	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.6	0.3

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	1	1	41	12	1	11	30	327	42	9	602	0
Future Vol, veh/h	1	1	41	12	1	11	30	327	42	9	602	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	46	13	1	12	33	363	47	10	669	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1148	1165	669	1166	1142	387	669	0	0	410	0	0
Stage 1	689	689	-	453	453	-	-	-	-	-	-	-
Stage 2	459	476	-	713	689	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	176	194	458	171	200	661	921	-	-	1149	-	-
Stage 1	436	446	-	586	570	-	-	-	-	-	-	-
Stage 2	582	557	-	423	446	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	165	183	458	147	189	661	921	-	-	1149	-	-
Mov Cap-2 Maneuver	165	183	-	147	189	-	-	-	-	-	-	-
Stage 1	416	442	-	558	543	-	-	-	-	-	-	-
Stage 2	543	531	-	377	442	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.5	22.5	0.7	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	921	-	-	426	232	1149	-	-
HCM Lane V/C Ratio	0.036	-	-	0.112	0.115	0.009	-	-
HCM Control Delay (s)	9.1	0	-	14.5	22.5	8.2	-	-
HCM Lane LOS	A	A	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.4	0	-	-

Intersection	
Int Delay, s/veh	6.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	16	0	0	5	0	0
Future Vol, veh/h	16	0	0	5	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	0	0	6	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	4	3	0	0	6	0
Stage 1	3	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1018	1081	-	-	1615	-
Stage 1	1020	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1018	1081	-	-	1615	-
Mov Cap-2 Maneuver	1018	-	-	-	-	-
Stage 1	1020	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1018	1615	-
HCM Lane V/C Ratio	-	-	0.017	-	-
HCM Control Delay (s)	-	-	8.6	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	1	0	21	0
Future Vol, veh/h	0	6	1	0	21	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	1	0	23	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	25	23	23	0	-	0
Stage 1	23	-	-	-	-	-
Stage 2	2	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	991	1054	1592	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	1021	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	990	1054	1592	-	-	-
Mov Cap-2 Maneuver	990	-	-	-	-	-
Stage 1	999	-	-	-	-	-
Stage 2	1021	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	7.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1592	-	1054	-	-
HCM Lane V/C Ratio	0.001	-	0.006	-	-
HCM Control Delay (s)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection: 1: Alston St & Skinner St

Movement	EB	WB	NB	SB	SB
Directions Served	L	LTR	LTR	L	TR
Maximum Queue (m)	12.2	8.6	10.4	14.8	16.5
Average Queue (m)	3.2	0.5	3.2	5.5	5.9
95th Queue (m)	10.5	6.7	10.5	13.5	13.9
Link Distance (m)		171.4			30.6
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (m)	25.0			35.0	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 2: Tyee Rd & Langford St & Skinner St

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	L
Maximum Queue (m)	16.1	23.7	29.0	8.9
Average Queue (m)	8.0	10.4	7.6	0.7
95th Queue (m)	15.0	19.6	23.6	4.6
Link Distance (m)	190.2		132.6	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (m)				25.0
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Alston St & Site Driveway

Movement	WB
Directions Served	LR
Maximum Queue (m)	8.6
Average Queue (m)	1.8
95th Queue (m)	7.5
Link Distance (m)	22.8
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (m)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 4: Tyee Rd & Site Driveway

Movement	EB	SB
Directions Served	LR	TR
Maximum Queue (m)	4.4	1.8
Average Queue (m)	0.2	0.1
95th Queue (m)	2.3	1.2
Link Distance (m)	12.3	
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (m)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Langford St & Alston St

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

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	33	468	4	2	592	24	3	3	4	25	3	28
Future Vol, veh/h	33	468	4	2	592	24	3	3	4	25	3	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	25	-	-	-	-	-	-	-	-	35	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	35	493	4	2	623	25	3	3	4	26	3	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	648	0	0	497	0	0	1221	1217	495	1209	1207	636
Stage 1	-	-	-	-	-	-	565	565	-	640	640	-
Stage 2	-	-	-	-	-	-	656	652	-	569	567	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	938	-	-	1067	-	-	157	181	575	160	183	478
Stage 1	-	-	-	-	-	-	510	508	-	464	470	-
Stage 2	-	-	-	-	-	-	454	464	-	507	507	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	938	-	-	1067	-	-	141	174	575	152	176	478
Mov Cap-2 Maneuver	-	-	-	-	-	-	141	174	-	152	176	-
Stage 1	-	-	-	-	-	-	491	489	-	447	469	-
Stage 2	-	-	-	-	-	-	422	463	-	481	488	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0	22.2	23
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	220	938	-	-	1067	-	-	152	410
HCM Lane V/C Ratio	0.048	0.037	-	-	0.002	-	-	0.173	0.08
HCM Control Delay (s)	22.2	9	-	-	8.4	0	-	33.6	14.5
HCM Lane LOS	C	A	-	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.6	0.3

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↰	↕	
Traffic Vol, veh/h	3	1	43	40	2	13	52	604	59	6	485	2
Future Vol, veh/h	3	1	43	40	2	13	52	604	59	6	485	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	25	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	44	41	2	13	54	623	61	6	500	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1282	1305	501	1298	1276	654	502	0	0	684	0	0
Stage 1	513	513	-	762	762	-	-	-	-	-	-	-
Stage 2	769	792	-	536	514	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	142	160	570	139	167	467	1062	-	-	909	-	-
Stage 1	544	536	-	397	414	-	-	-	-	-	-	-
Stage 2	394	401	-	529	535	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	127	146	570	119	152	467	1062	-	-	909	-	-
Mov Cap-2 Maneuver	127	146	-	119	152	-	-	-	-	-	-	-
Stage 1	499	532	-	364	380	-	-	-	-	-	-	-
Stage 2	349	368	-	484	531	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	44.5	0.6	0.1
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1062	-	-	444	146	909	-	-
HCM Lane V/C Ratio	0.05	-	-	0.109	0.388	0.007	-	-
HCM Control Delay (s)	8.6	0	-	14.1	44.5	9	-	-
HCM Lane LOS	A	A	-	B	E	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	1.7	0	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	9	0	0	13	0	0
Future Vol, veh/h	9	0	0	13	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	0	0	14	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	8	7	0	0	14	0
Stage 1	7	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1013	1075	-	-	1604	-
Stage 1	1016	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1013	1075	-	-	1604	-
Mov Cap-2 Maneuver	1013	-	-	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1013	1604	-
HCM Lane V/C Ratio	-	-	0.01	-	-
HCM Control Delay (s)	-	-	8.6	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	5	0	21	0
Future Vol, veh/h	0	1	5	0	21	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	6	0	23	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	35	23	23	0	-	0
Stage 1	23	-	-	-	-	-
Stage 2	12	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	978	1054	1592	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	974	1054	1592	-	-	-
Mov Cap-2 Maneuver	974	-	-	-	-	-
Stage 1	996	-	-	-	-	-
Stage 2	1011	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.4	7.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1592	-	1054	-	-
HCM Lane V/C Ratio	0.003	-	0.001	-	-
HCM Control Delay (s)	7.3	0	8.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-