Our File: 2211-80290-08

TECHNICAL MEMO

To	From
Len Wansbrough, CPA, CGA, President Metropolitan Hospitality Management	**Kristina Kwong**, EIT, Transportation Engineer Branch 2121 / Strategic Transportation Planning
C/o **Darren Strang**, CAD Tech., Project Manager Lovick Scott Architects	**Parm Nahal**, P.Eng., Sr. Traffic Engineer Branch 2111 / Traffic and Road Safety
Re	**Date**
310/ 320/ 336 Hunt Road, Courtenay, BC – Traffic Impact Study	January 12, 2021

The purpose of this study is to review the traffic operations for the proposed Metropolitan Hospitality Management (Metropolitan) hotel development located at 310/320/336 Hunt Road in Courtenay, British Columbia. This study evaluates weekday AM and PM peak hour conditions in 2020 (existing conditions), 2022 (opening year), and 2032 (opening year plus ten years).

1. Introduction

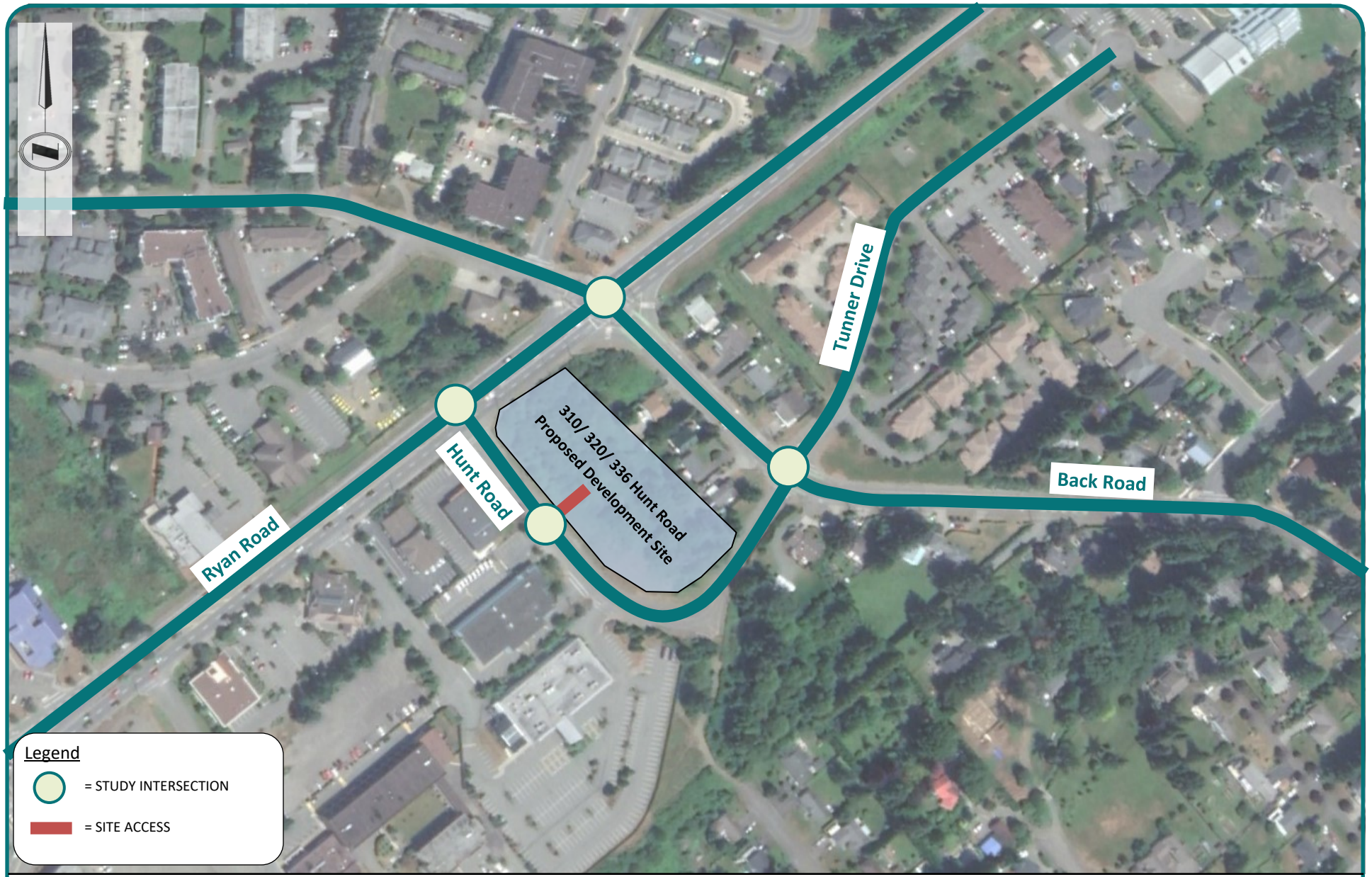
1.1. PROJECT DESCRIPTION

The proposed development site is in Courtenay, British Columbia, and will consist of 93 hotel suites, 94 parking stalls, and a rentable meeting room (approximately 100 seats). Full build-out of the proposed development is expected to occur by year 2022.

Access to the site will be provided by Hunt Road which is a local road between Ryan Road and Tunner Drive. A site plan of the proposed development is shown in *Attachment A*.

1.2. PROJECT LOCATION

The project site is approximately 1.81 acres bounded by Ryan Road (northwest), Back Road (northeast), Tunner Drive (southeast), and Hunt Road (southwest). An overview of the project location is shown in *Figure 1*.



310/ 320/ 336 Hunt Road Development Traffic Impact Study
Project Site Location

McElhanney
2211-80290-08

FIGURE 1

Not to Scale

1.3. STUDY INTERSECTIONS

The following is a list of the study intersections that were analyzed to quantify impacts associated with the proposed development:

- Ryan Road / Back Road (signalized)
- Ryan Road / Hunt Road (side-street stop-controlled)
- Back Road / Tunner Drive (side-street stop-controlled)
- Hunt Road / Site Access (side-street stop-controlled)

1.4. EXISTING ROADWAY CONDITIONS

Ryan Road is an arterial road which runs east-west between Old Island Highway and Military Row. Ryan Road is a high capacity road connecting the City of Courtenay and the Town of Comox. Within the study area, it is a four-lane road with a 50 km/h posted speed limit.

Back Road is a collector road which runs north-south between Strathcona Crescent to just south of Dingwall Road where it terminates in a cul-de-sac (Back Road does not connect to Dingwall Road). It provides access to local roads, residences, and businesses. It is a two-lane road with a posted speed limit of 50 km/h.

Hunt Road / Tunner Drive is a two-lane local road with no posted speed limit. A speed limit of 50 km/h was therefore assumed for the traffic analysis. Hunt Road / Tunner Driver forms a side-street stop-controlled intersection with Ryan Road to the northwest and a side-street stop-controlled intersection with Back Road to the southeast.

2. Traffic Volume Development

2.1. TRAFFIC COUNT DATA

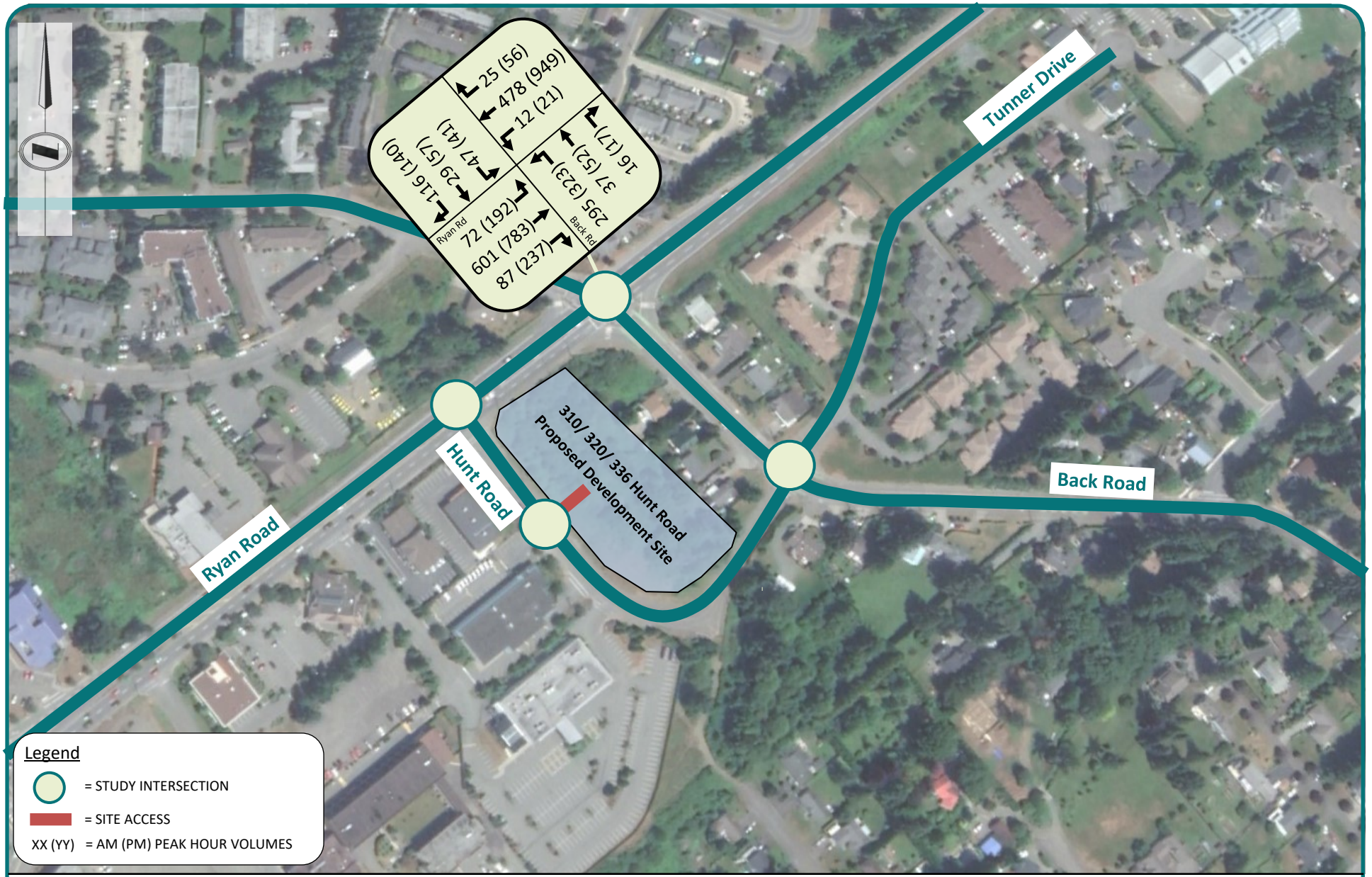
Turning movement counts were collected by McElhanney Ltd. for the Back Road / Ryan Road, Back Road / Tunner Drive, and Ryan Road / Hunt Road intersections during the AM and PM peak periods at 15-minute intervals for all vehicle classes. Detailed descriptions of the data collection dates and times are specified in *Table 1*.

Table 1: Count Data Summary

Intersection	Source	Collection Date(s)	Collection Time(s)
Back Road & Ryan Road	McElhanney Ltd.	September 20, 2017	7:00 AM – 10:00 AM 11:00 AM – 1:00 PM 3:00 PM – 6:00 PM
Back Road & Tunner Drive	McElhanney Ltd.	August 12, 2020	6:00 AM – 6:00 PM
Ryan Road & Hunt Road	McElhanney Ltd.	August 12, 2020	6:00 AM – 6:00 PM

A summary of the count data, presented as weekday AM and PM peak hour traffic volumes at the study intersections, are shown in *Figure 2* and *Figure 3*. Peak hours were determined using the counts which were recorded on a weekday from 6:00 AM to 6:00 PM. The peak hour was established by finding the hour with the highest overall volumes. Based on the data collected, the AM peak hour occurs between 7:30 AM to 8:30 AM while the PM peak hour occurs between 3:30 PM to 4:30 PM.

Detailed traffic count sheets are included in *Attachment B*. Existing signal timing plans provided for the Back Road / Ryan Road intersection are included in *Attachment C*.



310/ 320/ 336 Hunt Road Development Traffic Impact Study

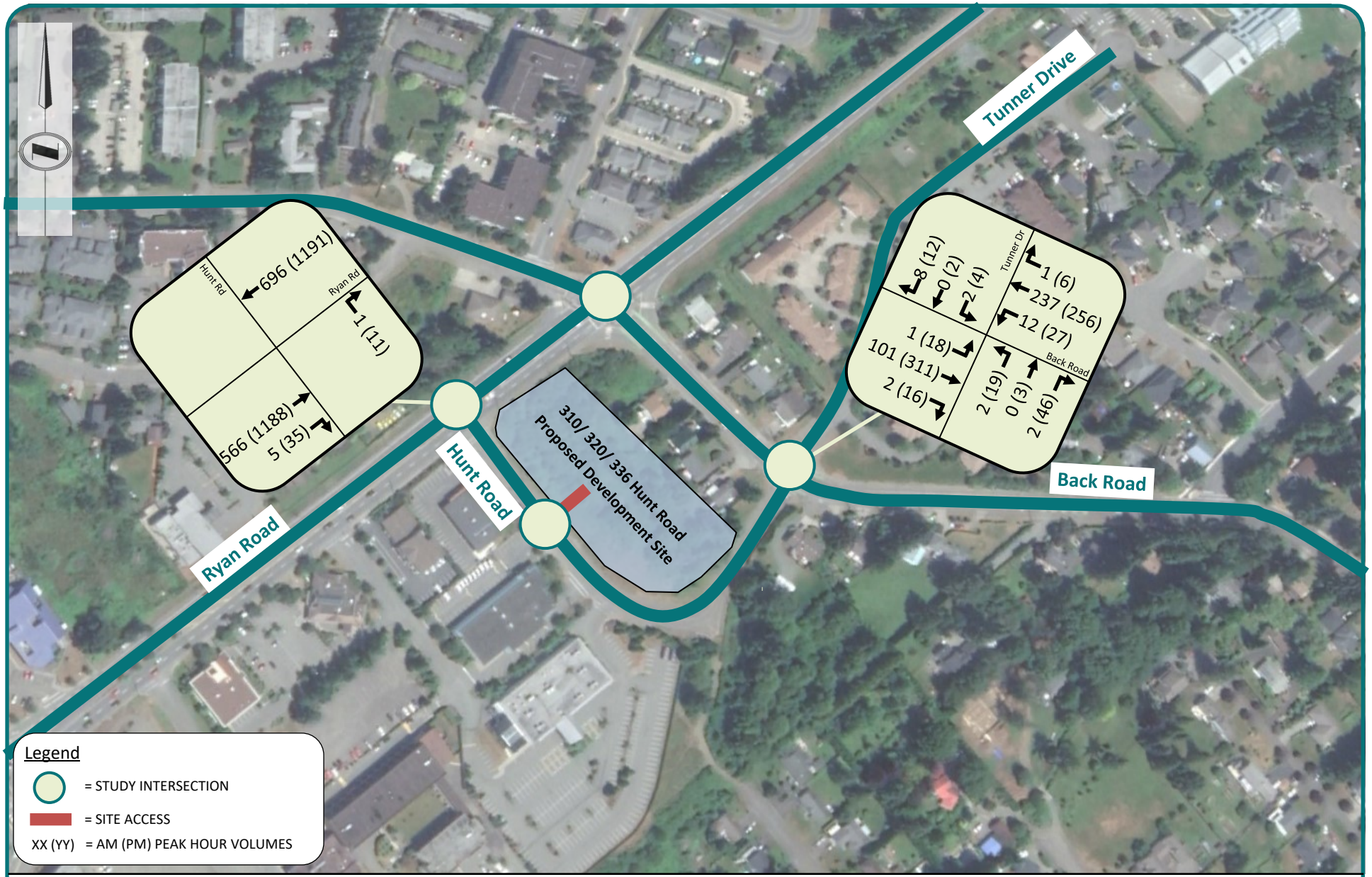
2017 AM and PM Peak Hour Traffic Counts

McElhanney

2211-80290-08

FIGURE 2

Not to Scale



310/ 320/ 336 Hunt Road Development Traffic Impact Study

2020 AM and PM Peak Hour Traffic Counts

McElhanney

2211-80290-08

FIGURE 3

Not to Scale

2.2. TRAFFIC GROWTH

According to the City of Courtenay's *25-Year Vision for Multi-Modal Transportation* (2014), Courtenay's population is projected to grow at a compounding rate of approximately 2.2 percent annually over the next 25 years. As such, this annual compounding growth rate of 2.2 percent was applied to all existing background traffic movements at the study intersections to develop future volumes.

2.3. BASE YEAR 2020 TRAFFIC VOLUMES

The base year (2020) traffic volumes were developed using a multi-step approach, as described in the subsections below.

2.3.1. Traffic Adjustment due to Covid-19 Pandemic

As the traffic counts for the Back Road / Tunner Drive and Ryan Road / Hunt Road intersections were collected in August 2020, during the COVID-19 pandemic, the AM and PM peak hour traffic volumes for these intersections were compared with the 2017 peak hour volumes obtained for the Ryan Road / Back Road intersection. Adjustments were made to account for reduced travel as a result of the restrictions imposed due to the pandemic. As such, an adjustment of roughly 23 to 41 percent was applied to the AM peak hour volumes while an adjustment in the range of up to 37 percent was applied to the PM peak hour volumes.

2.3.2. 2020 Ryan Road / Back Road Turning Volumes

Since the data collection for the Ryan Road / Back Road intersection occurred in 2017, the AM and PM peak hour traffic volumes associated with this intersection were grown to the existing year (2020) using the growth rate discussed in *Section 2.2*.

2.3.3. Additional Background Volumes

Trip generation estimates, obtained from a traffic impact study conducted by McElhanney Ltd. in 2018, for the 911 Braidwood Road residential development were further added to the base year (2020) traffic volumes for the Ryan Road / Back Road intersection since construction of this residential development was completed this year.

Table 2 provides a summary of the estimated trips generated by the 911 Braidwood Road residential development. As ITE trip rates are typically taken from suburban locations where access to transit and tendency to walk/bike is low, the trip estimates shown in the table include a 15 percent reduction. The reduction was applied to reflect the development's proximity to businesses and transit stops.

Table 2: Trip Generation Summary - 911 Braidwood Road Residential Development (with Reductions)

Development Type	Land Use Code	# of Units	Unit	Period	Trips		
					IN	OUT	TOTAL
Low-Rise Residential Condominium	231	83	DU [1]	AM	8	40	48
				PM	37	19	56

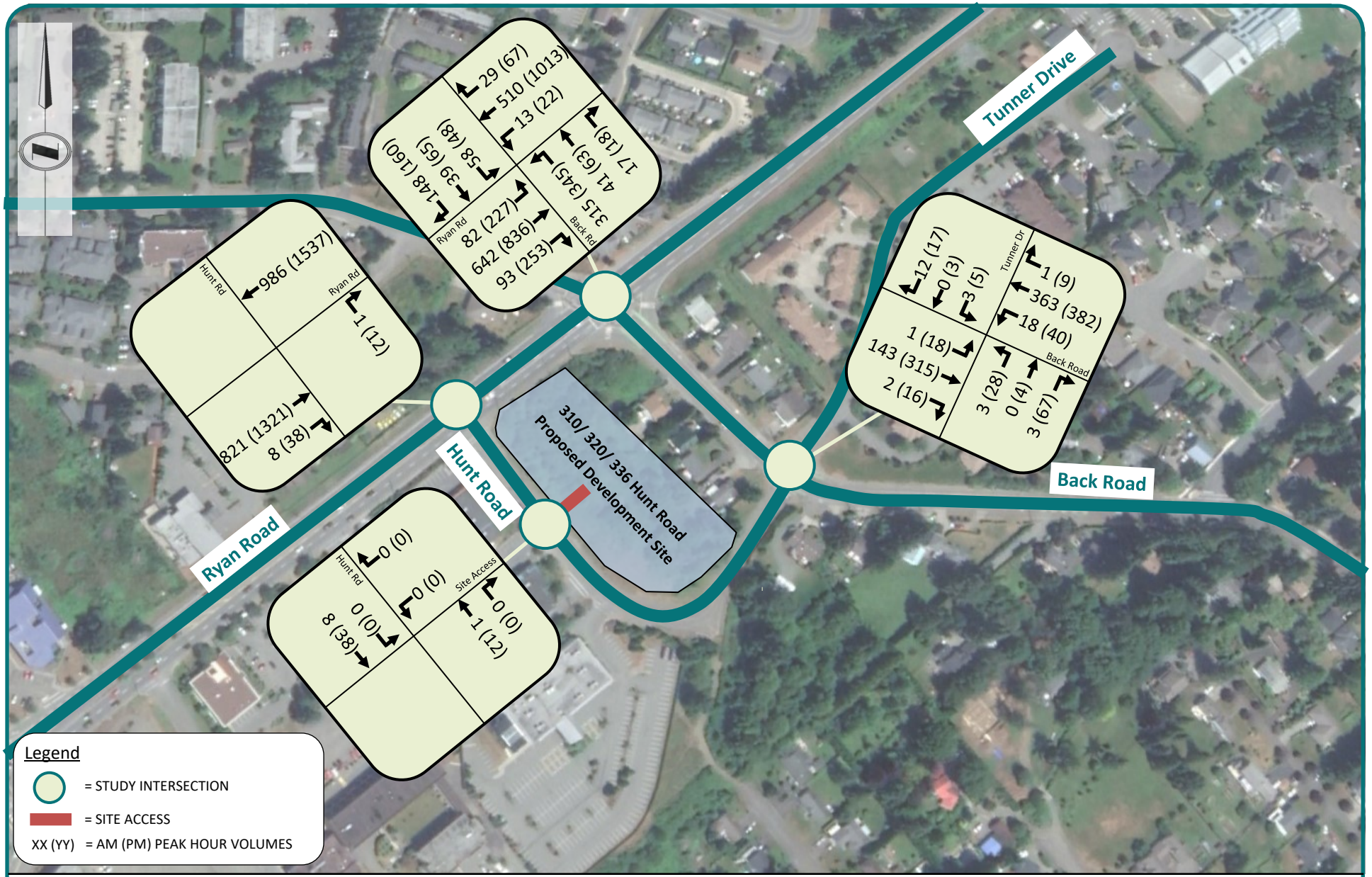
Notes:

1. DU = dwelling unit

2.3.4. Volume Balancing

Discrepancies in the traffic volumes between intersections were adjusted through volume balancing as necessary to develop the base year (2020) volumes.

The base year (2020) weekday AM and PM peak hour traffic volumes are shown in *Figure 4*.



310/ 320/ 336 Hunt Road Development Traffic Impact Study

Base Year 2020 AM and PM Peak Hour Traffic Volumes

McElhanney

2211-80290-08

FIGURE 4

Not to Scale

2.4. FUTURE BACKGROUND VOLUMES

The horizon years considered for this traffic analysis are 2022 and 2032 which represent the year of the anticipated full build-out of the proposed hotel development and subsequent ten years, respectively. Using the 2.2 percent per annum compounding growth rate, the base year (2020) traffic volumes were grown to develop the background volumes for future scenarios, representing general corridor growth due to population and employment increases. Vehicular trips generated by the proposed senior home residence and multifamily developments nearby, which are anticipated to be fully built and occupied by 2032, were also accounted for as part of the future background traffic volumes for the study intersections.

Note that the 15 percent reduction was also applied to the ITE trip estimates as the proposed developments will be in proximity to the 911 Braidwood Road residential development. *Table 3* summarizes the estimated trips generated by the nearby future developments.

Table 3: Trip Generation Summary for Adjacent Developments

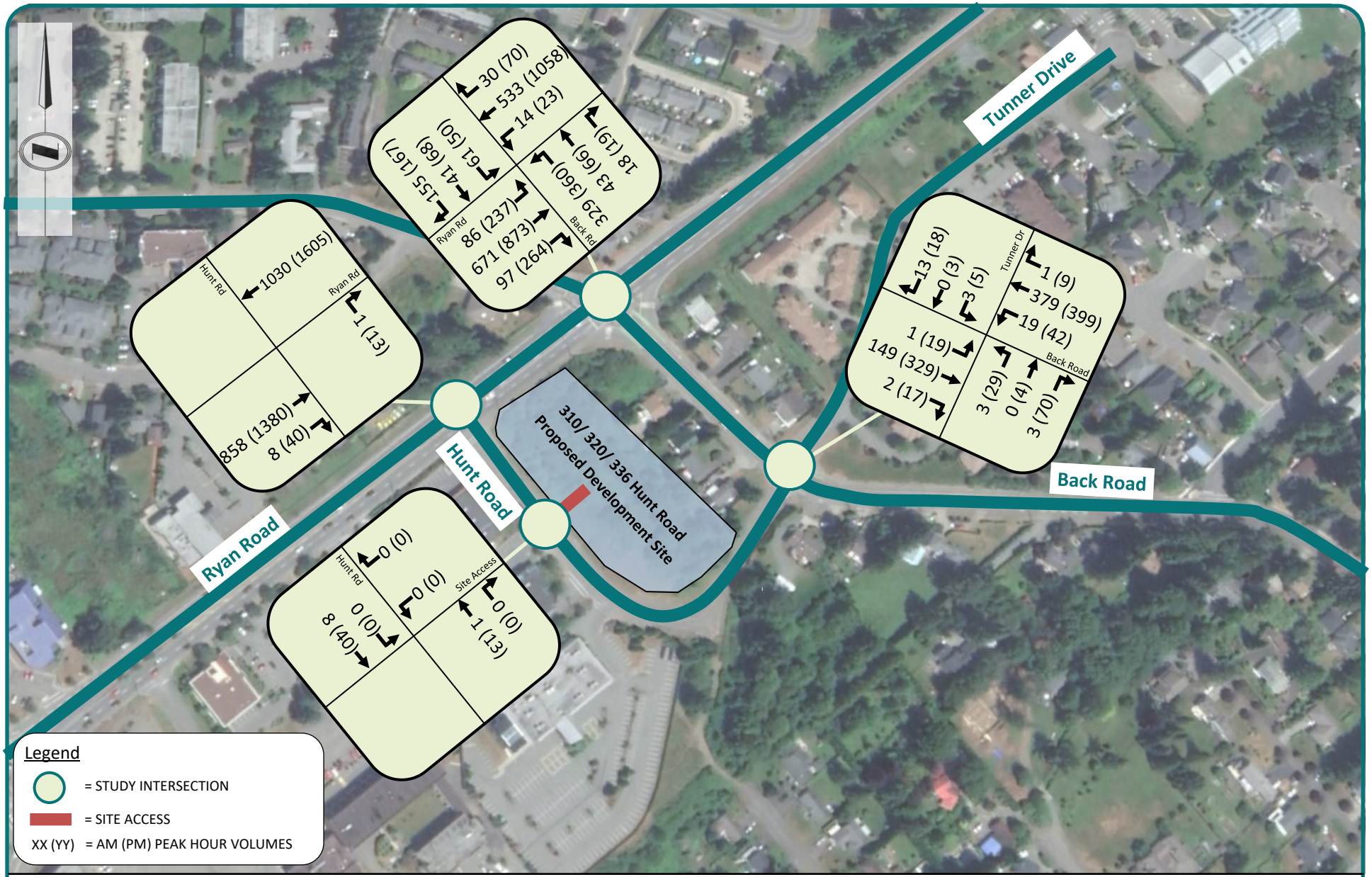
Development Type	Land Use Code	# of Units	Unit	Period	Trips		
					IN	OUT	TOTAL
Continuing Care Retirement Community	255	143	DU [1]	AM	11	6	17
				PM	8	12	20
Multifamily Housing (Mid-Rise) 801 Ryan Road [2]	221	253	DU	AM	20	57	77
				PM	58	37	95
Multifamily Housing (Mid-Rise) 1025 Ryan Road [2]	221	221	DU	AM	9	26	35
				PM	27	17	44

Notes:

1. DU = dwelling unit

2. 801 Ryan Road and 1025 Ryan Road developments included in scope of future background volumes per City communications; unit counts provided by the City.

The 2022 and 2032 background AM and PM weekday peak hour traffic volumes are presented in *Figure 5* and *Figure 6*.



310/ 320/ 336 Hunt Road Development Traffic Impact Study

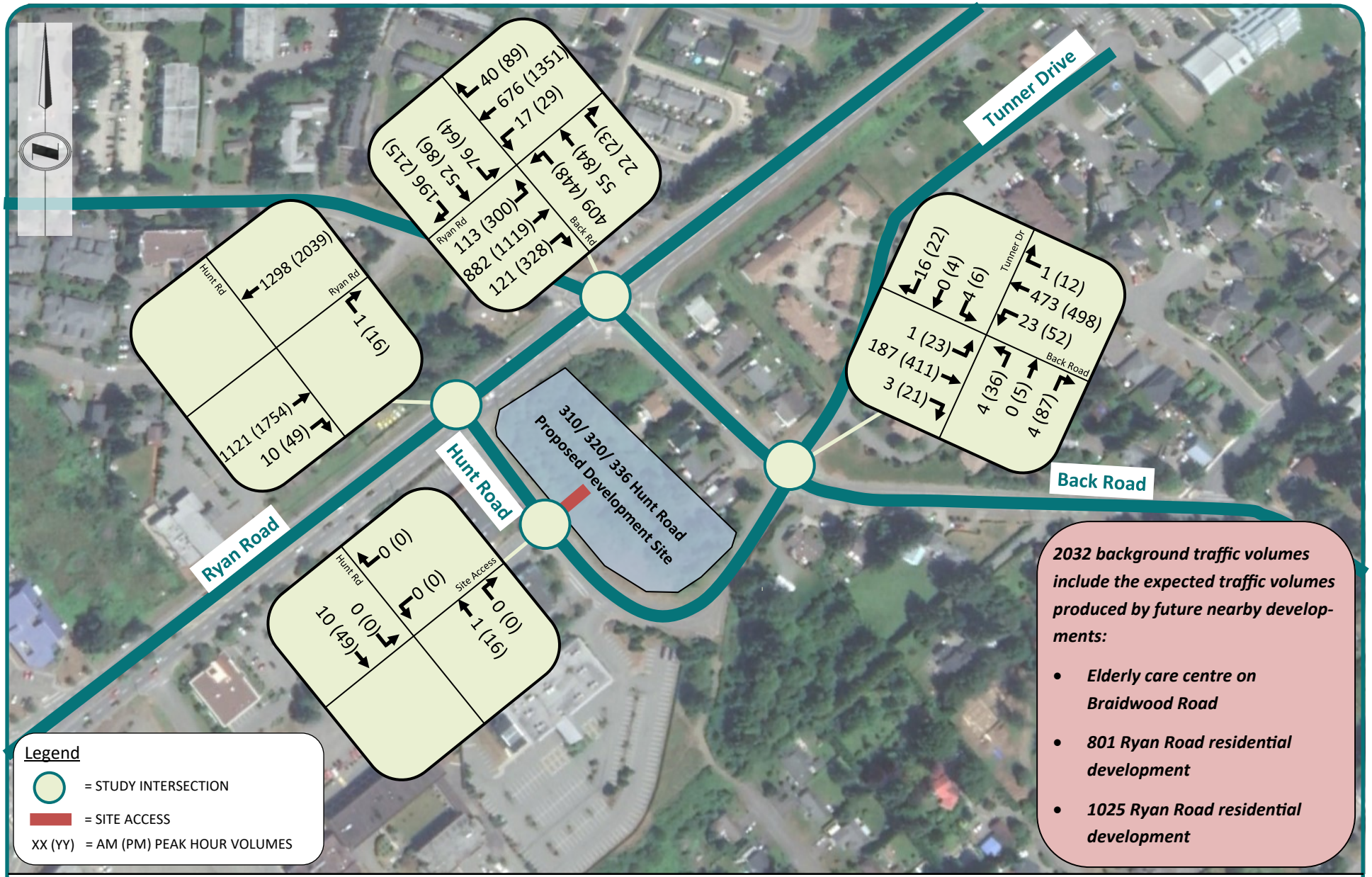
2022 Background AM and PM Peak Hour Traffic Volumes

McElhanney

2211-80290-08

FIGURE 5

Not to Scale



310/ 320/ 336 Hunt Road Development Traffic Impact Study

2032 Background AM and PM Peak Hour Traffic Volumes

McElhanney

2211-80290-08

FIGURE 6

Not to Scale

2.5. TRIP GENERATION

Project trip generation refers to the process of estimating the amount of vehicular traffic a development would add to the surrounding roadway system. For the proposed development, the amount of traffic entering and exiting the road system was calculated for the weekday AM and PM peak hours.

Peak hour trip generation estimates for the proposed development were developed using the *Trip Generation, 10th Edition, Institute of Transportation Engineering (ITE) (2017)*. The proposed hotel development at 310/320/336 Hunt Road is anticipated to consist of 93 hotel suites. For this analysis, land use code 310 (hotel development) was used.

The table below presents the ITE trip generation rates used and estimated trips generated using these rates.

Table 4: Trip Generation Summary

Development Type	Land Use Code	# of Units	Unit	Period	Trip Rate	In/Out Ratio		Trips		
						IN	OUT	IN	OUT	TOTAL
Hotel	310	93	Rooms	AM	0.47	59%	41%	26	18	44
				PM	0.60	51%	49%	28	27	55

2.6. TRIP REDUCTIONS

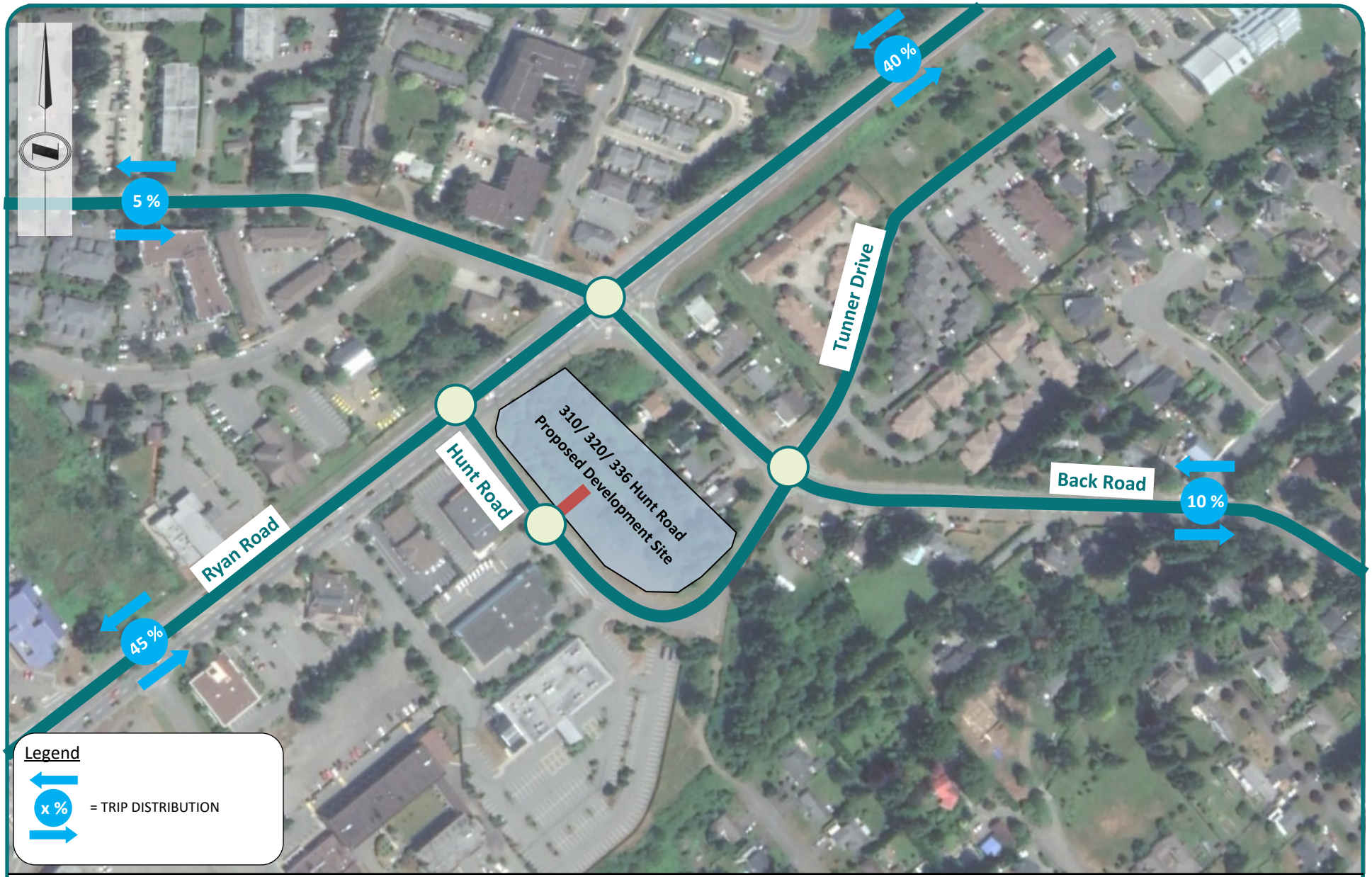
Given the nature of the proposed development, it is expected that most trips to and from the project site will be made by private vehicle or taxi service. As a conservative measure, it was assumed that there will be no trip generation reductions due to walking/biking or transit ridership. Furthermore, it was also assumed that there will be no internal capture or pass-by trips generated by the proposed hotel development.

2.7. TRIP DISTRIBUTION

The trip distribution for traffic generated by the development was estimated based on the characteristics of the project corridor, traffic count data, as well as the proximity of nearby cities, businesses, and residences. Most trips related to this development will be visitor trips. When travelling to and from the development, vehicles are expected to use Ryan Road and Back Road. It should be noted that Back Road, which is fed by several local streets, extends southward and terminates in south Comox at Comox Avenue. For both the AM and PM peak hours, the following trip distribution was assumed:

- 40% of traffic to / from northeast along Ryan Road
- 45% of traffic to / from southwest along Ryan Road
- 10% of traffic to / from east along Back Road
- 5% of traffic to / from west along Back Road

The trip distribution assumptions are shown in *Figure 7*. The site-generated trips for the study area are presented in *Figure 8*.



310/ 320/ 336 Hunt Road Development Traffic Impact Study

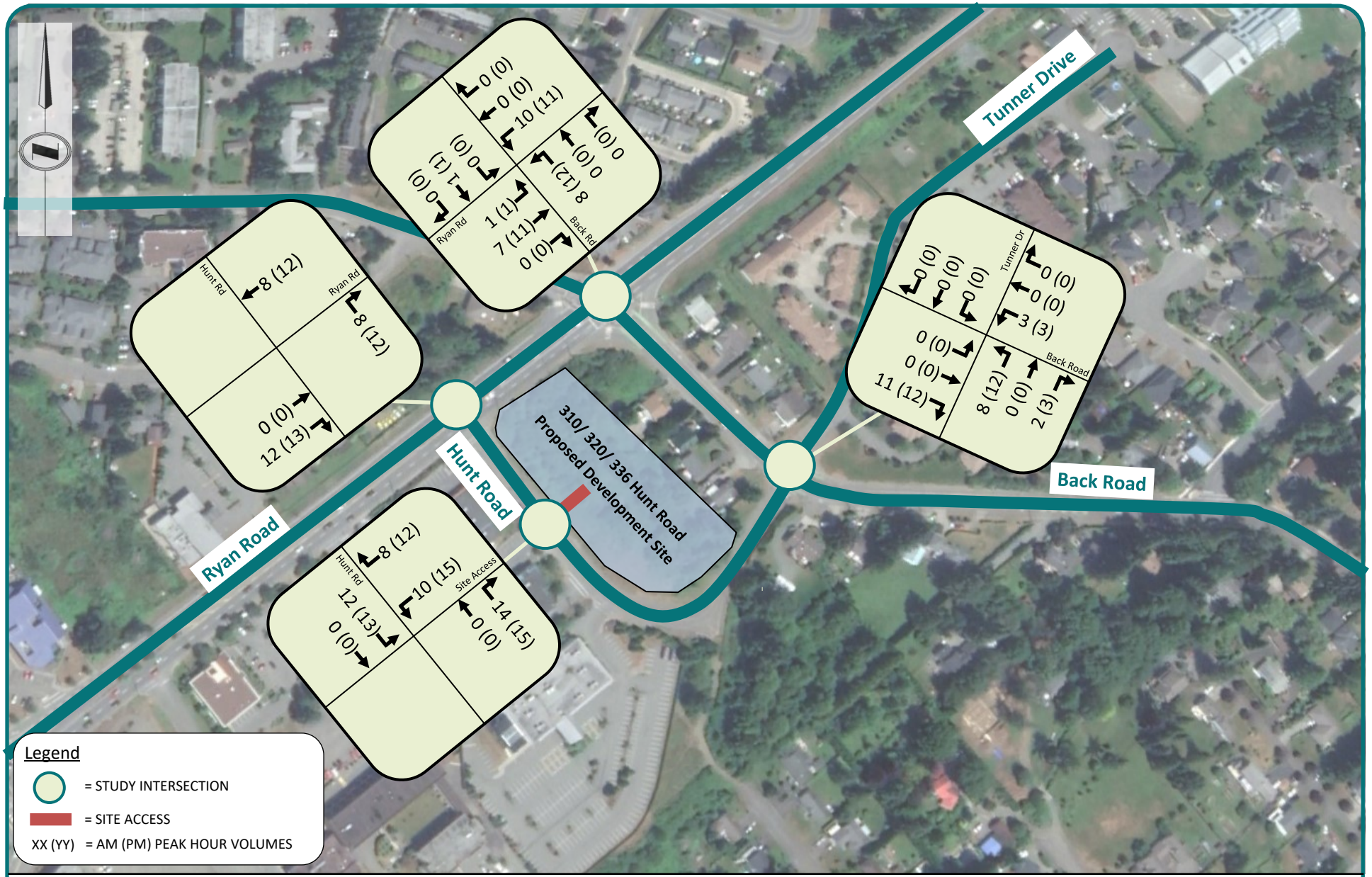
Trip Distribution

McElhanney

2211-80290-08

FIGURE 7

Not to Scale



310/ 320/ 336 Hunt Road Development Traffic Impact Study

Site-Generated Trips

McElhanney

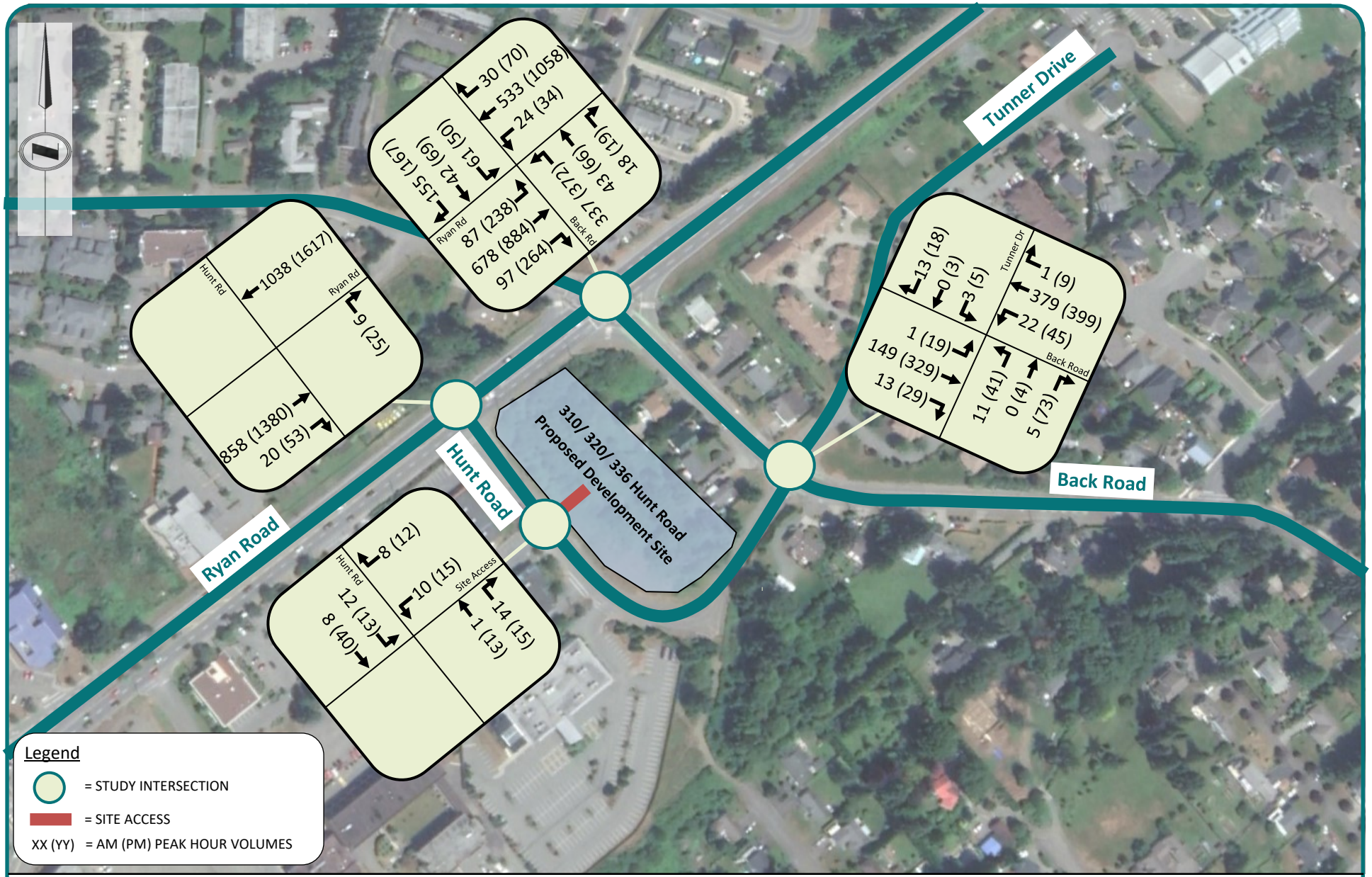
2211-80290-08

FIGURE 8

Not to Scale

2.8. WITH PROJECT TRAFFIC VOLUMES

To determine traffic volumes for the opening day (2022) and future ten-year (2032) scenarios with the development, site-generated trips (*Table 4*) were added to the background traffic volumes for each scenario. The combined weekday AM and PM peak hour traffic volumes for each scenario are presented in *Figure 9* and *Figure 10*.



310/ 320/ 336 Hunt Road Development Traffic Impact Study

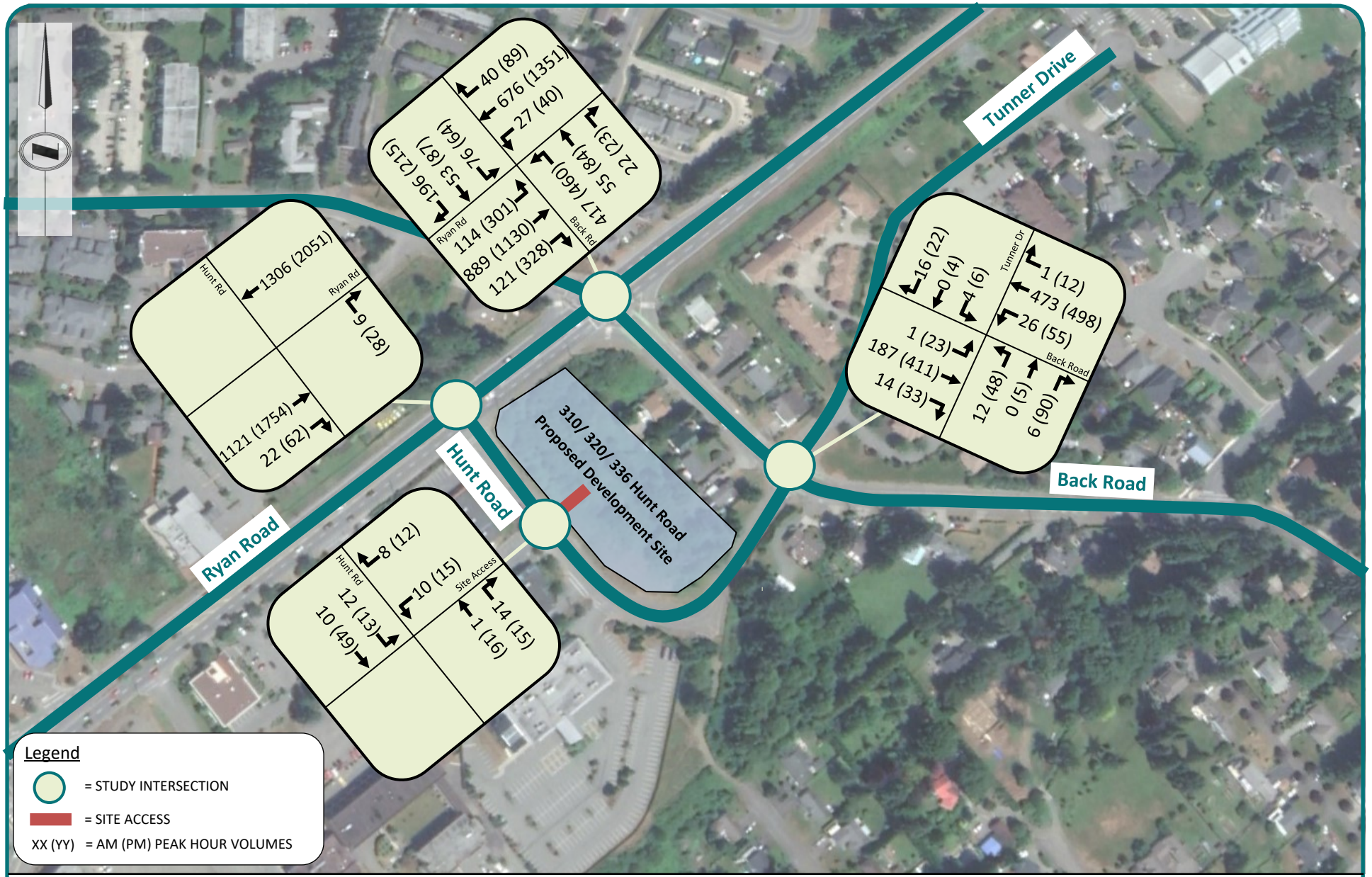
2022 Combined AM and PM Peak Hour Traffic Volumes

McElhanney

2211-80290-08

FIGURE 9

Not to Scale



310/ 320/ 336 Hunt Road Development Traffic Impact Study

2032 Combined AM and PM Peak Hour Traffic Volumes

McElhanney

2211-80290-08

FIGURE 10

Not to Scale

3. Traffic Operations Analysis

Traffic operations analysis was conducted for the following scenarios:

- 2020 (Existing Conditions) – Background traffic only
- 2022 (Opening Year) – Background traffic only and with development (combined) traffic
- 2032 (Opening Year + 10 Years) – Background traffic only and with development (combined) traffic

All scenarios were analyzed for the AM and PM weekday peak hours. It is assumed that all phases of the project development will be completed by 2022. All future scenarios will be analyzed without and with development traffic.

3.1. SYNCHRO ANALYSIS SOFTWARE

Synchro software, version 10, was used to report the level of service (LOS) and average delay at each of the study intersections. Synchro is a traffic software used to determine traffic conditions based on volumes, laning, and type of traffic control. Synchro calculates average delays and queue lengths for each movement at an intersection. Average delays are then translated into LOS. Detailed Synchro analysis reports can be found in *Attachment D*.

3.2. INTERSECTION LEVEL OF SERVICE CRITERIA

Operations of roadway facilities are described in terms of Level of Service (LOS). LOS is a qualitative description of traffic flow based on factors such as speed, travel time, delay, and freedom to manoeuvre. Six service levels are defined, ranging from LOS A, the best operating conditions, to LOS F, the worst operating conditions. LOS E corresponds to “at or near capacity” operations. When volumes exceed capacity, it results in stop-and-go conditions, which is designated as LOS F. The delay thresholds and corresponding LOS are presented in *Table 5*. The typical criterion for acceptable operation is LOS D. Therefore, any movement or intersection operating at LOS E or worse may require improvement.

Signalized operations were analyzed using the methodology contained in Chapter 19 of the *Highway Capacity Manual (HCM), 6th Edition, Transportation Research Board, 2016*. This methodology determines the level of service by comparing the average control delay for all vehicles approaching the intersection to the delay thresholds shown in *Table 5*. For controlled approaches composed of a single lane, the control delay is computed as the average of all movements in that lane. The LOS rating is based on the average delay expressed in seconds per vehicle.

For unsignalized (side-street stop-controlled) intersections, the LOS calculations were conducted based the methodology contained in Chapter 20 of the *HCM 6th Edition*. It should be noted that although Synchro reports overall intersection LOS at side-street stop-controlled unsignalized intersections, the overall LOS is not a good indicator of the side street performance, as it is calculated from the average delay for all vehicles. As a result, the overall LOS is typically heavily skewed toward the LOS for the free

flow major movement, particularly where the proportion of free flow volume on the major street is very high.

Table 5: Intersection Level of Service Definitions

Level of Service	Delay Criteria		Description
	Signalized	Unsignalized	
A	≤ 10	≤ 10	Represents free flow. Individual users are virtually unaffected by others in the traffic stream. Usually no conflicting traffic
B	> 10 to 20	> 10 to 15	Stable flow, but the presence of other users in the traffic stream begins to be noticeable. Occasionally some delay due to conflicting traffic
C	> 20 to 35	> 15 to 25	Stable flow, but the operation of individual users becomes significantly affected by interactions with others in the traffic stream. Delay is noticeable, but not inconveniencing.
D	> 35 to 55	> 25 to 35	Represents high-density, but stable flow. Delay is noticeable and irritating; increased likelihood of risk taking.
E	**> 55 to 80**	**> 35 to 50**	**Represents operating conditions at or near the capacity level. Delay approaching tolerance levels; risk taking behaviour is likely.**
F	**> 80**	**> 50**	**Represents forced or breakdown flow. Delay exceeds tolerance level; high likelihood of risk taking.**

Notes:
Values shown are in seconds/vehicle. **BOLD** *indicates unacceptable operation.*

3.3. LEVEL OF SERVICE RESULTS

2020 (Existing Conditions)

Traffic analysis was conducted at the study intersections for the 2020 (existing conditions) scenario. The existing signal timing plans were used for all study intersections. A summary of the 2020 weekday AM and PM peak hour intersection LOS results – volume to capacity (v/c) ratio, 95th-percentile queue length, delay, and LOS – can be found in *Table 6* and *Table 7*, respectively. The average delay is given in seconds per vehicle, and the 95th-percentile queue length, which assumes an average vehicle-in-queue length of 7.5 metres, is rounded to the nearest five metres. Detailed results can be found in *Attachment D*.

Table 6: 2020 (Existing Conditions) AM Peak Hour Intersection Level of Service Results

AM Peak Hour													
Intersection	**Attribute**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**Overall**
Back Rd / Ryan Rd	v/c Ratio	0.29	0.48		0.05	0.54		0.71	0.07		0.37	0.33		-
	Delay (s)	16	15		20	23		29	17		39	38		21
	LOS	B	B		B	C		C	B		D	D		C
	95% Q (m)	20	75		5	75		95	10		20	15		-
Back Rd / Tunner Dr	v/c Ratio	0.00	0.00		0.02	0.00		0.02			0.01		0.03	-
	Delay (s)	8	0		8	0		12			15		11	1
	LOS	A	A		A	A		B			B		B	A
	95% Q (m)	0	0		0	0		0			0		< 5	-
Hunt Rd / Site Access	v/c Ratio	0.00		-	-	0.00		-			0.00	-	0.00	-
	Delay (s)	0		-	-	0		-			0	-	0	0
	LOS	A		-	-	A		-			A	-	A	A
	95% Q (m)	0		-	-	0		-			0	-	0	-
Ryan Rd / Hunt Rd	v/c Ratio	-			-		0.00	-	0.00		-	0.00	-	-
	Delay (s)	-			-		12	-	0		-	0	-	0
	LOS	-			-		B	-	A		-	A	-	A
	95% Q (m)	-			-		0	-	0		-	0	-	-

Notes:

BOLD *indicates unacceptable operation.*

Table 7: 2020 (Existing Conditions) PM Peak Hour Intersection Level of Service Results

PM Peak Hour													
Intersection	**Attribute**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**Overall**
Back Rd / Ryan Rd	v/c Ratio	0.78	0.46		0.07	0.81		0.76	0.11		0.30	0.53		-
	Delay (s)	31	14		19	34		38	23		45	48		28
	LOS	C	B		B	C		D	C		D	D		C
	95% Q (m)	55	80		5	155		105	15		20	25		-
Back Rd / Tunner Dr	v/c Ratio	0.02	0.00		0.04	0.00		0.24			0.04		0.03	-
	Delay (s)	8	0		8	0		16			21		11	3
	LOS	A	A		A	A		C			C		B	A
	95% Q (m)	< 5	0		< 5	0		5			< 5		< 5	-
Hunt Rd / Site Access	v/c Ratio	0.00		-	-	0.00		-			0.00	-	0.00	-
	Delay (s)	0		-	-	0		-			0	-	0	0
	LOS	A		-	-	A		-			A	-	A	A
	95% Q (m)	0		-	-	0		-			0	-	0	-
Ryan Rd / Hunt Rd	v/c Ratio	-			-		0.03	-	0.00		-	0.00	-	-
	Delay (s)	-			-		15	-	0		-	0	-	0
	LOS	-			-		B	-	A		-	A	-	A
	95% Q (m)	-			-		< 5	-	0		-	0	-	-

Notes:

BOLD *indicates unacceptable operation.*

As shown in *Table 6* and *Table 7*, all movements are expected to operate at an acceptable LOS with the existing 2020 weekday AM and PM peak hour traffic volumes.

2022 (Opening Year)

Traffic analysis was conducted at the study intersections for the 2022 (opening year) scenario. Note that the signal timing plans for the analysis of all future scenarios were optimized in Synchro. A summary of the 2022 weekday background AM and PM peak hour intersection LOS results can be found in *Table 8* and *Table 9*, respectively. A summary of LOS results for both background and site-generated traffic (i.e. combined traffic) can be found in *Table 10* and *Table 11*. Detailed results can be found in *Attachment D*.

Table 8: 2022 (Opening Year) AM Peak Hour Intersection Level of Service Results – Background Traffic Only

AM Peak Hour														
Intersection	**Attribute**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**Overall**
Back Rd / Ryan Rd	v/c Ratio	0.27	0.48		0.05	0.64		0.69	0.07		0.25	0.23		-
	Delay (s)	14	13		17	23		23	13		26	26		19
	LOS	B	B		B	C		C	B		C	C		B
	95% Q (m)	15	55		< 5	60		70	5		15	10		-
Back Rd / Tunner Dr	v/c Ratio	0.00	0.00		0.01	0.00		0.01			0.01		0.02	-
	Delay (s)	8	0		8	0		12			14		11	1
	LOS	A	A		A	A		B			B		B	A
	95% Q (m)	0	0		0	0		0			0		< 5	-
Hunt Rd / Site Access	v/c Ratio	0.00		-	-	0.00		-			0.00	-	0.00	-
	Delay (s)	0		-	-	0		-			0	-	0	0
	LOS	A		-	-	A		-			A	-	A	A
	95% Q (m)	0		-	-	0		-			0	-	0	-
Ryan Rd / Hunt Rd	v/c Ratio	-			-		0.00	-	0.00		-	0.00	-	-
	Delay (s)	-			-		12	-	0		-	0	-	0
	LOS	-			-		B	-	A		-	A	-	A
	95% Q (m)	-			-		0	-	0		-	0	-	-

Notes:

BOLD *indicates unacceptable operation.*

Table 9: 2022 (Opening Year) PM Peak Hour Intersection Level of Service Results – Background Traffic Only

PM Peak Hour													
Intersection	**Attribute**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**Overall**
Back Rd / Ryan Rd	v/c Ratio	0.87	0.48		0.08	0.85		0.89	0.12		0.33	0.59		-
	Delay (s)	39	13		19	37		55	25		47	50		32
	LOS	D	B		B	D		D	C		D	D		C
	95% Q (m)	65	85		5	175		50	20		20	30		-
Back Rd / Tunner Dr	v/c Ratio	0.02	0.00		0.04	0.00		0.27			0.04		0.03	-
	Delay (s)	8	0		8	0		17			22		11	3
	LOS	A	A		A	A		C			C		B	A
	95% Q (m)	< 5	0		< 5	0		10			< 5		< 5	-
Hunt Rd / Site Access	v/c Ratio	0.00		-	-	0.00		-			0.00	-	0.00	-
	Delay (s)	0		-	-	0		-			0	-	0	0
	LOS	A		-	-	A		-			A	-	A	A
	95% Q (m)	0		-	-	0		-			0	-	0	-
Ryan Rd / Hunt Rd	v/c Ratio	-			-		0.04	-	0.00		-	0.00	-	-
	Delay (s)	-			-		16	-	0		-	0	-	0
	LOS	-			-		C	-	A		-	A	-	A
	95% Q (m)	-			-		< 5	-	0		-	0	-	-

Notes:

BOLD *indicates unacceptable operation.*

Compared to the 2020 conditions, background traffic operations in 2022 are expected to degrade slightly at the study intersections, as shown in *Table 8* and *Table 9*. All movements are expected to operate at an acceptable LOS with the 2022 weekday background AM and PM peak hour traffic volumes.

Table 10: 2022 (Opening Year) AM Peak Hour Intersection Level of Service Results – With Development Traffic

AM Peak Hour													
Intersection	**Attribute**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**Overall**
Back Rd / Ryan Rd	v/c Ratio	0.27	0.49		0.08	0.64		0.71	0.07		0.25	0.24		-
	Delay (s)	14	13		17	23		24	13		26	26		19
	LOS	B	B		B	C		C	B		C	C		B
	95% Q (m)	15	55		5	60		15	5		15	10		-
Back Rd / Tunner Dr	v/c Ratio	0.00	0.00		0.02	0.00		0.04			0.01		0.02	-
	Delay (s)	8	0		8	0		13			14		11	1
	LOS	A	A		A	A		B			B		B	A
	95% Q (m)	0	0		< 5	0		< 5			0		< 5	-
Hunt Rd / Site Access	v/c Ratio	0.01		-	-	0.00		-			0.02	-	0.02	-
	Delay (s)	7		-	-	0		-			9	-	9	5
	LOS	A		-	-	A		-			A	-	A	A
	95% Q (m)	0		-	-	0		-			< 5	-	< 5	-
Ryan Rd / Hunt Rd	v/c Ratio	-			-		0.02	-	0.00		-	0.00	-	-
	Delay (s)	-			-		12	-	0		-	0	-	0
	LOS	-			-		B	-	A		-	A	-	A
	95% Q (m)	-			-		< 5	-	0		-	0	-	-

Notes:

BOLD *indicates unacceptable operation.*

Table 11: 2022 (Opening Year) PM Peak Hour Intersection Level of Service Results – With Development Traffic

PM Peak Hour													
Intersection	**Attribute**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**Overall**
Back Rd / Ryan Rd	v/c Ratio	0.87	0.49		0.12	0.85		0.92	0.12		0.33	0.60		-
	Delay (s)	39	13		19	37		**61**	25		47	50		33
	LOS	D	B		B	D		**E**	C		D	D		C
	95% Q (m)	65	90		10	175		60	20		20	30		-
Back Rd / Tunner Dr	v/c Ratio	0.02	0.00		0.04	0.00		0.34			0.04		0.03	-
	Delay (s)	8	0		8	0		20			23		11	3
	LOS	A	A		A	A		C			C		B	A
	95% Q (m)	< 5	0		< 5	0		10			< 5		< 5	-
Hunt Rd / Site Access	v/c Ratio	0.01		-	-	0.00		-			0.03	-	0.03	-
	Delay (s)	7		-	-	0		-			9	-	9	3
	LOS	A		-	-	A		-			A	-	A	A
	95% Q (m)	0		-	-	0		-			< 5	-	< 5	-
Ryan Rd / Hunt Rd	v/c Ratio	-			-		0.08	-	0.00		-	0.00	-	-
	Delay (s)	-			-		16	-	0		-	0	-	0
	LOS	-			-		C	-	A		-	A	-	A
	95% Q (m)	-			-		< 5	-	0		-	0	-	-

Notes:

BOLD *indicates unacceptable operation.*

With the addition of development traffic, intersection performance is expected to further deteriorate, as shown in *Table 10* and *Table 11*. During the PM peak hour, the northbound left-turn movement at Back Road / Ryan Road degrades to LOS E. In the background PM peak hour scenario, this movement is expected to perform at LOS D (54.5 seconds of delay), therefore the addition of development traffic causes minimal impacts to the northbound left-turn movement (60.6 seconds of delay in the combined PM peak hour scenario) as the LOS D/E threshold is 55 seconds for signalized intersections.

2032 (Opening Year Plus Ten Years)

Traffic analysis was conducted at the study intersections for the 2032 horizon year. A summary of the 2032 weekday AM and PM peak hour intersection LOS results can be found in *Table 12* and *Table 13*, respectively. A summary of LOS results for both background and site-generated traffic (i.e. combined traffic) can be found in *Table 14* and *Table 15*. Detailed results can be found in *Attachment D*.

Table 12: 2032 (Future Conditions) AM Peak Hour Intersection Level of Service Results – Background Traffic Only

AM Peak Hour													
Intersection	**Attribute**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**Overall**
Back Rd / Ryan Rd	v/c Ratio	0.41	0.62		0.08	0.73		0.81	0.08		0.36	0.32		-
	Delay (s)	17	16		22	29		31	14		33	32		23
	LOS	B	B		C	C		C	B		C	C		C
	95% Q (m)	20	85		5	90		30	10		20	15		-
Back Rd / Tunner Dr	v/c Ratio	0.00	0.00		0.02	0.00		0.02			0.01		0.03	-
	Delay (s)	9	0		8	0		13			17		12	1
	LOS	A	A		A	A		B			C		B	A
	95% Q (m)	0	0		< 5	0		< 5			0		< 5	-
Hunt Rd / Site Access	v/c Ratio	0.00		-	-	0.00		-			0.00	-	0.00	-
	Delay (s)	0		-	-	0		-			0	-	0	0
	LOS	A		-	-	A		-			A	-	A	A
	95% Q (m)	0		-	-	0		-			0	-	0	-
Ryan Rd / Hunt Rd	v/c Ratio	-			-		0.00	-	0.00		-	0.00	-	-
	Delay (s)	-			-		13	-	0		-	0	-	0
	LOS	-			-		B	-	A		-	A	-	A
	95% Q (m)	-			-		0	-	0		-	0	-	-

Notes:

BOLD *indicates unacceptable operation.*

Table 13: 2032 (Future Conditions) PM Peak Hour Intersection Level of Service Results – Background Traffic Only

PM Peak Hour													
Intersection	**Attribute**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**Overall**
Back Rd / Ryan Rd	v/c Ratio	1.14	0.61		0.14	1.12		1.15	0.16		0.40	0.62		-
	Delay (s)	**131**	16		25	**103**		**132**	26		49	52		**77**
	LOS	**F**	B		C	**F**		**F**	C		D	D		**E**
	95% Q (m)	180	120		10	355		160	25		25	35		-
Back Rd / Tunner Dr	v/c Ratio	0.02	0.00		0.05	0.00		0.45			0.08		0.04	-
	Delay (s)	9	0		9	0		26			33		12	4
	LOS	A	A		A	A		D			D		B	A
	95% Q (m)	< 5	0		< 5	0		15			< 5		< 5	-
Hunt Rd / Site Access	v/c Ratio	0.00		-	-	0.00		-			0.00	-	0.00	-
	Delay (s)	0		-	-	0		-			0	-	0	0
	LOS	A		-	-	A		-			A	-	A	A
	95% Q (m)	0		-	-	0		-			0	-	0	-
Ryan Rd / Hunt Rd	v/c Ratio	-			-		0.07	-	0.00		-	0.00	-	-
	Delay (s)	-			-		20	-	0		-	0	-	0
	LOS	-			-		C	-	A		-	A	-	A
	95% Q (m)	-			-		< 5	-	0		-	0	-	-

Notes:

BOLD *indicates unacceptable operation.*

As shown in *Table 12*, all movements at all study intersections are expected to operate at an acceptable LOS with the 2032 weekday background AM peak hour traffic volumes. In the PM peak hour, the eastbound left-turn, shared westbound through and right-turn, and northbound left-turn movements at Back Road / Ryan Road are expected to operate at LOS F in 2032 without development traffic. The overall intersection performance of Back Road / Ryan Road is expected to perform at LOS E with approximately 77 seconds of delay.

Table 14: 2032 (Future Conditions) AM Peak Hour Intersection Level of Service Results – With Development Traffic

AM Peak Hour													
Intersection	**Attribute**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**Overall**
Back Rd / Ryan Rd	v/c Ratio	0.41	0.62		0.12	0.73		0.83	0.09		0.36	0.33		-
	Delay (s)	17	16		22	28		33	14		33	32		24
	LOS	B	B		C	C		C	B		C	C		C
	95% Q (m)	20	85		5	90		35	10		20	15		-
Back Rd / Tunner Dr	v/c Ratio	0.00	0.00		0.02	0.00		0.05			0.01		0.03	-
	Delay (s)	9	0		8	0		15			17		12	1
	LOS	A	A		A	A		C			C		B	A
	95% Q (m)	0	0		< 5	0		< 5			0		< 5	-
Hunt Rd / Site Access	v/c Ratio	0.01		-	-	0.00		-			0.02	-	0.02	-
	Delay (s)	7		-	-	0		-			9	-	9	4
	LOS	A		-	-	A		-			A	-	A	A
	95% Q (m)	0		-	-	0		-			< 5	-	< 5	-
Ryan Rd / Hunt Rd	v/c Ratio	-			-		0.02	-	0.00		-	0.00	-	-
	Delay (s)	-			-		14	-	0		-	0	-	0
	LOS	-			-		B	-	A		-	A	-	A
	95% Q (m)	-			-		< 5	-	0		-	0	-	-

Notes:

BOLD *indicates unacceptable operation.*

Table 15: 2032 (Future Conditions) PM Peak Hour Intersection Level of Service Results – With Development Traffic

PM Peak Hour													
Intersection	**Attribute**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**Overall**
Back Rd / Ryan Rd	v/c Ratio	1.15	0.62		0.20	1.15		1.14	0.15		0.40	0.63		-
	Delay (s)	**133**	16		27	**115**		**127**	26		49	52		**81**
	LOS	**F**	B		C	**F**		**F**	C		D	D		**F**
	95% Q (m)	180	125		15	370		155	25		25	40		-
Back Rd / Tunner Dr	v/c Ratio	0.02	0.00		0.06	0.00		0.56			0.08		0.04	-
	Delay (s)	9	0		9	0		33			34		12	5
	LOS	A	A		A	A		D			D		B	A
	95% Q (m)	< 5	0		< 5	0		25			< 5		< 5	-
Hunt Rd / Site Access	v/c Ratio	0.01		-	-	0.00		-			0.03	-	0.03	-
	Delay (s)	7		-	-	0		-			9	-	9	3
	LOS	A		-	-	A		-			A	-	A	A
	95% Q (m)	0		-	-	0		-			< 5	-	< 5	-
Ryan Rd / Hunt Rd	v/c Ratio	-			-		0.12	-	0.00		-	0.00	-	-
	Delay (s)	-			-		21	-	0		-	0	-	0
	LOS	-			-		C	-	A		-	A	-	A
	95% Q (m)	-			-		5	-	0		-	0	-	-

Notes:

BOLD *indicates unacceptable operation.*

With the addition of development traffic, intersection performance for the Back Rd / Ryan Road and Back Road / Tunner Drive intersections are expected to further degrade in the PM peak hour. During the PM peak hour, similar LOS results as the 2032 background PM peak hour scenario are exhibited for the Back Road / Ryan Road intersection.

4. Parking Assessment

Parking requirements for the hotel development were evaluated based on proposed supply compared to estimated parking demand per the ITE *Parking Generation Manual, 5th Edition (2019)* and required parking supply per the City's zoning bylaw. Similar to trip generation, parking demand and supply are directly linked to the land use type(s) and size.

4.1. PROPOSED PARKING SUPPLY

Parking for the development will be accessed from Hunt Road and consist of a surface lot. The proposed development will provide a total of approximately 94 parking spaces.

4.2. CITY OF COURTENAY PARKING BYLAW

The proposed hotel development site is subject to the City's parking bylaw requirements, as described in *Division 7, Schedule 7A – Required Number of Off-Street Parking Spaces* of the *City of Courtenay Zoning Bylaw 2500*. *Table 16* shows the number of parking spaces the development is required to provide according to the zoning bylaw.

Table 16: Parking Requirements Based on City of Courtenay Zoning Bylaw 2500

Land Use Description	Quantity	Unit	Parking Spaces/Unit	Required Parking Spaces
Hotel	93	Rooms	0.5	47
Hotel	47[1]	Employees	0.5	24
Hotel (Meeting Room)	100[2]	Seats	0.17	17
			Total:	**88**

Notes:

1. Assumed that the hotel staff to room ratio will be 1:2 for a suburban limited-service hotel.

2. There will be a rentable meeting room in the hotel per communications with the client; assumed 100 seats for accessory uses.

Per the bylaw, the development is required to have a total of 88 parking spaces. Therefore, the proposed parking supply meets the requirement stated in the City's parking bylaw.

4.3. ESTIMATED PARKING DEMAND

As a comparison tool, the expected peak parking demand was calculated based on proposed land uses. Parking demand was determined using rates from the ITE *Parking Generation Manual, 5th Edition (2019)*. The ITE parking generation rates are shown in *Table 17* and the estimated peak parking demand is summarized in *Table 18*.

Table 17: ITE Parking Generation Rates

Land Use Description	Quantity	Unit	Average	85th Percentile	33rd Percentile
Hotel	93	Rooms	0.74	0.99	0.64

Table 18: Estimated Peak Parking Demand

Land Use Description	Quantity	Unit	Average	85th Percentile	33rd Percentile
Hotel	93	Rooms	69	93	60
		Total:	**69**	**93**	**60**

Based on ITE parking generation rates, it is assumed that the proposed development would demand approximately 60 to 93 parking spaces.

4.4. PARKING SUMMARY

Table 19 shows a summary of the parking needs for the proposed development.

Table 19: Parking Summary

Source	Parking Spaces	Parking Surplus (+) / Deficit (-)
Parking Supply	94	-
City Parking Bylaw	88	+6
ITE Parking Demand	69[1]	+25

Notes:

1. Calculated from the average ITE parking demand rate.

Based on the information above, the proposed parking supply of 94 total spaces is greater than the City's bylaw requirements and estimated average parking demand predicted by ITE for a development of this type, by approximately 6 and 25 spaces, respectively.

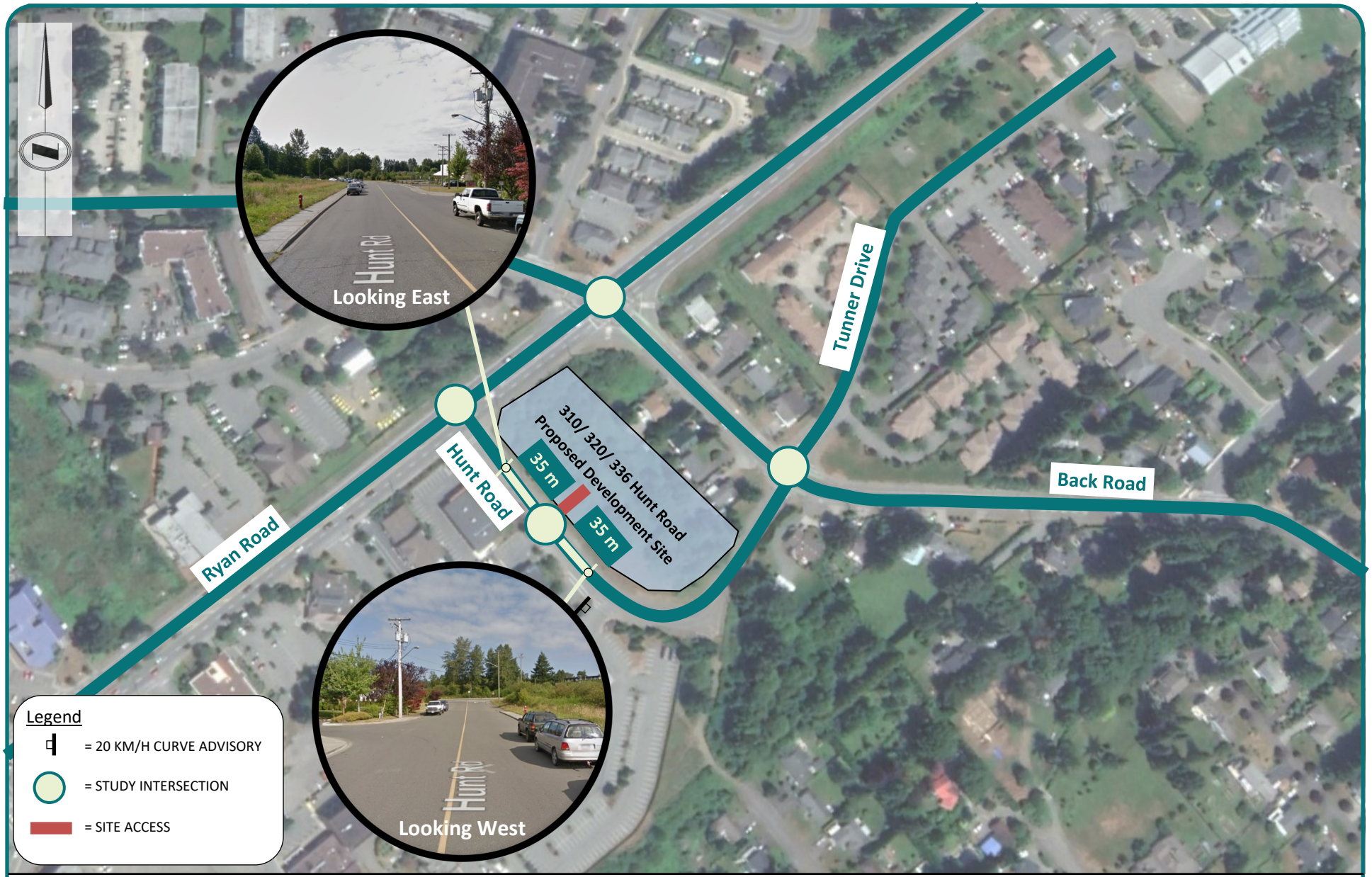
In summary, it is expected that the proposed development parking supply will meet the parking demand of developments of this type.

5. Sight Distance Review

To accommodate drivers of all levels of ability and experience, it is crucial that there is adequate sight distance provided prior to any potential obstacles on the roadway. The stopping sight distance was assessed for the proposed development's site access on Hunt Road, as detailed in the development plan (*Attachment A*), per the Transportation Association of Canada's (TAC's) *Geometric Design Guide for Canadian Roads (2017)*.

Stopping sight distance (SSD) is the distance it takes to bring a vehicle to a complete stop upon brake application. This distance is calculated based on design speed, deceleration rate, and driver reaction time. On level roadways with a design speed of 50 km/h, the SSD is calculated to be 65 m. However, given the proposed site access' proximity to the sharp curve at Hunt Road / Tunner Drive, it can be assumed that vehicles will be driving at a lower speed (i.e. 30 km/h).

The Hunt Road site access meets the stopping sight distance requirements per TAC guidelines for level roadways for the 50 km/h design speed. The SSD for a 30 km/h and 50 km/h design speed is illustrated in *Figure 11* and *Figure 12*, respectively, along with screenshots of Google Street View perspectives of each sight distance.



310/ 320/ 336 Hunt Road Development Traffic Impact Study

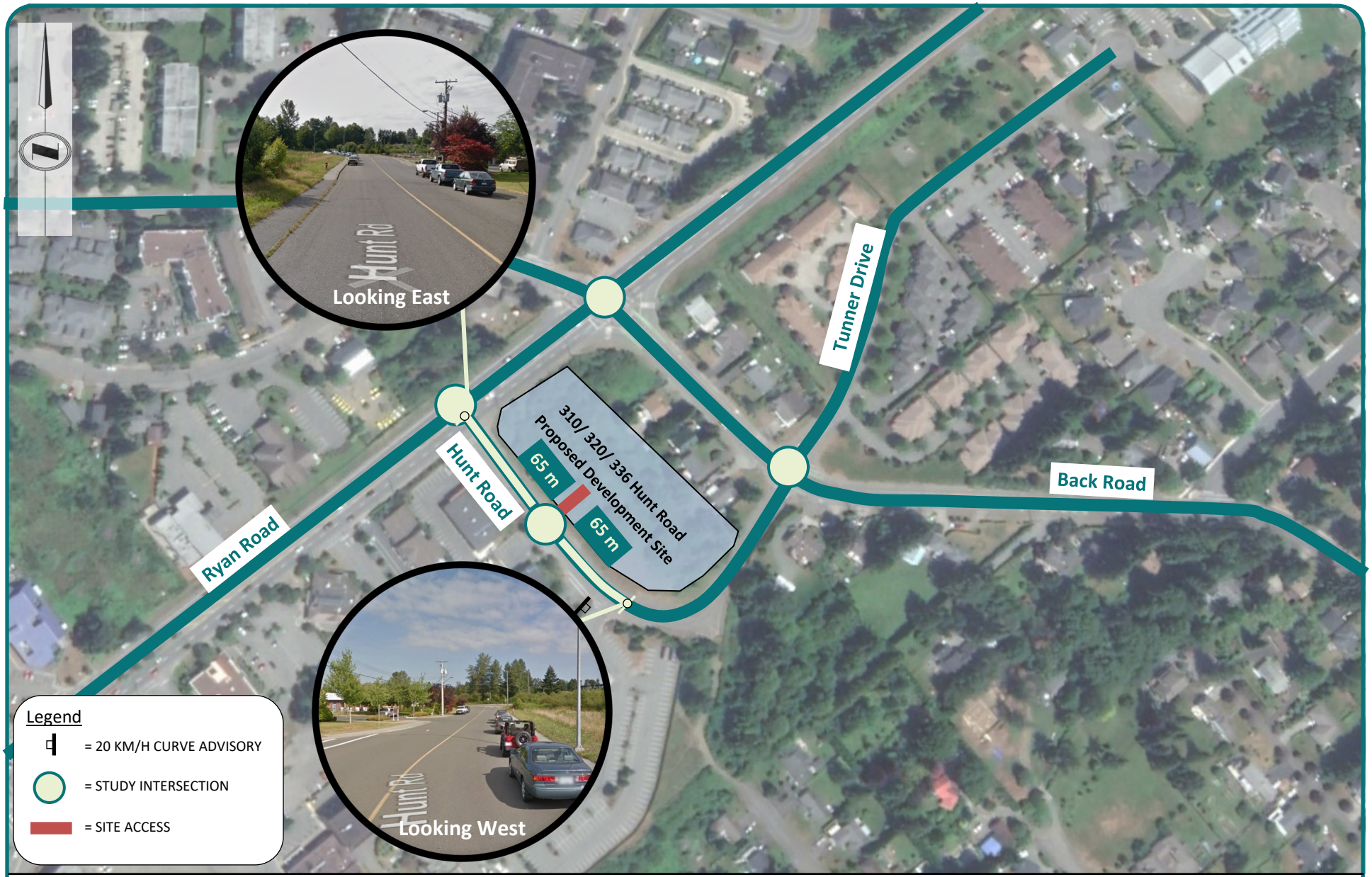
Stopping Sight Distance (30 km/h)

McElhanney

2211-80290-08

FIGURE 11

Not to Scale



310/ 320/ 336 Hunt Road Development Traffic Impact Study

Stopping Sight Distance (50 km/h)

McElhanney

2211-80290-08

FIGURE 12

Not to Scale

6. Future Road Network Improvements

A review of the *Connecting Courtenay Transportation Master Plan (2019)* was conducted to assess the potential medium- and long-term road improvement plans for all modes of transportation. *Table 20* summarizes the relevant potential improvements for the study area. Medium-term walking and cycling improvements are illustrated in *Attachment E*.

Table 20: Connecting Courtenay Transportation Master Plan - Relevant Proposed Road Improvements

Location	Summary
New & Widened Major Corridors & Connections	
Ryan Road widening (Back Road to Cowichan Avenue)	Widening will support anticipated growth on this section of Ryan Road and accommodate the operational and safety needs for future active transportation and transit facilities.
Back Road widening (Ryan Road to 10th Street East)	Widening of Back Road from two to four lanes (long-term treatment) to provide redundancy and enhanced circulation for all modes.
Tunner Drive extension (Back Road to Highway 19A)	Extension of Tunner Drive to alleviate traffic on Ryan Road; Tunner Drive can act as an alternative route for local traffic south of Ryan Road. There are plans to make this route a foundation for future active transportation facilities.
Medium-Term (10-Year) Walking Improvements	
Back Road (Tunner Drive to 10th Street East)	Pedestrian facility improvements (e.g. pedestrian crossings, addressing sidewalk gaps, connections to transit, access to institutions).
Medium-Term (10-Year) Cycling Improvements	
Tunner Drive (Williams Road to Back Road)	Cycling infrastructure improvements (e.g. multi-use paths, connecting cycling networks to trail networks, on- and off-street facilities).
Back Road (Ryan Road to Braidwood Road)	
Back Road (Ryan Road to 6th Street East)	

7. Conclusions and Recommendations

The purpose of this technical memorandum is to review traffic operations for the proposed hotel development located at 310/ 320/ 336 Hunt Road in Courtenay, British Columbia. This study evaluates the 2020 (existing conditions), 2022 (opening year), and 2032 (opening year plus ten years) AM and PM peak hour weekday traffic conditions without and with site-generated trips.

The proposed development is bounded by Ryan Road (northwest), Back Road (northeast), Tunner Drive (southeast), and Hunt Road (southwest). It is expected to consist of 93 hotel suites, a meeting room, and 94 parking stalls, as per development plans.

7.1. CONCLUSIONS

Traffic analysis was conducted for the study area during the weekday AM and PM peak hour periods for three scenarios: existing conditions (2020), opening year (2022), and opening year plus ten years (2032).

Based on the 2022 opening year traffic volumes, the background traffic operations are expected to slightly deteriorate at the study intersections when compared to existing conditions (2020). However, movements at all study intersections are expected to continue operating at an acceptable LOS. With the addition of the development traffic, the northbound left-turn movement at Back Road / Ryan Road is expected to operate at LOS E in the PM peak hour scenario, however the development traffic does not contribute a significant amount of delay to this movement, as the background (without development traffic) conditions are expected to operate at the LOS D/E threshold. All other intersections are operating at an acceptable LOS.

Under the 2032 background conditions, the eastbound left-turn, shared westbound through and right-turn, and northbound left-turn movements at Back Road / Ryan Road are expected to operate at LOS F in the PM peak hour. All other intersections operate at acceptable levels. With the addition of development traffic, these movements are expected to continue to operate at a similar LOS they were operating at in the background scenario during both peak hours.

Overall, the unacceptable future traffic operations at Ryan Road / Back Road are a result of background growth on the roadways and future developments in the area; the project site is expected to minimally impact the adjacent roadways.

The proposed parking supply of 94 spaces meets the requirement stated in the City's parking bylaw. Additionally, it is expected that the proposed development parking supply will meet the parking demand of developments of this type, as per ITE'S *Parking Generation Manual, 5th Edition (2019)*.

The sight line analysis for the development's access meets the stopping sight distance requirements as outlined in TAC's *Geometric Design Guide for Canadian Roads (2017)*.

7.2. RECOMMENDATIONS

7.2.1. Ryan Road / Back Road

Several movements at Ryan Road / Back Road are anticipated to degrade to LOS F in the future. Some mitigation options to alleviate the expected congestion include:

- Optimizing the signal timing plans
- Providing a southbound right-turn lane
- Adding an additional northbound left-turn lane
- Widening Ryan Road to accommodate three travel lanes (eastbound and westbound)

The effects of the above mitigation strategies are shown in the table below as a comparison to the do-nothing scenario. Detailed Synchro reports are provided in *Attachment D*.

Table 21: 2032 (Future Conditions) PM Peak Hour Intersection Level of Service Results – With Site and Adjacent Developments Traffic and Ryan Road / Back Road Mitigations

PM Peak Hour – Combined Scenario, Without Mitigations													
Intersection	**Attribute**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**Overall**
Back Rd / Ryan Rd	v/c Ratio	1.15	0.62		0.20	1.15		1.14	0.15		0.40	0.63		-
	Delay (s)	**133**	16		27	**115**		**127**	26		49	52		**81**
	LOS	**F**	B		C	**F**		**F**	C		D	D		**F**
	95% Q (m)	180	125		15	370		155	25		25	40		-
PM Peak Hour – Combined Scenario, With Mitigations														
Intersection	**Attribute**	**EBL**	**EBT**	**EBR**	**WBL**	**WBT**	**WBR**	**NBL**	**NBT**	**NBR**	**SBL**	**SBT**	**SBR**	**Overall**
Back Rd / Ryan Rd	v/c Ratio	0.89	0.41		0.17	0.78		0.86	0.16		0.37	0.62		-
	Delay (s)	39	12		22	34		52	25		46	48		29
	LOS	D	B		C	C		D	C		D	D		C
	95% Q (m)	110	70		10	145		85	25		25	35		-

7.2.2. Back Road / Tunner Drive

The northbound approach at Back Road / Tunner Drive is expected to degrade to LOS D in the 2032 PM peak hour scenario with development traffic. Currently, it is not recommended that this intersection is upgraded; we recommend that Back Road / Tunner Drive should be monitored in the future to determine if LOS has deteriorated. As the northbound approach LOS deteriorates, we expect that drivers will adjust accordingly upon observing the northbound queues and utilize the Hunt Road/Ryan Road intersection.

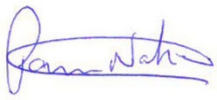
8. Closing

The information within this memo is true and accurate to the best of our knowledge. If you have any questions or concerns regarding this analysis, please contact the undersigned.

Prepared by:

Kristina Kwong, EIT
Transportation Engineer
Strategic Transportation Planning Division
kkwong@mcelhanney.com
604-674-6606

Reviewed by:

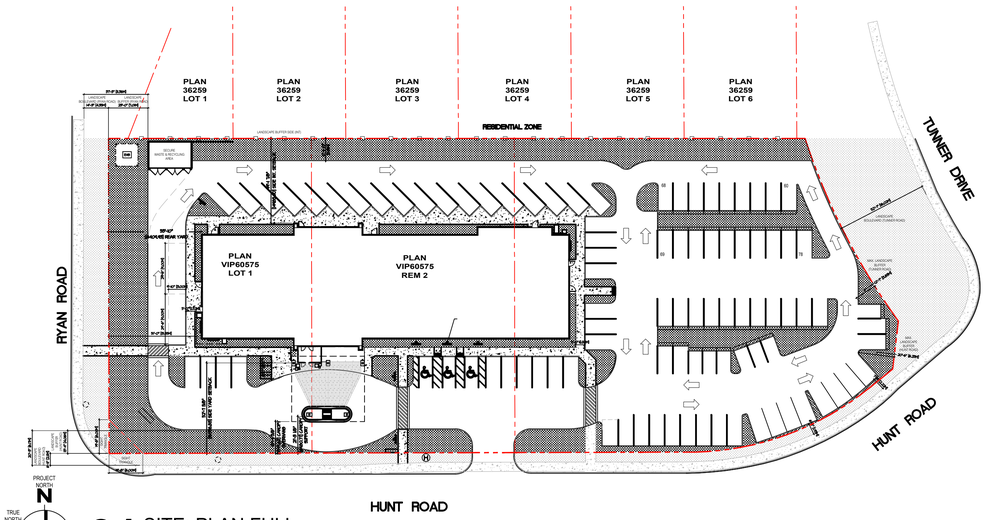


Parm Nahal, P.Eng.
Senior Traffic Engineer
Traffic & Road Safety Division
pnahal@mcelhanney.com
604-424-4881

Attachments:
A – Development Site Plan
B – Traffic Count Data
C – Existing Signal Timing Plans
D – Synchro Reports
E – City of Courtenay Medium-Term Walking and Cycling Improvements

ATTACHMENT A

Development Site Plan



01 SITE: PLAN FULL

SCALE: 1:500

SITE STATISTICS
310, 320, 336 HUNT RD.

COURTENAY, B.C.

LEGAL DESCRIPTION:
- LOT 1, SECTION 14, COMOX DISTRICT, PLAN VIP60575
- LOT 2, SECTION 14, COMOX DISTRICT, PLAN VIP60575 EXCEPT PLAN VIP83448
- PARCEL IDENTIFIER: 023-018-216 & 023-018-224

ZONING:
- EXISTING - LUC (LAND USE CONTRACT)
- PROPOSED - CD (COMPREHENSIVE DEVELOPMENT) BASED ON C2

SITE AREA:
OVERALL: 78,824 SF (7,323.0 SqM.)

SITE COVERAGE:
- ALLOWED: TBD
- PROPOSED 14,256 / 78,824 = 18.1%

LANDSCAPE
- AREA = 12,523 SF
- LANDSCAPE COVERAGE = 12,523 / 78,824 = 15.89%

TOTAL BLDG. AREA (FOOTPRINT): 14,241 SF (1,323.0 SM)
- HOTEL 13,854 SF (1,287.1 SM)
- GARBAGE 402 SF (37.3 SM)

GROSS BLDG. AREA:
59,265 SF (5,185.1 SM)

FAR: 0.71

SETBACKS:	ALLOWED	PROPOSED
SIDE YARD: (HUNT RD.)	0.0' (0.0M)	BLDG - 52.61' (16.04M) CANOPY OVERHANG - 18.36' (5.60M) CANOPY SUPPORT - 21.26' (6.48M)
FRONT YARD: (TUNNER DRIVE)	0.0' (0.0M)	160.15' (48.81M)
REAR YARD: (RYAN RD.)	0.0' (0.0M)	53.83' (16.41M)
SIDE YARD (INT).	0.0' (0.0M)	44.07' (14.98M)
BUILDING HEIGHT:	0.0' (0.0M)	46.62' (14.21M)

PARKING:
REQUIRED:
1 PER 2 SUITES
93 / 2 = 46.5 OR 47 STALLS
TOTAL REQUIRED = 47

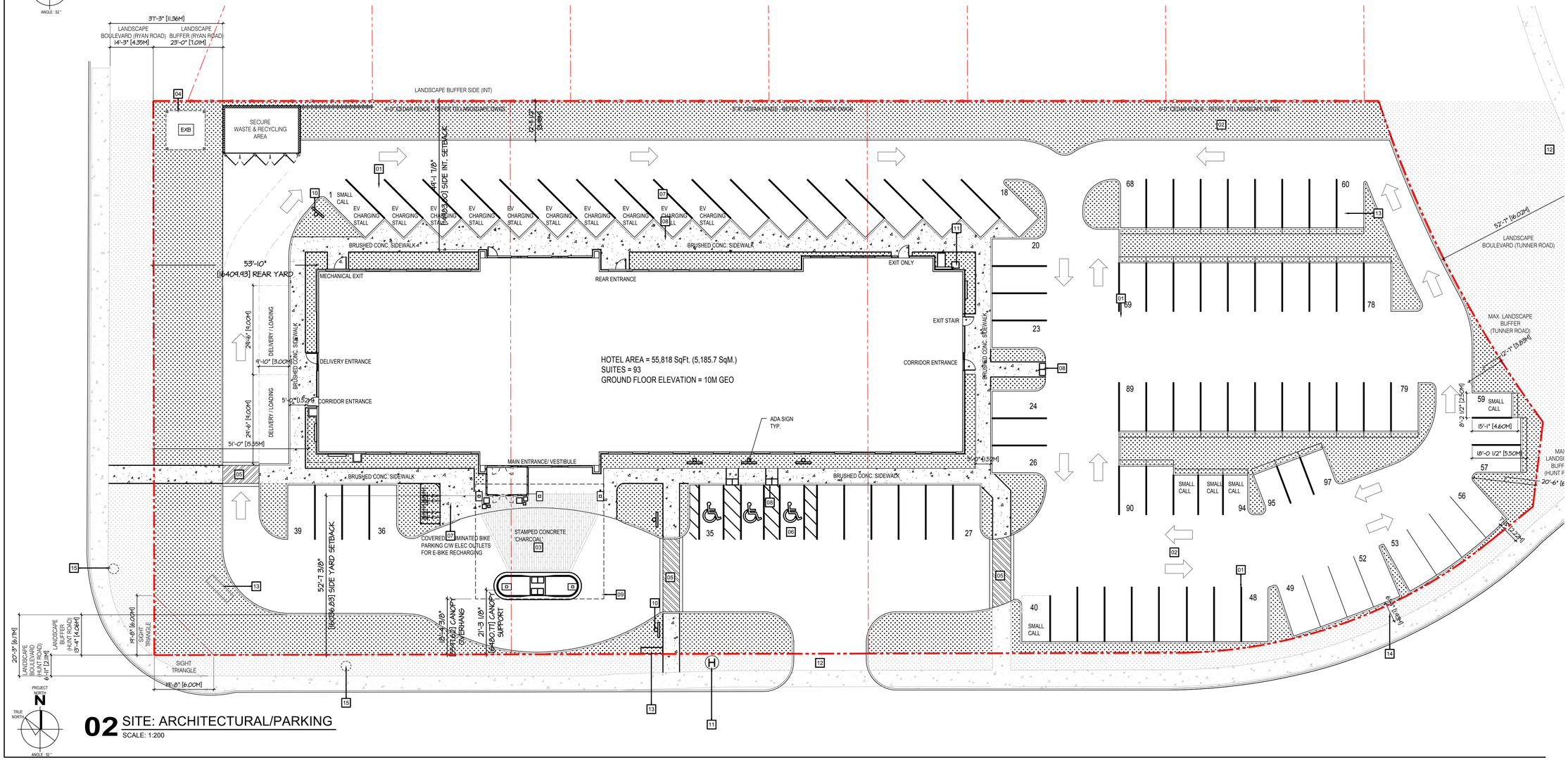
PROPOSED = 96 CARS
(9 H/C, 64 STANDARD, 9 SMALL CAR)

SITE LEGEND

- PROPERTY LINE
- BUILDING SET BACK
- SITE FENCE
- SITE RETAINING WALL
- AREAS OF LANDSCAPING
- HARDSCAPE
- STAMPED CONCRETE PATH
- CONCRETE SIDE WALK

SITE KEY NOTES

01 PARKING STALL PAINTED LINE PAINTED AS PER BYLAW 2500 DIV 7
02 DIRECTIONAL ARROWS AS PER PARKING BYLAW 2500 DIV 7
03 DROP OFF AREA WITH FEATURE PATTERN AND CURB CUT.
04 ELECTRICAL TRANSFORMER TO BE COORDINATED WITH B.C. HYDRO.
05 PEDESTRIAN PATHWAY CONNECTING TO PUBLIC SIDEWALK FINAL CONFIGURATION TO BE COORDINATED BY CIVIL WITH CITY ENGINEERING DEPARTMENT.
06 ACCESSIBLE STALL WITH PAINT SYMBOL AS PER BYLAW 2500 DIV 7
07 BIKE PARKING RACKS.
08 CURB CUT WITH TACTILE WARNING STRIP AS PER BCBC. 3.8.3.9
09 DOTTED LINE DENOTES EXTENT OF CANOPY ABOVE SEE ELEVATIONS
10 WAY FINDING SIGNAGE
11 EXISTING FIRE HYDRANT.
12 SITE ACCESS FINAL CONFIGURATION TO BE COORDINATED BY CIVIL WITH CITY ENGINEERING DEPARTMENT.
13 PROPOSED LOCATION FOR MONUMENT AND INFORMATIONAL SIGNS. FINAL LOCATION, DESIGN AND PERMIT BY OTHER IN ACCORDANCE WITH BYLAW 2760
14 1.5M CLEARANCE TO BE MAINTAINED BETWEEN PARKING & SIDE WALK
15 LOCATION OF EXISTING ELECTRICAL POLE TO BE REMOVED SERVICE TO BE ROUTED UNDERGROUND. FINAL SCOPE TO BE COORDINATED BETWEEN CIVIL ENG. , B.C. HYDRO. & CITY ENGINEERING DEPARTMENT.



02 SITE: ARCHITECTURAL/PARKING

SCALE: 1:200

REV	DATE	DESCRIPTION
06	11/14/20	RE-ISSUED FOR REZONING
05	10/22/20	RE-ISSUED FOR REZONING / DP
04	01/22/20	RE-ISSUED FOR REZONING / DP
03	06/25/20	ISSUED FOR IHG REVIEW / APPROVAL
02	04/30/20	ISSUED FOR BP
01	01/03/20	ISSUED FOR REZONING / DP

CONSULTANT

CONSULTANT SEAL

CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON SITE. DRAWINGS SHALL NOT BE SCALED.

ARCHITECT

LOVICK SCOTT ARCHITECTS
3707 1ST AVENUE
BURNABY, BC V5C 3V6
ADMIN@LOVICKSCOTT.COM
604 298 3700 WWW.LOVICKSCOTT.COM
MEMBER OF THE AIBC, AAA, SAA, MAA

ARCHITECTURAL SEAL

DRAWN BY: RS
APPROVED: LSA

PROJECT
HOLIDAY INN EXPRESS
310, 320, & 360 HUNT RD.
COURTENAY, BRITISH COLUMBIA

DRAWING
PLAN:
SITE & PARKING

PROJECT NUMBER: 19-068
DRAWING NUMBER: A100
SCALE: AS NOTED
DATE: AUG 23RD 2019
REVISION: NOV 19TH 2020

HOLIDAY INN EXPRESS 19-068

ATTACHMENT B

Traffic Count Data

TRAFFIC COUNT SHEET

McElhanney Consulting Services Ltd.
Tel 604-596-0391, Fax 604-584-5050

All Vehicles

Passenger Cars + Light Trucks + Heavy Trucks

Location:

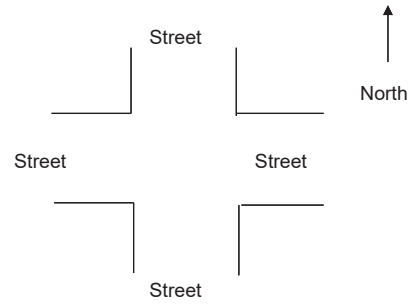
N/S Stree **Back Road**
E/W Stree **Braidwood**

Courtenay, BC

Job # **2211-47493-00**

Date:
Day **Wednesday**
Date **20-Sep-17**

Weather:
AM:
Mid:
PM:



Time	Northbound			Southbound			Westbound			Eastbound			15min Totals	1 hour Totals
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right		
AM														
7:00 - 7:15	2	1	0	0	12	0	0	0	0	0	0	5	20	
- 7:30	4	5	0	0	6	0	0	0	0	0	0	7	22	
- 7:45	2	6	0	0	11	2	0	0	0	0	0	9	30	
- 8:00	14	6	0	0	18	0	0	0	0	0	0	15	53	125
8:00 - 8:15	12	8	0	0	21	2	0	0	0	0	0	17	60	
- 8:30	7	5	1	0	8	0	0	0	0	0	0	11	32	
- 8:45	14	5	0	0	21	0	0	0	0	0	0	16	56	
- 9:00	9	13	0	0	20	1	0	0	0	0	0	12	55	203
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	0	0	0	
- 9:30	0	0	0	0	0	0	0	0	0	0	0	0	0	
- 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	
- 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Midday														
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	
- 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	
- 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	
- 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM														
3:00 - 3:15	18	20	0	0	13	1	0	0	0	1	0	13	66	
- 3:30	16	22	0	0	17	0	0	0	0	0	0	17	72	
- 3:45	13	24	0	0	12	1	0	0	0	0	0	16	66	
- 4:00	21	19	0	0	19	0	1	0	0	0	0	10	70	274
4:00 - 4:15	17	17	0	0	13	0	0	0	0	0	0	14	61	
- 4:30	19	23	1	0	16	0	2	0	0	0	0	10	71	
- 4:45	19	13	0	0	11	0	1	0	0	0	0	12	56	
- 5:00	16	20	0	0	16	0	0	0	0	0	1	11	64	252
5:00 - 5:15	12	22	0	0	14	0	0	0	0	0	0	19	67	
- 5:30	25	13	0	0	11	1	0	0	0	1	0	13	64	
- 5:45	16	16	0	0	10	0	0	0	1	1	0	12	56	
- 6:00	15	19	0	0	14	0	0	0	0	0	0	18	66	253

PEAK HOUR SUMMARY													Hourly Traffic	%PC	%LT	%HV	Total
AM peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
MD peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
PM peak hour	71	73	1	0	56	0	3	0	0	0	1	47	252	98.4%	1.6%	0.0%	100%

TRAFFIC COUNT SHEET

McElhanney Consulting Services Ltd.
Tel 604-596-0391, Fax 604-584-5050

Passenger Cars

Location:

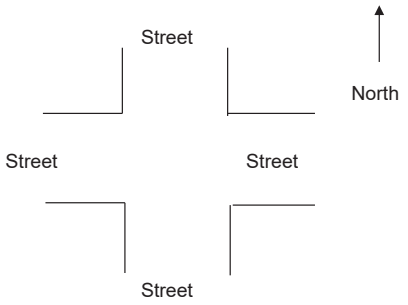
N/S Stree **Back Road**
E/W Stree **Braidwood**

Courtenay, BC

Job # **2211-47493-00**

Date:
Day **Wednesday**
Date **20-Sep-17**

Weather:
AM:
Mid:
PM:



Time	Northbound			Southbound			Westbound			Eastbound			15min	1 hour
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right	Totals	Totals
AM														
7:00 - 7:15	2	1			12							5	20	
- 7:30	4	5			6							7	22	
- 7:45	2	4			10	1						7	24	
- 8:00	12	6			18							14	50	116
8:00 - 8:15	12	8			21	2						16	59	
- 8:30	7	4	1		7							11	30	
- 8:45	14	5			21							16	56	
- 9:00	9	12			20	1						12	54	199
9:00 - 9:15													0	
- 9:30													0	
- 9:45													0	
- 10:00													0	0
Midday														
11:00 - 11:15													0	
- 11:30													0	
- 11:45													0	
- 12:00													0	0
12:00 - 12:15													0	0
- 12:30													0	0
- 12:45													0	0
- 1:00													0	0
PM														
3:00 - 3:15	18	20			12	1				1		12	64	
- 3:30	16	22			17							17	72	
- 3:45	13	24			12	1						16	66	
- 4:00	21	19			19		1					10	70	272
4:00 - 4:15	17	17			12							14	60	
- 4:30	18	23	1		16		2					10	70	
- 4:45	19	13			11		1					12	56	
- 5:00	16	20			15							11	62	248
5:00 - 5:15	12	22			14							19	67	
- 5:30	25	13			11	1				1		13	64	
- 5:45	16	15			9				1	1		12	54	
- 6:00	15	19			14							18	66	251
PEAK HOUR SUMMARY [1.]													Hourly Traffic	
AM peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM peak hour	70	73	1	0	54	0	3	0	0	0	0	47	248	

[1.] Peak hour volume based on peak hour of All Vehicles

TRAFFIC COUNT SHEET

McElhanney Consulting Services Ltd.
Tel 604-596-0391, Fax 604-584-5050

Light Trucks

Location:

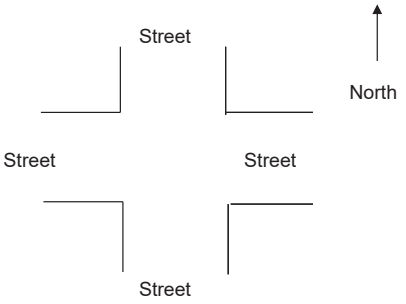
N/S Stree **Back Road**
E/W Stree **Braidwood**

Courtenay, BC

Job # **2211-47493-00**

Date:
Day **Wednesday**
Date **20-Sep-17**

Weather:
AM:
Mid:
PM:



Time	Northbound			Southbound			Westbound			Eastbound			15min Totals	1 hour Totals
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right		
AM														
7:00 - 7:15													0	
- 7:30													0	
- 7:45		2			1	1						2	6	
- 8:00	2											1	3	9
8:00 - 8:15												1	1	
- 8:30		1			1								2	
- 8:45													0	
- 9:00		1											1	4
9:00 - 9:15													0	
- 9:30													0	
- 9:45													0	
- 10:00													0	0
Midday														
11:00 - 11:15													0	
- 11:30													0	
- 11:45													0	
- 12:00													0	0
12:00 - 12:15													0	0
- 12:30													0	0
- 12:45													0	0
- 1:00													0	0
PM														
3:00 - 3:15					1							1	2	
- 3:30													0	
- 3:45													0	
- 4:00													0	2
4:00 - 4:15					1								1	
- 4:30	1												1	
- 4:45													0	
- 5:00					1						1		2	4
5:00 - 5:15													0	
- 5:30													0	
- 5:45		1			1								2	
- 6:00													0	2
PEAK HOUR SUMMARY [1.]													Hourly Traffic	
AM peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM peak hour	1	0	0	0	2	0	0	0	0	0	1	0	4	

[1.] Peak hour volume based on peak hour of All Vehicles

TRAFFIC COUNT SHEET

McElhanney Consulting Services Ltd.
Tel 604-596-0391, Fax 604-584-5050

Heavy Trucks

Location:

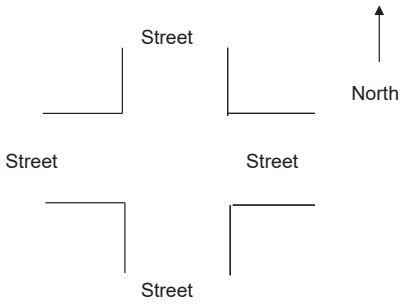
N/S Stree **Back Road**
E/W Stree **Braidwood**

Courtenay, BC

Job # **2211-47493-00**

Date:
Day **Wednesday**
Date **20-Sep-17**

Weather:
AM:
Mid:
PM:



Time	Northbound			Southbound			Westbound			Eastbound			15min Totals	1 hour Totals
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right		
AM														
7:00 - 7:15													0	
- 7:30													0	
- 7:45													0	
- 8:00													0	0
8:00 - 8:15													0	
- 8:30													0	
- 8:45													0	
- 9:00													0	0
9:00 - 9:15													0	
- 9:30													0	
- 9:45													0	
- 10:00													0	0
Midday														
11:00 - 11:15													0	
- 11:30													0	
- 11:45													0	
- 12:00													0	0
12:00 - 12:15													0	0
- 12:30													0	0
- 12:45													0	0
- 1:00													0	0
PM														
3:00 - 3:15													0	
- 3:30													0	
- 3:45													0	
- 4:00													0	0
4:00 - 4:15													0	
- 4:30													0	
- 4:45													0	
- 5:00													0	0
5:00 - 5:15													0	
- 5:30													0	
- 5:45													0	
- 6:00													0	0
PEAK HOUR SUMMARY [1.]													Hourly Traffic	
AM peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	

[1.] Peak hour volume based on peak hour of All Vehicles

TRAFFIC COUNT SHEET

McElhanney Consulting Services Ltd.
Tel 604-596-0391, Fax 604-584-5050

Pedestrian

Location:

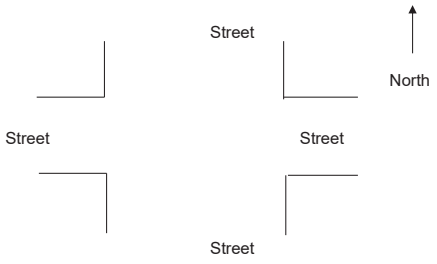
N/S Street Back Road
E/W Street Braidwood

Courtenay, BC

Job # **2211-47493-00**

Date:
Day Wednesday
Date 20-Sep-17

Weather:
AM:
Mid:
PM:



Time	South Leg				North Leg				East Leg				West Leg				15min	1 hour
	Child	AO	Senior	Disabled	Child	AO	Senior	Disabled	Child	AO	Senior	Disabled	Child	AO	Senior	Disabled	Totals	Totals
AM																		
7:00 - 7:15		5															5	
- 7:30		2				1	2										5	
- 7:45	2	3				2					2						9	
- 8:00	1	5															6	25
8:00 - 8:15	13	14			2	2			3	5							39	
- 8:30		5			2	14											21	
- 8:45	2	2				7								4			15	
- 9:00		2				5				3							10	85
9:00 - 9:15																	0	
- 9:30																	0	
- 9:45																	0	
- 10:00																	0	0
Midday																		
11:00 - 11:15																	0	
- 11:30																	0	
- 11:45																	0	
- 12:00																	0	0
12:00 - 12:15																	0	0
- 12:30																	0	0
- 12:45																	0	0
- 1:00																	0	0
PM																		
3:00 - 3:15					19	11							10	4			44	
- 3:30	2	2				2				2							8	
- 3:45	1	6			3	3							3	4	3		23	
- 4:00	2	3			1	3				3							12	87
4:00 - 4:15		2				3				1							6	
- 4:30		3			5	4			2				2	2			18	
- 4:45		3			3	11						1					18	
- 5:00					1	2								1			4	46
5:00 - 5:15		2				5											7	
- 5:30					2	1								2			5	
- 5:45		4				3											7	
- 6:00																	0	19
PEAK HOUR SUMMARY [1.]																	Hourly Traffic	
AM peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM peak hour	0	8	0	0	9	20	0	0	2	1	0	1	2	3	0	0	46	

[1.] Peak hour volume based on peak hour of All Vehicles

TRAFFIC COUNT SHEET

McElhanney Consulting Services Ltd.
Tel 604-596-0391, Fax 604-584-5050

Bicyclist

Location:

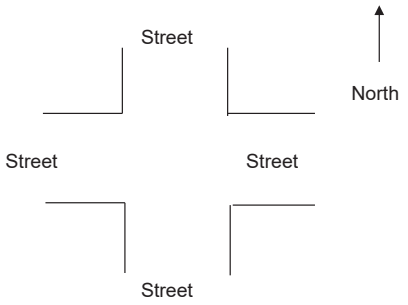
N/S Stree **Back Road**
E/W Stree **Braidwood**

Courtenay, BC

Job # **2211-47493-00**

Date:
Day **Wednesday**
Date **20-Sep-17**

Weather:
AM:
Mid:
PM:



Time	Northbound			Southbound			Westbound			Eastbound			15min Totals	1 hour Totals
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right		
AM														
7:00 - 7:15					1								1	
- 7:30						1							1	
- 7:45													0	
- 8:00													0	2
8:00 - 8:15													0	
- 8:30													0	
- 8:45													0	
- 9:00													0	0
9:00 - 9:15													0	
- 9:30													0	
- 9:45													0	
- 10:00													0	0
Midday														
11:00 - 11:15													0	
- 11:30													0	
- 11:45													0	
- 12:00													0	0
12:00 - 12:15													0	0
- 12:30													0	0
- 12:45													0	0
- 1:00													0	0
PM														
3:00 - 3:15													0	
- 3:30													0	
- 3:45						2							2	
- 4:00		1										1	2	4
4:00 - 4:15	1	2											3	
- 4:30					1					1		2	4	
- 4:45		2										1	3	
- 5:00	1												1	11
5:00 - 5:15		1											1	
- 5:30		1											1	
- 5:45	1												1	
- 6:00	1											1	2	5
PEAK HOUR SUMMARY [1]													Hourly Traffic	
AM peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM peak hour	2	4	0	0	1	0	0	0	0	1	0	3	11	

[1] Peak hour volume based on peak hour of All Vehicles

TRAFFIC COUNT SHEET

McElhanney Consulting Services Ltd.
Tel 604-596-0391, Fax 604-584-5050

All Vehicles

Passenger Cars + Light Trucks + Heavy Trucks

Location:

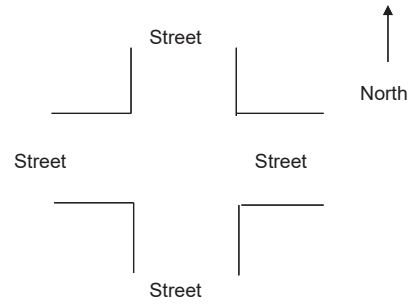
N/S Stree **Back Road**
E/W Stree **Ryan Road**

Courtenay, BC

Job # **2211-47493-00**

Date:
Day **Wednesday**
Date **20-Sep-17**

Weather:
AM:
Mid:
PM:



Time	Northbound			Southbound			Westbound			Eastbound			15min Totals	1 hour Totals
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right		
AM														
7:00 - 7:15	35	9	8	5	4	18	0	65	2	10	119	11	286	
- 7:30	36	13	4	7	4	28	1	74	7	7	82	12	275	
- 7:45	50	6	1	7	9	26	1	88	5	8	107	17	325	
- 8:00	64	6	6	10	5	35	2	114	7	20	142	14	425	1311
8:00 - 8:15	76	10	4	11	4	23	0	124	10	26	159	26	473	
- 8:30	105	15	5	19	11	32	9	152	3	18	193	30	592	
- 8:45	115	12	3	11	13	52	2	160	6	18	146	41	579	
- 9:00	113	10	3	12	7	55	2	181	12	19	202	29	645	2289
9:00 - 9:15	0	0	0	0	0	0	0	0	0	0	2	0	2	
- 9:30	0	0	0	0	0	0	0	1	0	0	1	0	2	
- 9:45	0	0	0	0	0	0	0	0	0	0	0	0	0	
- 10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Midday														
11:00 - 11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	
- 11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	
- 11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	
- 12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 - 12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
- 1:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM														
3:00 - 3:15	74	14	4	15	7	52	7	209	15	41	197	43	678	
- 3:30	78	3	3	15	13	35	7	208	24	34	222	73	715	
- 3:45	108	19	6	5	14	32	9	244	13	39	203	55	747	
- 4:00	87	13	7	11	13	38	6	238	17	47	191	55	723	2863
4:00 - 4:15	59	12	2	13	14	28	2	239	12	52	181	60	674	
- 4:30	69	8	2	12	16	42	4	228	14	54	208	67	724	
- 4:45	60	12	5	15	7	39	7	214	16	52	181	82	690	
- 5:00	73	18	2	11	10	44	4	203	20	42	227	69	723	2811
5:00 - 5:15	57	18	4	15	10	30	3	165	11	56	191	68	628	
- 5:30	67	9	1	11	9	36	6	142	13	48	220	74	636	
- 5:45	53	6	4	7	8	43	3	128	20	46	161	50	529	
- 6:00	55	7	4	13	5	32	4	158	16	35	150	48	527	2320

PEAK HOUR SUMMARY													Hourly Traffic	%PC	%LT	%HV	Total
AM peak hour	0	0	0	0	0	0	0	1	0	0	3	0	4	0.0%	0.0%	0.0%	0%
MD peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
PM peak hour	261	50	11	51	47	153	17	884	62	200	797	278	2811	98.2%	1.7%	0.1%	100%

TRAFFIC COUNT SHEET

McElhanney Consulting Services Ltd.
Tel 604-596-0391, Fax 604-584-5050

Passenger Cars

Location:

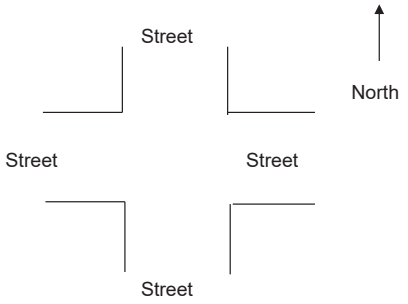
N/S Stree **Back Road**
E/W Stree **Ryan Road**

Courtenay, BC

Job # **2211-47493-00**

Date:
Day **Wednesday**
Date **20-Sep-17**

Weather:
AM:
Mid:
PM:



Time	Northbound			Southbound			Westbound			Eastbound			15min Totals	1 hour Totals
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right		
AM														
7:00 - 7:15	35	9	8	5	4	17		60	2	9	110	11	270	
- 7:30	36	13	4	7	4	28	1	68	6	7	77	11	262	
- 7:45	50	6	1	7	9	26	1	84	5	7	102	17	315	
- 8:00	64	6	6	10	5	35	2	107	7	18	135	13	408	1255
8:00 - 8:15	76	10	4	10	3	23		115	10	25	150	22	448	
- 8:30	104	14	5	19	11	31	9	151	3	17	185	28	577	
- 8:45	114	11	3	11	12	51	2	154	6	18	140	40	562	
- 9:00	109	10	3	12	7	55	2	175	11	19	190	28	621	2208
9:00 - 9:15													0	
- 9:30													0	
- 9:45													0	
- 10:00													0	0
Midday														
11:00 - 11:15													0	
- 11:30													0	
- 11:45													0	
- 12:00													0	0
12:00 - 12:15													0	0
- 12:30													0	0
- 12:45													0	0
- 1:00													0	0
PM														
3:00 - 3:15	73	13	4	13	7	50	7	204	15	40	193	43	662	
- 3:30	75	3	3	15	13	35	7	201	24	34	218	73	701	
- 3:45	106	19	6	5	13	32	9	240	13	39	197	53	732	
- 4:00	86	13	7	11	13	38	6	234	17	47	187	55	714	2809
4:00 - 4:15	59	12	2	12	14	28	2	233	12	52	176	59	661	
- 4:30	68	8	2	12	15	41	4	220	13	53	206	66	708	
- 4:45	60	12	5	15	7	38	7	209	15	51	179	81	679	
- 5:00	70	18	2	11	10	42	4	202	20	42	223	69	713	2761
5:00 - 5:15	57	18	4	15	10	30	3	163	11	56	187	68	622	
- 5:30	67	9	1	11	9	36	6	141	13	48	218	73	632	
- 5:45	53	6	4	7	8	43	3	125	20	45	155	50	519	
- 6:00	55	7	4	13	5	32	4	154	16	35	149	48	522	2295
PEAK HOUR SUMMARY [1.]													Hourly Traffic	
AM peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM peak hour	257	50	11	50	46	149	17	864	60	198	784	275	2761	

[1.] Peak hour volume based on peak hour of All Vehicles

TRAFFIC COUNT SHEET

McElhanney Consulting Services Ltd.
Tel 604-596-0391, Fax 604-584-5050

Light Trucks

Location:

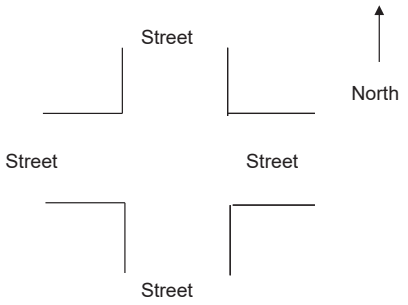
N/S Stree **Back Road**
E/W Stree **Ryan Road**

Courtenay, BC

Job # **2211-47493-00**

Date:
Day **Wednesday**
Date **20-Sep-17**

Weather:
AM:
Mid:
PM:



Time	Northbound			Southbound			Westbound			Eastbound			15min Totals	1 hour Totals
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right		
AM														
7:00 - 7:15						1		4		1	6		12	
- 7:30								4			3	1	8	
- 7:45								4		1	3		8	
- 8:00								5		2	7	1	15	43
8:00 - 8:15				1	1			5		1	6	3	17	
- 8:30	1	1				1				1	6	2	12	
- 8:45	1	1			1	1		5			6	1	16	
- 9:00	4							5	1		10	1	21	66
9:00 - 9:15													0	
- 9:30													0	
- 9:45													0	
- 10:00													0	0
Midday														
11:00 - 11:15													0	
- 11:30													0	
- 11:45													0	
- 12:00													0	0
12:00 - 12:15													0	0
- 12:30													0	0
- 12:45													0	0
- 1:00													0	0
PM														
3:00 - 3:15	1	1		2		2		5		1	2		14	
- 3:30	3							6			3		12	
- 3:45	2				1			4			6	2	15	
- 4:00	1							3			3		7	48
4:00 - 4:15				1				6			4	1	12	
- 4:30	1				1	1		8	1	1	2	1	16	
- 4:45						1		3	1	1	2	1	9	
- 5:00	3					2		1			4		10	47
5:00 - 5:15								2			3		5	
- 5:30								1			2	1	4	
- 5:45								3		1	3		7	
- 6:00								3			1		4	20
PEAK HOUR SUMMARY [1.]													Hourly Traffic	
AM peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM peak hour	4	0	0	1	1	4	0	18	2	2	12	3	47	

[1.] Peak hour volume based on peak hour of All Vehicles

TRAFFIC COUNT SHEET

McElhanney Consulting Services Ltd.
Tel 604-596-0391, Fax 604-584-5050

Heavy Trucks

Location:

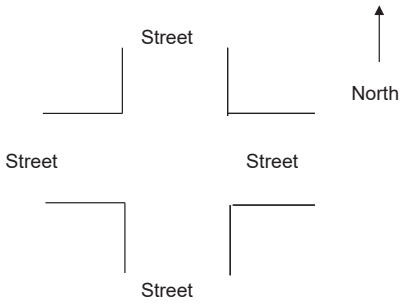
N/S Stree **Back Road**
E/W Stree **Ryan Road**

Courtenay, BC

Job # **2211-47493-00**

Date:
Day **Wednesday**
Date **20-Sep-17**

Weather:
AM:
Mid:
PM:



Time	Northbound			Southbound			Westbound			Eastbound			15min Totals	1 hour Totals
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right		
AM														
7:00 - 7:15								1			3		4	
- 7:30								2	1		2		5	
- 7:45											2		2	
- 8:00								2					2	13
8:00 - 8:15								4			3	1	8	
- 8:30								1			2		3	
- 8:45								1					1	
- 9:00								1			2		3	15
9:00 - 9:15													0	
- 9:30													0	
- 9:45													0	
- 10:00													0	0
Midday														
11:00 - 11:15													0	
- 11:30													0	
- 11:45													0	
- 12:00													0	0
12:00 - 12:15													0	0
- 12:30													0	0
- 12:45													0	0
- 1:00													0	0
PM														
3:00 - 3:15											2		2	
- 3:30								1			1		2	
- 3:45													0	
- 4:00								1			1		2	6
4:00 - 4:15											1		1	
- 4:30													0	
- 4:45								2					2	
- 5:00													0	3
5:00 - 5:15											1		1	
- 5:30													0	
- 5:45											3		3	
- 6:00								1					1	5
PEAK HOUR SUMMARY [1.]													Hourly Traffic	
AM peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM peak hour	0	0	0	0	0	0	0	2	0	0	1	0	3	

[1.] Peak hour volume based on peak hour of All Vehicles

TRAFFIC COUNT SHEET

McElhanney Consulting Services Ltd.
Tel 604-596-0391, Fax 604-584-5050

Pedestrian

Location:

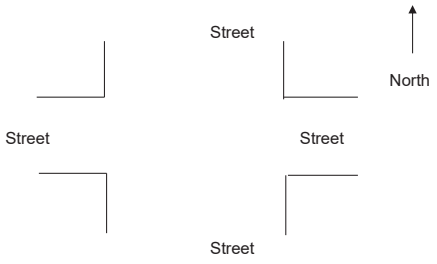
N/S Street Back Road
E/W Street Ryan Road

Courtenay, BC

Job # **2211-47493-00**

Date:
Day Wednesday
Date 20-Sep-17

Weather:
AM:
Mid:
PM:



Time	South Leg				North Leg				East Leg				West Leg				15min	1 hour
	Child	AO	Senior	Disabled	Child	AO	Senior	Disabled	Child	AO	Senior	Disabled	Child	AO	Senior	Disabled	Totals	Totals
AM																		
7:00 - 7:15		5				1				1				1			8	
- 7:30		1	1				1								1		4	
- 7:45	1	3	1														5	
- 8:00		7				2											9	26
8:00 - 8:15		23				1				1				2			27	
- 8:30		9				4			1								14	
- 8:45		5													1		6	
- 9:00		6				3				1							10	57
9:00 - 9:15																	0	
- 9:30																	0	
- 9:45																	0	
- 10:00																	0	0
Midday																		
11:00 - 11:15																	0	
- 11:30																	0	
- 11:45																	0	
- 12:00																	0	0
12:00 - 12:15																	0	0
- 12:30																	0	0
- 12:45																	0	0
- 1:00																	0	0
PM																		
3:00 - 3:15		7		1		4	3			2		1		7			25	
- 3:30	1	8	1	1										1			12	
- 3:45						2											2	
- 4:00		6												3			9	48
4:00 - 4:15	1	6			2	3	1			2		1		2			18	
- 4:30		3				3		1						11			18	
- 4:45		2				7				1							10	
- 5:00		6			1	2				1							10	56
5:00 - 5:15	2	6			1	2			1	1				4			17	
- 5:30		2	1			3				2				5			13	
- 5:45	1	6				1								3			11	
- 6:00	2	3				2								7			14	55
PEAK HOUR SUMMARY [1]																		
																	Hourly Traffic	
AM peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM peak hour	1	17	0	0	3	15	1	1	0	4	0	1	0	13	0	0	56	

[1] Peak hour volume based on peak hour of All Vehicles

TRAFFIC COUNT SHEET

McElhanney Consulting Services Ltd.
Tel 604-596-0391, Fax 604-584-5050

Bicyclist

Location:

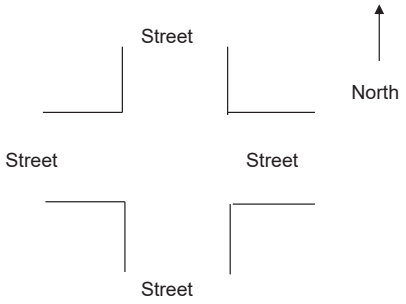
N/S Stree **Back Road**
E/W Stree **Ryan Road**

Courtenay, BC

Job # **2211-47493-00**

Date:
Day **Wednesday**
Date **20-Sep-17**

Weather:
AM:
Mid:
PM:



Time	Northbound			Southbound			Westbound			Eastbound			15min Totals	1 hour Totals
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right		
AM														
7:00 - 7:15	1			1									2	
- 7:30											1		1	
- 7:45						2					2		4	
- 8:00											2		2	9
8:00 - 8:15	2												2	
- 8:30					1						1		2	
- 8:45		1				1					1		3	
- 9:00	1												1	8
9:00 - 9:15													0	
- 9:30													0	
- 9:45													0	
- 10:00													0	0
Midday														
11:00 - 11:15													0	
- 11:30													0	
- 11:45													0	
- 12:00													0	0
12:00 - 12:15													0	0
- 12:30													0	0
- 12:45													0	0
- 1:00													0	0
PM														
3:00 - 3:15		2						1					3	
- 3:30											1		1	
- 3:45		2			1	1		3			1		8	
- 4:00	1	1			2						1		5	17
4:00 - 4:15					1			2	2			1	6	
- 4:30	1	1			2			2					6	
- 4:45													0	
- 5:00						1		1				1	3	15
5:00 - 5:15		1				1			1	1			4	
- 5:30								2					2	
- 5:45					1	1							2	
- 6:00					2	1							3	11
PEAK HOUR SUMMARY [1.]													Hourly Traffic	
AM peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
MD peak hour	0	0	0	0	0	0	0	0	0	0	0	0	0	
PM peak hour	1	1	0	0	3	1	0	5	2	0	0	2	15	

[1.] Peak hour volume based on peak hour of All Vehicles

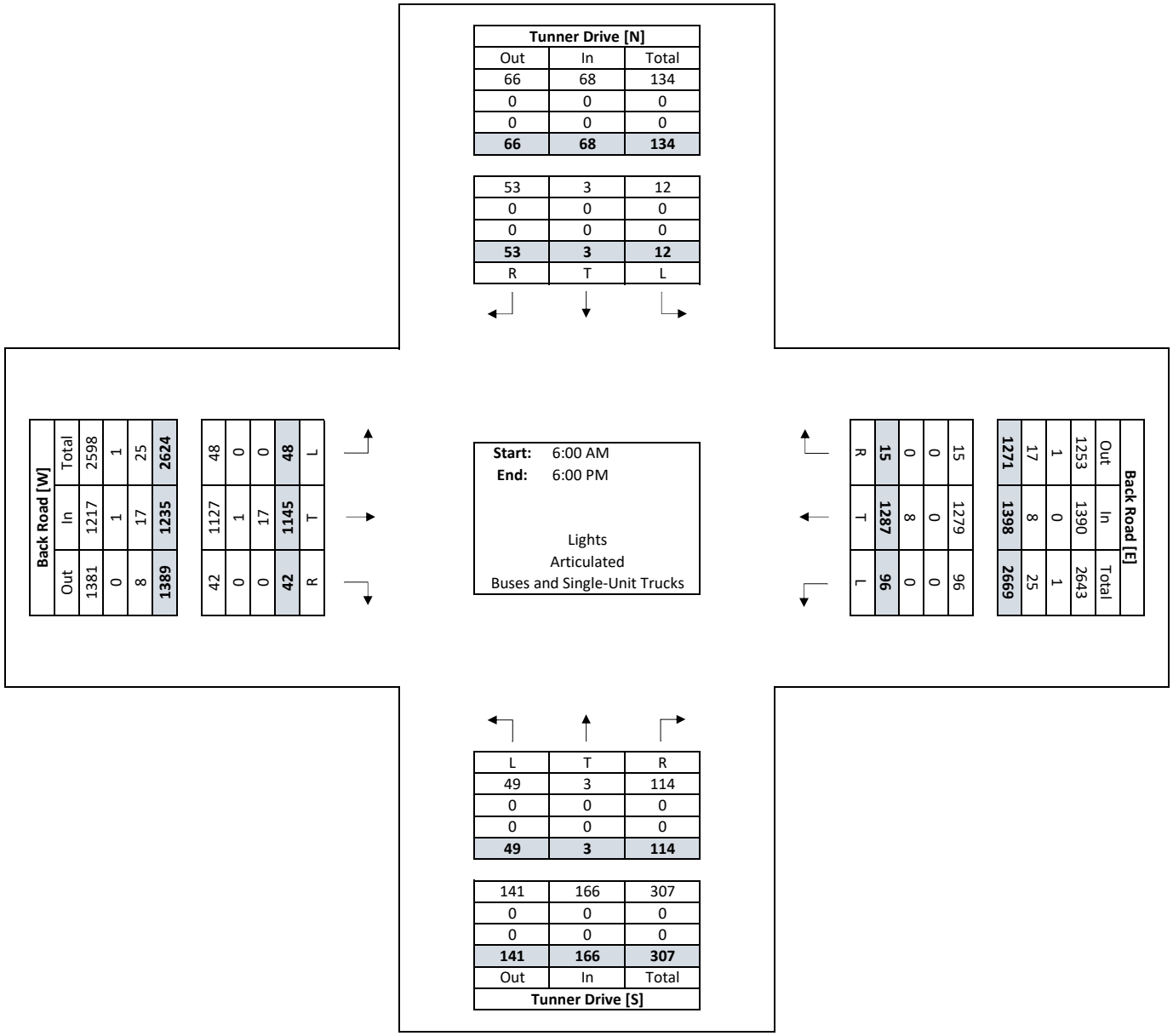
Location: Back Road and Tunner Drive
Date: 2020/08/12
Page No: 1

Turning Movement Data

	Tunner Drive Northbound				Tunner Drive Southbound				Back Road Eastbound				Back Road Westbound				
Start Time	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	**Int Total**
6:00 AM	0	0	0	**0**	0	0	1	**1**	0	4	0	**4**	3	10	0	**13**	**18**
6:15 AM	0	0	0	**0**	0	0	1	**1**	1	5	1	**7**	0	14	0	**14**	**22**
6:30 AM	0	0	0	**0**	0	0	0	**0**	0	7	0	**7**	0	27	0	**27**	**34**
6:45 AM	0	0	0	**0**	1	0	3	**4**	0	17	1	**18**	4	25	0	**29**	**51**
Hourly Total	0	0	0	**0**	1	0	5	**6**	1	33	2	**36**	7	76	0	**83**	**125**
7:00 AM	1	0	1	**2**	0	0	0	**0**	0	16	1	**17**	1	33	1	**35**	**54**
7:15 AM	1	0	2	**3**	0	0	2	**2**	0	21	0	**21**	1	39	1	**41**	**67**
7:30 AM	0	0	0	**0**	1	0	0	**1**	0	12	0	**12**	2	47	0	**49**	**62**
7:45 AM	0	0	0	**0**	0	0	1	**1**	1	18	1	**20**	3	63	0	**66**	**87**
Hourly Total	2	0	3	**5**	1	0	3	**4**	1	67	2	**70**	7	182	2	**191**	**270**
8:00 AM	1	0	1	**2**	0	0	4	**4**	0	23	0	**23**	3	49	1	**53**	**82**
8:15 AM	1	0	1	**2**	1	0	3	**4**	0	48	1	**49**	4	78	0	**82**	**137**
8:30 AM	2	0	5	**7**	0	0	2	**2**	2	28	1	**31**	6	76	0	**82**	**122**
8:45 AM	2	0	3	**5**	1	1	3	**5**	3	44	1	**48**	2	94	0	**96**	**154**
Hourly Total	6	0	10	**16**	2	1	12	**15**	5	143	3	**151**	15	297	1	**313**	**495**
3:00 PM	6	0	10	**16**	1	0	4	**5**	4	73	3	**80**	5	79	1	**85**	**186**
3:15 PM	5	0	4	**9**	0	0	3	**3**	2	63	2	**67**	8	72	1	**81**	**160**
3:30 PM	6	2	6	**14**	0	0	5	**5**	2	75	3	**80**	6	81	5	**92**	**191**
3:45 PM	7	0	12	**19**	0	0	0	**0**	4	69	9	**82**	7	63	0	**70**	**171**
Hourly Total	24	2	32	**58**	1	0	12	**13**	12	280	17	**309**	26	295	7	**328**	**708**
4:00 PM	1	1	13	**15**	0	1	3	**4**	7	79	3	**89**	10	57	0	**67**	**175**
4:15 PM	5	0	15	**20**	4	1	4	**9**	5	88	1	**94**	4	55	1	**60**	**183**
4:30 PM	5	0	10	**15**	0	0	4	**4**	4	78	2	**84**	8	59	1	**68**	**171**
4:45 PM	3	0	8	**11**	1	0	2	**3**	1	71	2	**74**	4	63	1	**68**	**156**
Hourly Total	14	1	46	**61**	5	2	13	**20**	17	316	8	**341**	26	234	3	**263**	**685**
5:00 PM	2	0	9	**11**	1	0	1	**2**	4	79	3	**86**	5	57	0	**62**	**161**
5:15 PM	1	0	5	**6**	0	0	2	**2**	2	73	2	**77**	2	44	0	**46**	**131**
5:30 PM	0	0	3	**3**	0	0	2	**2**	3	85	3	**91**	8	48	2	**58**	**154**
5:45 PM	0	0	6	**6**	1	0	3	**4**	3	69	2	**74**	0	54	0	**54**	**138**
Hourly Total	3	0	23	**26**	2	0	8	**10**	12	306	10	**328**	15	203	2	**220**	**584**
Grand Total	49	3	114	**166**	12	3	53	**68**	48	1145	42	**1235**	96	1287	15	**1398**	**2867**
% Approach	29.5%	1.8%	68.7%	**-**	17.6%	4.4%	77.9%	**-**	3.9%	92.7%	3.4%	**-**	6.9%	92.1%	1.1%	**-**	**-**
% Total	1.7%	0.1%	4.0%	**5.8%**	0.4%	0.1%	1.8%	**2.4%**	1.7%	39.9%	1.5%	**43.1%**	3.3%	44.9%	0.5%	**48.8%**	**-**
Lights	49	3	114	**166**	12	3	53	**68**	48	1127	42	**1217**	96	1279	15	**1390**	**2841**
% Lights	100.0%	100.0%	100.0%	**100.0%**	100.0%	100.0%	100.0%	**100.0%**	100.0%	98.4%	100.0%	**98.5%**	100.0%	99.4%	100.0%	**99.4%**	**99.1%**
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	**1**
% Articulated Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.1%	0.0%	**0.1%**	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Buses and Single-Unit Trucks	0	0	0	**0**	0	0	0	**0**	0	17	0	**17**	0	8	0	**8**	**25**
% Buses and Single-Unit Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	0.0%	1.5%	0.0%	**1.4%**	0.0%	0.6%	0.0%	**0.6%**	**0.9%**

Location: Back Road and Tunner Drive
Date: 2020/08/12
Page No: 2

Turning Movement Data Plot



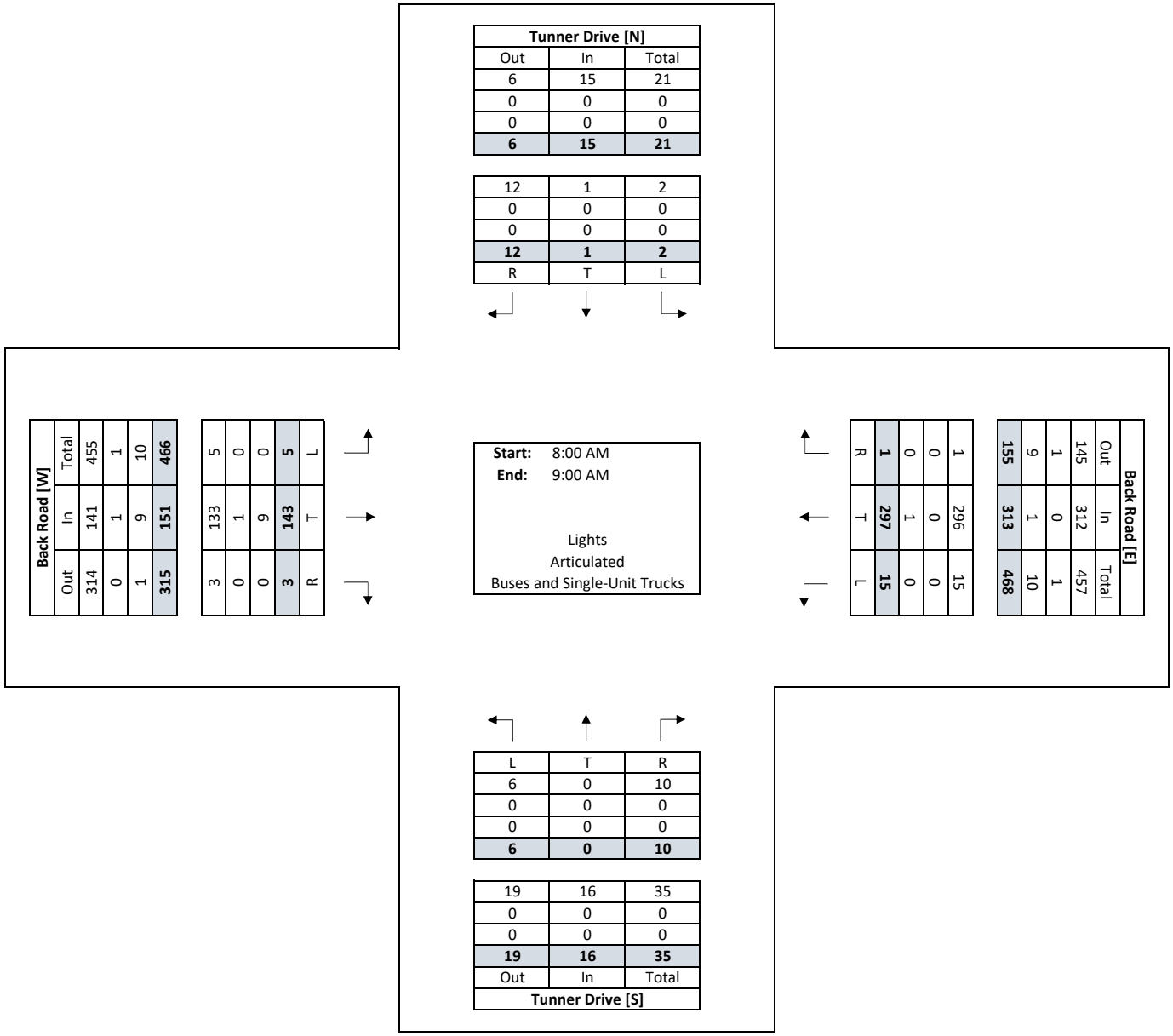
Location: Back Road and Tunner Drive
Date: 2020/08/12
Page No: 3

Turning Movement Peak Hour Data (8:00 AM)

	Tunner Drive Northbound				Tunner Drive Southbound				Back Road Eastbound				Back Road Westbound				
Start Time	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	**Int Total**
8:00 AM	1	0	1	**2**	0	0	4	**4**	0	23	0	**23**	3	49	1	**53**	**82**
8:15 AM	1	0	1	**2**	1	0	3	**4**	0	48	1	**49**	4	78	0	**82**	**137**
8:30 AM	2	0	5	**7**	0	0	2	**2**	2	28	1	**31**	6	76	0	**82**	**122**
8:45 AM	2	0	3	**5**	1	1	3	**5**	3	44	1	**48**	2	94	0	**96**	**154**
Grand Total	6	0	10	**16**	2	1	12	**15**	5	143	3	**151**	15	297	1	**313**	**495**
% Approach	37.5%	0.0%	62.5%	**-**	13.3%	6.7%	80.0%	**-**	3.3%	94.7%	2.0%	**-**	4.8%	94.9%	0.3%	**-**	**-**
% Total	1.2%	0.0%	2.0%	**3.2%**	0.4%	0.2%	2.4%	**3.0%**	1.0%	28.9%	0.6%	**30.5%**	3.0%	60.0%	0.2%	**63.2%**	**-**
PHF (8:00 AM - 9:00 AM)	0.750	0.000	0.500	**0.571**	0.500	0.250	0.750	**0.750**	0.417	0.745	0.750	**0.770**	0.625	0.790	0.250	**0.815**	**0.804**
Lights	6	0	10	**16**	2	1	12	**15**	5	133	3	**141**	15	296	1	**312**	**484**
% Lights	100.0%	0.0%	100.0%	**100.0%**	100.0%	100.0%	100.0%	**100.0%**	100.0%	93.0%	100.0%	**93.4%**	100.0%	99.7%	100.0%	**99.7%**	**97.8%**
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	0	1	0	**1**	0	0	0	**0**	**1**
% Articulated Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.7%	0.0%	**0.7%**	0.0%	0.0%	0.0%	**0.0%**	**0.2%**
Buses and Single-Unit Trucks	0	0	0	**0**	0	0	0	**0**	0	9	0	**9**	0	1	0	**1**	**10**
% Buses and Single-Unit Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	0.0%	6.3%	0.0%	**6.0%**	0.0%	0.3%	0.0%	**0.3%**	**2.0%**

Location: Back Road and Tunner Drive
Date: 2020/08/12
Page No: 4

Turning Movement Peak Hour Data Plot (8:00 AM)



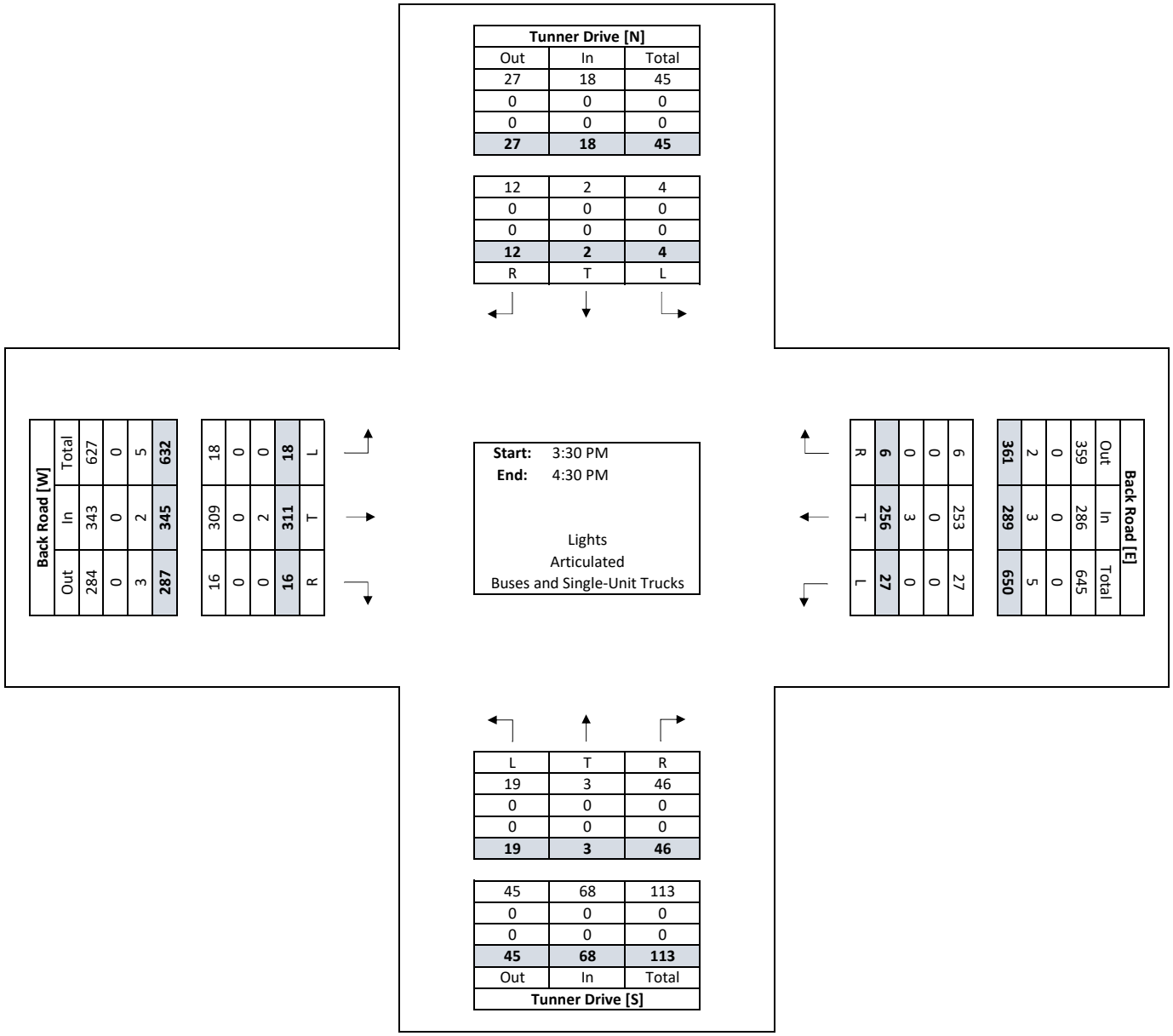
Location: Back Road and Tunner Drive
Date: 2020/08/12
Page No: 5

Turning Movement Peak Hour Data (3:30 PM)

	Tunner Drive Northbound				Tunner Drive Southbound				Back Road Eastbound				Back Road Westbound				
Start Time	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	**Int Total**
3:30 PM	6	2	6	**14**	0	0	5	**5**	2	75	3	**80**	6	81	5	**92**	**191**
3:45 PM	7	0	12	**19**	0	0	0	**0**	4	69	9	**82**	7	63	0	**70**	**171**
4:00 PM	1	1	13	**15**	0	1	3	**4**	7	79	3	**89**	10	57	0	**67**	**175**
4:15 PM	5	0	15	**20**	4	1	4	**9**	5	88	1	**94**	4	55	1	**60**	**183**
Grand Total	19	3	46	**68**	4	2	12	**18**	18	311	16	**345**	27	256	6	**289**	**720**
% Approach	27.9%	4.4%	67.6%	**-**	22.2%	11.1%	66.7%	**-**	5.2%	90.1%	4.6%	**-**	9.3%	88.6%	2.1%	**-**	**-**
% Total	2.6%	0.4%	6.4%	**9.4%**	0.6%	0.3%	1.7%	**2.5%**	2.5%	43.2%	2.2%	**47.9%**	3.8%	35.6%	0.8%	**40.1%**	**-**
PHF (3:30 PM - 4:30 PM)	0.679	0.375	0.767	**0.850**	0.250	0.500	0.600	**0.500**	0.643	0.884	0.444	**0.918**	0.675	0.790	0.300	**0.785**	**0.942**
Lights	19	3	46	**68**	4	2	12	**18**	18	309	16	**343**	27	253	6	**286**	**715**
% Lights	100.0%	100.0%	100.0%	**100.0%**	100.0%	100.0%	100.0%	**100.0%**	100.0%	99.4%	100.0%	**99.4%**	100.0%	98.8%	100.0%	**99.0%**	**99.3%**
Articulated Trucks	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	0	0	0	**0**	**0**
% Articulated Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	**0.0%**
Buses and Single-Unit Trucks	0	0	0	**0**	0	0	0	**0**	0	2	0	**2**	0	3	0	**3**	**5**
% Buses and Single-Unit Trucks	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.0%	0.0%	**0.0%**	0.0%	0.6%	0.0%	**0.6%**	0.0%	1.2%	0.0%	**1.0%**	**0.7%**

Location: Back Road and Tunner Drive
Date: 2020/08/12
Page No: 6

Turning Movement Peak Hour Data Plot (3:30 PM)



Location: Ryan Road and Hunt Road
Date: 2020/08/12
Page No: 1

Turning Movement Data

	Ryan Road Northbound				Ryan Road Southbound				Hunt Road Westbound				
Start Time	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	**Int Total**
6:00 AM	0	26	1	**27**	0	45	0	**45**	0	0	0	**0**	**72**
6:15 AM	0	63	0	**63**	0	55	0	**55**	0	0	0	**0**	**118**
6:30 AM	0	85	1	**86**	0	80	0	**80**	0	0	0	**0**	**166**
6:45 AM	0	120	4	**124**	0	95	0	**95**	0	0	0	**0**	**219**
Hourly Total	0	294	6	**300**	0	275	0	**275**	0	0	0	**0**	**575**
7:00 AM	0	108	4	**112**	0	93	0	**93**	0	0	0	**0**	**205**
7:15 AM	0	133	3	**136**	0	130	0	**130**	0	0	0	**0**	**266**
7:30 AM	0	128	2	**130**	0	155	0	**155**	0	0	1	**1**	**286**
7:45 AM	0	143	1	**144**	0	167	0	**167**	0	0	0	**0**	**311**
Hourly Total	0	512	10	**522**	0	545	0	**545**	0	0	1	**1**	**1068**
8:00 AM	0	116	1	**117**	0	166	0	**166**	0	0	0	**0**	**283**
8:15 AM	0	179	1	**180**	0	208	0	**208**	0	0	0	**0**	**388**
8:30 AM	0	186	5	**191**	0	214	0	**214**	0	0	2	**2**	**407**
8:45 AM	0	207	3	**210**	0	246	0	**246**	0	0	0	**0**	**456**
Hourly Total	0	688	10	**698**	0	834	0	**834**	0	0	2	**2**	**1534**
3:00 PM	0	314	9	**323**	0	295	0	**295**	0	0	2	**2**	**620**
3:15 PM	0	253	8	**261**	0	303	0	**303**	0	0	5	**5**	**569**
3:30 PM	0	276	6	**282**	0	309	0	**309**	0	0	2	**2**	**593**
3:45 PM	0	281	13	**294**	0	347	0	**347**	0	0	3	**3**	**644**
Hourly Total	0	1124	36	**1160**	0	1254	0	**1254**	0	0	12	**12**	**2426**
4:00 PM	0	315	5	**320**	0	268	0	**268**	0	0	4	**4**	**592**
4:15 PM	0	316	11	**327**	0	267	0	**267**	0	0	2	**2**	**596**
4:30 PM	0	298	10	**308**	0	256	0	**256**	0	0	6	**6**	**570**
4:45 PM	0	317	8	**325**	0	259	0	**259**	0	0	3	**3**	**587**
Hourly Total	0	1246	34	**1280**	0	1050	0	**1050**	0	0	15	**15**	**2345**
5:00 PM	0	289	5	**294**	0	236	0	**236**	0	0	3	**3**	**533**
5:15 PM	0	276	3	**279**	0	196	0	**196**	0	0	2	**2**	**477**
5:30 PM	0	276	2	**278**	0	178	0	**178**	0	0	5	**5**	**461**
5:45 PM	0	223	4	**227**	0	189	0	**189**	0	0	1	**1**	**417**
Hourly Total	0	1064	14	**1078**	0	799	0	**799**	0	0	11	**11**	**1888**
Grand Total	0	4928	110	**5038**	0	4757	0	**4757**	0	0	41	**41**	**9836**
% Approach	0.0%	97.8%	2.2%	**-**	0.0%	100.0%	0.0%	**-**	0.0%	0.0%	100.0%	**-**	**-**
% Total	0.0%	50.1%	1.1%	**51.2%**	0.0%	48.4%	0.0%	**48.4%**	0.0%	0.0%	0.4%	**0.4%**	**-**
Lights	0	4791	108	**4899**	0	4622	0	**4622**	0	0	41	**41**	**9562**
% Lights	0.0%	97.2%	98.2%	**97.2%**	0.0%	97.2%	0.0%	**97.2%**	0.0%	0.0%	100.0%	**100.0%**	**97.2%**
Articulated Trucks	0	26	1	**27**	0	19	0	**19**	0	0	0	**0**	**46**
% Articulated Trucks	0.0%	0.5%	0.9%	**0.5%**	0.0%	0.4%	0.0%	**0.4%**	0.0%	0.0%	0.0%	**0.0%**	**0.5%**
Buses and Single-Unit Trucks	0	111	1	**112**	0	116	0	**116**	0	0	0	**0**	**228**
% Buses and Single-Unit Trucks	0.0%	2.3%	0.9%	**2.2%**	0.0%	2.4%	0.0%	**2.4%**	0.0%	0.0%	0.0%	**0.0%**	**2.3%**

Location: Ryan Road and Hunt Road
Date: 2020/08/12
Page No: 2

Turning Movement Data Plot

Ryan Road [N]		
Out	In	Total
4832	4622	9454
26	19	45
111	116	227
4969	**4757**	**9726**

0	4622	0
0	19	0
0	116	0
0	**4757**	**0**
R	T	L

Start: 6:00 AM
End: 6:00 PM

Lights
Articulated
Buses and Single-Unit Trucks

R	**41**	0	0	41
T	**0**	0	0	0
L	**0**	0	0	0

Hunt Road [E]		
Out	In	Total
108	41	149
1	0	1
1	0	1
110	**41**	**151**

L	T	R
0	4791	108
0	26	1
0	111	1
0	**4928**	**110**

4622	4899	9521
19	27	46
116	112	228
4757	**5038**	**9795**
Out	In	Total
Ryan Road [S]		

Location: Ryan Road and Hunt Road
Date: 2020/08/12
Page No: 3

Turning Movement Peak Hour Data (8:00 AM)

	Ryan Road Northbound				Ryan Road Southbound				Hunt Road Westbound				
Start Time	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	**Int Total**
8:00 AM	0	116	1	**117**	0	166	0	**166**	0	0	0	**0**	**283**
8:15 AM	0	179	1	**180**	0	208	0	**208**	0	0	0	**0**	**388**
8:30 AM	0	186	5	**191**	0	214	0	**214**	2	0	0	**2**	**407**
8:45 AM	0	207	3	**210**	0	246	0	**246**	0	0	0	**0**	**456**
Grand Total	0	688	10	**698**	0	834	0	**834**	2	0	0	**2**	**1534**
% Approach	0.0%	98.6%	1.4%	**-**	0.0%	100.0%	0.0%	**-**	100.0%	0.0%	0.0%	**-**	**-**
% Total	0.0%	44.9%	0.7%	**45.5%**	0.0%	54.4%	0.0%	**54.4%**	0.1%	0.0%	0.0%	**0.1%**	**-**
PHF (8:00 AM - 9:00 AM)	0.000	0.831	0.500	**0.831**	0.000	0.848	0.000	**0.848**	0.250	0.000	0.000	**0.250**	**0.841**
Lights	0	654	10	**664**	0	804	0	**804**	2	0	0	**2**	**1470**
% Lights	0.0%	95.1%	100.0%	**95.1%**	0.0%	96.4%	0.0%	**96.4%**	100.0%	0.0%	0.0%	**100.0%**	**95.8%**
Articulated Trucks	0	10	0	**10**	0	5	0	**5**	0	0	0	**0**	**15**
% Articulated Trucks	0.0%	1.5%	0.0%	**1.4%**	0.0%	0.6%	0.0%	**0.6%**	0.0%	0.0%	0.0%	**0.0%**	**1.0%**
Buses and Single-Unit Trucks	0	24	0	**24**	0	25	0	**25**	0	0	0	**0**	**49**
% Buses and Single-Unit Trucks	0.0%	3.5%	0.0%	**3.4%**	0.0%	3.0%	0.0%	**3.0%**	0.0%	0.0%	0.0%	**0.0%**	**3.2%**

Location: Ryan Road and Hunt Road
Date: 2020/08/12
Page No: 4

Turning Movement Peak Hour Data Plot (8:00 AM)

Ryan Road [N]		
Out	In	Total
654	804	1458
10	5	15
24	25	49
688	**834**	**1522**

0	804	0
0	5	0
0	25	0
0	**834**	**0**
R	T	L

Start: 8:00 AM
End: 9:00 AM

Lights
Articulated
Buses and Single-Unit Trucks

R	T	L
0	**0**	**2**
0	0	0
0	0	0
0	0	2

Hunt Road [E]		
Out	In	Total
10	2	12
0	0	0
0	0	0
10	**2**	**12**

L	T	R
0	654	10
0	10	0
0	24	0
0	**688**	**10**

806	664	1470
5	10	15
25	24	49
836	**698**	**1534**
Out	In	Total
Ryan Road [S]		

Location: Ryan Road and Hunt Road
Date: 2020/08/12
Page No: 5

Turning Movement Peak Hour Data (3:00 PM)

	Ryan Road Northbound				Ryan Road Southbound				Hunt Road Westbound				
Start Time	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	Left	Thru	Right	**App Total**	**Int Total**
3:00 PM	0	314	9	**323**	0	295	0	**295**	0	0	2	**2**	**620**
3:15 PM	0	253	8	**261**	0	303	0	**303**	0	0	5	**5**	**569**
3:30 PM	0	276	6	**282**	0	309	0	**309**	0	0	2	**2**	**593**
3:45 PM	0	281	13	**294**	0	347	0	**347**	0	0	3	**3**	**644**
Grand Total	0	1124	36	**1160**	0	1254	0	**1254**	0	0	12	**12**	**2426**
% Approach	0.0%	96.9%	3.1%	**-**	0.0%	100.0%	0.0%	**-**	0.0%	0.0%	100.0%	**-**	**-**
% Total	0.0%	46.3%	1.5%	**47.8%**	0.0%	51.7%	0.0%	**51.7%**	0.0%	0.0%	0.5%	**0.5%**	**-**
PHF (3:00 PM - 4:00 PM)	0.000	0.895	0.692	**0.898**	0.000	0.903	0.000	**0.903**	0.000	0.000	0.600	**0.600**	**0.942**
Lights	0	1087	35	**1122**	0	1218	0	**1218**	0	0	12	**12**	**2352**
% Lights	0.0%	96.7%	97.2%	**96.7%**	0.0%	97.1%	0.0%	**97.1%**	0.0%	0.0%	100.0%	**100.0%**	**96.9%**
Articulated Trucks	0	6	0	**6**	0	4	0	**4**	0	0	0	**0**	**10**
% Articulated Trucks	0.0%	0.5%	0.0%	**0.5%**	0.0%	0.3%	0.0%	**0.3%**	0.0%	0.0%	0.0%	**0.0%**	**0.4%**
Buses and Single-Unit Trucks	0	31	1	**32**	0	32	0	**32**	0	0	0	**0**	**64**
% Buses and Single-Unit Trucks	0.0%	2.8%	2.8%	**2.8%**	0.0%	2.6%	0.0%	**2.6%**	0.0%	0.0%	0.0%	**0.0%**	**2.6%**

Location: Ryan Road and Hunt Road
Date: 2020/08/12
Page No: 6

Turning Movement Peak Hour Data Plot (3:00 PM)

Ryan Road [N]		
Out	In	Total
1099	1218	2317
6	4	10
31	32	63
1136	**1254**	**2390**

0	1218	0
0	4	0
0	32	0
0	**1254**	**0**
R	T	L

Start: 3:00 PM
End: 4:00 PM

Lights
Articulated
Buses and Single-Unit Trucks

L	T	R
0	1087	35
0	6	0
0	31	1
0	**1124**	**36**

1218	1122	2340
4	6	10
32	32	64
1254	**1160**	**2414**
Out	In	Total
Ryan Road [S]		

R	T	L
12	0	0
0	0	0
0	0	0
12	0	0

Hunt Road [E]		
Out	In	Total
35	12	47
0	0	0
1	0	1
36	**12**	**48**

ATTACHMENT C

Existing Signal Timing Plans

DATE: Jun-11-2002	LOCATION: RYAN ROAD AT BACK ROAD COURTENAY
TYPE : LMD - 'S' RACK CABINET	DRAWING: TE-93029-2D PROJECT:

PHASE SETTINGS	1 OFF	2 ON	3 ON	4 ON	5 ON	6 ON	7 OFF	8 ON
FUNCTION		RYAN RD E/B EMERGENCY PRE-EMPT. NO. 1 A1	BACK RD N/B LT EMERGENCY PRE-EMPT. NO. 5 B2->	BACK RD S/B EMERGENCY PRE-EMPT. NO. 4 B1	RYAN RD E/B LT EMERGENCY PRE-EMPT. NO. 1 A1->	RYAN RD W/B EMERGENCY PRE-EMPT. NO. 2 A2		BACK RD N/B EMERGENCY PRE-EMPT. NO. 5 B2
OVERLAP INFO								
MINIMUM GREEN		10	6	7	6	10		7
PASSAGE		5.0	3.0	3.0	3.0	5.0		3.0
YELLOW		4.5	4.5	4.5	4.5	4.5		4.5
RED		1.0	1.5	1.3	1.1	1.0		1.3
MAX I/MAX II		40	20	12	12	40		12
MAXPLAN (1/2/3/4...)								
WALK		7		7		7		7
PED. CLEAR		7		15		12		15
PEDESTRIAN RECALL		OFF	OFF	OFF	OFF	OFF		OFF
WALK		STEADY	STEADY	STEADY	STEADY	STEADY		STEADY
RECALL		EXT	OFF	OFF	OFF	EXT		OFF
MEMORY		OFF	OFF	OFF	OFF	OFF		OFF
COORDINATION ON PHASE:								
FIRST GREEN DISPLAY			XXXX					XXXX
INTERSECTION FLASH:		YELLOW		RED		YELLOW		RED
ADV WARNING (CH 1/CH 2)		5.7/--				--/5.7		
ADV WARNING :	**NOTE THIS DOES NOT EXIST** ...C.P.							

DELAY DETECTION TIMING:	COMMENTS :
L7, L8 10 SECONDS (LT)	MOE'S AND VOLUME LOGS ENABLED FOR 15 MINUTE INTERVALS.
L1, L2, L3, L4, L9, L10, L11, L12 5 SECONDS	NO PHYSICAL ADVANCE WARNING SIGN FOR RYAN ROAD EASTBOUND (A1)
	SPEED LIMIT = 50 KM/HR, ADVANCE WARNING SET FOR 60 KM/HR
EMERGENCY PRE-EMPTION	"SGO" PASSAGE CAN RESET
DELAY TIME =	PHASE 3 SWITCHES TO PHASE 4
PRE-EMPTION TIME =	FIRST STEP OF EMERGENCY PRE-EMPT IS ALL-RED 2 SECONDS
CONTROLLER SEQUENCE: NEMA DUAL RING	
MIN FLASH: 5 SECONDS	
INITIALIZATION: PHASE 2 & 6 YELLOW	

CHECK:	FILE: RYANBACK

DATE IMPLEMMENTED: AUGUST 9, 2002 @ 14:00 Hrs

COORDINATION INFORMATION

PHASE	1	2	3	4	5	6	7	8
CYCLE 1 SPLIT (1/2/3/4) %								
CYCLE 2 SPLIT (1/2/3/4) %								
CYCLE 3 SPLIT (1/2/3/4) %								
CYCLE 4 SPLIT (1/2/3/4) %								
CYCLE 5 SPLIT (1/2/3/4) %								
CYCLE 6 SPLIT (1/2/3/4) %								
CYCLE 7 SPLIT (1/2/3/4) %								

DATE:	Jun-11-2002	LOCATION:	RYAN ROAD AT BACK ROAD COURTENAY
TYPE :	LMD - 'S' RACK CABINET	DRAWING:	TE-93029-2D PROJECT:

CYCLE 8 SPLIT (1/2/3/4) %								

CYCLE

	CYCLE 1	CYCLE 2	CYCLE 3	CYCLE 4	CYCLE 5	CYCLE 6	CYCLE 7	CYCLE 8
LENGTH								
OFFSET 1								
OFFSET 2								
OFFSET 3								
OFFSET 4								
OFFSET 5								

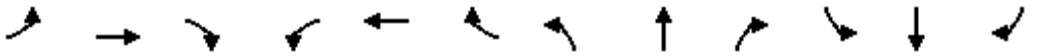
TIME CLOCK SETTINGS

TIME OF DAY	DAY OF WEEK	CYCLE (1 - 8)	SPLIT (1 - 4)	OFFSET (1 - 5)	ADDITIONAL TIME CLOCK INFORMATION

CHECK:

ATTACHMENT D

Synchro Reports



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	642	93	13	510	29	315	41	17	58	39	148
Future Volume (veh/h)	82	642	93	13	510	29	315	41	17	58	39	148
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1778	1778	1778	1792	1792	1792	1836	1836	1836	1821	1821	1821
Adj Flow Rate, veh/h	102	802	0	16	638	36	394	51	0	72	49	0
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	5	5	5	4	4	4	1	1	1	2	2	2
Cap, veh/h	347	1655		306	1176	66	553	690		196	149	
Arrive On Green	0.06	0.49	0.00	0.36	0.36	0.36	0.22	0.38	0.00	0.08	0.08	0.00
Sat Flow, veh/h	1693	3467	0	668	3277	185	1748	1836	0	1354	1821	0
Grp Volume(v), veh/h	102	802	0	16	331	343	394	51	0	72	49	0
Grp Sat Flow(s),veh/h/ln	1693	1689	0	668	1703	1759	1748	1836	0	1354	1821	0
Q Serve(g_s), s	3.0	13.4	0.0	1.4	13.1	13.1	16.5	1.5	0.0	4.3	2.1	0.0
Cycle Q Clear(g_c), s	3.0	13.4	0.0	3.7	13.1	13.1	16.5	1.5	0.0	4.3	2.1	0.0
Prop In Lane	1.00		0.00	1.00		0.11	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	347	1655		306	611	631	553	690		196	149	
V/C Ratio(X)	0.29	0.48		0.05	0.54	0.54	0.71	0.07		0.37	0.33	
Avail Cap(c_a), veh/h	478	1655		384	808	835	577	690		278	259	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.3	14.4	0.0	19.3	21.5	21.5	24.7	16.9	0.0	37.6	36.5	0.0
Incr Delay (d2), s/veh	0.5	0.5	0.0	0.1	1.6	1.6	3.9	0.0	0.0	1.2	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	9.7	0.0	0.5	10.0	10.2	12.6	1.3	0.0	2.9	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	14.9	0.0	19.5	23.1	23.1	28.6	16.9	0.0	38.7	37.8	0.0
LnGrp LOS	B	B		B	C	C	C	B		D	D	
Approach Vol, veh/h		904	A		690			445	A		121	A
Approach Delay, s/veh		15.0			23.0			27.3			38.3	
Approach LOS		B			C			C			D	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		46.8	24.8	12.7	11.0	35.7		37.5				
Change Period (Y+Rc), s		5.5	6.0	* 5.8	* 5.6	5.5		* 5.8				
Max Green Setting (Gmax), s		40.0	20.0	* 12	* 12	40.0		* 12				
Max Q Clear Time (g_c+I1), s		15.4	18.5	6.3	5.0	15.1		3.5				
Green Ext Time (p_c), s		17.4	0.4	0.3	0.2	15.2		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	134	2	18	361	1	3	0	3	3	0	12
Future Vol, veh/h	1	134	2	18	361	1	3	0	3	3	0	12
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	250	-	-	200	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	80	80	80	80	80	80	80	80	80
Heavy Vehicles, %	9	9	9	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	168	3	23	451	1	4	0	4	4	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	452	0	0	171	0	0	677	670	170	672	671	452
Stage 1	-	-	-	-	-	-	172	172	-	498	498	-
Stage 2	-	-	-	-	-	-	505	498	-	174	173	-
Critical Hdwy	4.19	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.281	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1073	-	-	1418	-	-	369	381	879	372	380	612
Stage 1	-	-	-	-	-	-	835	760	-	558	548	-
Stage 2	-	-	-	-	-	-	553	548	-	833	760	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1073	-	-	1418	-	-	355	375	879	366	374	612
Mov Cap-2 Maneuver	-	-	-	-	-	-	355	375	-	366	374	-
Stage 1	-	-	-	-	-	-	834	759	-	557	539	-
Stage 2	-	-	-	-	-	-	531	539	-	829	759	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	12.2	11.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	506	1073	-	-	1418	-	-	366	612
HCM Lane V/C Ratio	0.015	0.001	-	-	0.016	-	-	0.01	0.025
HCM Control Delay (s)	12.2	8.4	-	-	7.6	-	-	14.9	11
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	8	1	0	0	0
Future Vol, veh/h	0	8	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	9	1	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	10	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	9	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1010	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1014	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1622	-	-	-	1010	1084
Mov Cap-2 Maneuver	-	-	-	-	1010	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1014	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

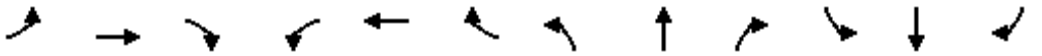
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	816	8	0	960
Future Vol, veh/h	0	1	816	8	0	960
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	82	82	82	82	82	82
Heavy Vehicles, %	0	0	5	5	4	4
Mvmt Flow	0	1	995	10	0	1171

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	503	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	519	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	519	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	519	-
HCM Lane V/C Ratio	-	-	0.002	-
HCM Control Delay (s)	-	-	12	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	836	253	22	1013	67	345	63	18	48	65	160
Future Volume (veh/h)	227	836	253	22	1013	67	345	63	18	48	65	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1821	1821	1821	1821	1821	1821	1836	1836	1836	1821	1821	1821
Adj Flow Rate, veh/h	236	871	0	23	1055	70	359	66	0	50	68	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	301	1912		325	1307	87	472	612		167	128	
Arrive On Green	0.10	0.55	0.00	0.40	0.40	0.40	0.20	0.33	0.00	0.07	0.07	0.00
Sat Flow, veh/h	1734	3551	0	636	3293	218	1748	1836	0	1335	1821	0
Grp Volume(v), veh/h	236	871	0	23	554	571	359	66	0	50	68	0
Grp Sat Flow(s),veh/h/ln	1734	1730	0	636	1730	1782	1748	1836	0	1335	1821	0
Q Serve(g_s), s	7.5	14.9	0.0	2.2	28.1	28.1	18.1	2.5	0.0	3.6	3.6	0.0
Cycle Q Clear(g_c), s	7.5	14.9	0.0	2.2	28.1	28.1	18.1	2.5	0.0	3.6	3.6	0.0
Prop In Lane	1.00		0.00	1.00		0.12	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	301	1912		325	687	707	472	612		167	128	
V/C Ratio(X)	0.78	0.46		0.07	0.81	0.81	0.76	0.11		0.30	0.53	
Avail Cap(c_a), veh/h	339	1912		330	700	721	472	612		235	221	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.7	13.2	0.0	18.7	26.5	26.5	31.3	22.8	0.0	44.4	44.4	0.0
Incr Delay (d2), s/veh	10.2	0.4	0.0	0.2	7.8	7.6	7.1	0.1	0.0	1.0	3.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.5	10.8	0.0	0.7	20.2	20.7	14.1	2.1	0.0	2.4	3.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	13.6	0.0	18.9	34.3	34.1	38.4	22.9	0.0	45.4	47.8	0.0
LnGrp LOS	C	B		B	C	C	D	C		D	D	
Approach Vol, veh/h		1107	A		1148			425	A		118	A
Approach Delay, s/veh		17.3			33.9			36.0			46.8	
Approach LOS		B			C			D			D	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		60.2	26.0	12.8	15.4	44.7		38.8				
Change Period (Y+Rc), s		5.5	6.0	* 5.8	* 5.6	5.5		* 5.8				
Max Green Setting (Gmax), s		40.0	20.0	* 12	* 12	40.0		* 12				
Max Q Clear Time (g_c+I1), s		16.9	20.1	5.6	9.5	30.1		4.5				
Green Ext Time (p_c), s		17.5	0.0	0.4	0.3	9.1		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	28.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

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	18	311	16	40	375	9	28	4	67	5	3	17
Future Vol, veh/h	18	311	16	40	375	9	28	4	67	5	3	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	250	-	-	200	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	94	94	94	94	94	94	94	94	94
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	0	0	0
Mvmt Flow	19	331	17	43	399	10	30	4	71	5	3	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	409	0	0	348	0	0	879	873	340	905	876	404
Stage 1	-	-	-	-	-	-	378	378	-	490	490	-
Stage 2	-	-	-	-	-	-	501	495	-	415	386	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1155	-	-	1216	-	-	270	291	707	260	290	651
Stage 1	-	-	-	-	-	-	648	619	-	564	552	-
Stage 2	-	-	-	-	-	-	556	549	-	619	614	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1155	-	-	1216	-	-	250	276	707	222	276	651
Mov Cap-2 Maneuver	-	-	-	-	-	-	250	276	-	222	276	-
Stage 1	-	-	-	-	-	-	638	609	-	555	533	-
Stage 2	-	-	-	-	-	-	518	530	-	544	604	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.8	15.5	13.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	447	1155	-	-	1216	-	-	240	651
HCM Lane V/C Ratio	0.236	0.017	-	-	0.035	-	-	0.035	0.028
HCM Control Delay (s)	15.5	8.2	-	-	8.1	-	-	20.6	10.7
HCM Lane LOS	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	0.1	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	38	12	0	0	0
Future Vol, veh/h	0	38	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	41	13	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	13	0	-	0	54	13
Stage 1	-	-	-	-	13	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1606	-	-	-	954	1067
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	981	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1606	-	-	-	954	1067
Mov Cap-2 Maneuver	-	-	-	-	954	-
Stage 1	-	-	-	-	1010	-
Stage 2	-	-	-	-	981	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
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	-	-	-	-

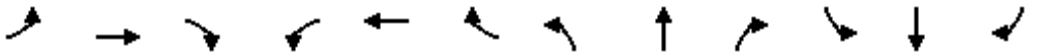
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	12	1297	38	0	1525
Future Vol, veh/h	0	12	1297	38	0	1525
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	94	94	94	94	94	94
Heavy Vehicles, %	0	0	3	3	2	2
Mvmt Flow	0	13	1380	40	0	1622

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	710	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	381	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	381	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	381	-
HCM Lane V/C Ratio	-	-	0.034	-
HCM Control Delay (s)	-	-	14.8	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	671	97	14	533	30	329	43	18	61	41	155
Future Volume (veh/h)	86	671	97	14	533	30	329	43	18	61	41	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1778	1778	1778	1792	1792	1792	1836	1836	1836	1821	1821	1821
Adj Flow Rate, veh/h	93	729	0	15	579	33	358	47	0	66	45	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	4	4	4	1	1	1	2	2	2
Cap, veh/h	345	1506		315	904	51	520	677		263	195	
Arrive On Green	0.08	0.45	0.00	0.28	0.28	0.28	0.16	0.37	0.00	0.11	0.11	0.00
Sat Flow, veh/h	1693	3467	0	715	3275	186	1748	1836	0	1359	1821	0
Grp Volume(v), veh/h	93	729	0	15	301	311	358	47	0	66	45	0
Grp Sat Flow(s),veh/h/ln	1693	1689	0	715	1703	1759	1748	1836	0	1359	1821	0
Q Serve(g_s), s	2.2	9.3	0.0	0.9	9.5	9.5	10.0	1.0	0.0	2.8	1.4	0.0
Cycle Q Clear(g_c), s	2.2	9.3	0.0	0.9	9.5	9.5	10.0	1.0	0.0	2.8	1.4	0.0
Prop In Lane	1.00		0.00	1.00		0.11	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	345	1506		315	470	485	520	677		263	195	
V/C Ratio(X)	0.27	0.48		0.05	0.64	0.64	0.69	0.07		0.25	0.23	
Avail Cap(c_a), veh/h	379	1700		342	533	551	520	1143		608	657	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.4	12.0	0.0	16.3	19.4	19.4	19.0	12.5	0.0	25.6	25.0	0.0
Incr Delay (d2), s/veh	0.4	0.5	0.0	0.1	3.5	3.5	3.8	0.0	0.0	0.5	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	7.1	0.0	0.3	8.0	8.2	9.1	0.8	0.0	1.8	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	12.5	0.0	16.5	23.0	22.9	22.8	12.5	0.0	26.1	25.6	0.0
LnGrp LOS	B	B		B	C	C	C	B		C	C	
Approach Vol, veh/h		822	A		627			405	A		111	A
Approach Delay, s/veh		12.6			22.8			21.6			25.9	
Approach LOS		B			C			C			C	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		32.7	16.0	12.3	10.4	22.3		28.3				
Change Period (Y+Rc), s		5.5	6.0	* 5.8	* 5.6	5.5		* 5.8				
Max Green Setting (Gmax), s		30.7	10.0	* 22	* 6	19.1		* 38				
Max Q Clear Time (g_c+I1), s		11.3	12.0	4.8	4.2	11.5		3.0				
Green Ext Time (p_c), s		13.4	0.0	0.7	0.1	5.3		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		18.5
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	149	2	19	379	1	3	0	3	3	0	13
Future Vol, veh/h	1	149	2	19	379	1	3	0	3	3	0	13
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	250	-	-	200	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	9	9	9	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	162	2	21	412	1	3	0	3	3	0	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	413	0	0	164	0	0	627	620	163	622	621	413
Stage 1	-	-	-	-	-	-	165	165	-	455	455	-
Stage 2	-	-	-	-	-	-	462	455	-	167	166	-
Critical Hdwy	4.19	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.281	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1109	-	-	1427	-	-	399	407	887	402	406	643
Stage 1	-	-	-	-	-	-	842	766	-	589	572	-
Stage 2	-	-	-	-	-	-	584	572	-	840	765	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1109	-	-	1427	-	-	385	400	887	396	400	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	385	400	-	396	400	-
Stage 1	-	-	-	-	-	-	841	765	-	588	563	-
Stage 2	-	-	-	-	-	-	563	563	-	836	764	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	11.8	11.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	537	1109	-	-	1427	-	-	396	643
HCM Lane V/C Ratio	0.012	0.001	-	-	0.014	-	-	0.008	0.022
HCM Control Delay (s)	11.8	8.2	-	-	7.6	-	-	14.2	10.7
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	8	1	0	0	0
Future Vol, veh/h	0	8	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	9	1	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	10	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	9	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1010	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1014	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1622	-	-	-	1010	1084
Mov Cap-2 Maneuver	-	-	-	-	1010	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1014	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

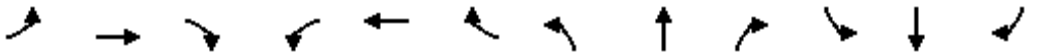
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	858	8	0	1030
Future Vol, veh/h	0	1	858	8	0	1030
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	5	5	4	4
Mvmt Flow	0	1	933	9	0	1120

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	471	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	545	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	545	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	545	-
HCM Lane V/C Ratio	-	-	0.002	-
HCM Control Delay (s)	-	-	11.6	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	873	264	23	1058	70	360	66	19	50	68	167
Future Volume (veh/h)	237	873	264	23	1058	70	360	66	19	50	68	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1821	1821	1821	1821	1821	1821	1836	1836	1836	1821	1821	1821
Adj Flow Rate, veh/h	258	949	0	25	1150	76	391	72	0	54	74	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	297	1979		314	1353	89	439	581		163	126	
Arrive On Green	0.11	0.57	0.00	0.41	0.41	0.41	0.19	0.32	0.00	0.07	0.07	0.00
Sat Flow, veh/h	1734	3551	0	591	3295	218	1748	1836	0	1328	1821	0
Grp Volume(v), veh/h	258	949	0	25	603	623	391	72	0	54	74	0
Grp Sat Flow(s),veh/h/ln	1734	1730	0	591	1730	1782	1748	1836	0	1328	1821	0
Q Serve(g_s), s	8.2	16.4	0.0	2.6	31.9	32.0	19.0	2.8	0.0	4.0	4.0	0.0
Cycle Q Clear(g_c), s	8.2	16.4	0.0	2.7	31.9	32.0	19.0	2.8	0.0	4.0	4.0	0.0
Prop In Lane	1.00		0.00	1.00		0.12	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	297	1979		314	711	732	439	581		163	126	
V/C Ratio(X)	0.87	0.48		0.08	0.85	0.85	0.89	0.12		0.33	0.59	
Avail Cap(c_a), veh/h	358	2112		316	717	739	439	854		360	396	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.3	12.8	0.0	18.4	26.9	27.0	34.9	24.6	0.0	45.7	45.7	0.0
Incr Delay (d2), s/veh	17.3	0.4	0.0	0.2	10.3	10.1	19.6	0.1	0.0	1.2	4.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.7	11.6	0.0	0.8	22.9	23.5	6.6	2.5	0.0	2.6	3.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	13.2	0.0	18.6	37.2	37.1	54.5	24.7	0.0	46.8	50.0	0.0
LnGrp LOS	D	B		B	D	D	D	C		D	D	
Approach Vol, veh/h		1207	A		1251			463	A		128	A
Approach Delay, s/veh		18.6			36.8			49.8			48.7	
Approach LOS		B			D			D			D	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		63.3	25.0	12.8	16.3	47.0		37.8				
Change Period (Y+Rc), s		5.5	6.0	* 5.8	* 5.6	5.5		* 5.8				
Max Green Setting (Gmax), s		61.7	19.0	* 22	* 14	41.9		* 47				
Max Q Clear Time (g_c+I1), s		18.4	21.0	6.0	10.2	34.0		4.8				
Green Ext Time (p_c), s		30.5	0.0	1.0	0.5	7.5		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	32.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	325	17	42	392	9	29	4	70	5	3	18
Future Vol, veh/h	19	325	17	42	392	9	29	4	70	5	3	18
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	250	-	-	200	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	0	0	0
Mvmt Flow	21	353	18	46	426	10	32	4	76	5	3	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	436	0	0	371	0	0	939	932	362	967	936	431
Stage 1	-	-	-	-	-	-	404	404	-	523	523	-
Stage 2	-	-	-	-	-	-	535	528	-	444	413	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1129	-	-	1193	-	-	246	269	687	236	267	629
Stage 1	-	-	-	-	-	-	627	603	-	541	534	-
Stage 2	-	-	-	-	-	-	533	531	-	597	597	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1129	-	-	1193	-	-	226	254	687	198	252	629
Mov Cap-2 Maneuver	-	-	-	-	-	-	226	254	-	198	252	-
Stage 1	-	-	-	-	-	-	615	592	-	531	513	-
Stage 2	-	-	-	-	-	-	493	510	-	517	586	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.8	16.7	14.4
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	419	1129	-	-	1193	-	-	215	629
HCM Lane V/C Ratio	0.267	0.018	-	-	0.038	-	-	0.04	0.031
HCM Control Delay (s)	16.7	8.2	-	-	8.1	-	-	22.4	10.9
HCM Lane LOS	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	1.1	0.1	-	-	0.1	-	-	0.1	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	40	13	0	0	0
Future Vol, veh/h	0	40	13	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	43	14	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	14	0	-	0	57	14
Stage 1	-	-	-	-	14	-
Stage 2	-	-	-	-	43	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1604	-	-	-	950	1066
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	979	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1604	-	-	-	950	1066
Mov Cap-2 Maneuver	-	-	-	-	950	-
Stage 1	-	-	-	-	1009	-
Stage 2	-	-	-	-	979	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1604	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

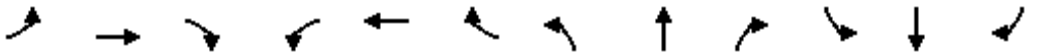
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	13	1355	40	0	1593
Future Vol, veh/h	0	13	1355	40	0	1593
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	3	2	2
Mvmt Flow	0	14	1473	43	0	1732

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	758	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	354	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	354	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	354	-
HCM Lane V/C Ratio	-	-	0.04	-
HCM Control Delay (s)	-	-	15.6	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	678	97	24	533	30	337	43	18	61	42	155
Future Volume (veh/h)	87	678	97	24	533	30	337	43	18	61	42	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1778	1778	1778	1792	1792	1792	1836	1836	1836	1821	1821	1821
Adj Flow Rate, veh/h	95	737	0	26	579	33	366	47	0	66	46	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	4	4	4	1	1	1	2	2	2
Cap, veh/h	346	1508		314	905	51	519	677		263	195	
Arrive On Green	0.08	0.45	0.00	0.28	0.28	0.28	0.16	0.37	0.00	0.11	0.11	0.00
Sat Flow, veh/h	1693	3467	0	709	3275	186	1748	1836	0	1359	1821	0
Grp Volume(v), veh/h	95	737	0	26	301	311	366	47	0	66	46	0
Grp Sat Flow(s),veh/h/ln	1693	1689	0	709	1703	1759	1748	1836	0	1359	1821	0
Q Serve(g_s), s	2.2	9.4	0.0	1.7	9.5	9.5	10.0	1.0	0.0	2.8	1.4	0.0
Cycle Q Clear(g_c), s	2.2	9.4	0.0	1.7	9.5	9.5	10.0	1.0	0.0	2.8	1.4	0.0
Prop In Lane	1.00		0.00	1.00		0.11	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	346	1508		314	470	486	519	677		263	195	
V/C Ratio(X)	0.27	0.49		0.08	0.64	0.64	0.71	0.07		0.25	0.24	
Avail Cap(c_a), veh/h	379	1697		340	532	550	519	1141		607	656	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.4	12.0	0.0	16.6	19.4	19.4	19.3	12.5	0.0	25.6	25.0	0.0
Incr Delay (d2), s/veh	0.4	0.5	0.0	0.2	3.5	3.5	4.3	0.0	0.0	0.5	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.7	7.2	0.0	0.6	8.0	8.2	2.2	0.8	0.0	1.8	1.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.8	12.5	0.0	16.9	23.0	22.9	23.6	12.5	0.0	26.1	25.6	0.0
LnGrp LOS	B	B		B	C	C	C	B		C	C	
Approach Vol, veh/h		832	A		638			413	A		112	A
Approach Delay, s/veh		12.6			22.7			22.4			25.9	
Approach LOS		B			C			C			C	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		32.8	16.0	12.3	10.4	22.4		28.3				
Change Period (Y+Rc), s		5.5	6.0	* 5.8	* 5.6	5.5		* 5.8				
Max Green Setting (Gmax), s		30.7	10.0	* 22	* 6	19.1		* 38				
Max Q Clear Time (g_c+I1), s		11.4	12.0	4.8	4.2	11.5		3.0				
Green Ext Time (p_c), s		13.4	0.0	0.7	0.1	5.4		0.6				

Intersection Summary		
HCM 6th Ctrl Delay		18.6
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	149	13	22	379	1	11	0	5	3	0	13
Future Vol, veh/h	1	149	13	22	379	1	11	0	5	3	0	13
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	250	-	-	200	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	9	9	9	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	162	14	24	412	1	12	0	5	3	0	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	413	0	0	176	0	0	639	632	169	635	639	413
Stage 1	-	-	-	-	-	-	171	171	-	461	461	-
Stage 2	-	-	-	-	-	-	468	461	-	174	178	-
Critical Hdwy	4.19	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.281	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1109	-	-	1412	-	-	392	400	880	394	397	643
Stage 1	-	-	-	-	-	-	836	761	-	584	569	-
Stage 2	-	-	-	-	-	-	579	569	-	833	756	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1109	-	-	1412	-	-	378	393	880	386	390	643
Mov Cap-2 Maneuver	-	-	-	-	-	-	378	393	-	386	390	-
Stage 1	-	-	-	-	-	-	835	760	-	583	559	-
Stage 2	-	-	-	-	-	-	557	559	-	827	755	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	13.1	11.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	460	1109	-	-	1412	-	-	386	643
HCM Lane V/C Ratio	0.038	0.001	-	-	0.017	-	-	0.008	0.022
HCM Control Delay (s)	13.1	8.2	-	-	7.6	-	-	14.4	10.7
HCM Lane LOS	B	A	-	-	A	-	-	B	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0	0.1

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	8	1	14	10	8
Future Vol, veh/h	12	8	1	14	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	9	1	15	11	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	16	0	-	0	44	9
Stage 1	-	-	-	-	9	-
Stage 2	-	-	-	-	35	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1602	-	-	-	967	1073
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1602	-	-	-	959	1073
Mov Cap-2 Maneuver	-	-	-	-	959	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	987	-

Approach	EB	WB	SB
HCM Control Delay, s	4.4	0	8.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1602	-	-	-	1007
HCM Lane V/C Ratio	0.008	-	-	-	0.019
HCM Control Delay (s)	7.3	0	-	-	8.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

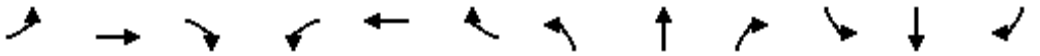
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	858	20	0	1038
Future Vol, veh/h	0	9	858	20	0	1038
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	5	5	4	4
Mvmt Flow	0	10	933	22	0	1128

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	478	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	539	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	539	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	539	-
HCM Lane V/C Ratio	-	-	0.018	-
HCM Control Delay (s)	-	-	11.8	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	884	264	34	1058	70	372	66	19	50	69	167
Future Volume (veh/h)	238	884	264	34	1058	70	372	66	19	50	69	167
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1821	1821	1821	1821	1821	1821	1836	1836	1836	1821	1821	1821
Adj Flow Rate, veh/h	259	961	0	37	1150	76	404	72	0	54	75	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	298	1981		310	1356	90	438	580		163	126	
Arrive On Green	0.11	0.57	0.00	0.41	0.41	0.41	0.19	0.32	0.00	0.07	0.07	0.00
Sat Flow, veh/h	1734	3551	0	584	3295	218	1748	1836	0	1328	1821	0
Grp Volume(v), veh/h	259	961	0	37	603	623	404	72	0	54	75	0
Grp Sat Flow(s),veh/h/ln	1734	1730	0	584	1730	1782	1748	1836	0	1328	1821	0
Q Serve(g_s), s	8.2	16.7	0.0	4.1	31.9	32.0	19.0	2.8	0.0	4.0	4.1	0.0
Cycle Q Clear(g_c), s	8.2	16.7	0.0	4.4	31.9	32.0	19.0	2.8	0.0	4.0	4.1	0.0
Prop In Lane	1.00		0.00	1.00		0.12	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	298	1981		310	712	734	438	580		163	126	
V/C Ratio(X)	0.87	0.49		0.12	0.85	0.85	0.92	0.12		0.33	0.60	
Avail Cap(c_a), veh/h	354	2107		312	719	740	438	851		359	395	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.4	12.8	0.0	18.9	26.9	26.9	35.5	24.7	0.0	45.8	45.8	0.0
Incr Delay (d2), s/veh	17.9	0.4	0.0	0.4	10.1	9.9	25.1	0.1	0.0	1.2	4.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	11.8	0.0	1.2	22.9	23.5	8.3	2.5	0.0	2.6	3.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	13.2	0.0	19.3	37.0	36.9	60.6	24.8	0.0	46.9	50.2	0.0
LnGrp LOS	D	B		B	D	D	E	C		D	D	
Approach Vol, veh/h		1220	A		1263			476	A		129	A
Approach Delay, s/veh		18.7			36.4			55.1			48.8	
Approach LOS		B			D			E			D	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		63.5	25.0	12.8	16.3	47.2		37.8				
Change Period (Y+Rc), s		5.5	6.0	* 5.8	* 5.6	5.5		* 5.8				
Max Green Setting (Gmax), s		61.7	19.0	* 22	* 14	42.1		* 47				
Max Q Clear Time (g_c+I1), s		18.7	21.0	6.1	10.2	34.0		4.8				
Green Ext Time (p_c), s		30.7	0.0	1.0	0.5	7.7		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	329	29	45	399	9	41	4	73	5	3	18
Future Vol, veh/h	19	329	29	45	399	9	41	4	73	5	3	18
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	250	-	-	200	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	0	0	0
Mvmt Flow	21	358	32	49	434	10	45	4	79	5	3	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	444	0	0	390	0	0	965	958	374	995	969	439
Stage 1	-	-	-	-	-	-	416	416	-	537	537	-
Stage 2	-	-	-	-	-	-	549	542	-	458	432	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1121	-	-	1174	-	-	236	259	677	226	256	622
Stage 1	-	-	-	-	-	-	618	595	-	532	526	-
Stage 2	-	-	-	-	-	-	524	523	-	587	586	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1121	-	-	1174	-	-	216	243	677	188	241	622
Mov Cap-2 Maneuver	-	-	-	-	-	-	216	243	-	188	241	-
Stage 1	-	-	-	-	-	-	606	584	-	522	504	-
Stage 2	-	-	-	-	-	-	483	501	-	505	575	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.8	19.5	14.8
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	376	1121	-	-	1174	-	-	205	622
HCM Lane V/C Ratio	0.341	0.018	-	-	0.042	-	-	0.042	0.031
HCM Control Delay (s)	19.5	8.3	-	-	8.2	-	-	23.3	11
HCM Lane LOS	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	1.5	0.1	-	-	0.1	-	-	0.1	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	40	13	15	15	12
Future Vol, veh/h	13	40	13	15	15	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	43	14	16	16	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	30	0	-	0	93	22
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	71	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1583	-	-	-	907	1055
Stage 1	-	-	-	-	1001	-
Stage 2	-	-	-	-	952	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1583	-	-	-	899	1055
Mov Cap-2 Maneuver	-	-	-	-	899	-
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	952	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1583	-	-	-	962
HCM Lane V/C Ratio	0.009	-	-	-	0.031
HCM Control Delay (s)	7.3	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

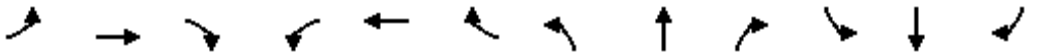
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	25	1380	53	0	1617
Future Vol, veh/h	0	25	1380	53	0	1617
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	3	2	2
Mvmt Flow	0	27	1500	58	0	1758

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	779	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	343	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	343	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	343	-
HCM Lane V/C Ratio	-	-	0.079	-
HCM Control Delay (s)	-	-	16.4	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.3	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	113	882	121	17	676	40	409	55	22	76	52	196
Future Volume (veh/h)	113	882	121	17	676	40	409	55	22	76	52	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1778	1778	1778	1792	1792	1792	1836	1836	1836	1821	1821	1821
Adj Flow Rate, veh/h	123	959	0	18	735	43	445	60	0	83	57	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	4	4	4	1	1	1	2	2	2
Cap, veh/h	298	1552		240	1004	59	551	708		230	178	
Arrive On Green	0.08	0.46	0.00	0.31	0.31	0.31	0.21	0.39	0.00	0.10	0.10	0.00
Sat Flow, veh/h	1693	3467	0	576	3269	191	1748	1836	0	1343	1821	0
Grp Volume(v), veh/h	123	959	0	18	383	395	445	60	0	83	57	0
Grp Sat Flow(s),veh/h/ln	1693	1689	0	576	1703	1758	1748	1836	0	1343	1821	0
Q Serve(g_s), s	3.4	15.6	0.0	1.8	14.6	14.7	15.0	1.5	0.0	4.3	2.1	0.0
Cycle Q Clear(g_c), s	3.4	15.6	0.0	6.3	14.6	14.7	15.0	1.5	0.0	4.3	2.1	0.0
Prop In Lane	1.00		0.00	1.00		0.11	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	298	1552		240	523	540	551	708		230	178	
V/C Ratio(X)	0.41	0.62		0.08	0.73	0.73	0.81	0.08		0.36	0.32	
Avail Cap(c_a), veh/h	319	1654		250	553	571	551	1082		504	549	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.0	14.9	0.0	21.5	22.6	22.6	22.5	14.2	0.0	31.6	30.6	0.0
Incr Delay (d2), s/veh	0.9	1.0	0.0	0.3	6.0	5.8	8.7	0.1	0.0	1.0	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	11.0	0.0	0.5	11.6	11.9	4.0	1.3	0.0	2.8	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.9	15.9	0.0	21.7	28.6	28.4	31.2	14.3	0.0	32.6	31.7	0.0
LnGrp LOS	B	B		C	C	C	C	B		C	C	
Approach Vol, veh/h		1082	A		796			505	A		140	A
Approach Delay, s/veh		16.0			28.3			29.2			32.2	
Approach LOS		B			C			C			C	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		39.0	21.0	12.9	11.1	27.9		33.9				
Change Period (Y+Rc), s		5.5	6.0	* 5.8	* 5.6	5.5		* 5.8				
Max Green Setting (Gmax), s		35.7	15.0	* 22	* 6.4	23.7		* 43				
Max Q Clear Time (g_c+I1), s		17.6	17.0	6.3	5.4	16.7		3.5				
Green Ext Time (p_c), s		15.0	0.0	0.9	0.0	5.7		0.9				

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	187	3	23	473	1	4	0	4	4	0	16
Future Vol, veh/h	1	187	3	23	473	1	4	0	4	4	0	16
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	250	-	-	200	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	9	9	9	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	203	3	25	514	1	4	0	4	4	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	515	0	0	206	0	0	780	772	205	774	773	515
Stage 1	-	-	-	-	-	-	207	207	-	565	565	-
Stage 2	-	-	-	-	-	-	573	565	-	209	208	-
Critical Hdwy	4.19	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.281	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1016	-	-	1377	-	-	315	333	841	318	332	564
Stage 1	-	-	-	-	-	-	800	734	-	513	511	-
Stage 2	-	-	-	-	-	-	508	511	-	798	734	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1016	-	-	1377	-	-	301	327	841	312	326	564
Mov Cap-2 Maneuver	-	-	-	-	-	-	301	327	-	312	326	-
Stage 1	-	-	-	-	-	-	799	733	-	512	502	-
Stage 2	-	-	-	-	-	-	483	502	-	793	733	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	13.3	12.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	443	1016	-	-	1377	-	-	312	564
HCM Lane V/C Ratio	0.02	0.001	-	-	0.018	-	-	0.014	0.031
HCM Control Delay (s)	13.3	8.5	-	-	7.7	-	-	16.7	11.6
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	10	1	0	0	0
Future Vol, veh/h	0	10	1	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	1	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1	0	-	0	12	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	11	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1622	-	-	-	1008	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1012	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1622	-	-	-	1008	1084
Mov Cap-2 Maneuver	-	-	-	-	1008	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1012	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1622	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

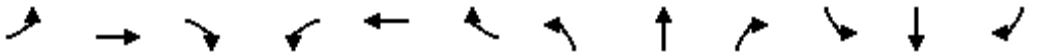
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	1121	10	0	1298
Future Vol, veh/h	0	1	1121	10	0	1298
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	5	5	4	4
Mvmt Flow	0	1	1218	11	0	1411

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	615	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	439	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	439	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	439	-
HCM Lane V/C Ratio	-	-	0.002	-
HCM Control Delay (s)	-	-	13.2	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	1119	328	29	1351	89	448	84	23	64	86	215
Future Volume (veh/h)	300	1119	328	29	1351	89	448	84	23	64	86	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1821	1821	1821	1821	1821	1821	1836	1836	1836	1821	1821	1821
Adj Flow Rate, veh/h	326	1216	0	32	1468	97	487	91	0	70	93	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	285	1999		228	1318	87	422	581		175	150	
Arrive On Green	0.13	0.58	0.00	0.40	0.40	0.40	0.18	0.32	0.00	0.08	0.08	0.00
Sat Flow, veh/h	1734	3551	0	459	3295	217	1748	1836	0	1306	1821	0
Grp Volume(v), veh/h	326	1216	0	32	768	797	487	91	0	70	93	0
Grp Sat Flow(s),veh/h/ln	1734	1730	0	459	1730	1782	1748	1836	0	1306	1821	0
Q Serve(g_s), s	13.4	24.4	0.0	5.2	42.7	42.7	19.0	3.8	0.0	5.6	5.3	0.0
Cycle Q Clear(g_c), s	13.4	24.4	0.0	10.6	42.7	42.7	19.0	3.8	0.0	5.6	5.3	0.0
Prop In Lane	1.00		0.00	1.00		0.12	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	285	1999		228	692	713	422	581		175	150	
V/C Ratio(X)	1.14	0.61		0.14	1.11	1.12	1.15	0.16		0.40	0.62	
Avail Cap(c_a), veh/h	285	1999		228	692	713	422	808		336	375	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.6	14.7	0.0	24.3	32.0	32.0	38.2	26.3	0.0	47.5	47.4	0.0
Incr Delay (d2), s/veh	97.8	0.8	0.0	0.6	68.4	71.3	93.5	0.1	0.0	1.5	4.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	23.7	16.3	0.0	1.2	44.8	47.0	21.2	3.3	0.0	3.6	4.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	131.4	15.5	0.0	24.9	100.5	103.3	131.7	26.4	0.0	49.0	51.5	0.0
LnGrp LOS	F	B		C	F	F	F	C		D	D	
Approach Vol, veh/h		1542	A		1597			578	A		163	A
Approach Delay, s/veh		40.0			100.4			115.1			50.4	
Approach LOS		D			F			F			D	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		67.2	25.0	14.6	19.0	48.2		39.6				
Change Period (Y+Rc), s		5.5	6.0	* 5.8	* 5.6	5.5		* 5.8				
Max Green Setting (Gmax), s		61.7	19.0	* 22	* 13	42.7		* 47				
Max Q Clear Time (g_c+I1), s		26.4	21.0	7.6	15.4	44.7		5.8				
Green Ext Time (p_c), s		30.6	0.0	1.2	0.0	0.0		1.5				

Intersection Summary		
HCM 6th Ctrl Delay	76.5	
HCM 6th LOS	E	

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	411	21	52	498	12	36	5	87	6	4	22
Future Vol, veh/h	23	411	21	52	498	12	36	5	87	6	4	22
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	250	-	-	200	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	0	0	0
Mvmt Flow	25	447	23	57	541	13	39	5	95	7	4	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	554	0	0	470	0	0	1185	1177	459	1221	1182	548
Stage 1	-	-	-	-	-	-	509	509	-	662	662	-
Stage 2	-	-	-	-	-	-	676	668	-	559	520	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1021	-	-	1097	-	-	167	193	606	158	191	540
Stage 1	-	-	-	-	-	-	550	541	-	454	462	-
Stage 2	-	-	-	-	-	-	446	459	-	517	535	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1021	-	-	1097	-	-	148	179	606	123	177	540
Mov Cap-2 Maneuver	-	-	-	-	-	-	148	179	-	123	177	-
Stage 1	-	-	-	-	-	-	537	528	-	443	438	-
Stage 2	-	-	-	-	-	-	400	435	-	421	522	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.8	25.9	18.5
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	309	1021	-	-	1097	-	-	140	540
HCM Lane V/C Ratio	0.45	0.024	-	-	0.052	-	-	0.078	0.044
HCM Control Delay (s)	25.9	8.6	-	-	8.5	-	-	32.9	12
HCM Lane LOS	D	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	2.2	0.1	-	-	0.2	-	-	0.2	0.1

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	49	16	0	0	0
Future Vol, veh/h	0	49	16	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	53	17	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	17	0	-	0	70	17
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	53	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1600	-	-	-	934	1062
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	970	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1600	-	-	-	934	1062
Mov Cap-2 Maneuver	-	-	-	-	934	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	970	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1600	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

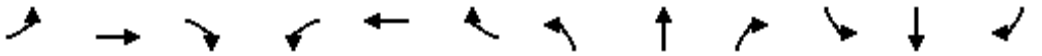
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	16	1754	49	0	2039
Future Vol, veh/h	0	16	1754	49	0	2039
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	3	2	2
Mvmt Flow	0	17	1907	53	0	2216

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	980	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	253	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	253	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20.3	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	253	-
HCM Lane V/C Ratio	-	-	0.069	-
HCM Control Delay (s)	-	-	20.3	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	889	121	27	676	40	417	55	22	76	53	196
Future Volume (veh/h)	114	889	121	27	676	40	417	55	22	76	53	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1778	1778	1778	1792	1792	1792	1836	1836	1836	1821	1821	1821
Adj Flow Rate, veh/h	124	966	0	29	735	43	453	60	0	83	58	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	4	4	4	1	1	1	2	2	2
Cap, veh/h	300	1560		239	1014	59	548	705		229	178	
Arrive On Green	0.08	0.46	0.00	0.31	0.31	0.31	0.20	0.38	0.00	0.10	0.10	0.00
Sat Flow, veh/h	1693	3467	0	572	3269	191	1748	1836	0	1343	1821	0
Grp Volume(v), veh/h	124	966	0	29	383	395	453	60	0	83	58	0
Grp Sat Flow(s),veh/h/ln	1693	1689	0	572	1703	1758	1748	1836	0	1343	1821	0
Q Serve(g_s), s	3.4	15.8	0.0	2.9	14.7	14.7	15.0	1.5	0.0	4.4	2.2	0.0
Cycle Q Clear(g_c), s	3.4	15.8	0.0	7.6	14.7	14.7	15.0	1.5	0.0	4.4	2.2	0.0
Prop In Lane	1.00		0.00	1.00		0.11	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	300	1560		239	528	545	548	705		229	178	
V/C Ratio(X)	0.41	0.62		0.12	0.72	0.73	0.83	0.09		0.36	0.33	
Avail Cap(c_a), veh/h	311	1645		250	560	578	548	1077		501	546	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.0	14.9	0.0	21.9	22.5	22.5	23.0	14.4	0.0	31.8	30.8	0.0
Incr Delay (d2), s/veh	0.9	1.0	0.0	0.5	5.7	5.5	10.1	0.1	0.0	1.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	11.1	0.0	0.8	11.6	11.9	4.9	1.3	0.0	2.8	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.9	15.9	0.0	22.4	28.2	28.0	33.1	14.4	0.0	32.8	31.9	0.0
LnGrp LOS	B	B		C	C	C	C	B		C	C	
Approach Vol, veh/h		1090	A		807			513	A		141	A
Approach Delay, s/veh		16.0			27.9			30.9			32.4	
Approach LOS		B			C			C			C	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		39.4	21.0	13.0	11.1	28.2		34.0				
Change Period (Y+Rc), s		5.5	6.0	* 5.8	* 5.6	5.5		* 5.8				
Max Green Setting (Gmax), s		35.7	15.0	* 22	* 6	24.1		* 43				
Max Q Clear Time (g_c+I1), s		17.8	17.0	6.4	5.4	16.7		3.5				
Green Ext Time (p_c), s		14.9	0.0	0.9	0.0	6.1		0.9				

Intersection Summary	
HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	187	14	26	473	1	12	0	6	4	0	16
Future Vol, veh/h	1	187	14	26	473	1	12	0	6	4	0	16
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	250	-	-	200	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	9	9	9	0	0	0	0	0	0	0	0	0
Mvmt Flow	1	203	15	28	514	1	13	0	7	4	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	515	0	0	218	0	0	792	784	211	787	791	515
Stage 1	-	-	-	-	-	-	213	213	-	571	571	-
Stage 2	-	-	-	-	-	-	579	571	-	216	220	-
Critical Hdwy	4.19	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.281	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1016	-	-	1364	-	-	309	327	834	312	324	564
Stage 1	-	-	-	-	-	-	794	730	-	509	508	-
Stage 2	-	-	-	-	-	-	504	508	-	791	725	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1016	-	-	1364	-	-	294	320	834	305	317	564
Mov Cap-2 Maneuver	-	-	-	-	-	-	294	320	-	305	317	-
Stage 1	-	-	-	-	-	-	793	729	-	508	497	-
Stage 2	-	-	-	-	-	-	478	497	-	784	724	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.4	15.1	12.7
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	375	1016	-	-	1364	-	-	305	564
HCM Lane V/C Ratio	0.052	0.001	-	-	0.021	-	-	0.014	0.031
HCM Control Delay (s)	15.1	8.5	-	-	7.7	-	-	17	11.6
HCM Lane LOS	C	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0	0.1

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	10	1	14	10	8
Future Vol, veh/h	12	10	1	14	10	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	11	1	15	11	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	16	0	-	0	46	9
Stage 1	-	-	-	-	9	-
Stage 2	-	-	-	-	37	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1602	-	-	-	964	1073
Stage 1	-	-	-	-	1014	-
Stage 2	-	-	-	-	985	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1602	-	-	-	956	1073
Mov Cap-2 Maneuver	-	-	-	-	956	-
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	SB
HCM Control Delay, s	4	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1602	-	-	-	1005
HCM Lane V/C Ratio	0.008	-	-	-	0.019
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

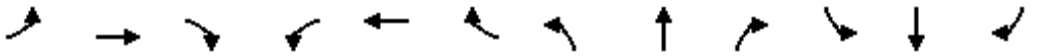
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	1121	22	0	1306
Future Vol, veh/h	0	9	1121	22	0	1306
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	5	5	4	4
Mvmt Flow	0	10	1218	24	0	1420

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	621	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	435	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	435	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	435	-
HCM Lane V/C Ratio	-	-	0.022	-
HCM Control Delay (s)	-	-	13.5	-
HCM Lane LOS	-	-	B	-
HCM 95th %tile Q(veh)	-	-	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	301	1130	328	40	1351	89	460	84	23	64	87	215
Future Volume (veh/h)	301	1130	328	40	1351	89	460	84	23	64	87	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1821	1821	1821	1821	1821	1821	1836	1836	1836	1821	1821	1821
Adj Flow Rate, veh/h	327	1228	0	43	1468	97	500	91	0	70	95	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	285	1966		218	1287	85	437	598		175	150	
Arrive On Green	0.13	0.57	0.00	0.39	0.39	0.39	0.19	0.33	0.00	0.08	0.08	0.00
Sat Flow, veh/h	1734	3551	0	454	3295	217	1748	1836	0	1306	1821	0
Grp Volume(v), veh/h	327	1228	0	43	768	797	500	91	0	70	95	0
Grp Sat Flow(s),veh/h/ln	1734	1730	0	454	1730	1782	1748	1836	0	1306	1821	0
Q Serve(g_s), s	13.4	25.4	0.0	7.5	41.7	41.7	20.0	3.8	0.0	5.6	5.4	0.0
Cycle Q Clear(g_c), s	13.4	25.4	0.0	13.8	41.7	41.7	20.0	3.8	0.0	5.6	5.4	0.0
Prop In Lane	1.00		0.00	1.00		0.12	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	285	1966		218	675	696	437	598		175	150	
V/C Ratio(X)	1.15	0.62		0.20	1.14	1.15	1.14	0.15		0.40	0.63	
Avail Cap(c_a), veh/h	285	1966		218	675	696	437	825		336	375	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.4	15.4	0.0	26.4	32.6	32.6	37.6	25.5	0.0	47.5	47.4	0.0
Incr Delay (d2), s/veh	99.2	0.9	0.0	0.9	78.8	81.9	89.1	0.1	0.0	1.5	4.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	23.8	16.9	0.0	1.7	47.0	49.3	20.9	3.3	0.0	3.6	5.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.5	16.3	0.0	27.4	111.4	114.5	126.7	25.6	0.0	49.0	51.8	0.0
LnGrp LOS	F	B		C	F	F	F	C		D	D	
Approach Vol, veh/h		1555	A		1608			591	A		165	A
Approach Delay, s/veh		40.8			110.7			111.2			50.6	
Approach LOS		D			F			F			D	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		66.2	26.0	14.6	19.0	47.2		40.6				
Change Period (Y+Rc), s		5.5	6.0	* 5.8	* 5.6	5.5		* 5.8				
Max Green Setting (Gmax), s		60.7	20.0	* 22	* 13	41.7		* 48				
Max Q Clear Time (g_c+I1), s		27.4	22.0	7.6	15.4	43.7		5.8				
Green Ext Time (p_c), s		29.2	0.0	1.3	0.0	0.0		1.5				

Intersection Summary	
HCM 6th Ctrl Delay	80.5
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	411	33	55	498	12	48	5	90	6	4	22
Future Vol, veh/h	23	411	33	55	498	12	48	5	90	6	4	22
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	250	-	-	200	-	-	-	-	-	-	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	0	0	0
Mvmt Flow	25	447	36	60	541	13	52	5	98	7	4	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	554	0	0	483	0	0	1197	1189	465	1235	1201	548
Stage 1	-	-	-	-	-	-	515	515	-	668	668	-
Stage 2	-	-	-	-	-	-	682	674	-	567	533	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1021	-	-	1085	-	-	164	190	602	155	186	540
Stage 1	-	-	-	-	-	-	546	538	-	451	459	-
Stage 2	-	-	-	-	-	-	443	457	-	512	528	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1021	-	-	1085	-	-	144	175	602	119	171	540
Mov Cap-2 Maneuver	-	-	-	-	-	-	144	175	-	119	171	-
Stage 1	-	-	-	-	-	-	533	525	-	440	434	-
Stage 2	-	-	-	-	-	-	396	432	-	414	515	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.8	32.8	18.9
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	280	1021	-	-	1085	-	-	135	540
HCM Lane V/C Ratio	0.555	0.024	-	-	0.055	-	-	0.081	0.044
HCM Control Delay (s)	32.8	8.6	-	-	8.5	-	-	34	12
HCM Lane LOS	D	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	3.1	0.1	-	-	0.2	-	-	0.3	0.1

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	49	16	15	15	12
Future Vol, veh/h	13	49	16	15	15	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	53	17	16	16	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	33	0	-	0	106	25
Stage 1	-	-	-	-	25	-
Stage 2	-	-	-	-	81	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1579	-	-	-	892	1051
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	942	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1579	-	-	-	884	1051
Mov Cap-2 Maneuver	-	-	-	-	884	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	942	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1579	-	-	-	951
HCM Lane V/C Ratio	0.009	-	-	-	0.031
HCM Control Delay (s)	7.3	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

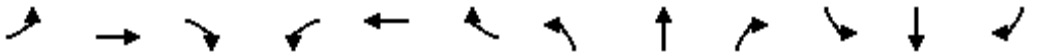
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	28	1754	62	0	2051
Future Vol, veh/h	0	28	1754	62	0	2051
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	92	92	92	92	92	92
Heavy Vehicles, %	0	0	3	3	2	2
Mvmt Flow	0	30	1907	67	0	2229

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	987	0	0	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.9	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	-	-	-	-
Pot Cap-1 Maneuver	0	250	-	-	0	-
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	250	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBT
Capacity (veh/h)	-	-	250	-
HCM Lane V/C Ratio	-	-	0.122	-
HCM Control Delay (s)	-	-	21.4	-
HCM Lane LOS	-	-	C	-
HCM 95th %tile Q(veh)	-	-	0.4	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	301	1130	328	40	1351	89	460	84	23	64	87	215
Future Volume (veh/h)	301	1130	328	40	1351	89	460	84	23	64	87	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1821	1821	1821	1821	1821	1821	1836	1836	1836	1821	1821	1821
Adj Flow Rate, veh/h	317	1189	0	42	1422	94	484	88	0	67	92	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	1	1	1	2	2	2
Cap, veh/h	357	2879		252	1821	120	562	565		179	149	
Arrive On Green	0.14	0.58	0.00	0.38	0.38	0.38	0.17	0.31	0.00	0.08	0.08	0.00
Sat Flow, veh/h	1734	5136	0	471	4764	315	3391	1836	0	1309	1821	1543
Grp Volume(v), veh/h	317	1189	0	42	989	527	484	88	0	67	92	0
Grp Sat Flow(s),veh/h/ln	1734	1657	0	471	1657	1764	1696	1836	0	1309	1821	1543
Q Serve(g_s), s	11.2	13.2	0.0	6.0	26.2	26.2	13.9	3.5	0.0	4.9	4.9	0.0
Cycle Q Clear(g_c), s	11.2	13.2	0.0	6.0	26.2	26.2	13.9	3.5	0.0	4.9	4.9	0.0
Prop In Lane	1.00		0.00	1.00		0.18	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	357	2879		252	1267	675	562	565		179	149	
V/C Ratio(X)	0.89	0.41		0.17	0.78	0.78	0.86	0.16		0.37	0.62	
Avail Cap(c_a), veh/h	438	3125		253	1276	679	612	846		361	402	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.6	11.6	0.0	20.9	27.1	27.1	40.5	25.1	0.0	44.3	44.3	0.0
Incr Delay (d2), s/veh	16.8	0.2	0.0	0.7	3.7	6.7	11.4	0.1	0.0	1.3	4.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.9	9.4	0.0	1.4	17.6	19.2	11.4	3.0	0.0	3.2	4.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.4	11.8	0.0	21.6	30.8	33.9	51.9	25.2	0.0	45.6	48.4	0.0
LnGrp LOS	D	B		C	C	C	D	C		D	D	
Approach Vol, veh/h		1506	A		1558			572	A		159	A
Approach Delay, s/veh		17.6			31.6			47.8			47.2	
Approach LOS		B			C			D			D	

Timer - Assigned Phs		2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s		63.3	22.5	14.0	19.6	43.6		36.5				
Change Period (Y+Rc), s		5.5	6.0	* 5.8	* 5.6	5.5		* 5.8				
Max Green Setting (Gmax), s		62.7	18.0	* 22	* 19	38.4		* 46				
Max Q Clear Time (g_c+I1), s		15.2	15.9	6.9	13.2	28.2		5.5				
Green Ext Time (p_c), s		38.0	0.7	1.2	0.8	9.9		1.4				

Intersection Summary	
HCM 6th Ctrl Delay	29.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

ATTACHMENT E

City of Courtenay Medium-Term Walking and Cycling Improvements

Figure 9-2: Medium-Term (10 Year) Pedestrian Improvement Priorities

Figure 9-3: Medium-Term (10 Year) Cycling Improvement Priorities