Cochrane Lake Hamlet

Transportation Impact Assessment

Canopy Lands



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March 15th, 2022

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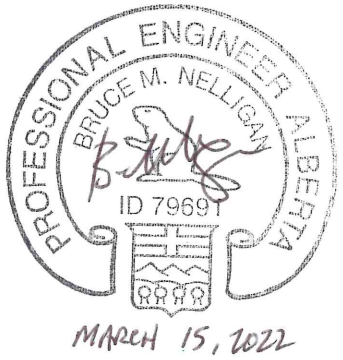
COCHRANE LAKE HAMLET

Transportation Impact Assessment



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1.0 INTRODUCTION

Canopy Lands has retained Watt Consulting Group (WATT) to undertake a Transportation Impact Assessment (TIA) for the proposed Cochrane Lake Hamlet residential development located on Cochrane Lake Road, west of Highway 22 in Rocky View County. The developer is proposing a development of up to 720 single family homes. The location of the site is shown in **Figure 1**.

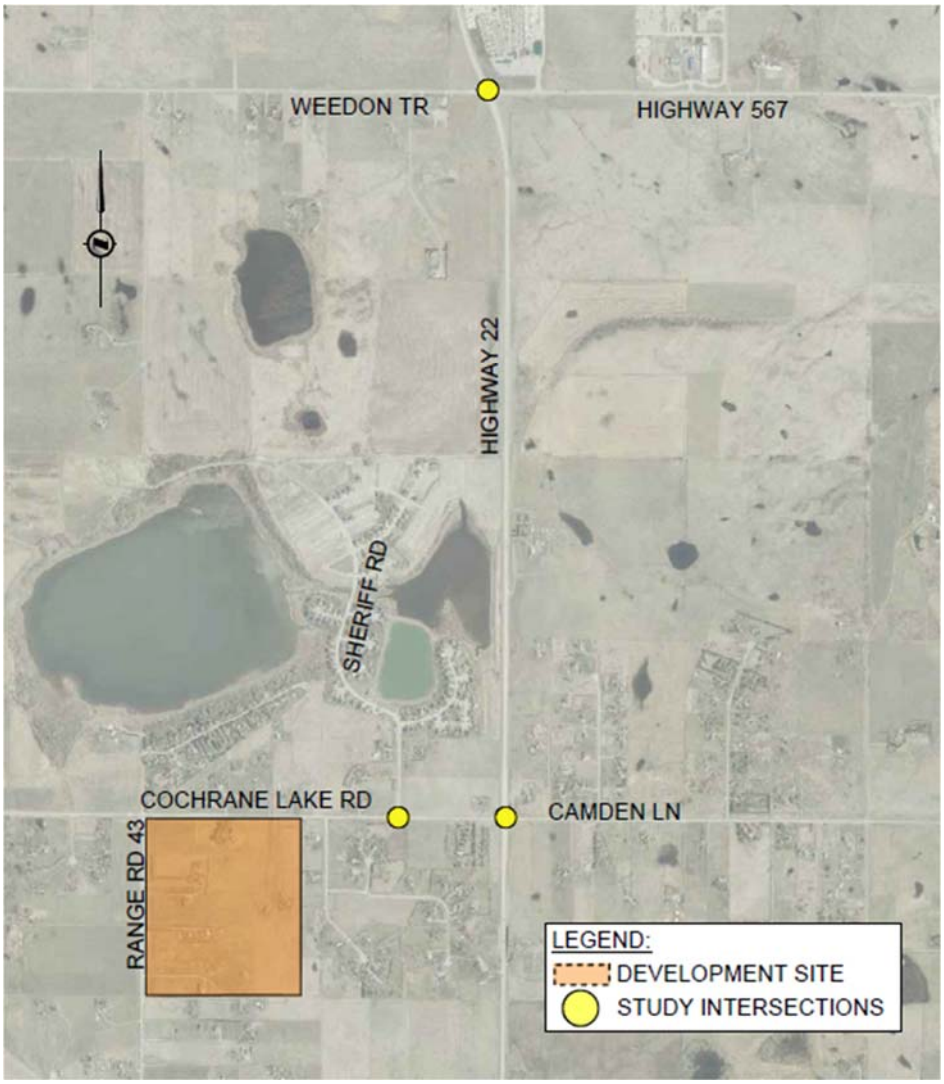


Figure 1: Site Context

1.1 Scope of Work

The scope and requirements for this TIA were discussed with Alberta Transportation and Rocky View County, and related correspondence is included in **Appendix A** of this report. The agreed-upon scope of work contains the following main requirements:

- Analyze the existing conditions during the weekday AM and PM peak hours at the following key intersections:
    - Highway 22 / Cochrane Lake Road (TWP Rd 264)
    - Highway 22 / Highway 567 / Weedon Trail (TWP Rd 270)
    - Cochrane Lake Road / Sheriff Road

- Examine the long term (10- and 20-year horizon) operating conditions during the AM and PM peak hours at the key intersections, using historical traffic volume growth to determine an annual growth rate to estimate long term volumes.

- Estimate vehicle site trip generation for the proposed development using trip generation rates provided by the Institute of Transportation Engineers (ITE)'s *Trip Generation Manual* (11th Edition).

- Examine the post development conditions during the AM and PM peak hours at the key intersections using Synchro / SimTraffic traffic modelling software. Analysis will include both the opening day and long term (10- and 20-year horizons) conditions.

- Undertake a signal and illumination warrant analysis at Highway 22 / Cochrane Lake Road, as well as a roundabout analysis if greater than two-way stop control is warranted.

  Undertake a roadway link analysis for Cochrane Lake Road and for Range Road 43.

2.0 EXISTING CONDITIONS

2.1 Existing Road Network

The proposed development is located on the southeast corner of Cochrane Lake Road and Range Road 43, west of Highway 22 in Rocky View County. The following describes the key roadways in the study area:

- **Highway 22** is a two-lane undivided highway with a speed limit of 100 km/h. Highway 22 runs in a north-south direction from Highway 1 and the Town of Cochrane in the south to Highway 27 at Sundre to the north.

- **Highway 567** is a two-lane undivided highway with a speed limit of 100 km/h. Highway 567 is an east-west road which begins at Highway 22 and runs east through Airdrie to Highway 9.

- **Weedon Trail (TWP Rd 270)** is a two-lane undivided road with a speed limit of 80 km/h. Weedon Trail is an east-west road which begins at the Highway 22 / Highway 567 intersection and runs west for 4.2 km to Range Road 44A.

- **Cochrane Lake Road (TWP Rd 264)** is a two-lane undivided road with a speed limit of 80 km/h. Cochrane Lake Road runs east-west from Highway 22 and dead-ends 1.3 km west of Range Road 43.

- **Sheriff Road** is a two-lane undivided road which begins at Cochrane Lake Road and runs north through the Monterra community surrounding Cochrane Lake.

2.2 Study Intersections

There are three key intersections identified within the study area:

- The **Highway 22 / Cochrane Lake Road / Camden Lane** intersection is a two-way stop-controlled intersection with stop control on the east and west legs (on Camden Lane and Cochrane Lake Road respectively). There are northbound and

southbound left turn lanes on Highway 22. There are also left turn acceleration lanes in both directions on Highway 22 for vehicles turning off Cochrane Lake Drive and Camden Lane.

- The **Highway 22 / Highway 567 / Weedon Trail** intersection is a two-way stop-controlled intersection with stop control on the east and west legs (on Highway 567 and Weedon Trail respectively). There are northbound and southbound left turn lanes and a channelized northbound right turn lane on Highway 22. There are also left turn accelerations lanes in both directions on Highway 22 for vehicles turning off Highway 567 and Weedon Trail.

- The **Cochrane Lake Road / Sheriff Road** intersection is a stop-controlled T-intersection with stop control on the north leg (on Sheriff Road). There is a westbound right turn lane for vehicle turning off Cochrane Lake Road onto Sheriff Road.

Figure 2 indicates the existing lane configuration and traffic controls in the area.

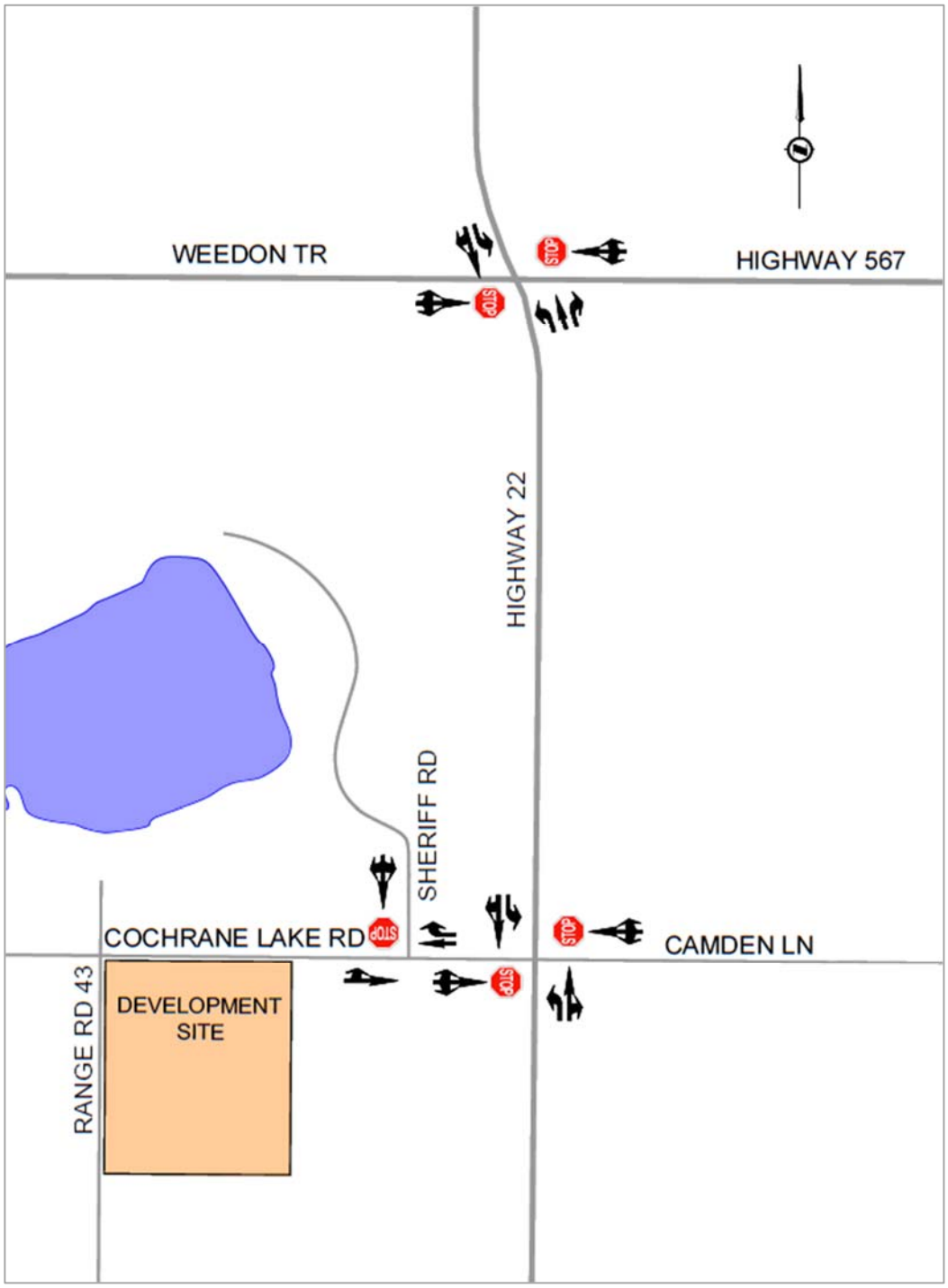


Figure 2: Existing Road Network

2.3 Background Traffic Volumes

The background traffic volumes at Highway 22 / Cochrane Lake Road and at Highway 22 / Highway 567 were obtained from traffic counts available on Alberta Transportation's traffic data website. Due to the impact of the Covid-19 pandemic on traffic volumes, counts from 2019 were used instead of 2020 volumes (the latest count year available on the AT website).

The counts were conducted prior to the deactivation of the Range Road 43 connection to Highway 22 south of Cochrane Lake Road (due to construction of the Highway 22 / Highway 1A interchange). A memo conducted by WATT in February 2021 examined the expected impact of this closure on Cochrane Lake Road volumes and concluded that the closure will result in an increase of 700 vehicles daily to Cochrane Lake Road. Therefore, an additional 70 vph (10% of the additional daily volumes) were added to Cochrane Lake Road background peak hour volumes to account for the closure.

2.3.1 Growth Rate

An annual growth rate for use in estimating future background volumes was obtained based on the historical traffic volumes for the Highway 22 / Cochrane Lake Road intersection. Between 2010 and 2019, volumes on Highway 22 and Cochrane Lake Road within the study area decreased an average of 0.5% annually (2020 volumes were excluded due to the impact of Covid). Despite the reduction in volumes, a conservative 2% annual linear growth rate was used to adjust the AT volumes to 2022 existing volumes and to determine future background volumes.

The resulting 2022 existing volumes are shown in **Figure 3**.

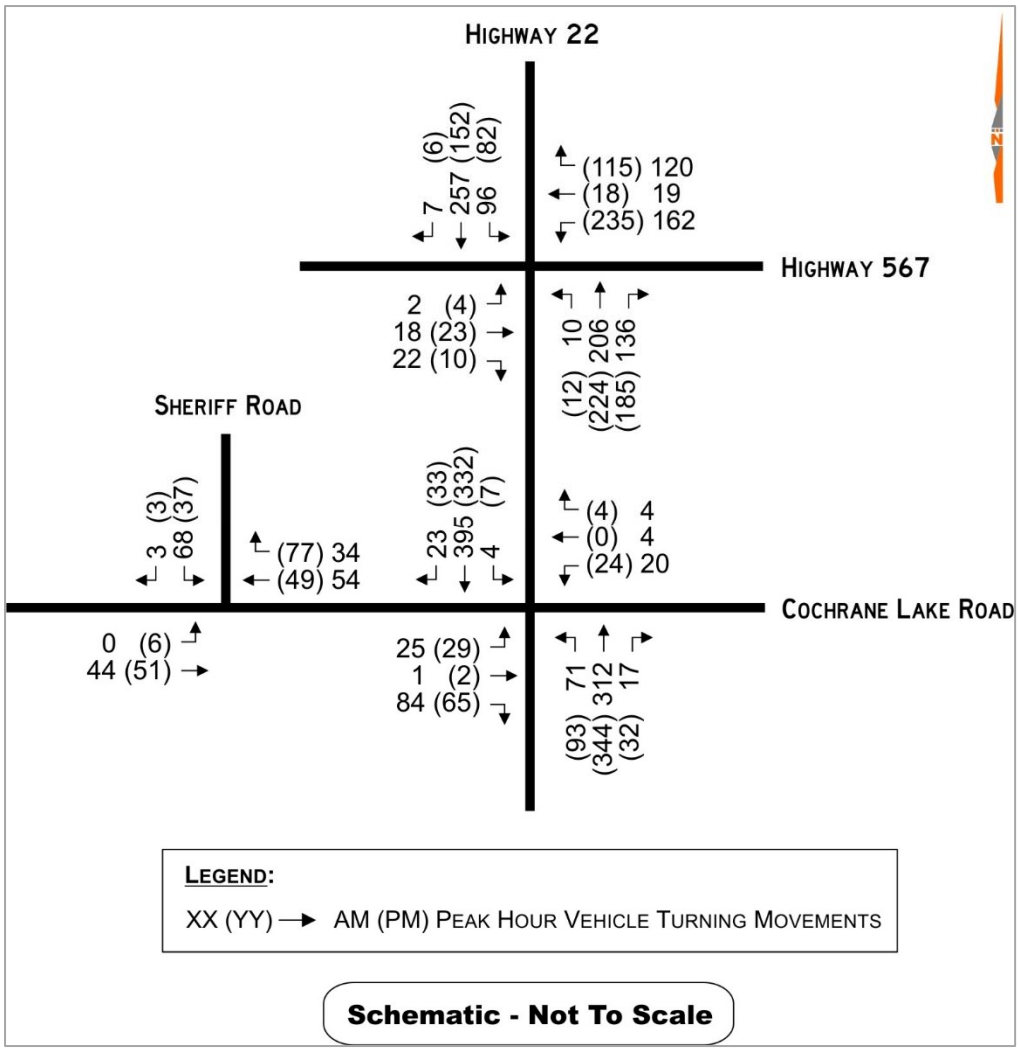


Figure 3: 2022 Existing Peak Hour Traffic Volumes

2.4 Intersection Performance Criteria

The operating conditions during the peak hours at the study intersections were evaluated using the Synchro/SimTraffic 11 software package (which is based on the methodology outlined in the U.S. Highway Capacity Manual[1]). For unsignalized (stop-

[1] Transportation Research Board, National Research Council. Highway Capacity Manual 2010. Washington, D.C. 2010.

controlled) intersections, the Level-of-Service (LOS) is based on the computed delays on each of the critical movements. For signalized intersections, the methodology considers the intersection geometry, traffic volumes, traffic signal phasing/timing plan, and also pedestrian volumes. The average delay for each lane group is calculated, as well as the delay for the overall intersection. The volume to capacity (v/c) ratio, LOS, and delay are obtained from Synchro, while the 95th percentile queue lengths were obtained from SimTraffic.

Levels of service range from LOS A (representing best operations) to LOS E/F (LOS E being poor operations and LOS F being unpredictable/disruptive operations). LOS E/F are generally unacceptable levels of service under normal everyday conditions. A LOS C or better is considered acceptable operations, while LOS D is typically considered to be on the threshold between acceptable and unacceptable operations. LOS criteria for both unsignalized and signalized intersections, as summarized in the Highway Capacity Manual, are illustrated in **Table 1**.

Table 1: Level of Service Criteria

Level of Service (LOS)	Average Delay for Unsignalized Intersection Movements	Average Delay for Signalized Intersection Movements
A	0 – 10 seconds per vehicle	0 – 10 seconds per vehicle
B	> 10 – 15 seconds per vehicle	> 10 – 20 seconds per vehicle
C	> 15 – 25 seconds per vehicle	> 20 – 35 seconds per vehicle
D	> 25 – 35 seconds per vehicle	> 35 – 55 seconds per vehicle
E	> 35 – 50 seconds per vehicle	> 55 – 80 seconds per vehicle
F	> 50 seconds per vehicle	> 80 seconds per vehicle

2.5 Existing Operating Conditions

Capacity analysis for the existing scenario was conducted for the AM and PM peak hours using the volumes as shown in **Figure 3** and the existing road network (shown in **Figure 2**). However, several of the minor road approaches to the stop-controlled intersections are very wide (see **Figure 4**), which will allow right turning vehicles to bypass vehicles waiting to turn left / continue through the intersection. Therefore, the following approaches were modelled in Synchro with short right turn lanes:

- Highway 22 / Highway 567 (eastbound and westbound approaches)
- Highway 22 / Cochrane Lake Road (eastbound and westbound approaches)
- Cochrane Lake Road / Sheriff Road (southbound approach)

Figure 4: Minor Road Approach with Informal Right Turn Lane (Cochrane Lake Road at Highway 22)

The results of the existing operating conditions are summarized in **Table 2**. All software outputs for this analysis, and any subsequent analysis within this report, can be found in **Appendix C**.

Table 2: 2022 Existing Conditions

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Highway 22 / Highway 567	EB	Left / Through	0.06	B	13	1	0.07	B	13	2
		Right	0.06	B	13	1	0.07	B	13	2
	WB	Left / Through	0.68	D	29	38	0.75	D	31	48
		Right	0.68	D	29	38	0.75	D	31	48
	NB	Left	0.01	A	8	0	0.01	A	8	0
		Through	0.12	A	0	0	0.13	A	0	0
		Right	0.08	A	0	0	0.11	A	0	0
	SB	Left	0.07	A	8	2	0.06	A	8	2
		Through / Right	0.16	A	0	0	0.09	A	0	0
	Intersection Summary		-	**A**	**10**	-	-	**B**	**12**	-
Highway 22 / Cochrane Lake Road	EB	Left / Through	0.13	B	14	3	0.14	B	15	4
		Right	0.13	B	14	3	0.14	B	15	4
	WB	Left / Through	0.11	C	22	3	0.12	C	23	3
		Right	0.11	C	22	3	0.12	C	23	3
	NB	Left	0.06	A	8	2	0.08	A	8	2
		Through / Right	0.19	A	0	0	0.24	A	0	0
	SB	Left	0.00	A	8	0	0.01	A	8	0
		Through / Right	0.25	A	0	0	0.21	A	0	0
	Intersection Summary		-	**A**	**3**	-	-	**A**	**3**	-
Cochrane Lake Road / Sheriff Road	EB	Left / Through	0.00	A	0	0	0.00	A	8	0
	WB	Through	0.03	A	0	0	0.03	A	0	0
		Right	0.02	A	0	0	0.05	A	0	0
	SB	Left	0.08	A	9	2	0.04	A	9	1
		Right	0.00	A	9	2	0.00	A	9	1
	Intersection Summary		-	**A**	**3**	-	-	**A**	**2**	-

Under 2022 existing conditions, the westbound left / through movement of the Highway 22 / Highway 567 intersection operates at LOS D during the AM and PM peak

hours, with 95th percentile queue lengths of 5 to 7 vehicles in length. The remaining movements operate well (LOS A/B) during both peak hours.

The Highway 22 / Cochrane Lake Road and Cochrane Lake Road / Sheriff Road intersections operate well under 2022 existing volumes. During the AM and PM peak hours, all movements at Highway 22 / Cochrane Lake Road are at LOS C or better while all movements at Cochrane Lake Road / Sheriff Road are at LOS A.

3.0 PROPOSED DEVELOPMENT

3.1 Proposed Land-Use

The Cochrane Lake Hamlet development is proposed to be 620 residential units on a 100-acre lot located on the southeast corner of the Cochrane Lake Road and Range Road 43 intersection. The proposed opening day horizon year for the development is in 2023. The proposed site plan shown in **Figure 5**. Additionally, the developer is in discussions with the owner of the adjacent 20-acre lot south of the development (the hatched area on **Figure 5**) in order to add an additional 100 units to the development. This TIA assumes that the additional units will be included in the development, resulting in a total of 720 residential units, including 468 single family detached houses, 180 single family attached houses, and 72 townhouses.

There are three proposed site accesses to the site, with two on Cochrane Lake Road and one on Range Road 43, as shown in **Figure 5**. The eastern-most Cochrane Lake Road access and the Range Road 43 access are the main accesses and will accommodate most of the site traffic, with the west-most Cochrane Lake Road being used only by local traffic. Site traffic was therefore assigned only to the two main road accesses to produce a conservative estimate of the site access conditions.

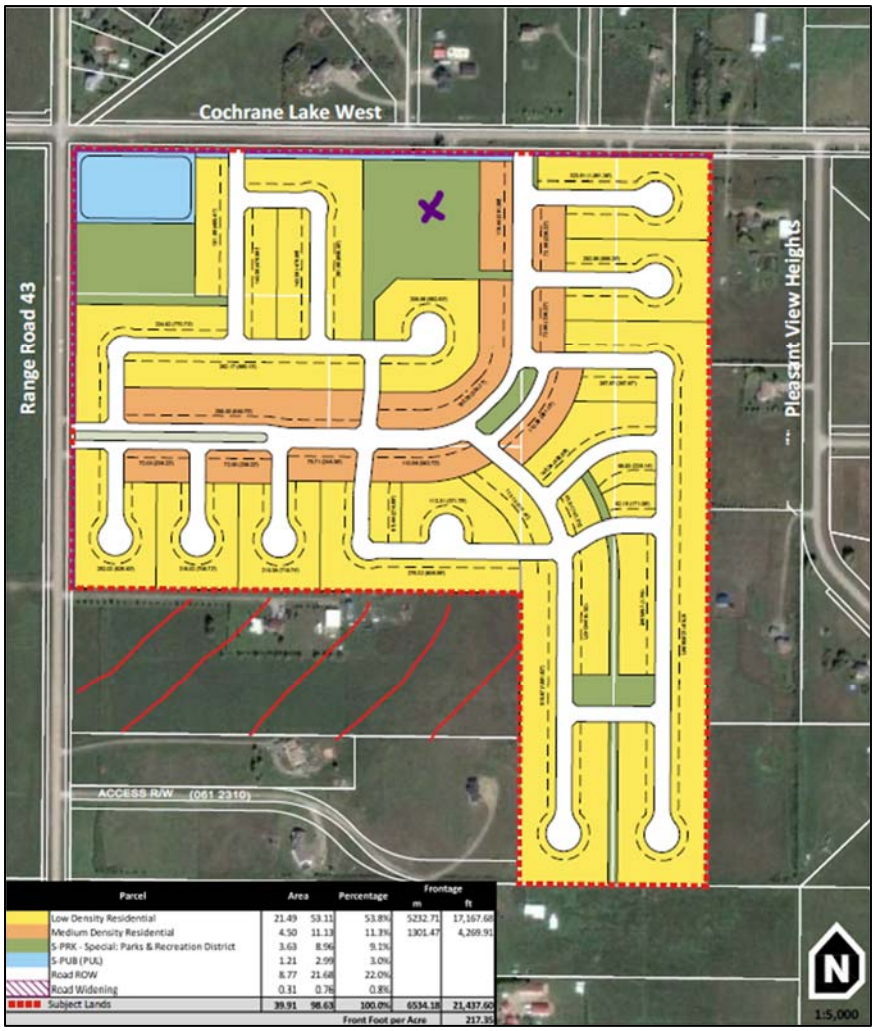


Figure 5: Proposed Site Plan

3.2 Trip Generation

Site trips were estimated from ITE's *Trip Generation Manual* (*11th Edition*). The *Trip Generation Manual* provides trip rates for a wide variety of land uses gathered from actual sites across North America over the past 40 years. The *Trip Generation Manual* does not include a semi-detached land use code; the Single-Family Detached Housing rate was therefore applied to the semi-detached units. The trip generation results are summarized in **Table 3**.

Table 3: Trip Generation Results – AM / PM peak Hour

ITE Code	Land Use	Units	Trip Rate	Trips In	Trips Out	Total Trips
AM Peak Hour						
210	Single-Family Detached Housing	468 units	0.70 / unit	85	243	328
215	Single-Family Attached Housing	180 units	0.48 / unit	27	59	86
221	Multifamily Housing (Mid-Rise)	72 units	0.40 / unit	7	22	29
			Total (AM Peak):	**119**	**324**	**443**
PM Peak Hour						
210	Single-Family Detached Housing	468 units	0.94 / unit	277	163	440
215	Single-Family Attached Housing	180 units	0.57 / unit	59	44	103
221	Multifamily Housing (Mid-Rise)	72 units	0.51 / unit	23	14	37
			Total (PM Peak):	**359**	**221**	**580**

The Cochrane Lake Hamlet development will generate 443 trips (119 inbound / 324 outbound) during the AM peak hour and 580 trips (359 inbound / 221 outbound) during the PM peak hour.

3.3 Trip Distribution and Assignment

The trip distribution pattern for the proposed development are based on the existing distribution pattern for traffic entering / exiting Cochrane Lake Road from Highway 22, as the proposed residential land use is similar to the existing land use along Cochrane Lake Road. The majority of vehicles turning onto / off of Highway 22 are headed to or coming from the Town of Cochrane to the south. Based on these assumptions, the distribution pattern for the proposed traffic is as follows:

AM Peak Hour

- Inbound Trips:
    - 75% from the south via Highway 22;
    - 15% from the northeast via Highway 567 and Highway 22; and
    - 10% from the north via Highway 22.
- Outbound Trips:
    - 75% to the south via Highway 22;
    - 15% to the northeast via Highway 567 and Highway 22; and
    - 10% to the north via Highway 22.

PM Peak Hour

- Inbound Trips:
    - 75% from the south via Highway 22;
    - 15% from the northeast via Highway 567 and Highway 22; and
    - 10% from the north via Highway 22.
- Outbound Trips:
    - 70% to the south via Highway 22;
    - 20% to the northeast via Highway 567 and Highway 22; and
    - 10% to the north via Highway 22.

The resulting trip assignment is shown in **Figure 6**.

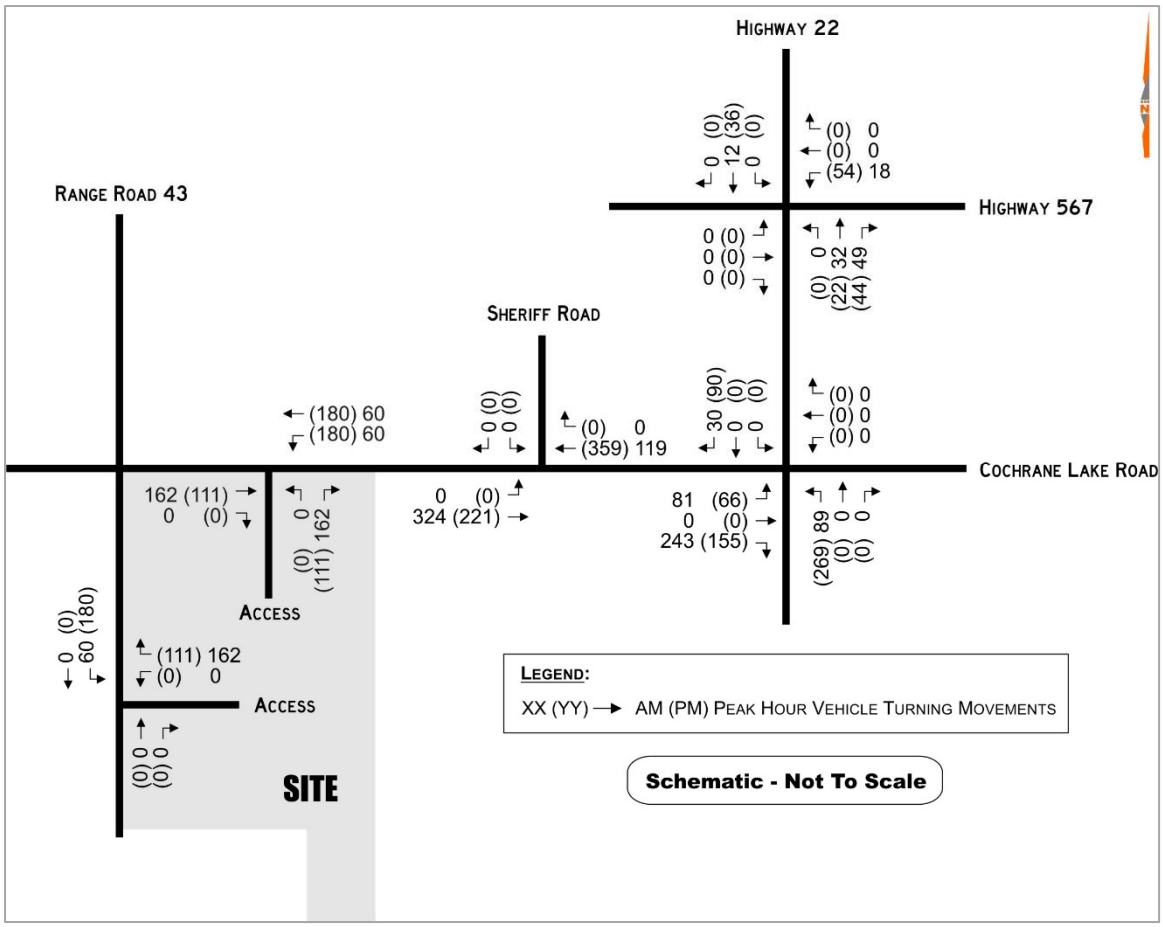


Figure 6: Trip Assignment – AM & PM Peak Hour

4.0 POST DEVELOPMENT ANALYSIS - OPENING DAY (2023)

4.1 Background Operating Conditions

The 2023 background volumes were determined by applying the annual linear growth rate of 2% to the 2022 existing volumes (see **Section 2.2** for background volumes and growth rate determination). The resulting 2023 background volumes are shown in **Figure 7**.

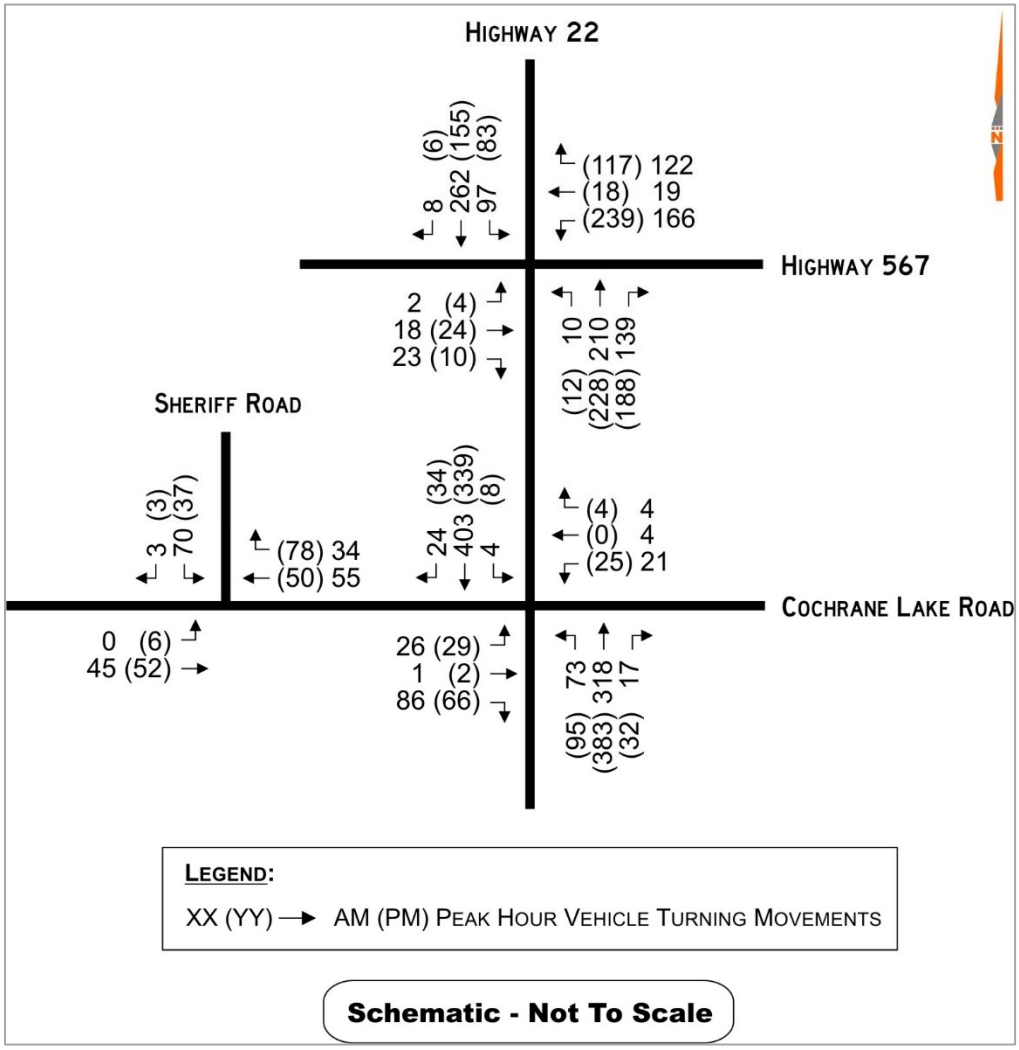


Figure 7: 2023 Background Volumes

The 2023 background volumes were analyzed in Synchro software to determine the opening day background conditions at the study intersections. The analysis results are summarized in **Table 4**.

Under opening day (2023) background volumes, the operations of the westbound left / through movement of the Highway 22 / Highway 567 intersection operates at LOS D during the AM and PM peak hours, with 95th percentile queue lengths of 5 to 7 vehicles in length. The remaining movements operate well (LOS A/B) during both peak hours.

The Highway 22 / Cochrane Lake Road and Cochrane Lake Road / Sheriff Road intersections operate well under 2022 existing volumes. During the AM and PM peak hours, all movements at Highway 22 / Cochrane Lake Road are at LOS C or better while all movements at Cochrane Lake Road / Sheriff Road are at LOS A.

Table 4: 2023 Background Operating Conditions

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Highway 22 / Highway 567	EB	Left / Through	0.06	B	13	2	0.07	B	14	2
		Right	0.06	B	13	2	0.07	B	14	2
	WB	Left / Through	0.71	D	31	41	0.77	D	33	52
		Right	0.71	D	31	41	0.77	D	33	52
	NB	Left	0.01	A	8	0	0.01	A	8	0
		Through	0.12	A	0	0	0.13	A	0	0
		Right	0.08	A	0	0	0.11	A	0	0
	SB	Left	0.07	A	8	2	0.06	A	8	2
		Through / Right	0.16	A	0	0	0.09	A	0	0
	Intersection Summary		-	**B**	**10**	-	-	**B**	**13**	-
Highway 22 / Cochrane Lake Road	EB	Left / Through	0.13	B	14	4	0.14	C	15	4
		Right	0.13	B	14	4	0.14	C	15	4
	WB	Left / Through	0.12	C	22	3	0.13	C	24	3
		Right	0.12	C	22	3	0.13	C	24	3
	NB	Left	0.06	A	8	2	0.08	A	8	2
		Through / Right	0.20	A	0	0	0.24	A	0	0
	SB	Left	0.00	A	8	0	0.01	A	8	0
		Through / Right	0.25	A	0	0	0.22	A	0	0
	Intersection Summary		-	**A**	**3**	-	-	**A**	**3**	-
Cochrane Lake Road / Sheriff Road	EB	Left / Through	0.00	A	0	0	0.00	A	1	0
	WB	Through	0.03	A	0	0	0.03	A	0	0
		Right	0.02	A	0	0	0.05	A	0	0
	SB	Left	0.08	A	9	2	0.04	A	9	1
		Right	0.08	A	9	2	0.04	A	9	1
	Intersection Summary		-	**A**	**3**	-	-	**A**	**2**	-

4.2 Post Development Volumes

The trips generated by the development (shown in **Figure 6**) were added to the 2023 background volumes (shown in **Figure** 7) to determine the opening day post development volumes. The resulting AM and PM peak hour post development volumes are shown in **Figure 8**.

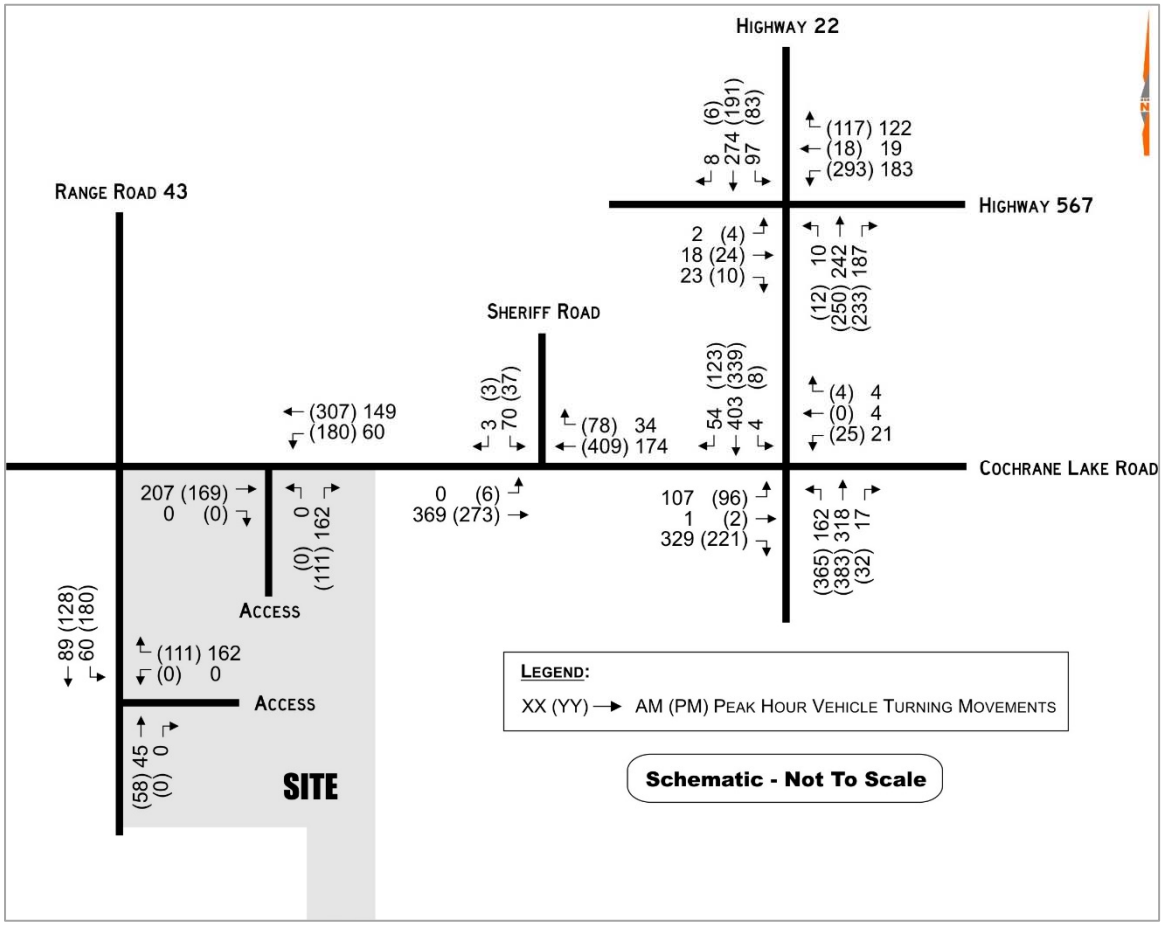


Figure 8: 2023 Post Development Volumes

4.3 Post Development Operating Conditions

The opening day (2023) post development operating conditions were analyzed in Synchro during the AM and PM peak hours within the study area. The analysis results are summarized in **Table 5**.

Table 5: 2023 Post Development Operating Conditions

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Highway 22 / Highway 567	EB	Left / Through	0.06	B	13	2	0.08	B	14	2
		Right	0.06	B	13	2	0.08	B	14	2
	WB	Left / Through	0.83	E	46	58	1.03	F	83	102
		Right	0.83	E	46	58	1.03	F	83	102
	NB	Left	0.01	A	8	0	0.01	A	8	0
		Through	0.14	A	0	0	0.15	A	0	0
		Right	0.11	A	0	0	0.14	A	0	0
	SB	Left	0.07	A	8	2	0.06	A	8	2
		Through / Right	0.17	A	0	0	0.12	A	0	0
	Intersection Summary		-	**B**	**14**	-	-	**D**	**30**	-
Highway 22 / Cochrane Lake Road	EB	Left / Through	0.97	F	67	92	1.73	F	396	169
		Right	0.97	F	67	92	1.73	F	396	169
	WB	Left / Through	0.30	F	59	9	0.61	F	163	18
		Right	0.30	F	59	9	0.61	F	163	18
	NB	Left	0.15	A	9	4	0.33	A	10	11
		Through / Right	0.20	A	0	0	0.24	A	0	0
	SB	Left	0.00	A	8	0	0.01	A	8	0
		Through / Right	0.27	A	0	0	0.27	A	0	0
	Intersection Summary		-	**C**	**23**	-	-	**F**	**84**	-

Table 5 (Continued): 2023 Post Development Operating Conditions

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Cochrane Lake Road / Sheriff Road	EB	Left / Through	0.00	A	0	0	0.01	A	0	0
	WB	Through	0.10	A	0	0	0.24	A	0	0
		Right	0.02	A	0	0	0.05	A	0	0
	SB	Left	0.14	B	13	4	0.09	B	15	2
		Right	0.14	B	13	4	0.09	B	15	2
	Intersection Summary		-	**A**	**2**	-	-	**A**	**1**	-
Cochrane Lake Road / North Site Access	EB	Through / Right	0.12	A	0	0	0.10	A	0	0
	WB	Left / Through	0.04	A	3	1	0.13	A	4	3
	NB	Left / Right	0.20	B	10	6	0.13	A	10	3
	Intersection Summary		-	**A**	**4**	-	-	**A**	**4**	-
Range Road 43 / West Site Access	WB	Left / Through	0.16	A	9	4	0.11	A	9	3
	NB	Through	0.03	A	0	0	0.03	A	0	0
	SB	Right	0.04	A	3	1	0.12	A	5	3
	Intersection Summary		-	**A**	**6**	-	-	**A**	**5**	-

Under opening day (2023) post development conditions, the eastbound and westbound movements at the Highway 22 / Cochrane Lake Road intersection drop to LOS F in both peak hours. The eastbound queue is substantial during both peak hours (approximately 13 vehicles long in the AM peak hour and 24 vehicles long in the PM peak hour). Due to the failing movements, a signal warrant analysis was conducted using the Transportation Association of Canada (TAC)'s Signal Warrant procedure and spreadsheet; the analysis concluded that a traffic signal is warranted at the Highway 22 / Cochrane Lake Road intersection. Signalization results in all movements improving to LOS A/B in the AM peak hour and LOS C or better in the PM peak hour under 2023 post development conditions (see **Table 6**). A conceptual design of a signalized Highway 22 / Cochrane Lake Road intersection is included in **Appendix E**.

At the Highway 22 / Highway 567 intersection, with the addition of site traffic the westbound movement drops to LOS E in the AM and LOS F in the PM. The remaining movements are at LOS A/B during both peak hours. Due to the failing movements, a signal warrant analysis was conducted using the TAC Signal Warrant procedure and spreadsheet; the analysis concluded that a traffic signal is warranted at the Highway 22 / Highway 567 intersection. Signalization results in all movements improving to LOS A/B in the AM peak and LOS C or better in the PM peak under 2023 post development conditions (see **Table 6**).

The Cochrane Lake Road / Sheriff Road intersection operates well under post development conditions, with all movements at LOS A/B in the AM peak hour and LOS C or better in the PM peak hour.

Both site accesses were modelled as full movement intersections with stop-control on the access. Both accesses operate well in 2023, with all movements at LOS A during the AM and PM peak hours.

Table 6: 2023 Post Development Operating Conditions - Signalized

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Highway 22 / Highway 567	EB	Left / Through	0.04	A	10	4	0.05	A	9	5
		Right	0.05	A	4	3	0.02	A	1	1
	WB	Left / Through	0.54	B	18	25	0.69	C	21	40
		Right	0.22	A	4	7	0.19	A	4	8
	NB	Left	0.02	A	8	3	0.02	A	9	3
		Through	0.24	A	8	26	0.31	B	10	27
		Right	0.21	A	3	8	0.29	A	3	9
	SB	Left	0.16	A	8	13	0.17	A	10	11
		Through / Right	0.27	A	8	30	0.26	A	10	21
	Intersection Summary		-	**A**	**8**	-	-	**B**	**11**	-
Highway 22 / Cochrane Lake Road	EB	Left / Through	0.36	B	16	16	0.36	C	22	19
		Right	0.49	A	5	13	0.46	A	7	13
	WB	Left / Through	0.06	B	11	5	0.09	B	18	7
		Right	0.01	A	0	0	0.01	A	0	0
	NB	Left	0.39	B	11	20	0.71	B	18	67
		Through / Right	0.39	A	8	31	0.39	A	7	34
	SB	Left	0.01	A	6	1	0.01	A	5	2
		Through / Right	0.51	A	10	43	0.45	A	7	37
	Intersection Summary		-	**A**	**9**	-	-	**B**	**10**	-

5.0 10-YEAR POST DEVELOPMENT HORIZON (2033)

5.1 Background Volumes (2033)

The long-term background volumes within the study area were determined by applying a linear annual growth rate of 2% to the existing volumes (see **Section 2.2**. for growth rate determination).

In addition to the background growth, the trips generated by the nearby Monterra development around Cochrane Lake were also included in the background volumes. The Monterra development is shown in **Figure 9**. The eastern portion is approximately 27% complete (based on aerial photography from the Rocky View County Atlas website); the trips expected to be generated from completion of the remaining homes were added to the 2033 background volumes. For the western portion of the development, future volumes were obtained from the Monterra Development TIA. The TIA was conducted by Bunt & Associates in January 2017 and concluded that recommended signalizing the Highway 22 / Cochrane Lake Road intersection and installing a roundabout at the Highway 22 / Highway 567 intersection under 2026 background and post development conditions. The resulting 2033 background volumes are shown in **Figure 10**.

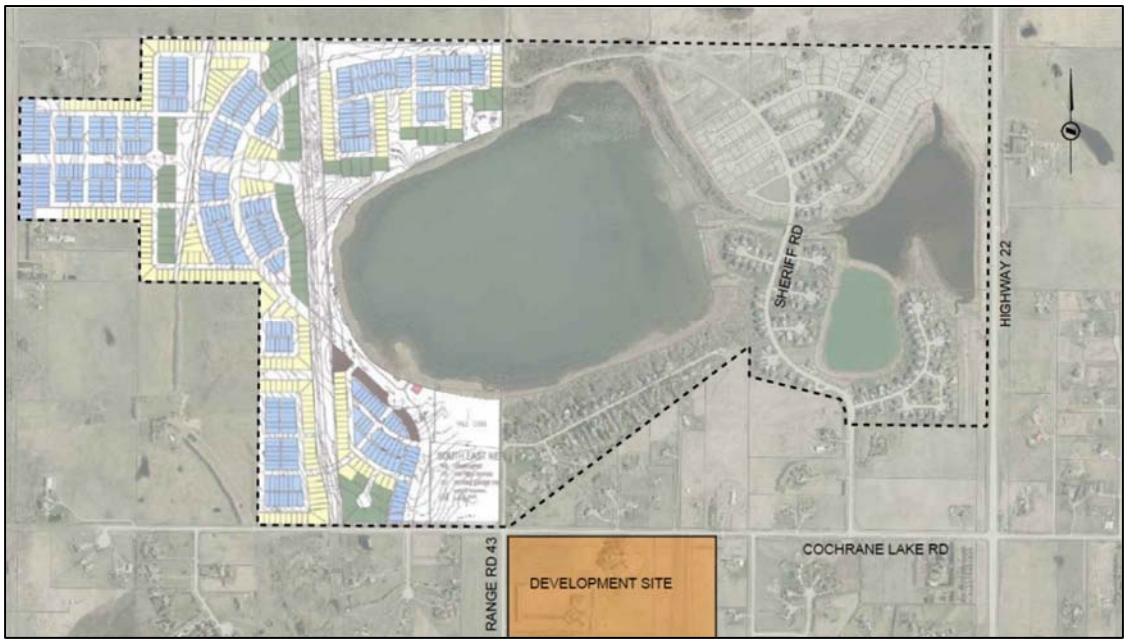


Figure 9: Monterra Development Site Plan

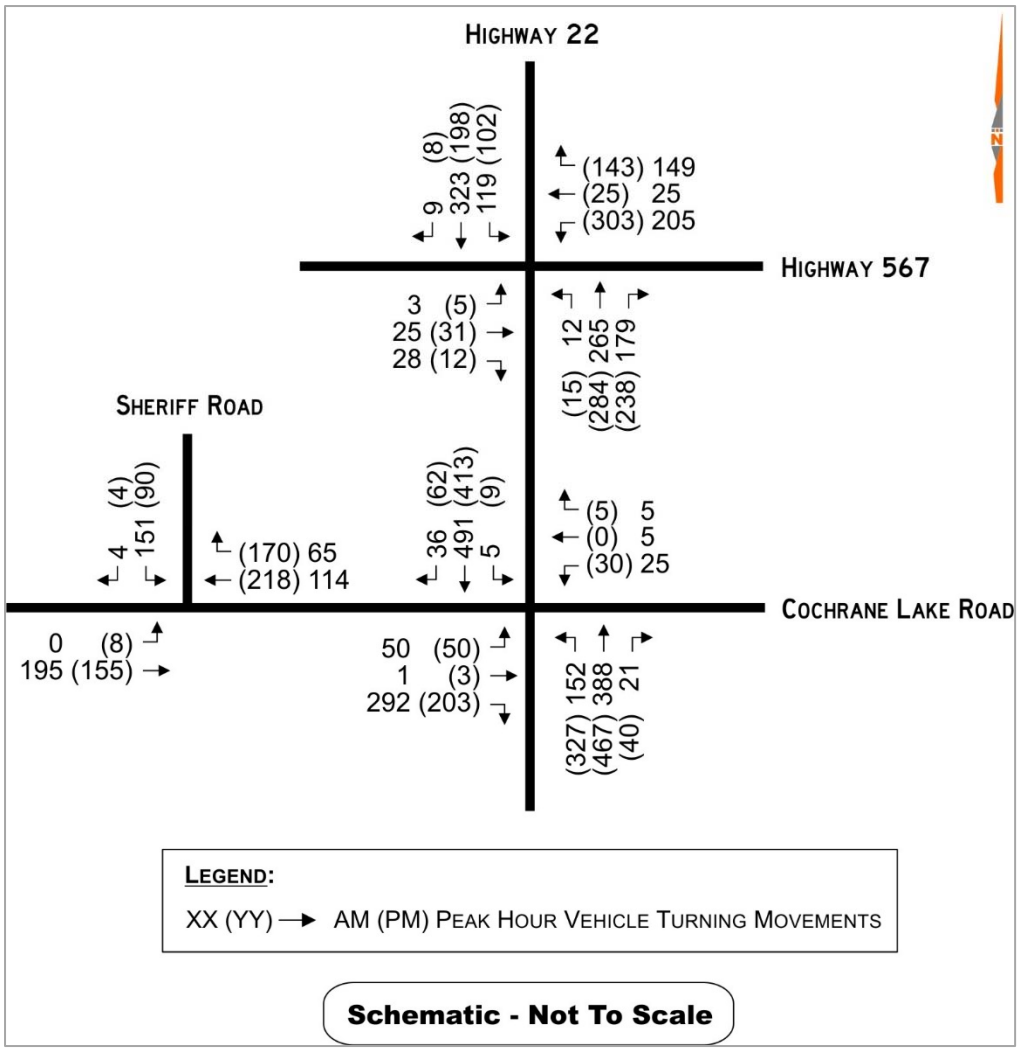


Figure 10: 2033 Background Volumes

5.2 Background Operating Conditions (2033)

Capacity analysis for the 2033 background horizon was conducted for the AM and PM peak hours using the 2033 background volumes shown in **Figure 10**. The model was based off the road network shown in **Figure 2** along with the modifications described in **Section 2.4**. The analysis results are summarized in **Table 7**. All software outputs can be found in **Appendix C**.

Table 7: 2033 Background Operating Conditions

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Highway 22 / Highway 567	EB	Left / Through	0.11	C	16	3	0.12	C	16	3
		Right	0.11	C	16	3	0.12	C	16	3
	WB	Left / Through	1.22	F	160	129	1.31	F	189	167
		Right	1.22	F	160	129	1.31	F	189	167
	NB	Left	0.01	A	8	0	0.01	A	8	0
		Through	0.16	A	0	0	0.17	A	0	0
		Right	0.11	A	0	0	0.14	A	0	0
	SB	Left	0.09	A	8	2	0.08	A	8	2
		Through / Right	0.20	A	0	0	0.12	A	0	0
	Intersection Summary		-	**E**	**47**	-	-	**F**	**67**	-
Highway 22 / Cochrane Lake Road	EB	Left / Through	0.66	C	24	36	1.01	F	102	76
		Right	0.66	C	24	36	1.01	F	102	76
	WB	Left / Through	0.46	F	89	14	0.81	F	224	24
		Right	0.46	F	89	14	0.81	F	224	24
	NB	Left	0.14	A	9	4	0.30	A	10	10
		Through / Right	0.24	A	0	0	0.30	A	0	0
	SB	Left	0.00	A	8	0	0.01	A	8	0
		Through / Right	0.31	A	0	0	0.28	A	0	0
	Intersection Summary		-	**A**	**9**	-	-	**C**	**23**	-
Cochrane Lake Road / Sheriff Road	EB	Left / Through	0.00	A	0	0	0.01	A	1	0
	WB	Through	0.07	A	0	0	0.13	A	0	0
		Right	0.04	A	0	0	0.10	A	0	0
	SB	Left	0.22	B	12	7	0.15	B	12	4
		Right	0.22	B	12	7	0.15	B	12	4
	Intersection Summary		-	**A**	**4**	-	-	**A**	**2**	-

Under 2033 background conditions, at the Highway 22 / Cochrane Lake Road intersection the eastbound movement drops to LOS F in the PM peak hour while the

westbound movement drops to LOS F in both peak hours. Based on the TAC Signal Warrant procedure, a signal is warranted at the Highway 22 / Cochrane Lake Road intersection under 2033 background volumes. Signalization results in all movements improving to LOS A/B for both peak hours under 2023 post development conditions (see **Table 8**).

At the Highway 22 / Highway 567 intersection, the westbound movement operate at LOS F during both peak hours under 2033 background volumes. The remaining movements are at LOS C or better during both peak hours. Signalization of the intersection is warranted (based on TAC Signal Warrant procedure) and results in all movements improving to LOS A/B in the AM peak and LOS C or better in the PM peak (see **Table 8**).

The Cochrane Lake Road / Sheriff Road intersection operates well under post development conditions, with all movements at LOS A/B in the AM and PM peak hours.

Table 8: 2033 Background Operating Conditions - Signalized

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Highway 22 / Highway 567	EB	Left / Through	0.05	A	10	5	0.06	A	10	6
		Right	0.05	A	4	3	0.02	A	2	1
	WB	Left / Through	0.60	B	20	29	0.72	C	22	44
		Right	0.25	A	4	8	0.23	A	4	9
	NB	Left	0.02	A	8	3	0.03	A	9	3
		Through	0.31	A	9	27	0.36	B	11	30
		Right	0.23	A	3	8	0.30	A	3	9
	SB	Left	0.23	A	10	15	0.22	B	10	13
		Through / Right	0.39	A	10	34	0.27	A	10	22
	Intersection Summary		-	**A**	**10**	-	-	**B**	**11**	-
Highway 22 / Cochrane Lake Road	EB	Left / Through	0.17	B	13	9	0.19	B	19	12
		Right	0.47	A	6	14	0.44	A	7	13
	WB	Left / Through	0.08	B	12	6	0.10	B	18	8
		Right	0.01	A	0	0	0.01	A	0	0
	NB	Left	0.41	B	11	17	0.65	B	14	43
		Through / Right	0.47	A	9	34	0.47	A	7	39
	SB	Left	0.01	A	5	1	0.02	A	4	2
		Through / Right	0.58	A	10	46	0.46	A	7	36
	Intersection Summary		-	**A**	**9**	-	-	**A**	**9**	-

5.3 Post Development Volumes (2033)

The trips generated by the development (shown in **Figure 6**) were added to the 2033 background volumes (shown in **Figure 10**) to determine the long-term post development volumes. The resulting AM and PM peak hour post development volumes are shown in **Figure 11**.

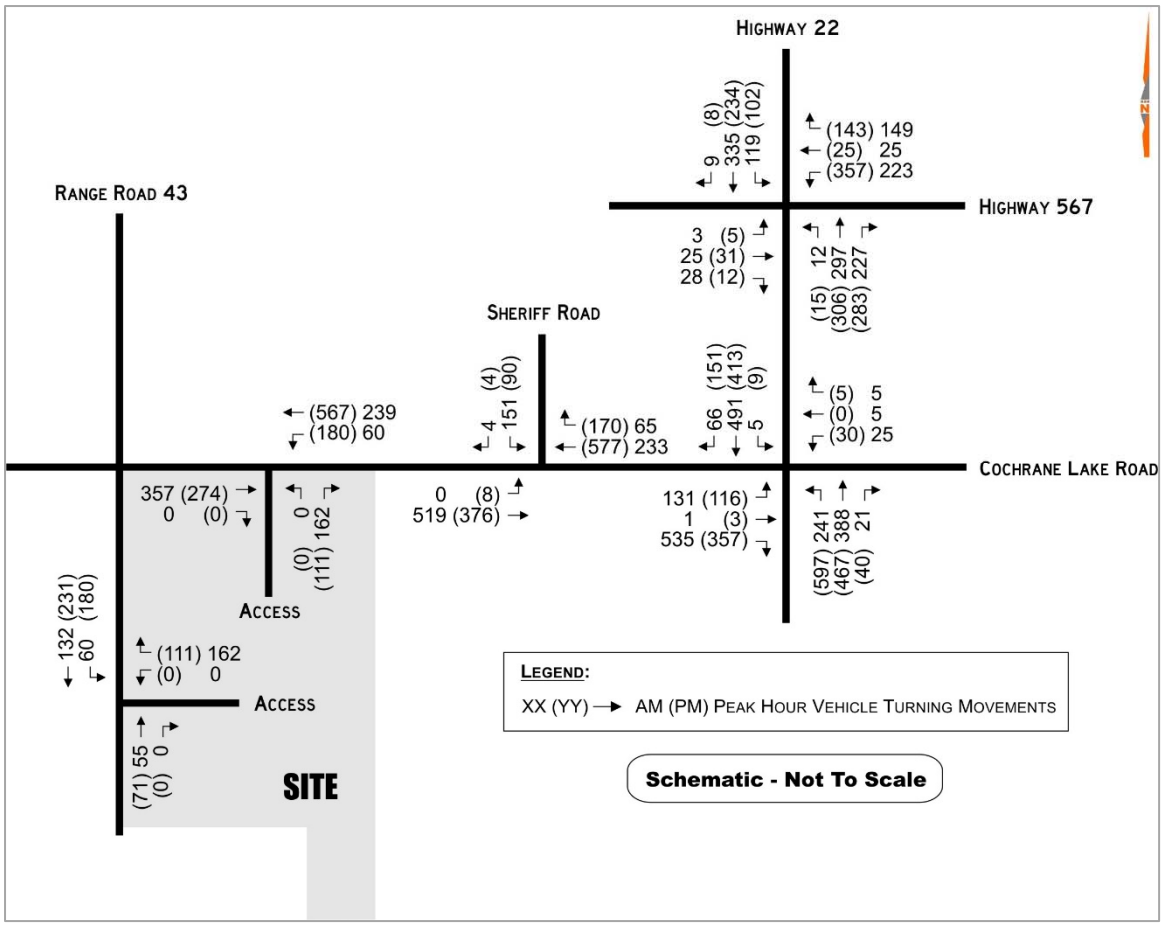


Figure 11: 2033 Post Development Volumes

5.4 Post Development Operating Conditions (2033)

The 2033 post development operating conditions were analyzed in Synchro during the AM and PM peak hours within the study area. The analysis assumes that the Highway 22 / Cochrane Lake Road intersection and the Highway 22 / Highway 567 intersection are signalized. The analysis results are summarized in **Table 9**.

Table 9: 2033 Post Development Operating Conditions

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Highway 22 / Highway 567	EB	Left / Through	0.05	A	10	5	0.05	A	9	6
		Right	0.05	A	4	3	0.02	A	2	1
	WB	Left / Through	0.63	C	21	34	0.76	C	24	53
		Right	0.24	A	4	8	0.21	A	5	10
	NB	Left	0.03	A	8	3	0.03	B	11	4
		Through	0.36	A	10	31	0.41	B	13	39
		Right	0.29	A	3	9	0.35	A	3	11
	SB	Left	0.25	A	10	15	0.25	B	13	16
		Through / Right	0.41	B	10	36	0.34	B	12	31
	Intersection Summary		-	**A**	**10**	-	-	**B**	**13**	-
Highway 22 / Cochrane Lake Road	EB	Left / Through	0.42	B	20	25	0.73	E	74	49
		Right	0.77	B	16	55	0.89	D	41	77
	WB	Left / Through	0.07	B	15	7	0.19	D	48	16
		Right	0.01	A	0	0	0.02	A	8	2
	NB	Left	0.70	C	24	51	0.96	D	42	211
		Through / Right	0.46	A	10	42	0.36	A	5	44
	SB	Left	0.01	A	6	1	0.01	A	3	2
		Through / Right	0.60	B	12	61	0.42	A	5	49
	Intersection Summary		-	**B**	**19**	-	-	**C**	**25**	-
Cochrane Lake Road / Sheriff Road	EB	Left / Through	0.00	A	0	0	0.01	A	0	0
	WB	Through	0.14	A	0	0	0.34	A	0	0
		Right	0.04	A	0	0	0.10	A	0	0
	SB	Left	0.41	C	21	15	0.34	C	24	11
		Right	0.41	C	21	15	0.34	C	24	11
	Intersection Summary		-	**A**	**3**	-	-	**A**	**2**	-

Table 9 (Continued): 2033 Post Development Operating Conditions

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Cochrane Lake Road / North Site Access	EB	Through / Right	0.21	A	0	0	0.16	A	0	0
	WB	Left / Through	0.05	A	2	1	0.14	A	3	4
	NB	Left / Right	0.24	B	12	7	0.15	B	11	4
	Intersection Summary		-	**A**	**3**	-	-	**A**	**3**	-
Range Road 43 / West Site Access	WB	Left / Through	0.16	A	9	4	0.11	A	9	3
	NB	Through	0.03	A	0	0	0.04	A	0	0
	SB	Right	0.04	A	3	1	0.12	A	1	3
	Intersection Summary		-	**A**	**5**	-	-	**A**	**5**	-

Under 2033 post development conditions, the signalized Highway 22 / Highway 567 intersection works well with all movements operating at LOS C or better during both peak hours.

The Highway 22 / Cochrane Lake Road intersection operates well in the AM peak period, with all movements at LOS C or better. During the PM peak hour, the eastbound left / through movement is at LOS E, while the eastbound right, westbound left / through, and northbound left movements are at LOS D. The northbound left turn queue is over 200m in length, exceeding the existing northbound left turn lane queue storage of 140m. It is recommended to modify the northbound and southbound left turn phases to protected / permitted by 2033. This modification results in all movements improving to LOS D or better (most at LOS C or better) during the PM peak hour and reduces the northbound left turn queue to 135m.

The Cochrane Lake / Sheriff Road intersection operates well under 2033 post development volumes, with all movements at LOS C or better during both peak hours. The site accesses also operate well (LOS A/B for all movements) in 2033.

6.0 20-YEAR POST DEVELOPMENT HORIZON (2043)

6.1 Background Volumes (2043)

The 20-year post development horizon (2043) background volumes within the study area were determined by applying an annual linear growth rate of 2% to the existing volumes (see **Section 2.2**. for growth rate determination) and adding in the trips from the Monterra development (as discussed in **Section 5.1**). The resulting 2043 background volumes are shown in **Figure 12**.

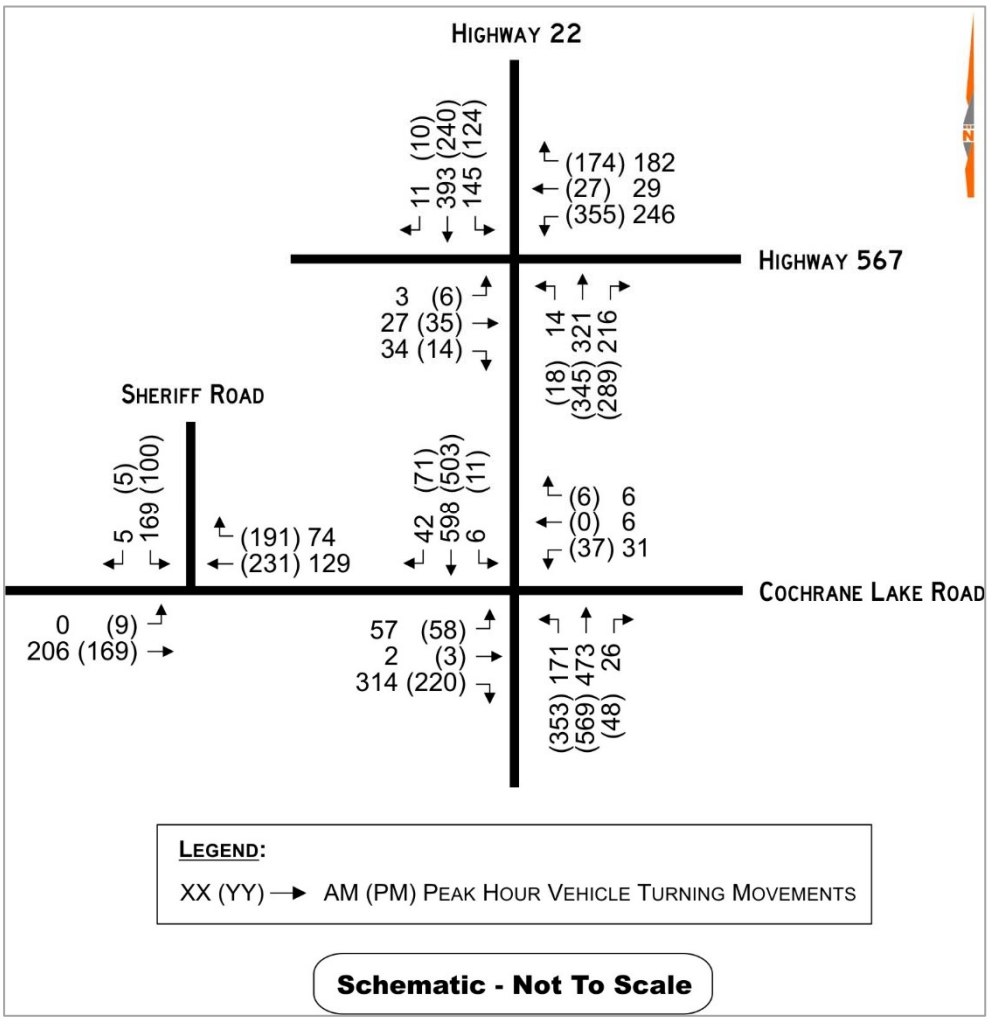


Figure 12: 2043 Background Volumes

6.2 Background Operating Conditions (2043)

Capacity analysis for the 2043 background horizon was conducted for the AM and PM peak hours using the 2043 background volumes shown in **Figure 12**. The model was based off the road network shown in **Figure 2** along with the modifications described in **Section 2.4**. The model also incorporates the mitigations recommended in the 2033 Background Conditions analysis (**Section 5.2**) including signalization of both Highway 22 intersections.

The analysis results are summarized in **Table 10**. All software outputs can be found in **Appendix C**.

Under 2043 background conditions, the signalized Highway 22 / Highway 567 and Highway 22 / Cochrane Lake Road intersections operate well with all movements at LOS C or better during both peak hours. The Cochrane Lake Road / Sheriff Road intersection also operates well, with all movements at LOS A/B under 2043 background volumes.

Table 10: 2043 Background Operating Conditions

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Highway 22 / Highway 567	EB	Left / Through	0.05	A	10	5	0.06	A	10	7
		Right	0.06	A	5	4	0.02	A	2	1
	WB	Left / Through	0.67	C	22	37	0.80	C	28	65
		Right	0.28	A	4	9	0.26	A	5	12
	NB	Left	0.03	A	8	3	0.04	A	9	4
		Through	0.40	B	11	35	0.45	B	12	38
		Right	0.28	A	3	9	0.35	A	3	10
	SB	Left	0.32	B	12	19	0.31	B	12	17
		Through / Right	0.49	B	12	45	0.34	B	11	27
	Intersection Summary		-	**B**	**11**	-	-	**B**	**13**	-
Highway 22 / Cochrane Lake Road	EB	Left / Through	0.20	B	16	12	0.25	C	25	15
		Right	0.52	A	8	20	0.49	A	8	15
	WB	Left / Through	0.10	B	15	9	0.14	C	23	11
		Right	0.01	A	1	1	0.02	A	3	1
	NB	Left	0.57	B	16	26	0.76	C	20	74
		Through / Right	0.55	A	9	48	0.54	A	7	53
	SB	Left	0.01	A	5	1	0.03	A	4	2
		Through / Right	0.68	B	12	67	0.51	A	7	48
	Intersection Summary		-	**B**	**11**	-	-	**B**	**11**	-
Cochrane Lake Road / Sheriff Road	EB	Left / Through	0.00	A	0	0	0.01	A	1	0
	WB	Through	0.08	A	0	0	0.14	A	0	0
		Right	0.04	A	0	0	0.11	A	0	0
	SB	Left	0.26	B	12	8	0.17	B	13	5
		Right	0.26	B	12	8	0.17	B	13	5
	Intersection Summary		-	**A**	**4**	-	-	**A**	**2**	-

6.3 Post Development Volumes (2043)

The trips generated by the development (shown in **Figure 6**) were added to the 2043 background volumes (shown in **Figure 12**) to determine the long-term post development volumes. The resulting AM and PM peak hour post development volumes are shown in **Figure 13**.

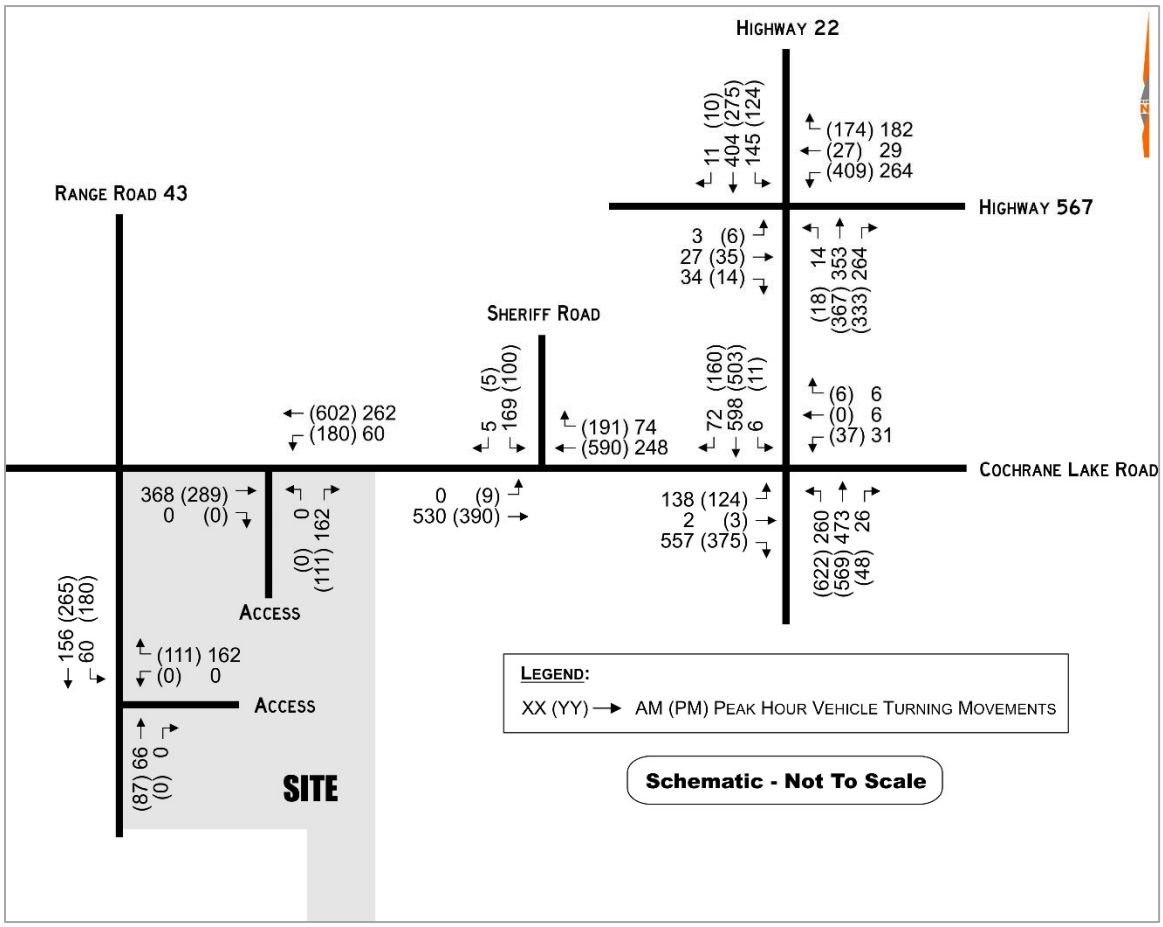


Figure 13: 2043 Post Development Volumes

6.4 Post development Operating Conditions (2043)

The 2043 post development operating conditions were analyzed in Synchro during the AM and PM peak hours within the study area. The analysis results are summarized in **Table 11**.

Table 11: 2043 Post Development Operating Conditions

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Highway 22 / Highway 567	EB	Left / Through	0.05	A	10	5	0.06	A	9	6
		Right	0.06	A	5	4	0.02	A	2	2
	WB	Left / Through	0.70	C	23	41	0.82	C	28	76
		Right	0.28	A	4	9	0.25	A	5	12
	NB	Left	0.04	A	9	3	0.04	B	11	4
		Through	0.44	B	12	39	0.51	B	15	48
		Right	0.33	A	3	10	0.41	A	4	12
	SB	Left	0.35	B	12	20	0.36	B	16	20
		Through / Right	0.51	B	12	46	0.41	B	14	37
	Intersection Summary		-	**B**	**11**	-	-	**B**	**15**	-
Highway 22 / Cochrane Lake Road	EB	Left / Through	0.52	C	35	38	0.70	E	72	59
		Right	0.87	C	29	97	0.94	D	54	100
	WB	Left / Through	0.11	C	25	12	0.22	D	52	20
		Right	0.01	A	0	0	0.02	A	0	0
	NB	Left	0.66	B	19	45	0.91	D	47	194
		Through / Right	0.48	B	12	83	0.45	A	7	85
	SB	Left	0.01	A	7	2	0.03	A	10	3
		Through / Right	0.88	D	36	162	0.94	E	56	223
	Intersection Summary		-	**C**	**26**	-	-	**C**	**35**	-
Cochrane Lake Road / Sheriff Road	EB	Left / Through	0.00	A	0	0	0.01	A	0	0
	WB	Through	0.15	A	0	0	0.35	A	0	0
		Right	0.04	A	0	0	0.11	A	0	0
	SB	Left	0.47	C	23	19	0.39	D	27	14
		Right	0.47	C	23	19	0.39	D	27	14
	Intersection Summary		-	**A**	**4**	-	-	**A**	**2**	-

Table 11 (Continued): 2043 Post Development Operating Conditions

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Cochrane Lake Road / North Site Access	EB	Through / Right	0.22	A	0	0	0.17	A	0	0
	WB	Left / Through	0.05	A	2	1	0.14	A	3	4
	NB	Left / Right	0.24	B	12	7	0.15	B	11	4
	Intersection Summary		-	**A**	**3**	-	-	**A**	**3**	-
Range Road 43 / West Site Access	WB	Left / Through	0.16	A	9	4	0.12	A	9	3
	NB	Through	0.04	A	0	0	0.05	A	0	0
	SB	Right	0.04	A	2	1	0.12	A	4	3
	Intersection Summary		-	**A**	**5**	-	-	**A**	**4**	-

Under 2043 post development conditions, the signalized Highway 22 / Highway 567 intersection works well with all movements at LOS C or better during both peak hours.

At the Highway 22 / Cochrane Lake Road intersection, the southbound through / right movement is at LOS D during the AM peak. During the PM peak hour, the eastbound left / through and southbound through / right are at LOS E and multiple other movements are at LOS D. Eastbound right-turning traffic are being blocked by the eastbound left / through queue; a separate eastbound right turn lane is recommended to allow right-turning vehicles to bypass the queue. The right turn lane should be 60m in length to be able to bypass the left / through queue. Installation of the eastbound right-turn lane improves the eastbound right turn movement to LOS B and the southbound through / right movement to LOS D; however, the eastbound left / through movement remains at LOS E. A conceptual design of a signalized Highway 22 / Cochrane Lake Road intersection incorporating the recommended eastbound right turn lane is included in **Appendix E**.

The stop-controlled Cochrane Lake Road / Sheriff Road intersection operates well (LOS C or better) during the AM peak. The southbound movement is at LOS D during the PM

peak; however, the southbound 95th percentile queue is only 2 vehicles in length. No mitigations are recommended at this intersection.

Both site accesses operate well in 2043, with all movements at LOS A/B during both peak hours.

7.0 WARRANT ANALYSIS

7.1 Signal Warrant

As discussed in **Section 4.3** and **Section 5.2**, signal warrants were conducted for the Highway 22 / Highway 567 and Highway 22 / Cochrane Lake Road intersections. The warrants were conducted using 2033 background volumes and 2023 post development volumes (the point at which failing intersection movements occurred under background and post development volumes respectively). In both horizon years, signals were warranted at both Highway 22 intersections. See **Appendix D** for detailed signal warrant analysis results.

7.1.1 Roundabout Analysis

As an alternative to signalization, the potential for installing a roundabout was examined for both intersections. At the Highway 22 / Cochrane Lake Road intersection, there is a vertical crest approximately 300m north of the intersection that restricts the southbound sightline to the intersection. For this reason, a signal is recommended over a roundabout at Highway 22 / Cochrane Lake Road.

For the Highway 22 / Highway 567 intersection, a single lane roundabout was analyzed in SIDRA to determine how a roundabout would operate, using 2043 post development volumes. The analysis results are summarized in **Table 12**.

Table 12: SIDRA Roundabout Analysis Results – 2043 Post Development Volumes

Intersection / Movement			AM Peak Hour				PM Peak Hour			
			v/c Ratio	LOS	Delay (s)	Queue (m)	v/c Ratio	LOS	Delay (s)	Queue (m)
Highway 22 / Highway 567 (Roundabout)	EB	Left / Through / Right	0.13	A	9	1	0.11	A	8	0
	WB	Left / Through / Right	0.62	B	14	6	0.77	C	20	12
	NB	Left / Through / Right	0.66	B	13	7	0.73	C	16	12
	SB	Left / Through / Right	0.67	C	15	8	0.59	B	15	5
	Intersection Summary		-	**B**	**14**	-	-	**C**	**17**	-

Under 2043 post development conditions, a single lane roundabout at Highway 22 / Highway 567 operates well (all movements at LOS C or better) during the AM and PM peak hours.

7.2 Illumination Warrants

An illumination warrant was conducted for the Highway 22 / Cochrane Lake Road intersection to determine the appropriate type of illumination for the intersection. The warrant was conducted using the TAC *Illumination of Isolated Rural Intersections* (2001) warrant procedure. The analysis was based on 2023 post development volumes; Average Annual Daily Traffic (AADT) volumes were estimated by applying a factor of 10 to the 2023 PM peak hour volumes. Based on the analysis, under 2023 post development conditions delineation lighting will be warranted at the signalized Highway 22 / Cochrane Lake Road intersection. See **Appendix D** for detailed illumination warrant analysis results.

7.3 Road Link Analysis

A road link analysis was conducted on Cochrane Lake Road and Range Road 43 to determine if modifications / upgrades are required to accommodate post development volumes. Based on the Rocky View County road specifications, Cochrane Lake Road is built as a Regional Collector between Highway 22 and Sheriff Road and as a Regional Transitional Paved road from Sherriff Road to Range Road 43. Range Road 43 south of Cochrane Lake Road is built as a Regional Transitional Paved road. The estimated AADT on Cochrane Lake Road and Range Road 43 for each of the studied horizons is shown below, in **Table 13**.

Table 13: AADT – Cochrane Lake Road / Range Road 43

Road Section	2022 Existing	Background Volumes (vpd)			Post Development Volumes (vpd)		
		2023	2033	2043	2023	2033	2043
Cochrane Lake Rd (Highway 22 – Sheriff Rd)	2,220	2,260	6,440	7,050	8,060	12,240	12,850
Cochrane Lake Road (Sheriff Rd – Range Rd 43)	1,090	1,100	3,850	4,140	6,900	9,650	9,950
Range Rd 43 (Cochrane Lake Rd - West Site Access)	950	960	1,320	1,610	4,770	5,920	6,420

Based on the Rocky View County Servicing Standards, a Regional Transitional Paved road is appropriate for volumes from 200 vpd to 1,000 vpd, a Regional Collector road is appropriate for volumes from 500 vpd to 2,500 vpd, and a Regional Arterial road is appropriate for volumes exceeding 2,500 vpd. Based on these standards, the existing road classifications are appropriate for existing 2022 volumes as well as 2023 background volumes. However, in order to accommodate the expected volumes, Cochrane Lake Road should be upgraded to Regional Arterial specification (including widening the road surface to 10m) by 2033 under background conditions or by 2023 (opening day) under post development conditions. Range Road 43 should be upgraded to Regional Collector specification (including widening the road surface to 9m) by 2033 under background conditions or to Regional Arterial specification by 2023 under post development conditions. The existing Cochrane Lake Road and Range Road 43 right-of-ways are 30m in width; there is ample room within the right-of-way for widening either road to Regional Arterial specifications (including Highway 22 / Cochrane Lake Road eastbound right turn lane recommended under 2043 post development conditions).

8.0 CONCLUSION AND RECOMMENDATIONS

The results of the study led to the following conclusions and recommendations:

Existing Operating Conditions (2022)

- The Highway 22 / Highway 567 intersection operates adequately during both the AM and PM peak hours under existing conditions, with the westbound movement at LOS D and the remaining movements at LOS A/B.
- The remaining study intersections (Highway 22 / Cochrane Lake Road and Cochrane Lake Road / Sheriff Road) operate well under existing conditions, with all movements at LOS C or better during both peak hours.

Opening Day (2023) Background and Post Development Operating Conditions

- Under opening day (2023) background conditions, the study intersections continue to operate adequately during both peak hours; all movements are at LOS C or better with the exception of the Highway 22 / Highway 567 westbound movement, which is at LOS D.
- Under post development conditions, with the addition of site traffic the westbound movement at Highway 22 / Highway 567 drops to LOS E in the AM and LOS F in the PM. At the Highway 22 / Cochrane Lake Road intersection, the eastbound and westbound movements drop to LOS F during both peak hours. Signalization of both intersections is recommended to improve operations and result in all movements operating at LOS A/B in the AM and LOS C or better in the PM.
- The Cochrane Lake Road / Sheriff Road intersection and both site accesses operate well (LOS A/B) under opening day post development conditions.

2033 Horizon Year Background and Post Development Operating Conditions

- Under 2033 background conditions, the westbound movements at the Highway 22 / Highway 567 and Highway 22 / Cochrane Lake Road intersections drop to LOS F during both the AM and PM peak hours, with the eastbound Highway 22 / Cochrane Lake Road movement also operating at LOS F in the PM peak.

Signalization of both intersections is recommended to improve operations and result in all movements operating at LOS A/B in the AM and LOS C or better in the PM.

    - Upgraded traffic control (a signal at Highway 22 / Cochrane Lake Road and a roundabout at Highway 22 / Highway 567) was also recommended by the Monterra Development TIA.

- The Cochrane Lake Road / Sheriff Road intersection continues to operate well (LOS A/B) under 2033 background volumes.
- Under the 2033 post development conditions, after signalization (recommended under 2033 background conditions) the Highway 22 / Highway 567 intersection operates with all movements at LOS C or better.
- The signalized Highway 22 / Cochrane Lake Road operates well (LOS C or better) in the AM under post development conditions; however, in the PM peak hour the eastbound left / through movement is at LOS E and multiple other movements are at LOS D. The northbound left turn queue of 200m exceeds the existing 140m left turn storage length. Modifying the northbound and southbound left turn phases to protected / permitted is recommended and results in all movements improving to LOS D or better with most at LOS C or better during the PM peak hour and reduces the northbound queue to 135m to accommodate left turning traffic within the existing storage.
- The Cochrane Lake Road / Sheriff Road intersection continues to operate well (LOS C or better) under 2033 post development conditions. The site accesses also continue to operate well (LOS A).

<u>2043 Horizon Year Background and Post Development Operating Conditions</u>

- Under the 2043 background conditions the signalized Highway 22 / Highway 567 and Highway 22 / Cochrane Lake Road intersections operate with all movements at LOS C or better while the Cochrane Lake Road / Sheriff Road intersection operates with all movements at LOS A/B during both peak hours.
- Under the 2043 post development conditions, the Highway 22 / Highway 567 intersection operates well (all movements at LOS C or better). At the Highway 22 / Cochrane Lake Road intersection, the southbound through / right turn

movement is at LOS D and the remaining movements are at LOS C or better. During the PM peak hour, the eastbound left / through and southbound through / right movements are at LOS E. It is recommended to install a separate eastbound right turn lane (60m in length) to allow eastbound right turning vehicles to bypass the left / through queue. Implementing this change results in an improvement of the southbound through / right turn movement to LOS D. The eastbound left / through remains at LOS E, however the eastbound right turn improves from LOS D to B.

Warrant Analysis

- Signal warrants conducted for the Highway 22 / Highway 567 and Highway 22 / Cochrane Lake Road intersection determined that signalization was warranted at both intersections on Highway 22 under 2023 post development conditions as well as under 2033 background conditions.
- A roundabout analysis was also conducted for the Highway 22 / Highway 567 intersection as an alternative to a signalized intersection. A Highway 22 / Highway 567 roundabout operates well (LOS C or better) under 2043 post development volumes.
    - Due to the vertical crest on the north approach which limits the sightline, a roundabout is not recommended at the Highway 22 / Cochrane Lake Road intersection. Therefore, a roundabout was not analyzed for this intersection.
- An illumination warrant conducted for the Highway 22 / Cochrane Lake Road intersection. Under 2023 post development conditions (assuming signalization of the intersection as recommended), delineation lighting is warranted at the Highway 22 / Cochrane Lake Road intersection.
- A road link analysis conducted for Cochrane Lake Road and Range Road 43 determined the following:
    - an upgrade of Cochrane Lake Road to Regional Arterial specifications is recommended under 2023 post development or 2033 background conditions.

- it is recommended to upgrade Range Road 43 to Regional Collector specifications under 2033 background conditions or to Regional Arterial specifications under 2023 post development conditions.
- There is adequate existing right-of-way (30m) for both Cochrane Lake Road and Range Road 43 to allow for upgrades to Regional Arterial specifications.

APPENDIX A: SCOPE OF WORK

Tanner Vollema

From: Milan Patel <MPatel@rockyview.ca>
Sent: November 30, 2021 12:18 PM
To: Tanner Vollema; Jeannette Lee; Trevor Richelhof; Steven Altena
Subject: RE: [EXTERNAL] - RE: Cochrane Lake Hamlet - Scope of Work

Hi Tanner,

Below are my comments in **Red** for the proposed scope of work for the TIA. AT may have additional comments.

Let me know if you have any questions.

1. Obtain the 100th Highest Hr AM and PM peak hour 2020 traffic counts from the AT website at the following locations.
    - Hwy 22 / Cochrane Lake Road (TWP Rd 264)
    - Hwy 22 / Range Road 43
    - Hwy 22/Hwy 567 – Please include this intersection in your analysis as well.

The traffic count from **2020** may not provide accurate representation of overall traffic for the area due to covid. Please check the traffic count data from last five years (2016-2020). The highest traffic count for a given year should be used from the last five years.

2. Conduct AM / PM peak hour counts at Cochrane Lake Road / Sherriff Road.
3. AT intersection traffic statistics to be factored as required (as per AT Highway Geometric Design Guide, Chapter A)
4. Determine an annual growth factor for background traffic based on historical counts at both intersections.

Please take into consideration following major conceptual schemes and MSDPs approved in the area. These will likely add to the growth for the background traffic. I can send you the TIAs for these developments if required.

- Cochrane North (Please check with Asad)
- Cochrane Lake Industrial Development
- Gravel Pits Operations (Hillstone, Summit, McNair and Lafarge)

5. Obtain opening day (2023) and long term (2033 / 2043) horizon background volumes by applying the annual growth rate to the 2020 volumes from AT website.
    - As the RR 43 connection to Hwy 22 has recently been deactivated, RR 43 traffic will be diverted to Cochrane Lake Road or Horse Creek Road to be redistributed as described in the *Hwy 1A / 22 Impact on Range Road 43 Access* memo (dated February 4, 2021) created for Rocky View County by Watt Consulting
    - Include the expected volumes from Monterra development (from Monterra TIA)
6. Conduct trip generation for proposed development using ITE trip generation rates (*from Trip Generation Manual 11th Edition*)
7. Trip assignment / distribution to be based on existing traffic patterns.
8. As the proposed development is residential, no internal trip rate or pass-by trip rates to be applied.

9. AM and PM peak analysis in the following horizons:
    - 2023 Background
    - 2023 Post Development (Background + Trip Assignment)
    - ~~2030~~ 2033 Background
    - ~~2030~~ 2033 Post Development
    - ~~2040~~ 2043 Background
    - ~~2040~~ 2043 Post Development
10. The following intersections will be analyzed:
    - Hwy 22 / Cochrane Lake Road
    - Cochrane Lake Road / Sheriff Road
    - Cochrane Lake Road / Site Access
    - Hwy 22/ Hwy 567
11. Undertake signal and illumination warrant analyses at Hwy 22 / Cochrane Lake Road intersection. Roundabout analysis to be undertaken if greater than two-way stop control is required (as per AT Design Bulletin #68). – Please undertake Road Link Analysis of Cochrane Lake Road to see whether the road upgrade is required or not.
12. Record findings and recommendations in a report.- Please take into consideration a vertical curve along Hwy.22 limiting the sight distances for your recommendations.
13. Report structure and analysis shall generally follow AT's Traffic Impact Assessment guideline.

Best regards,

MILAN PATEL, P.ENG
Municipal Engineer | Planning and Development Services

ROCKY VIEW COUNTY
262075 Rocky View Point| Rocky View County | AB | T4A 0X2
Phone: 403-520-7279
MPatel@rockyview.ca | www.rockyview.ca

Due to the recent Provincial Health Order, our office will remain open however, with limited access to staff. Please feel free to leave a message and we will endeavour to get back to you as soon as possible, email is the preferred method of communication at this time. If you prefer a phone conversation, we ask for your patience as we work through this process.

Should you require a meeting with staff, we encourage you to contact us to arrange a virtual meeting.

From: Tanner Vollema <TVollema@wattconsultinggroup.com>
Sent: November 29, 2021 11:14 AM
To: Jeannette Lee <JLee@rockyview.ca>; Trevor Richelhof <trevor.richelhof@gov.ab.ca>; Milan Patel <MPatel@rockyview.ca>; Steven Altena <SAltena@rockyview.ca>
Subject: RE: [EXTERNAL] - RE: Cochrane Lake Hamlet - Scope of Work

Hello Jeannette / Trevor,

I'm following up on my email from Dec 18th regarding approval of the attached scope of work for the Cochrane Lake Hamlet TIA; please let me know if the scope is acceptable to you or if you have any additional concerns.

Thank you,
Tanner Vollema

Tanner Vollema, EIT
Transportation Engineer
T 250-410-1057
E tvollema@wattconsultinggroup.com

WATTCONSULTINGGROUP.COM

From: Tanner Vollema
Sent: November 18, 2021 1:08 PM
To: Jeannette Lee <JLee@rockyview.ca>; Trevor Richelhof <trevor.richelhof@gov.ab.ca>; Milan Patel <MPatel@rockyview.ca>; Steven Altena <SAltena@rockyview.ca>
Subject: RE: [EXTERNAL] - RE: Cochrane Lake Hamlet - Scope of Work

Hello,

The attached scope of work for the Cochrane Lake Hamlet TIA has been revised based on the comments from Rocky View County and Alberta Transportation. Please let me know if this is acceptable and we can begin work on the TIA immediately. If further changes are needed, please let me know.

Thank you,
Tanner Vollema

Tanner Vollema, EIT
Transportation Engineer
T 250-410-1057
E tvollema@wattconsultinggroup.com

WATTCONSULTINGGROUP.COM

From: Jeannette Lee <JLee@rockyview.ca>
Sent: November 18, 2021 11:33 AM
To: Trevor Richelhof <trevor.richelhof@gov.ab.ca>; Tanner Vollema <TVollema@wattconsultinggroup.com>; Milan Patel <MPatel@rockyview.ca>; Steven Altena <SAltena@rockyview.ca>
Subject: RE: [EXTERNAL] - RE: Cochrane Lake Hamlet - Scope of Work

Hello Tanner,

Please include Milan Patel for future correspondence on this file as he is the Engineer for this area at the County. However, I do wanted to note that is impact to the County's road network due to the closure at RR 43 with the proposed design of the Hwy 22 interchange and we have had some concerns raised by Interpipeline with regards to access etc.

We do expect that the County could see a potential increase of +/- 700 vehicles along Cochrane Lake road and TWP 262, Milan will be able to provide the summary but it was completed by Watt so you should have that.

Thanks
Jeannette

From: Trevor Richelhof <Trevor.Richelhof@gov.ab.ca>
Sent: November 18, 2021 11:08 AM
To: Tanner Vollema <TVollema@wattconsultinggroup.com>; Jeannette Lee <JLee@rockyview.ca>
Subject: [EXTERNAL] - RE: Cochrane Lake Hamlet - Scope of Work

Hi Tanner,

Analysis for Alberta Transportation intersection(s) should also include the following parameters:

- Report structure and analysis shall generally follow Alberta Transportation's Traffic Impact Assessment guideline https://open.alberta.ca/publications/traffic-impact-assessment-guidelines
- Traffic statistics to be factored as required to determine design hour volumes per Chapter A, Highway Geometric Design Guide
- Roundabout analysis shall be undertaken if greater than two-way stop control is required, per Design Bulletin #68.
    - If a signal is proposed instead of a roundabout, a preliminary design (of both alternatives) and a benefit-cost analysis will be required to justify the signal.

Let me know if you require anything further.

Thanks,

Trevor Richelhof AICP, C.E.T.
Development / Planning Technologist
Construction & Maintenance, Southern Region
Alberta Transportation
Government of Alberta

Willowglen Business Park
2nd Floor, 803 Manning Road NE
Calgary AB T2E 7M8

~~Tel 403-297-7652~~
Cell 403-660-3106
~~Fax 403-297-7682~~
Trevor.Richelhof@gov.ab.ca
Applications/referrals: TransDevelopmentCalgary@gov.ab.ca

PLEASE NOTE: I am presently working remotely. I can still be reached via email

Classification: Protected A

From: Tanner Vollema <TVollema@wattconsultinggroup.com>
Sent: Thursday, November 18, 2021 10:42 AM
To: jlee@rockyview.ca; Trevor Richelhof <Trevor.Richelhof@gov.ab.ca>
Subject: Cochrane Lake Hamlet - Scope of Work

Good morning Jeanette / Trevor,

WATT has been retained by Canopy Lands to undertake a TIA for the Cochrane Lake Hamlet residential development at the southeast corner of Cochrane Lake Road / RR 43 intersection. The proposed TIA scope of work is attached for your review and approval. Please let me know if you have any questions / concerns or require any changes to the scope.

Jeanette, would you also be able to provide a copy of the TIA for the Monterra development just to the north of the site, to allow us to include the future site trips from this development in our background volumes?

Thank you,
Tanner Vollema

Tanner Vollema, EIT
Transportation Engineer
T 250-410-1057
E tvollema@wattconsultinggroup.com

WATTCONSULTING**GROUP**.COM

APPENDIX B: TRAFFIC COUNTS

Turning Movement Summary Diagram

Reference No.: 61230

Intersection of:
22 & 567 N OF COCHRANE

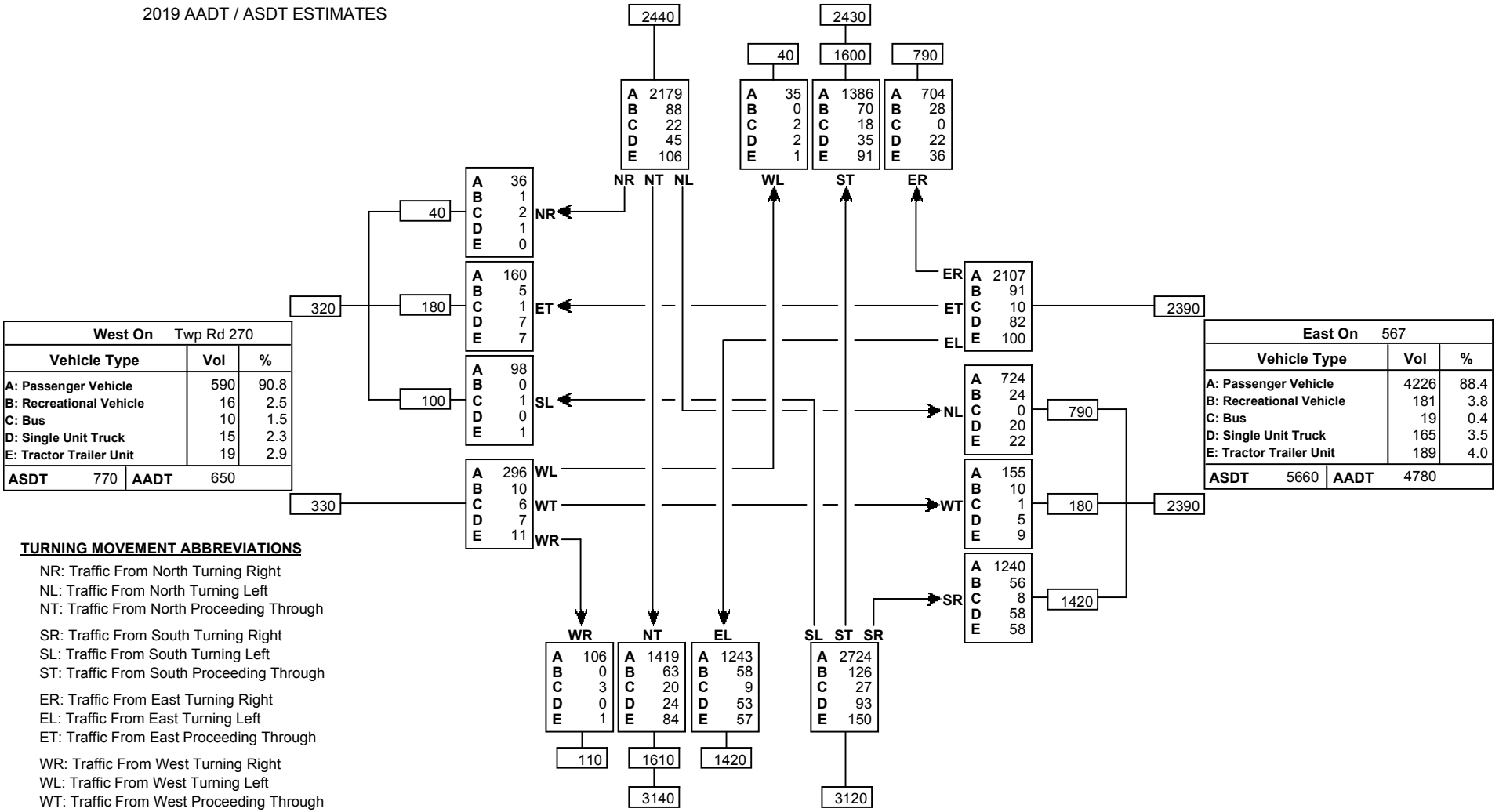
2019 AADT / ASDT ESTIMATES

North On 22		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	4304	88.4
B: Recreational Vehicle	186	3.8
C: Bus	42	0.9
D: Single Unit Truck	104	2.1
E: Tractor Trailer Unit	234	4.8
ASDT 5770	**AADT**	4870

West On Twp Rd 270		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	590	90.8
B: Recreational Vehicle	16	2.5
C: Bus	10	1.5
D: Single Unit Truck	15	2.3
E: Tractor Trailer Unit	19	2.9
ASDT 770	**AADT**	650

East On 567		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	4226	88.4
B: Recreational Vehicle	181	3.8
C: Bus	19	0.4
D: Single Unit Truck	165	3.5
E: Tractor Trailer Unit	189	4.0
ASDT 5660	**AADT**	4780

South On 22		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	5492	87.7
B: Recreational Vehicle	247	3.9
C: Bus	59	0.9
D: Single Unit Truck	170	2.7
E: Tractor Trailer Unit	292	4.7
ASDT 7420	**AADT**	6260



TURNING MOVEMENT ABBREVIATIONS

NR: Traffic From North Turning Right
NL: Traffic From North Turning Left
NT: Traffic From North Proceeding Through

SR: Traffic From South Turning Right
SL: Traffic From South Turning Left
ST: Traffic From South Proceeding Through

ER: Traffic From East Turning Right
EL: Traffic From East Turning Left
ET: Traffic From East Proceeding Through

WR: Traffic From West Turning Right
WL: Traffic From West Turning Left
WT: Traffic From West Proceeding Through

TURNING MOVEMENT ABBREVIATIONS

AADT: Annual Average Daily Traffic
Average daily traffic expressed as vehicles per day fo
period of January 1 to December 31 (365 days)

ASDT: Average Summer Daily Traffic
Average daily traffic expressed as vehicles per day fo
period of May 1 to September 30 (153 days)

Turning Movement Summary Diagram

Reference No.: 61230

Intersection of:
22 & 567 N OF COCHRANE

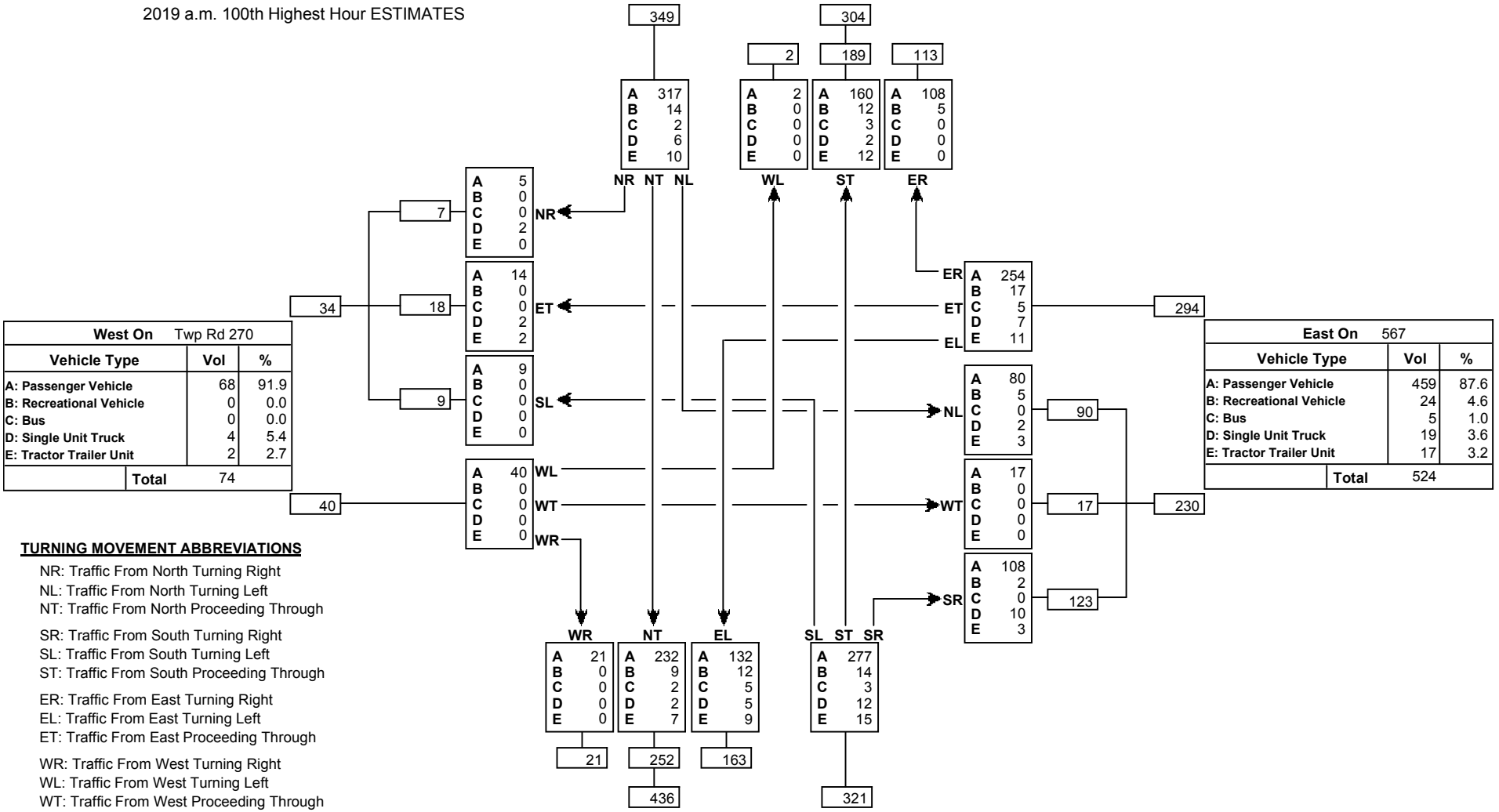
2019 a.m. 100th Highest Hour ESTIMATES

North On 22		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	587	89.9
B: Recreational Vehicle	31	4.7
C: Bus	5	0.8
D: Single Unit Truck	8	1.2
E: Tractor Trailer Unit	22	3.4
Total	653	

West On Twp Rd 270		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	68	91.9
B: Recreational Vehicle	0	0.0
C: Bus	0	0.0
D: Single Unit Truck	4	5.4
E: Tractor Trailer Unit	2	2.7
Total	74	

East On 567		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	459	87.6
B: Recreational Vehicle	24	4.6
C: Bus	5	1.0
D: Single Unit Truck	19	3.6
E: Tractor Trailer Unit	17	3.2
Total	524	

South On 22		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	662	87.5
B: Recreational Vehicle	35	4.6
C: Bus	10	1.3
D: Single Unit Truck	19	2.5
E: Tractor Trailer Unit	31	4.1
Total	757	



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WL: Traffic From West Turning Left
WT: Traffic From West Proceeding Through

Turning Movement Summary Diagram

Reference No.: 61230

Intersection of:
22 & 567 N OF COCHRANE

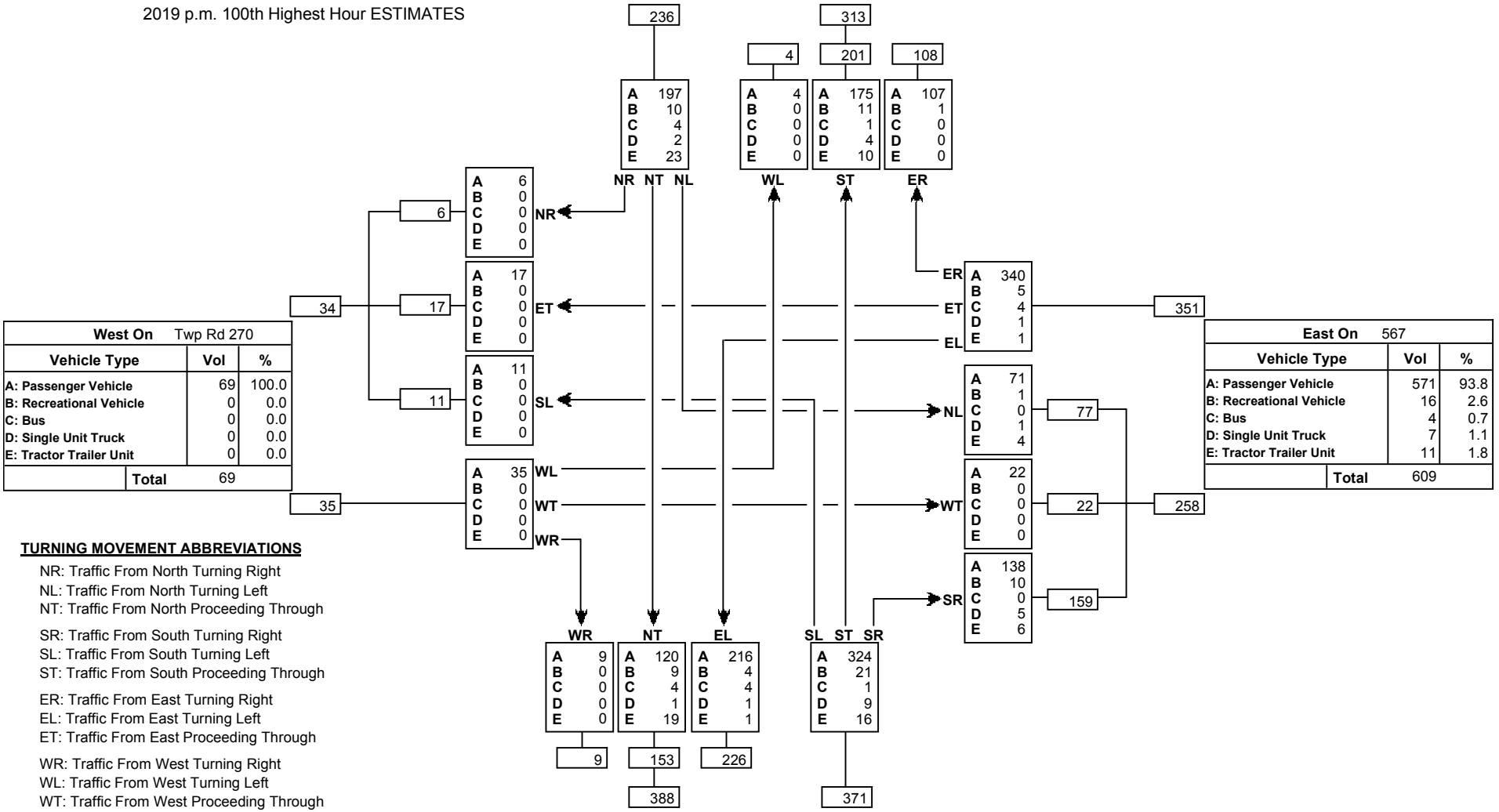
2019 p.m. 100th Highest Hour ESTIMATES

North On 22		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	483	88.0
B: Recreational Vehicle	22	4.0
C: Bus	5	0.9
D: Single Unit Truck	6	1.1
E: Tractor Trailer Unit	33	6.0
Total	549	

West On Twp Rd 270		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	69	100.0
B: Recreational Vehicle	0	0.0
C: Bus	0	0.0
D: Single Unit Truck	0	0.0
E: Tractor Trailer Unit	0	0.0
Total	69	

East On 567		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	571	93.8
B: Recreational Vehicle	16	2.6
C: Bus	4	0.7
D: Single Unit Truck	7	1.1
E: Tractor Trailer Unit	11	1.8
Total	609	

South On 22		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	669	88.1
B: Recreational Vehicle	34	4.5
C: Bus	9	1.2
D: Single Unit Truck	11	1.4
E: Tractor Trailer Unit	36	4.7
Total	759	



TURNING MOVEMENT ABBREVIATIONS

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EL: Traffic From East Turning Left
ET: Traffic From East Proceeding Through

WR: Traffic From West Turning Right
WL: Traffic From West Turning Left
WT: Traffic From West Proceeding Through

Turning Movement Summary Diagram

Reference No.: 990100

Intersection of:
22 & COCHRANE LK RD 22-26-4-500000000

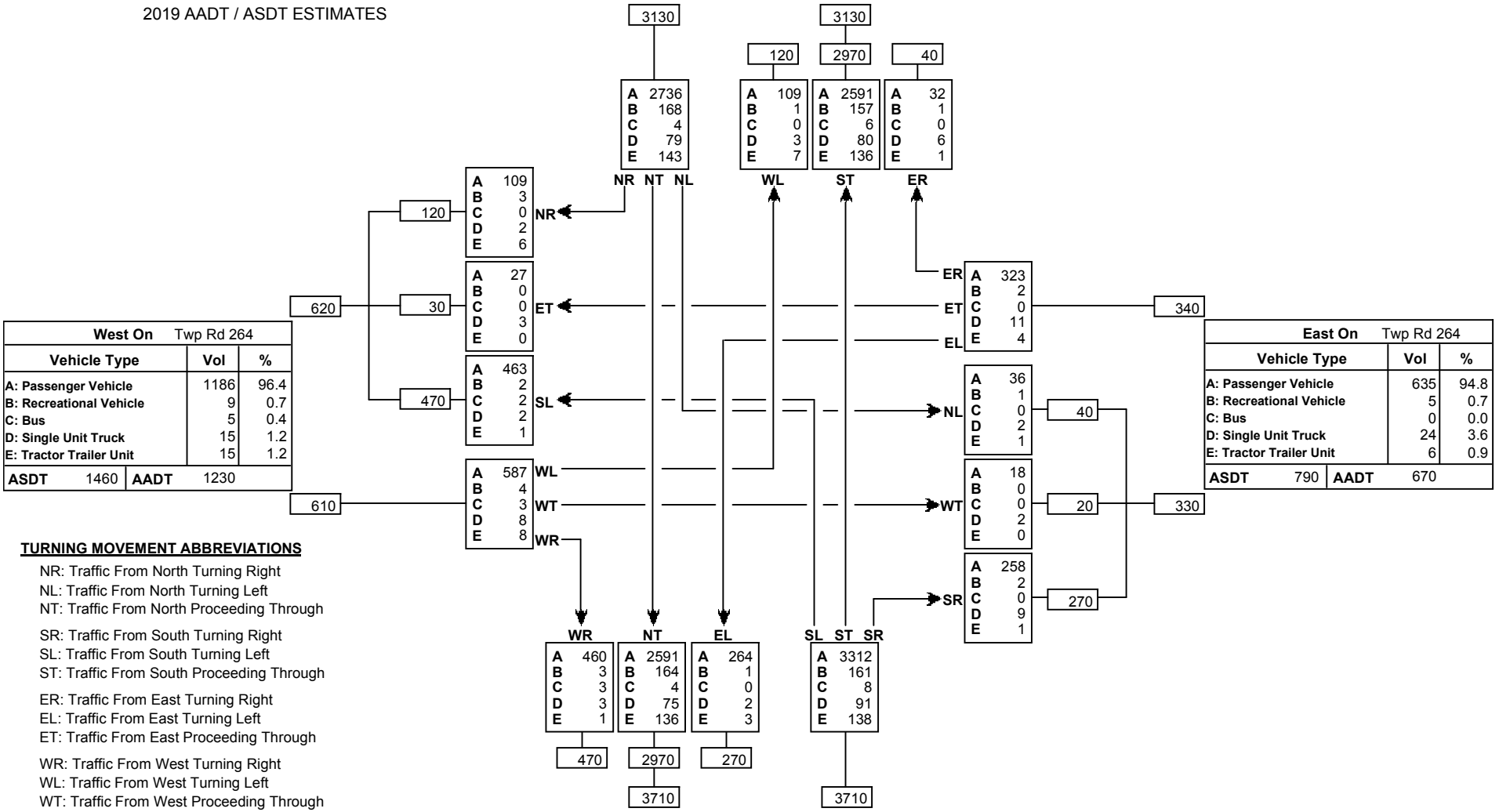
2019 AADT / ASDT ESTIMATES

North On 22		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	5468	87.3
B: Recreational Vehicle	327	5.2
C: Bus	10	0.2
D: Single Unit Truck	168	2.7
E: Tractor Trailer Unit	287	4.6
ASDT 7420	**AADT** 6260	

West On Twp Rd 264		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	1186	96.4
B: Recreational Vehicle	9	0.7
C: Bus	5	0.4
D: Single Unit Truck	15	1.2
E: Tractor Trailer Unit	15	1.2
ASDT 1460	**AADT** 1230	

East On Twp Rd 264		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	635	94.8
B: Recreational Vehicle	5	0.7
C: Bus	0	0.0
D: Single Unit Truck	24	3.6
E: Tractor Trailer Unit	6	0.9
ASDT 790	**AADT** 670	

South On 22		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	6627	89.3
B: Recreational Vehicle	329	4.4
C: Bus	15	0.2
D: Single Unit Truck	171	2.3
E: Tractor Trailer Unit	278	3.7
ASDT 8790	**AADT** 7420	



TURNING MOVEMENT ABBREVIATIONS

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WR: Traffic From West Turning Right
WL: Traffic From West Turning Left
WT: Traffic From West Proceeding Through

TURNING MOVEMENT ABBREVIATIONS

AADT: Annual Average Daily Traffic
Average daily traffic expressed as vehicles per day fo
period of January 1 to December 31 (365 days)

ASDT: Average Summer Daily Traffic
Average daily traffic expressed as vehicles per day fo
period of May 1 to September 30 (153 days)

Turning Movement Summary Diagram

Reference No.: 990100

Intersection of:

22 & COCHRANE LK RD 22-26-4-500000000

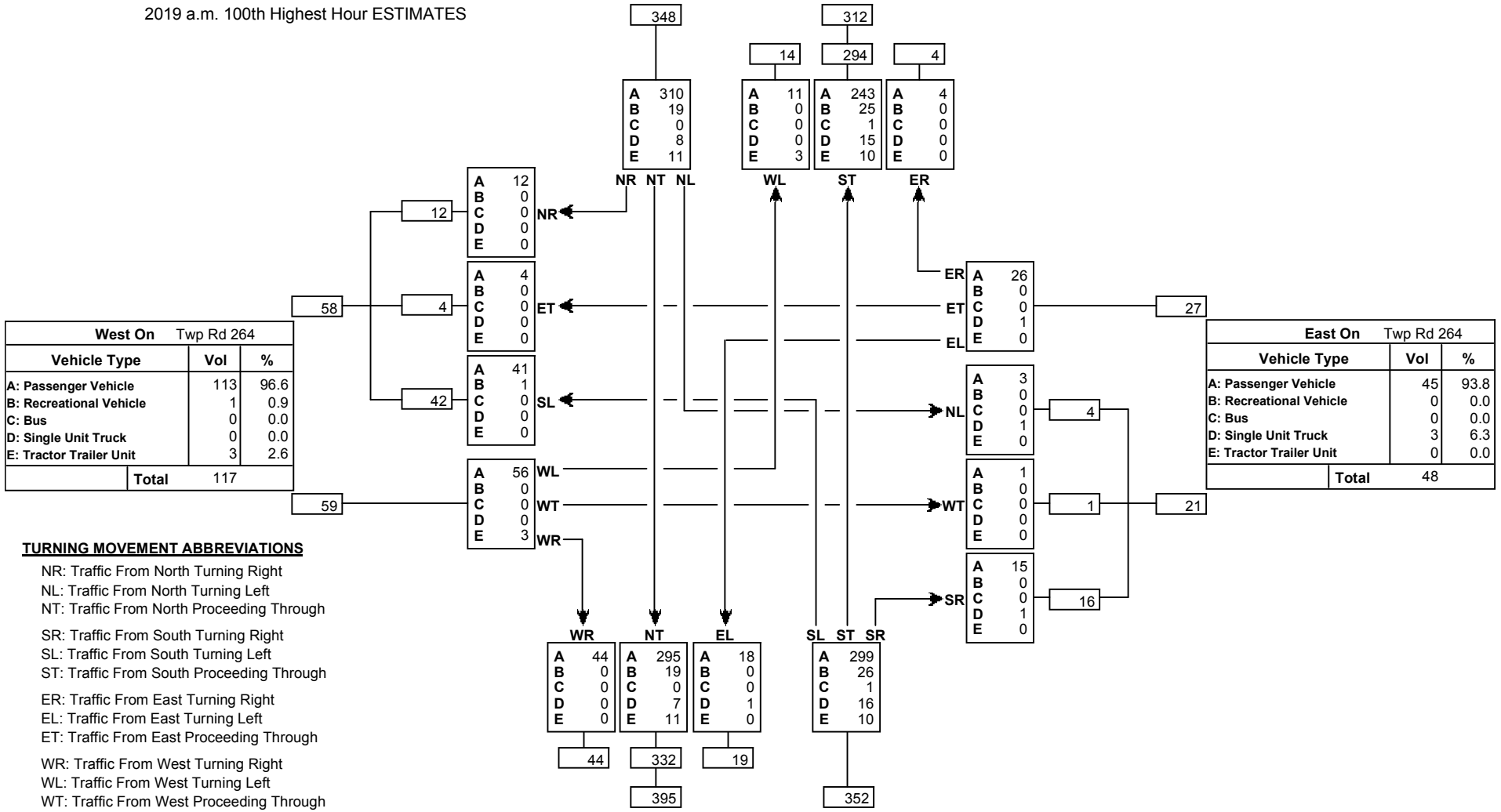
2019 a.m. 100th Highest Hour ESTIMATES

North On 22		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	568	86.1
B: Recreational Vehicle	44	6.7
C: Bus	1	0.2
D: Single Unit Truck	23	3.5
E: Tractor Trailer Unit	24	3.6
Total	660	

West On Twp Rd 264		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	113	96.6
B: Recreational Vehicle	1	0.9
C: Bus	0	0.0
D: Single Unit Truck	0	0.0
E: Tractor Trailer Unit	3	2.6
Total	117	

East On Twp Rd 264		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	45	93.8
B: Recreational Vehicle	0	0.0
C: Bus	0	0.0
D: Single Unit Truck	3	6.3
E: Tractor Trailer Unit	0	0.0
Total	48	

South On 22		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	656	87.8
B: Recreational Vehicle	45	6.0
C: Bus	1	0.1
D: Single Unit Truck	24	3.2
E: Tractor Trailer Unit	21	2.8
Total	747	



TURNING MOVEMENT ABBREVIATIONS

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WL: Traffic From West Turning Left
WT: Traffic From West Proceeding Through

Turning Movement Summary Diagram

Reference No.: 990100

Intersection of:
22 & COCHRANE LK RD 22-26-4-500000000

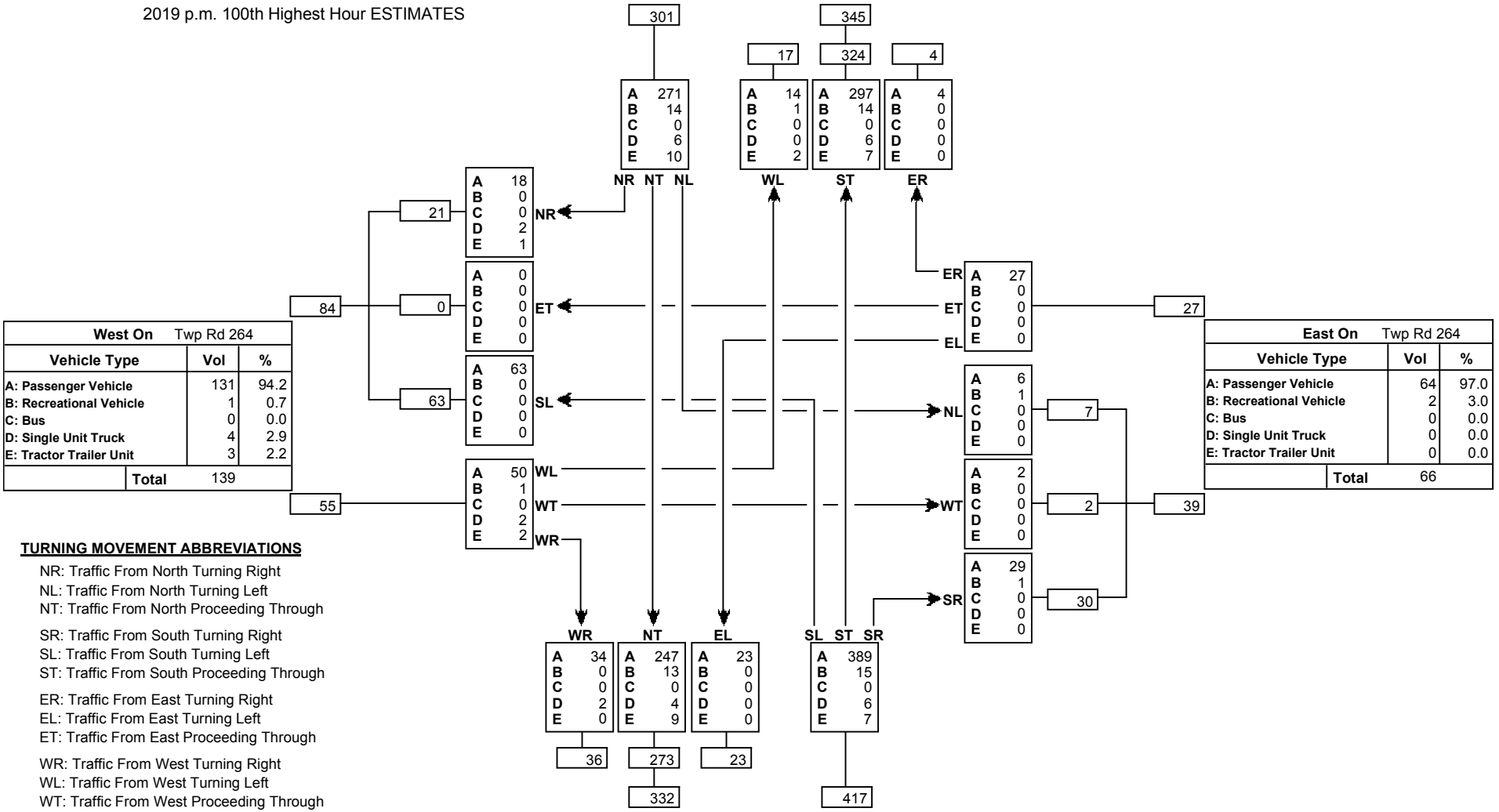
2019 p.m. 100th Highest Hour ESTIMATES

North On 22		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	586	90.7
B: Recreational Vehicle	29	4.5
C: Bus	0	0.0
D: Single Unit Truck	12	1.9
E: Tractor Trailer Unit	19	2.9
Total	646	

West On Twp Rd 264		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	131	94.2
B: Recreational Vehicle	1	0.7
C: Bus	0	0.0
D: Single Unit Truck	4	2.9
E: Tractor Trailer Unit	3	2.2
Total	139	

East On Twp Rd 264		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	64	97.0
B: Recreational Vehicle	2	3.0
C: Bus	0	0.0
D: Single Unit Truck	0	0.0
E: Tractor Trailer Unit	0	0.0
Total	66	

South On 22		
Vehicle Type	**Vol**	**%**
A: Passenger Vehicle	693	92.5
B: Recreational Vehicle	28	3.7
C: Bus	0	0.0
D: Single Unit Truck	12	1.6
E: Tractor Trailer Unit	16	2.1
Total	749	



TURNING MOVEMENT ABBREVIATIONS

NR: Traffic From North Turning Right
NL: Traffic From North Turning Left
NT: Traffic From North Proceeding Through

SR: Traffic From South Turning Right
SL: Traffic From South Turning Left
ST: Traffic From South Proceeding Through

ER: Traffic From East Turning Right
EL: Traffic From East Turning Left
ET: Traffic From East Proceeding Through

WR: Traffic From West Turning Right
WL: Traffic From West Turning Left
WT: Traffic From West Proceeding Through

Location : North Leg : Sheriff Road
South Leg :
East Leg : Cochrane Lake Road
West leg : Cochrane Lake Road
Date : Tuesday December 14, 2021
Observer(s) : Watt Consulting Group
Job # :
Job Name:

Time Starting	From the North On: Sheriff Road							From the South On:							From the East On: Cochrane Lake Road							From the West On: Cochrane Lake Road							Total			Total Vehicles
	Left Turn		Straight		Right Turn		Peds	Left Turn		Straight		Right Turn		Peds	Left Turn		Straight		Right Turn		Peds	Left Turn		Straight		Right Turn		Peds				
	Cars	Trucks	Cars	Trucks	Cars	Trucks		Cars	Trucks	Cars	Trucks	Cars	Trucks		Cars	Trucks	Cars	Trucks	Cars	Trucks		Cars	Trucks	Cars	Trucks	Cars	Trucks		Cars	Trucks	Peds	
7:00	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	1	1	0	0	0	9	1	0	10
7:15	9	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	4	0	0	0	0	15	1	0	16
7:30	16	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0	0	1	0	0	2	4	0	0	0	0	27	4	0	31
7:45	13	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	0	3	0	0	0	0	5	0	0	0	0	27	1	0	28
8:00	11	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	6	2	0	0	0	0	0	0	0	0	18	3	0	21
8:15	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	5	3	0	0	0	3	1	0	0	0	24	6	0	30
8:30	25	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	6	0	11	0	0	0	0	7	0	0	0	0	50	1	0	51
8:45	8	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	0	0	0	1	1	0	0	0	19	3	0	22
Total	100	5	0	0	8	0	0	0	0	0	0	0	0	0	0	0	23	3	33	7	0	0	2	25	3	0	0	0	189	20	0	209
Peak Hour: 7:45 - 8:45	62	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	14	2	25	5	0	0	0	15	1	0	0	0	119	11	0	130
Total Veh & % Trucks	65	5%	0	0%	3	0%		0	0%	0	0%	0	0%		0	0%	16	13%	30	17%		0	0%	16	6%	0	0%					

Time Starting	From the North On: Sheriff Road							From the South On:							From the East On: Cochrane Lake Road							From the West On: Cochrane Lake Road							Total			Total Vehicles
	Left Turn		Straight		Right Turn		Peds	Left Turn		Straight		Right Turn		Peds	Left Turn		Straight		Right Turn		Peds	Left Turn		Straight		Right Turn		Peds				
	Cars	Trucks	Cars	Trucks	Cars	Trucks		Cars	Trucks	Cars	Trucks	Cars	Trucks		Cars	Trucks	Cars	Trucks	Cars	Trucks		Cars	Trucks	Cars	Trucks	Cars	Trucks		Cars	Trucks	Peds	
4:00	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	22	2	0	0	1	2	0	0	0	0	36	3	0	39
4:15	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	14	0	0	1	0	5	0	0	0	0	28	1	0	29
4:30	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	16	0	0	3	0	2	1	0	0	0	37	1	0	38
4:45	4	3	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	12	2	0	0	0	4	0	0	0	0	23	6	0	29
5:00	6	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	5	0	8	0	1	2	0	3	0	0	0	0	25	0	1	25
5:15	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	10	0	0	0	0	4	0	0	0	0	28	0	0	28
5:30	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	1	17	0	0	2	0	4	0	0	0	0	37	1	0	38
5:45	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	23	0	0	0	0	4	0	0	0	0	42	1	0	43
Total	61	3	0	0	4	0	0	0	0	0	0	0	0	0	0	0	33	4	122	4	1	8	1	28	1	0	0	0	256	13	1	269
Peak Hour: 4:00 - 5:00	30	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	10	2	64	4	0	4	1	13	1	0	0	0	124	11	0	135
Total Veh & % Trucks	33	9%	0	0%	3	0%		0	0%	0	0%	0	0%		0	0%	12	17%	68	6%		5	20%	14	7%	0	0%					

4 Hour Total	161	8	0	0	12	0	0	0	0	0	0	0	0	0	0	0	56	7	155	11	1	8	3	53	4	0	0	0				
	169		0		12			0		0		0			0		63		166			11		57		0						
	181							0							229							68										

APPENDIX C: SYNCHRO SOFTWARE OUTPUTS

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	1	84	20	4	4	71	312	17	4	395	23
Future Vol, veh/h	25	1	84	20	4	4	71	312	17	4	395	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	21	0	0	5	0	0	0	9	6	0	5	0
Mvmt Flow	25	1	84	20	4	4	71	312	17	4	395	23

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	882	886	407	920	889	321	418	0	0	329	0	0
Stage 1	415	415	-	463	463	-	-	-	-	-	-	-
Stage 2	467	471	-	457	426	-	-	-	-	-	-	-
Critical Hdwy	7.31	6.5	6.2	7.15	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.689	4	3.3	3.545	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	247	286	648	248	285	724	1152	-	-	1242	-	-
Stage 1	579	596	-	573	568	-	-	-	-	-	-	-
Stage 2	542	563	-	578	589	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	231	267	648	205	266	724	1152	-	-	1242	-	-
Mov Cap-2 Maneuver	231	267	-	205	266	-	-	-	-	-	-	-
Stage 1	543	594	-	537	533	-	-	-	-	-	-	-
Stage 2	502	528	-	501	587	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14	22	1.5	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1152	-	-	232	648	213	724	1242	-	-
HCM Lane V/C Ratio	0.062	-	-	0.112	0.13	0.113	0.006	0.003	-	-
HCM Control Delay (s)	8.3	-	-	22.5	11.4	24	10	7.9	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0.4	0.4	0	0	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	44	54	34	68	3
Future Vol, veh/h	0	44	54	34	68	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	6	13	17	5	0
Mvmt Flow	0	44	54	34	68	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	88	0	-	0	98	54
Stage 1	-	-	-	-	54	-
Stage 2	-	-	-	-	44	-
Critical Hdwy	4.1	-	-	-	6.45	6.2
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.3
Pot Cap-1 Maneuver	1520	-	-	-	894	1019
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	971	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1520	-	-	-	894	1019
Mov Cap-2 Maneuver	-	-	-	-	894	-
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	971	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1520	-	-	-	894	1019
HCM Lane V/C Ratio	-	-	-	-	0.076	0.003
HCM Control Delay (s)	0	-	-	-	9.4	8.5
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	18	22	162	19	120	10	206	136	96	257	7
Future Vol, veh/h	2	18	22	162	19	120	10	206	136	96	257	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	9	22	0	0	7	11	6	4	29
Mvmt Flow	2	18	22	162	19	120	10	206	136	96	257	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	749	679	261	699	682	206	264	0	-	206	0	0
Stage 1	453	453	-	226	226	-	-	-	-	-	-	-
Stage 2	296	226	-	473	456	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.19	6.72	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.581	4.198	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	331	376	783	345	348	840	1312	-	0	1342	-	-
Stage 1	590	573	-	761	681	-	-	-	0	-	-	-
Stage 2	717	721	-	559	536	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	255	346	783	303	321	840	1312	-	-	1342	-	-
Mov Cap-2 Maneuver	255	346	-	303	321	-	-	-	-	-	-	-
Stage 1	585	532	-	755	676	-	-	-	-	-	-	-
Stage 2	593	715	-	487	497	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	23.7	0.4	2.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1312	-	334	783	305	840	1342	-	-
HCM Lane V/C Ratio	0.008	-	0.06	0.028	0.593	0.143	0.072	-	-
HCM Control Delay (s)	7.8	-	16.5	9.7	32.7	10	7.9	-	-
HCM Lane LOS	A	-	C	A	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0.1	3.6	0.5	0.2	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	2	65	24	0	4	93	376	32	7	332	33
Future Vol, veh/h	29	2	65	24	0	4	93	376	32	7	332	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	6	0	12	0	0	0	0	4	0	0	5	14
Mvmt Flow	29	2	65	24	0	4	93	376	32	7	332	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	943	957	349	974	957	392	365	0	0	408	0	0
Stage 1	363	363	-	578	578	-	-	-	-	-	-	-
Stage 2	580	594	-	396	379	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.5	6.32	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4	3.408	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	239	260	672	233	260	661	1205	-	-	1162	-	-
Stage 1	648	628	-	505	504	-	-	-	-	-	-	-
Stage 2	493	496	-	633	618	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	223	238	672	196	238	661	1205	-	-	1162	-	-
Mov Cap-2 Maneuver	223	238	-	196	238	-	-	-	-	-	-	-
Stage 1	598	624	-	466	465	-	-	-	-	-	-	-
Stage 2	452	458	-	567	614	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15	23.7	1.5	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1205	-	-	224	672	196	661	1162	-	-
HCM Lane V/C Ratio	0.077	-	-	0.138	0.097	0.122	0.006	0.006	-	-
HCM Control Delay (s)	8.2	-	-	23.6	10.9	25.9	10.5	8.1	-	-
HCM Lane LOS	A	-	-	C	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.3	0.4	0	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	51	49	77	37	3
Future Vol, veh/h	6	51	49	77	37	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	20	7	17	6	9	0
Mvmt Flow	6	51	49	77	37	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	126	0	-	0	112	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	63	-
Critical Hdwy	4.3	-	-	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.38	-	-	-	3.581	3.3
Pot Cap-1 Maneuver	1356	-	-	-	868	1025
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	942	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1356	-	-	-	864	1025
Mov Cap-2 Maneuver	-	-	-	-	864	-
Stage 1	-	-	-	-	951	-
Stage 2	-	-	-	-	942	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1356	-	-	-	864	1025
HCM Lane V/C Ratio	0.004	-	-	-	0.043	0.003
HCM Control Delay (s)	7.7	0	-	-	9.4	8.5
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

Intersection	
Int Delay, s/veh	11.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	23	10	235	18	115	12	224	185	82	152	6
Future Vol, veh/h	4	23	10	235	18	115	12	224	185	82	152	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	1	0	0	0	7	7	6	13	0
Mvmt Flow	4	23	10	235	18	115	12	224	185	82	152	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	634	567	155	584	570	224	158	0	-	224	0	0
Stage 1	319	319	-	248	248	-	-	-	-	-	-	-
Stage 2	315	248	-	336	322	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.11	6.5	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.509	4	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	395	436	896	425	434	820	1434	-	0	1321	-	-
Stage 1	697	657	-	758	705	-	-	-	0	-	-	-
Stage 2	700	705	-	680	655	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	310	405	896	381	404	820	1434	-	-	1321	-	-
Mov Cap-2 Maneuver	310	405	-	381	404	-	-	-	-	-	-	-
Stage 1	691	616	-	752	699	-	-	-	-	-	-	-
Stage 2	581	699	-	607	614	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	24.4	0.4	2.7
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1434	-	387	896	383	820	1321	-	-
HCM Lane V/C Ratio	0.008	-	0.07	0.011	0.661	0.14	0.062	-	-
HCM Control Delay (s)	7.5	-	15	9.1	30.9	10.1	7.9	-	-
HCM Lane LOS	A	-	C	A	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0	4.6	0.5	0.2	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	1	86	21	4	4	73	318	17	4	403	24
Future Vol, veh/h	26	1	86	21	4	4	73	318	17	4	403	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	21	0	0	5	0	0	0	9	6	0	5	0
Mvmt Flow	26	1	86	21	4	4	73	318	17	4	403	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	900	904	415	940	908	327	427	0	0	335	0	0
Stage 1	423	423	-	473	473	-	-	-	-	-	-	-
Stage 2	477	481	-	467	435	-	-	-	-	-	-	-
Critical Hdwy	7.31	6.5	6.2	7.15	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.689	4	3.3	3.545	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	240	279	642	241	277	719	1143	-	-	1236	-	-
Stage 1	573	591	-	566	562	-	-	-	-	-	-	-
Stage 2	535	557	-	570	584	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	224	260	642	197	258	719	1143	-	-	1236	-	-
Mov Cap-2 Maneuver	224	260	-	197	258	-	-	-	-	-	-	-
Stage 1	536	589	-	530	526	-	-	-	-	-	-	-
Stage 2	494	521	-	491	582	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.3	22.9	1.5	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1143	-	-	225	642	205	719	1236	-	-
HCM Lane V/C Ratio	0.064	-	-	0.12	0.134	0.122	0.006	0.003	-	-
HCM Control Delay (s)	8.4	-	-	23.2	11.5	25	10	7.9	-	-
HCM Lane LOS	A	-	-	C	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0.5	0.4	0	0	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	45	55	34	70	3
Future Vol, veh/h	1	45	55	34	70	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	6	13	17	5	0
Mvmt Flow	1	45	55	34	70	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	102	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	47	-
Critical Hdwy	4.1	-	-	-	6.45	6.2
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.3
Pot Cap-1 Maneuver	1519	-	-	-	889	1018
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	968	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1519	-	-	-	888	1018
Mov Cap-2 Maneuver	-	-	-	-	888	-
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	968	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1519	-	-	-	888	1018
HCM Lane V/C Ratio	0.001	-	-	-	0.079	0.003
HCM Control Delay (s)	7.4	0	-	-	9.4	8.5
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0

Intersection	
Int Delay, s/veh	9.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	18	23	166	19	122	10	210	139	97	262	8
Future Vol, veh/h	2	18	23	166	19	122	10	210	139	97	262	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	9	22	0	0	7	11	6	4	29
Mvmt Flow	2	18	23	166	19	122	10	210	139	97	262	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	761	690	266	711	694	210	270	0	-	210	0	0
Stage 1	460	460	-	230	230	-	-	-	-	-	-	-
Stage 2	301	230	-	481	464	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.19	6.72	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.581	4.198	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	325	371	778	339	342	835	1305	-	0	1337	-	-
Stage 1	585	569	-	757	678	-	-	-	0	-	-	-
Stage 2	712	718	-	553	531	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	249	341	778	297	315	835	1305	-	-	1337	-	-
Mov Cap-2 Maneuver	249	341	-	297	315	-	-	-	-	-	-	-
Stage 1	580	527	-	751	673	-	-	-	-	-	-	-
Stage 2	586	712	-	481	492	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	24.9	0.4	2.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1305	-	329	778	299	835	1337	-	-
HCM Lane V/C Ratio	0.008	-	0.061	0.03	0.619	0.146	0.073	-	-
HCM Control Delay (s)	7.8	-	16.6	9.8	34.8	10	7.9	-	-
HCM Lane LOS	A	-	C	A	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0.1	3.8	0.5	0.2	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	2	66	25	1	4	95	383	32	8	339	34
Future Vol, veh/h	29	2	66	25	1	4	95	383	32	8	339	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	6	0	12	0	0	0	0	4	0	0	5	14
Mvmt Flow	29	2	66	25	1	4	95	383	32	8	339	34

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	964	977	356	995	978	399	373	0	0	415	0	0
Stage 1	372	372	-	589	589	-	-	-	-	-	-	-
Stage 2	592	605	-	406	389	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.5	6.32	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4	3.408	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	231	253	666	226	252	655	1197	-	-	1155	-	-
Stage 1	640	622	-	498	499	-	-	-	-	-	-	-
Stage 2	486	491	-	626	612	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	214	231	666	189	231	655	1197	-	-	1155	-	-
Mov Cap-2 Maneuver	214	231	-	189	231	-	-	-	-	-	-	-
Stage 1	589	618	-	459	460	-	-	-	-	-	-	-
Stage 2	444	452	-	558	608	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	24.7	1.5	0.2
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1197	-	-	215	666	190	655	1155	-	-
HCM Lane V/C Ratio	0.079	-	-	0.144	0.099	0.137	0.006	0.007	-	-
HCM Control Delay (s)	8.3	-	-	24.5	11	26.9	10.5	8.1	-	-
HCM Lane LOS	A	-	-	C	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	0.5	0.3	0.5	0	0	-	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	52	50	78	37	3
Future Vol, veh/h	6	52	50	78	37	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	20	7	17	6	9	0
Mvmt Flow	6	52	50	78	37	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	128	0	-	0	114	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	4.3	-	-	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.38	-	-	-	3.581	3.3
Pot Cap-1 Maneuver	1354	-	-	-	866	1024
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	941	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1354	-	-	-	862	1024
Mov Cap-2 Maneuver	-	-	-	-	862	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	941	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1354	-	-	-	862	1024
HCM Lane V/C Ratio	0.004	-	-	-	0.043	0.003
HCM Control Delay (s)	7.7	0	-	-	9.4	8.5
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

Intersection	
Int Delay, s/veh	12.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	24	10	239	18	117	12	228	188	83	155	6
Future Vol, veh/h	4	24	10	239	18	117	12	228	188	83	155	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	1	0	0	0	7	7	6	13	0
Mvmt Flow	4	24	10	239	18	117	12	228	188	83	155	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	644	576	158	593	579	228	161	0	-	228	0	0
Stage 1	324	324	-	252	252	-	-	-	-	-	-	-
Stage 2	320	252	-	341	327	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.11	6.5	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.509	4	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	389	431	893	419	429	816	1430	-	0	1317	-	-
Stage 1	692	653	-	754	702	-	-	-	0	-	-	-
Stage 2	696	702	-	676	651	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	305	401	893	374	399	816	1430	-	-	1317	-	-
Mov Cap-2 Maneuver	305	401	-	374	399	-	-	-	-	-	-	-
Stage 1	686	612	-	748	696	-	-	-	-	-	-	-
Stage 2	576	696	-	602	610	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.5	25.8	0.4	2.7
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1430	-	384	893	376	816	1317	-	-
HCM Lane V/C Ratio	0.008	-	0.073	0.011	0.684	0.143	0.063	-	-
HCM Control Delay (s)	7.5	-	15.1	9.1	32.9	10.1	7.9	-	-
HCM Lane LOS	A	-	C	A	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0	4.9	0.5	0.2	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1	0	2	1
Stage 1	-	-	-	-	1	-
Stage 2	-	-	-	-	1	-
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	-	1021	1084
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1622	-	1021	1084
Mov Cap-2 Maneuver	-	-	-	-	1021	-
Stage 1	-	-	-	-	1022	-
Stage 2	-	-	-	-	1022	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
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	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

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

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

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

Intersection	
Int Delay, s/veh	11.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	107	1	329	21	4	4	162	318	17	4	403	54
Future Vol, veh/h	107	1	329	21	4	4	162	318	17	4	403	54
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	21	0	0	5	0	0	0	9	6	0	5	0
Mvmt Flow	107	1	329	21	4	4	162	318	17	4	403	54

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1093	1097	430	1254	1116	327	457	0	0	335	0	0
Stage 1	438	438	-	651	651	-	-	-	-	-	-	-
Stage 2	655	659	-	603	465	-	-	-	-	-	-	-
Critical Hdwy	7.31	6.5	6.2	7.15	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.689	4	3.3	3.545	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	176	215	629	147	209	719	1114	-	-	1236	-	-
Stage 1	562	582	-	452	468	-	-	-	-	-	-	-
Stage 2	425	464	-	481	566	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	153	183	629	62	178	719	1114	-	-	1236	-	-
Mov Cap-2 Maneuver	153	183	-	62	178	-	-	-	-	-	-	-
Stage 1	481	580	-	386	400	-	-	-	-	-	-	-
Stage 2	358	397	-	228	564	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30.2	74.1	2.9	0.1
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1114	-	-	153	629	69	719	1236	-	-
HCM Lane V/C Ratio	0.145	-	-	0.706	0.523	0.362	0.006	0.003	-	-
HCM Control Delay (s)	8.8	-	-	71.2	16.8	84.3	10	7.9	-	-
HCM Lane LOS	A	-	-	F	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	4.1	3	1.4	0	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	369	174	34	70	3
Future Vol, veh/h	1	369	174	34	70	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	6	13	17	5	0
Mvmt Flow	1	369	174	34	70	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	208	0	-	0	545	174
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	371	-
Critical Hdwy	4.1	-	-	-	6.45	6.2
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.3
Pot Cap-1 Maneuver	1375	-	-	-	494	875
Stage 1	-	-	-	-	849	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1375	-	-	-	494	875
Mov Cap-2 Maneuver	-	-	-	-	494	-
Stage 1	-	-	-	-	848	-
Stage 2	-	-	-	-	691	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1375	-	-	-	494	875
HCM Lane V/C Ratio	0.001	-	-	-	0.142	0.003
HCM Control Delay (s)	7.6	0	-	-	13.5	9.1
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0

Intersection	
Int Delay, s/veh	12.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	18	23	183	19	122	10	242	187	97	274	8
Future Vol, veh/h	2	18	23	183	19	122	10	242	187	97	274	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	9	22	0	0	7	11	6	4	29
Mvmt Flow	2	18	23	183	19	122	10	242	187	97	274	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	805	734	278	755	738	242	282	0	-	242	0	0
Stage 1	472	472	-	262	262	-	-	-	-	-	-	-
Stage 2	333	262	-	493	476	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.19	6.72	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.581	4.198	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	303	350	766	316	323	802	1292	-	0	1301	-	-
Stage 1	576	562	-	728	656	-	-	-	0	-	-	-
Stage 2	685	695	-	545	525	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	229	321	766	275	297	802	1292	-	-	1301	-	-
Mov Cap-2 Maneuver	229	321	-	275	297	-	-	-	-	-	-	-
Stage 1	571	520	-	722	651	-	-	-	-	-	-	-
Stage 2	559	689	-	472	486	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	32.8	0.3	2
HCM LOS	B	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1292	-	309	766	277	802	1301	-	-
HCM Lane V/C Ratio	0.008	-	0.065	0.03	0.729	0.152	0.075	-	-
HCM Control Delay (s)	7.8	-	17.5	9.8	46.4	10.3	8	-	-
HCM Lane LOS	A	-	C	A	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	0.1	5.2	0.5	0.2	-	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	207	1	60	149	1	162
Future Vol, veh/h	207	1	60	149	1	162
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	100	100	100	100	100	100
Heavy Vehicles, %	5	5	5	5	2	2
Mvmt Flow	207	1	60	149	1	162

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	208	0	477	208
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	269	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1345	-	547	832
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	776	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1345	-	520	832
Mov Cap-2 Maneuver	-	-	-	-	520	-
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	738	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	829	-	-	1345	-
HCM Lane V/C Ratio	0.197	-	-	0.045	-
HCM Control Delay (s)	10.4	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection	
Int Delay, s/veh	5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	162	45	1	60	89
Future Vol, veh/h	1	162	45	1	60	89
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	5	5	5	5
Mvmt Flow	1	162	45	1	60	89

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	255	46	0	0	46	0
Stage 1	46	-	-	-	-	-
Stage 2	209	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	734	1023	-	-	1543	-
Stage 1	976	-	-	-	-	-
Stage 2	826	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	704	1023	-	-	1543	-
Mov Cap-2 Maneuver	704	-	-	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	792	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1020	1543	-
HCM Lane V/C Ratio	-	-	0.16	0.039	-
HCM Control Delay (s)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Intersection	
Int Delay, s/veh	31.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	96	2	221	25	1	4	365	383	32	8	339	123
Future Vol, veh/h	96	2	221	25	1	4	365	383	32	8	339	123
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	6	0	12	0	0	0	0	4	0	0	5	14
Mvmt Flow	96	2	221	25	1	4	365	383	32	8	339	123

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1549	1562	401	1657	1607	399	462	0	0	415	0	0
Stage 1	417	417	-	1129	1129	-	-	-	-	-	-	-
Stage 2	1132	1145	-	528	478	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.5	6.32	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4	3.408	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 91	113	628	79	106	655	1110	-	-	1155	-	-
Stage 1	605	595	-	250	281	-	-	-	-	-	-	-
Stage 2	242	277	-	538	559	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 66	75	628	37	71	655	1110	-	-	1155	-	-
Mov Cap-2 Maneuver	~ 66	75	-	37	71	-	-	-	-	-	-	-
Stage 1	406	591	-	168	189	-	-	-	-	-	-	-
Stage 2	161	186	-	345	555	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	128.9	186.6	4.6	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1110	-	-	66	628	38	655	1155	-	-
HCM Lane V/C Ratio	0.329	-	-	1.485	0.352	0.684	0.006	0.007	-	-
HCM Control Delay (s)	9.8	-	-	$ 388.5	13.8	213.7	10.5	8.1	-	-
HCM Lane LOS	A	-	-	F	B	F	B	A	-	-
HCM 95th %tile Q(veh)	1.4	-	-	8.4	1.6	2.5	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	273	409	78	37	3
Future Vol, veh/h	6	273	409	78	37	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	20	7	17	6	9	0
Mvmt Flow	6	273	409	78	37	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	487	0	-	0	694	409
Stage 1	-	-	-	-	409	-
Stage 2	-	-	-	-	285	-
Critical Hdwy	4.3	-	-	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.38	-	-	-	3.581	3.3
Pot Cap-1 Maneuver	989	-	-	-	398	647
Stage 1	-	-	-	-	656	-
Stage 2	-	-	-	-	748	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	989	-	-	-	395	647
Mov Cap-2 Maneuver	-	-	-	-	395	-
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	748	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	14.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	989	-	-	-	395	647
HCM Lane V/C Ratio	0.006	-	-	-	0.094	0.005
HCM Control Delay (s)	8.7	0	-	-	15.1	10.6
HCM Lane LOS	A	A	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3	0

Intersection	
Int Delay, s/veh	22.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	24	10	293	18	117	12	250	233	83	191	6
Future Vol, veh/h	4	24	10	293	18	117	12	250	233	83	191	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	1	0	0	0	7	7	6	13	0
Mvmt Flow	4	24	10	293	18	117	12	250	233	83	191	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	702	634	194	651	637	250	197	0	-	250	0	0
Stage 1	360	360	-	274	274	-	-	-	-	-	-	-
Stage 2	342	274	-	377	363	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.11	6.5	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.509	4	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	355	399	853	383	398	794	1388	-	0	1293	-	-
Stage 1	662	630	-	734	687	-	-	-	0	-	-	-
Stage 2	677	687	-	647	628	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	275	370	853	340	369	794	1388	-	-	1293	-	-
Mov Cap-2 Maneuver	275	370	-	340	369	-	-	-	-	-	-	-
Stage 1	656	590	-	727	681	-	-	-	-	-	-	-
Stage 2	557	681	-	574	588	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.3	49.2	0.3	2.4
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1388	-	353	853	342	794	1293	-	-
HCM Lane V/C Ratio	0.009	-	0.079	0.012	0.909	0.147	0.064	-	-
HCM Control Delay (s)	7.6	-	16.1	9.3	63.9	10.3	8	-	-
HCM Lane LOS	A	-	C	A	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	0	9	0.5	0.2	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	169	1	180	307	1	111
Future Vol, veh/h	169	1	180	307	1	111
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	100	100	100	100	100	100
Heavy Vehicles, %	5	5	5	5	2	2
Mvmt Flow	169	1	180	307	1	111

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	170	0	837	170
Stage 1	-	-	-	-	170	-
Stage 2	-	-	-	-	667	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1389	-	337	874
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	510	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1389	-	284	874
Mov Cap-2 Maneuver	-	-	-	-	284	-
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	430	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	858	-	-	1389	-
HCM Lane V/C Ratio	0.131	-	-	0.13	-
HCM Control Delay (s)	9.8	-	-	8	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.4	-

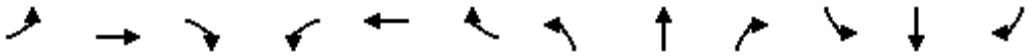
Intersection	
Int Delay, s/veh	5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	111	58	1	180	128
Future Vol, veh/h	1	111	58	1	180	128
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	5	5	5	5
Mvmt Flow	1	111	58	1	180	128

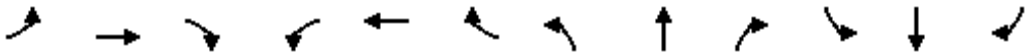
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	547	59	0	0	59	0
Stage 1	59	-	-	-	-	-
Stage 2	488	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	498	1007	-	-	1526	-
Stage 1	964	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	435	1007	-	-	1526	-
Mov Cap-2 Maneuver	435	-	-	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	539	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	4.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	995	1526	-
HCM Lane V/C Ratio	-	-	0.113	0.118	-
HCM Control Delay (s)	-	-	9.1	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.4	-



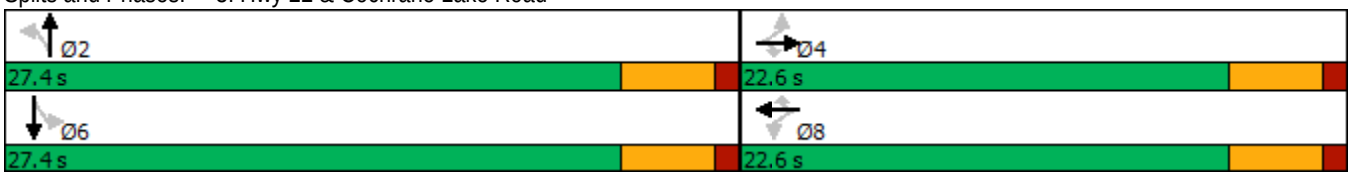
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	1	329	21	4	4	162	318	17	4	403	54
Future Volume (vph)	107	1	329	21	4	4	162	318	17	4	403	54
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	140.0		0.0	140.0		0.0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.992			0.982	
Flt Protected		0.953			0.960		0.950			0.950		
Satd. Flow (prot)	0	1476	1590	0	1723	1590	1777	1705	0	1777	1759	0
Flt Permitted		0.710			0.783		0.441			0.555		
Satd. Flow (perm)	0	1099	1590	0	1406	1590	825	1705	0	1038	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			329			33		7			18	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		472.8			258.7			239.6			178.9	
Travel Time (s)		35.5			19.4			18.0			13.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	21%	0%	0%	5%	0%	0%	0%	9%	6%	0%	5%	0%
Adj. Flow (vph)	107	1	329	21	4	4	162	318	17	4	403	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	108	329	0	25	4	162	335	0	4	457	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

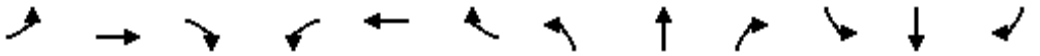


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5		24.5	24.5	
Total Split (s)	22.6	22.6	22.6	22.6	22.6	22.6	27.4	27.4		27.4	27.4	
Total Split (%)	45.2%	45.2%	45.2%	45.2%	45.2%	45.2%	54.8%	54.8%		54.8%	54.8%	
Maximum Green (s)	18.1	18.1	18.1	18.1	18.1	18.1	22.9	22.9		22.9	22.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		11.3	11.3		11.3	11.3	20.6	20.6		20.6	20.6	
Actuated g/C Ratio		0.28	0.28		0.28	0.28	0.50	0.50		0.50	0.50	
v/c Ratio		0.36	0.49		0.06	0.01	0.39	0.39		0.01	0.51	
Control Delay		15.8	4.7		11.4	0.0	10.5	8.3		6.0	9.5	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		15.8	4.7		11.4	0.0	10.5	8.3		6.0	9.5	
LOS		B	A		B	A	B	A		A	A	
Approach Delay		7.4			9.8			9.0			9.4	
Approach LOS		A			A			A			A	
Queue Length 50th (m)		5.8	0.0		1.2	0.0	5.6	11.2		0.2	16.1	
Queue Length 95th (m)		16.0	12.5		5.1	0.0	19.6	30.5		1.2	43.1	
Internal Link Dist (m)		448.8			234.7			215.6			154.9	
Turn Bay Length (m)			10.0			10.0	140.0			140.0		
Base Capacity (vph)		488	889		624	724	463	961		583	996	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.22	0.37		0.04	0.01	0.35	0.35		0.01	0.46	

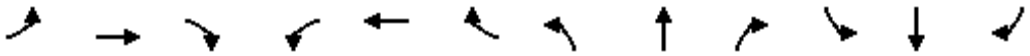
Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 41			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 8.7		Intersection LOS: A	
Intersection Capacity Utilization 65.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 22 & Cochrane Lake Road





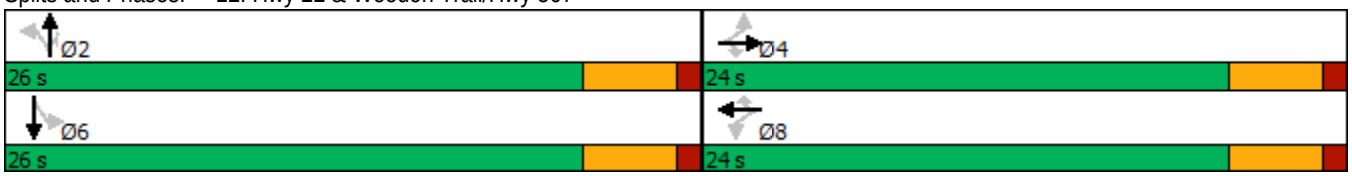
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	18	23	183	19	122	10	242	187	97	274	8
Future Volume (vph)	2	18	23	183	19	122	10	242	187	97	274	8
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	160.0		200.0	140.0		0.0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.995			0.957		0.950			0.950		
Satd. Flow (prot)	0	1861	1590	0	1624	1590	1777	1748	1432	1676	1779	0
Flt Permitted		0.967			0.732		0.587			0.608		
Satd. Flow (perm)	0	1809	1590	0	1242	1590	1098	1748	1432	1073	1779	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			33			122			187		4	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		212.4			225.6			328.7			212.0	
Travel Time (s)		15.9			16.9			24.7			15.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	9%	22%	0%	0%	7%	11%	6%	4%	29%
Adj. Flow (vph)	2	18	23	183	19	122	10	242	187	97	274	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	20	23	0	202	122	10	242	187	97	282	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	

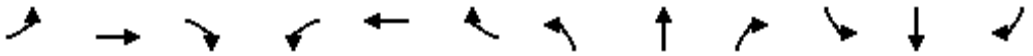


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5	24.5	24.5	24.5	
Total Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	26.0	26.0	26.0	26.0	26.0	
Total Split (%)	48.0%	48.0%	48.0%	48.0%	48.0%	48.0%	52.0%	52.0%	52.0%	52.0%	52.0%	
Maximum Green (s)	19.5	19.5	19.5	19.5	19.5	19.5	21.5	21.5	21.5	21.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
Act Effct Green (s)		12.8	12.8		12.8	12.8	24.3	24.3	24.3	24.3	24.3	
Actuated g/C Ratio		0.30	0.30		0.30	0.30	0.58	0.58	0.58	0.58	0.58	
v/c Ratio		0.04	0.05		0.54	0.22	0.02	0.24	0.21	0.16	0.27	
Control Delay		9.7	3.7		17.7	3.7	7.5	8.2	2.5	8.4	8.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		9.7	3.7		17.7	3.7	7.5	8.2	2.5	8.4	8.3	
LOS		A	A		B	A	A	A	A	A	A	
Approach Delay		6.5			12.4			5.8			8.4	
Approach LOS		A			B			A			A	
Queue Length 50th (m)		1.0	0.0		11.8	0.0	0.3	8.7	0.0	3.3	10.2	
Queue Length 95th (m)		3.9	2.5		25.0	6.8	2.5	25.7	8.2	12.5	29.6	
Internal Link Dist (m)		188.4			201.6			304.7			188.0	
Turn Bay Length (m)			10.0			10.0	160.0		200.0	140.0		
Base Capacity (vph)		843	759		579	806	664	1058	940	649	1078	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.02	0.03		0.35	0.15	0.02	0.23	0.20	0.15	0.26	

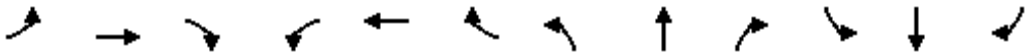
Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 42.1			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 8.4		Intersection LOS: A	
Intersection Capacity Utilization 62.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 12: Hwy 22 & Weedon Trail/Hwy 567





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	2	221	25	1	4	365	383	32	8	339	123
Future Volume (vph)	96	2	221	25	1	4	365	383	32	8	339	123
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	140.0		0.0	140.0		0.0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.988			0.960	
Flt Protected		0.953			0.954		0.950			0.950		
Satd. Flow (prot)	0	1684	1420	0	1785	1590	1777	1782	0	1777	1672	0
Flt Permitted		0.711			0.742		0.458			0.494		
Satd. Flow (perm)	0	1256	1420	0	1388	1590	857	1782	0	924	1672	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			221			27		11			48	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		472.8			258.7			239.6			178.9	
Travel Time (s)		35.5			19.4			18.0			13.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	0%	12%	0%	0%	0%	0%	4%	0%	0%	5%	14%
Adj. Flow (vph)	96	2	221	25	1	4	365	383	32	8	339	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	98	221	0	26	4	365	415	0	8	462	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	



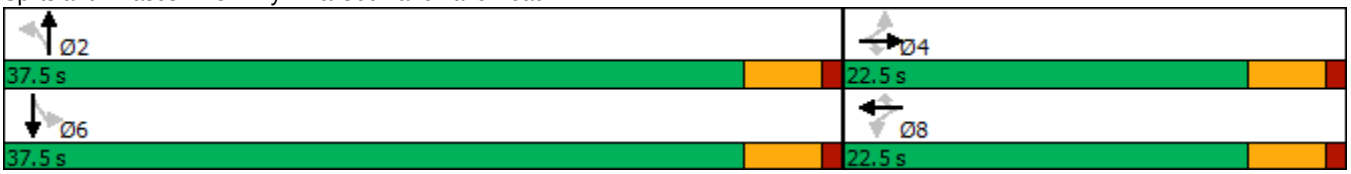
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5		24.5	24.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	37.5	37.5		37.5	37.5	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	33.0	33.0		33.0	33.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		11.0	11.0		11.0	11.0	30.1	30.1		30.1	30.1	
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.60	0.60		0.60	0.60	
v/c Ratio		0.36	0.46		0.09	0.01	0.71	0.39		0.01	0.45	
Control Delay		21.6	6.6		17.4	0.0	17.9	6.5		4.5	6.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		21.6	6.6		17.4	0.0	17.9	6.5		4.5	6.7	
LOS		C	A		B	A	B	A		A	A	
Approach Delay		11.2			15.1			11.8			6.7	
Approach LOS		B			B			B			A	
Queue Length 50th (m)		8.0	0.0		2.0	0.0	17.5	14.4		0.2	15.2	
Queue Length 95th (m)		18.6	13.0		6.8	0.0	#67.2	33.8		1.6	37.3	
Internal Link Dist (m)		448.8			234.7			215.6			154.9	
Turn Bay Length (m)			10.0			10.0	140.0			140.0		
Base Capacity (vph)		454	654		501	592	568	1185		612	1124	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.22	0.34		0.05	0.01	0.64	0.35		0.01	0.41	

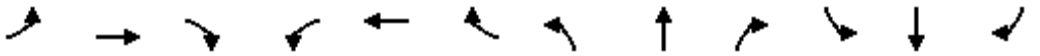
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 50.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 10.3		Intersection LOS: B	
Intersection Capacity Utilization 70.3%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

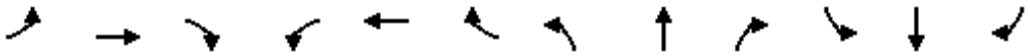
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hwy 22 & Cochrane Lake Road





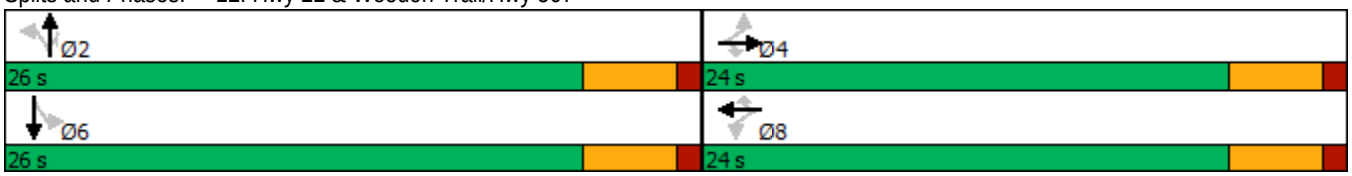
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	24	10	293	18	117	12	250	233	83	191	6
Future Volume (vph)	4	24	10	293	18	117	12	250	233	83	191	6
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	160.0		200.0	140.0		0.0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.995	
Flt Protected		0.993			0.955		0.950			0.950		
Satd. Flow (prot)	0	1857	1590	0	1770	1590	1777	1748	1486	1676	1653	0
Flt Permitted		0.952			0.718		0.634			0.604		
Satd. Flow (perm)	0	1781	1590	0	1331	1590	1186	1748	1486	1066	1653	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			33			103			233		4	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		212.4			225.6			328.7			212.0	
Travel Time (s)		15.9			16.9			24.7			15.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	7%	7%	6%	13%	0%
Adj. Flow (vph)	4	24	10	293	18	117	12	250	233	83	191	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	28	10	0	311	117	12	250	233	83	197	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5	24.5	24.5	24.5	
Total Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	26.0	26.0	26.0	26.0	26.0	
Total Split (%)	48.0%	48.0%	48.0%	48.0%	48.0%	48.0%	52.0%	52.0%	52.0%	52.0%	52.0%	
Maximum Green (s)	19.5	19.5	19.5	19.5	19.5	19.5	21.5	21.5	21.5	21.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
Act Effct Green (s)		15.0	15.0		15.0	15.0	20.1	20.1	20.1	20.1	20.1	
Actuated g/C Ratio		0.34	0.34		0.34	0.34	0.45	0.45	0.45	0.45	0.45	
v/c Ratio		0.05	0.02		0.69	0.19	0.02	0.31	0.29	0.17	0.26	
Control Delay		9.3	1.4		21.2	4.1	8.5	10.2	2.9	9.7	9.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		9.3	1.4		21.2	4.1	8.5	10.2	2.9	9.7	9.7	
LOS		A	A		C	A	A	B	A	A	A	
Approach Delay		7.2			16.5			6.7			9.7	
Approach LOS		A			B			A			A	
Queue Length 50th (m)		1.4	0.0		19.7	0.7	0.5	11.2	0.0	3.5	8.3	
Queue Length 95th (m)		4.8	0.8		39.6	7.5	2.7	26.9	9.2	11.1	21.3	
Internal Link Dist (m)		188.4			201.6			304.7			188.0	
Turn Bay Length (m)			10.0			10.0	160.0		200.0	140.0		
Base Capacity (vph)		791	724		591	763	580	855	846	521	811	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.04	0.01		0.53	0.15	0.02	0.29	0.28	0.16	0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 44.2			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 10.8		Intersection LOS: B	
Intersection Capacity Utilization 68.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: Hwy 22 & Weedon Trail/Hwy 567



Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	1	292	25	5	5	152	388	21	5	491	36
Future Vol, veh/h	50	1	292	25	5	5	152	388	21	5	491	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	21	0	0	5	0	0	0	9	6	0	5	0
Mvmt Flow	50	1	292	25	5	5	152	388	21	5	491	36

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1227	1232	509	1369	1240	399	527	0	0	409	0	0
Stage 1	519	519	-	703	703	-	-	-	-	-	-	-
Stage 2	708	713	-	666	537	-	-	-	-	-	-	-
Critical Hdwy	7.31	6.5	6.2	7.15	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.689	4	3.3	3.545	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	142	179	568	122	177	655	1050	-	-	1161	-	-
Stage 1	507	536	-	423	443	-	-	-	-	-	-	-
Stage 2	397	438	-	444	526	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	122	153	568	52	151	655	1050	-	-	1161	-	-
Mov Cap-2 Maneuver	122	153	-	52	151	-	-	-	-	-	-	-
Stage 1	433	534	-	362	379	-	-	-	-	-	-	-
Stage 2	332	374	-	214	524	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.3	104.8	2.4	0.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1050	-	-	122	568	58	655	1161	-	-
HCM Lane V/C Ratio	0.145	-	-	0.418	0.514	0.517	0.008	0.004	-	-
HCM Control Delay (s)	9	-	-	54.2	17.9	120.5	10.5	8.1	-	-
HCM Lane LOS	A	-	-	F	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	1.8	2.9	2	0	0	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	195	114	65	151	4
Future Vol, veh/h	1	195	114	65	151	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	6	13	17	5	0
Mvmt Flow	1	195	114	65	151	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	179	0	-	0	311	114
Stage 1	-	-	-	-	114	-
Stage 2	-	-	-	-	197	-
Critical Hdwy	4.1	-	-	-	6.45	6.2
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.3
Pot Cap-1 Maneuver	1409	-	-	-	675	944
Stage 1	-	-	-	-	903	-
Stage 2	-	-	-	-	829	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1409	-	-	-	674	944
Mov Cap-2 Maneuver	-	-	-	-	674	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	829	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1409	-	-	-	674	944
HCM Lane V/C Ratio	0.001	-	-	-	0.224	0.004
HCM Control Delay (s)	7.6	0	-	-	11.9	8.8
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.9	0

Intersection	
Int Delay, s/veh	27.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	25	28	205	25	149	12	265	179	119	323	9
Future Vol, veh/h	3	25	28	205	25	149	12	265	179	119	323	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	9	22	0	0	7	11	6	4	29
Mvmt Flow	3	25	28	205	25	149	12	265	179	119	323	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	942	855	328	881	859	265	332	0	-	265	0	0
Stage 1	566	566	-	289	289	-	-	-	-	-	-	-
Stage 2	376	289	-	592	570	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.19	6.72	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.581	4.198	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	245	298	718	260	273	779	1239	-	0	1276	-	-
Stage 1	513	511	-	704	638	-	-	-	0	-	-	-
Stage 2	649	677	-	481	475	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	169	268	718	214	245	779	1239	-	-	1276	-	-
Mov Cap-2 Maneuver	169	268	-	214	245	-	-	-	-	-	-	-
Stage 1	508	463	-	697	632	-	-	-	-	-	-	-
Stage 2	499	670	-	397	431	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.7	80.1	0.3	2.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1239	-	252	718	217	779	1276	-	-
HCM Lane V/C Ratio	0.01	-	0.111	0.039	1.06	0.191	0.093	-	-
HCM Control Delay (s)	7.9	-	21.1	10.2	125	10.7	8.1	-	-
HCM Lane LOS	A	-	C	B	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0.1	10.1	0.7	0.3	-	-

Intersection	
Int Delay, s/veh	14.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	50	3	203	30	1	5	327	467	40	9	413	62
Future Vol, veh/h	50	3	203	30	1	5	327	467	40	9	413	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	6	0	12	0	0	0	0	4	0	0	5	14
Mvmt Flow	50	3	203	30	1	5	327	467	40	9	413	62

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1606	1623	444	1706	1634	487	475	0	0	507	0	0
Stage 1	462	462	-	1141	1141	-	-	-	-	-	-	-
Stage 2	1144	1161	-	565	493	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.5	6.32	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4	3.408	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	83	104	593	73	102	585	1098	-	-	1068	-	-
Stage 1	572	568	-	246	278	-	-	-	-	-	-	-
Stage 2	239	272	-	513	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	62	72	593	36	71	585	1098	-	-	1068	-	-
Mov Cap-2 Maneuver	62	72	-	36	71	-	-	-	-	-	-	-
Stage 1	402	563	-	173	195	-	-	-	-	-	-	-
Stage 2	166	191	-	333	546	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	49.2	226.1	3.8	0.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1098	-	-	62	593	37	585	1068	-	-
HCM Lane V/C Ratio	0.298	-	-	0.855	0.342	0.838	0.009	0.008	-	-
HCM Control Delay (s)	9.7	-	-	183.4	14.2	260.8	11.2	8.4	-	-
HCM Lane LOS	A	-	-	F	B	F	B	A	-	-
HCM 95th %tile Q(veh)	1.3	-	-	3.9	1.5	3.1	0	0	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	155	218	170	90	4
Future Vol, veh/h	8	155	218	170	90	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	20	7	17	6	9	0
Mvmt Flow	8	155	218	170	90	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	388	0	-	0	389	218
Stage 1	-	-	-	-	218	-
Stage 2	-	-	-	-	171	-
Critical Hdwy	4.3	-	-	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.38	-	-	-	3.581	3.3
Pot Cap-1 Maneuver	1079	-	-	-	601	827
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	842	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1079	-	-	-	596	827
Mov Cap-2 Maneuver	-	-	-	-	596	-
Stage 1	-	-	-	-	796	-
Stage 2	-	-	-	-	842	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1079	-	-	-	596	827
HCM Lane V/C Ratio	0.007	-	-	-	0.151	0.005
HCM Control Delay (s)	8.4	0	-	-	12.1	9.4
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.5	0

Intersection	
Int Delay, s/veh	43

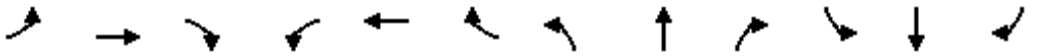
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	31	12	303	25	143	15	284	238	102	198	8
Future Vol, veh/h	5	31	12	303	25	143	15	284	238	102	198	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	1	0	0	0	7	7	6	13	0
Mvmt Flow	5	31	12	303	25	143	15	284	238	102	198	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	804	720	202	742	724	284	206	0	-	284	0	0
Stage 1	406	406	-	314	314	-	-	-	-	-	-	-
Stage 2	398	314	-	428	410	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.11	6.5	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.509	4	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	304	356	844	333	354	760	1377	-	0	1256	-	-
Stage 1	626	601	-	699	660	-	-	-	0	-	-	-
Stage 2	632	660	-	607	599	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	216	324	844	~ 283	322	760	1377	-	-	1256	-	-
Mov Cap-2 Maneuver	216	324	-	~ 283	322	-	-	-	-	-	-	-
Stage 1	619	552	-	691	653	-	-	-	-	-	-	-
Stage 2	488	653	-	519	550	-	-	-	-	-	-	-

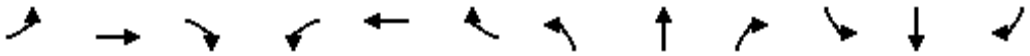
Approach	EB	WB	NB	SB
HCM Control Delay, s	16.2	99.2	0.4	2.7
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1377	-	303	844	286	760	1256	-	-
HCM Lane V/C Ratio	0.011	-	0.119	0.014	1.147	0.188	0.081	-	-
HCM Control Delay (s)	7.6	-	18.5	9.3	137.7	10.8	8.1	-	-
HCM Lane LOS	A	-	C	A	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0	14	0.7	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



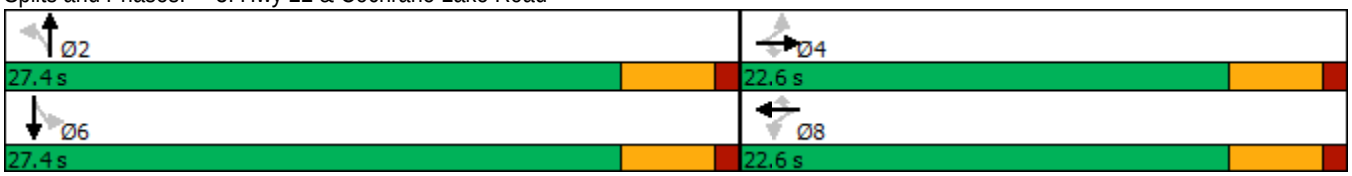
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	1	292	25	5	5	152	388	21	5	491	36
Future Volume (vph)	50	1	292	25	5	5	152	388	21	5	491	36
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	140.0		0.0	140.0		0.0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.992			0.990	
Flt Protected		0.953			0.960		0.950			0.950		
Satd. Flow (prot)	0	1478	1590	0	1724	1590	1777	1705	0	1777	1769	0
Flt Permitted		0.745			0.796		0.386			0.490		
Satd. Flow (perm)	0	1156	1590	0	1429	1590	722	1705	0	917	1769	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			270			33		7			10	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		472.8			258.7			239.6			178.9	
Travel Time (s)		35.5			19.4			18.0			13.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	21%	0%	0%	5%	0%	0%	0%	9%	6%	0%	5%	0%
Adj. Flow (vph)	50	1	292	25	5	5	152	388	21	5	491	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	292	0	30	5	152	409	0	5	527	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

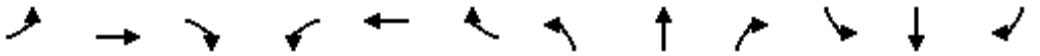


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5		24.5	24.5	
Total Split (s)	22.6	22.6	22.6	22.6	22.6	22.6	27.4	27.4		27.4	27.4	
Total Split (%)	45.2%	45.2%	45.2%	45.2%	45.2%	45.2%	54.8%	54.8%		54.8%	54.8%	
Maximum Green (s)	18.1	18.1	18.1	18.1	18.1	18.1	22.9	22.9		22.9	22.9	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		10.6	10.6		10.6	10.6	20.6	20.6		20.6	20.6	
Actuated g/C Ratio		0.26	0.26		0.26	0.26	0.51	0.51		0.51	0.51	
v/c Ratio		0.17	0.47		0.08	0.01	0.41	0.47		0.01	0.58	
Control Delay		13.3	5.7		12.1	0.0	10.6	8.5		5.2	10.0	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		13.3	5.7		12.1	0.0	10.6	8.5		5.2	10.0	
LOS		B	A		B	A	B	A		A	A	
Approach Delay		6.8			10.3			9.1			9.9	
Approach LOS		A			B			A			A	
Queue Length 50th (m)		2.6	1.1		1.5	0.0	5.3	14.5		0.2	20.2	
Queue Length 95th (m)		8.7	14.0		5.9	0.1	17.4	33.6		1.2	46.0	
Internal Link Dist (m)		448.8			234.7			215.6			154.9	
Turn Bay Length (m)			10.0			10.0	140.0			140.0		
Base Capacity (vph)		522	866		646	736	412	978		524	1015	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.10	0.34		0.05	0.01	0.37	0.42		0.01	0.52	

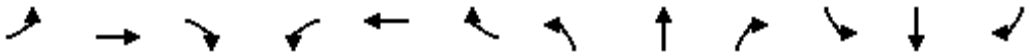
Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 40.2			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 8.9		Intersection LOS: A	
Intersection Capacity Utilization 66.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 22 & Cochrane Lake Road





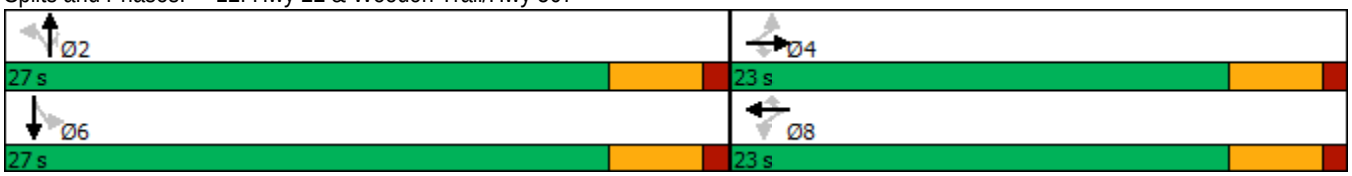
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	25	28	205	25	149	12	265	179	119	323	9
Future Volume (vph)	3	25	28	205	25	149	12	265	179	119	323	9
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	160.0		200.0	140.0		0.0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.995			0.957		0.950			0.950		
Satd. Flow (prot)	0	1861	1590	0	1621	1590	1777	1748	1432	1676	1780	0
Flt Permitted		0.967			0.729		0.545			0.596		
Satd. Flow (perm)	0	1809	1590	0	1235	1590	1019	1748	1432	1052	1780	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			33			149			179		4	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		212.4			225.6			328.7			212.0	
Travel Time (s)		15.9			16.9			24.7			15.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	9%	22%	0%	0%	7%	11%	6%	4%	29%
Adj. Flow (vph)	3	25	28	205	25	149	12	265	179	119	323	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	28	28	0	230	149	12	265	179	119	332	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	

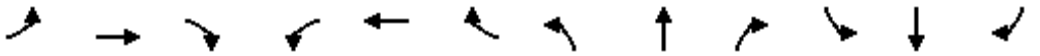


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5	24.5	24.5	24.5	
Total Split (s)	23.0	23.0	23.0	23.0	23.0	23.0	27.0	27.0	27.0	27.0	27.0	
Total Split (%)	46.0%	46.0%	46.0%	46.0%	46.0%	46.0%	54.0%	54.0%	54.0%	54.0%	54.0%	
Maximum Green (s)	18.5	18.5	18.5	18.5	18.5	18.5	22.5	22.5	22.5	22.5	22.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
Act Effct Green (s)		13.4	13.4		13.4	13.4	20.9	20.9	20.9	20.9	20.9	
Actuated g/C Ratio		0.31	0.31		0.31	0.31	0.48	0.48	0.48	0.48	0.48	
v/c Ratio		0.05	0.05		0.60	0.25	0.02	0.31	0.23	0.23	0.39	
Control Delay		9.7	4.2		19.5	3.6	7.8	9.2	2.7	9.5	9.8	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		9.7	4.2		19.5	3.6	7.8	9.2	2.7	9.5	9.8	
LOS		A	A		B	A	A	A	A	A	A	
Approach Delay		7.0			13.2			6.6			9.7	
Approach LOS		A			B			A			A	
Queue Length 50th (m)		1.4	0.0		13.8	0.0	0.4	10.4	0.0	4.5	13.4	
Queue Length 95th (m)		4.8	3.1		29.1	7.7	2.7	27.4	7.9	14.7	34.3	
Internal Link Dist (m)		188.4			201.6			304.7			188.0	
Turn Bay Length (m)			10.0			10.0	160.0		200.0	140.0		
Base Capacity (vph)		773	699		528	765	537	923	840	555	942	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.04	0.04		0.44	0.19	0.02	0.29	0.21	0.21	0.35	

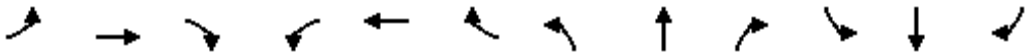
Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 43.4			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 65.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: Hwy 22 & Weedon Trail/Hwy 567





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	3	203	30	1	5	327	467	40	9	413	62
Future Volume (vph)	50	3	203	30	1	5	327	467	40	9	413	62
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	140.0		0.0	140.0		0.0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.988			0.980	
Flt Protected		0.955			0.954		0.950			0.950		
Satd. Flow (prot)	0	1691	1420	0	1785	1590	1777	1782	0	1777	1727	0
Flt Permitted		0.740			0.752		0.449			0.425		
Satd. Flow (perm)	0	1310	1420	0	1407	1590	840	1782	0	795	1727	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			203			27		11			20	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		472.8			258.7			239.6			178.9	
Travel Time (s)		35.5			19.4			18.0			13.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	0%	12%	0%	0%	0%	0%	4%	0%	0%	5%	14%
Adj. Flow (vph)	50	3	203	30	1	5	327	467	40	9	413	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	53	203	0	31	5	327	507	0	9	475	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	



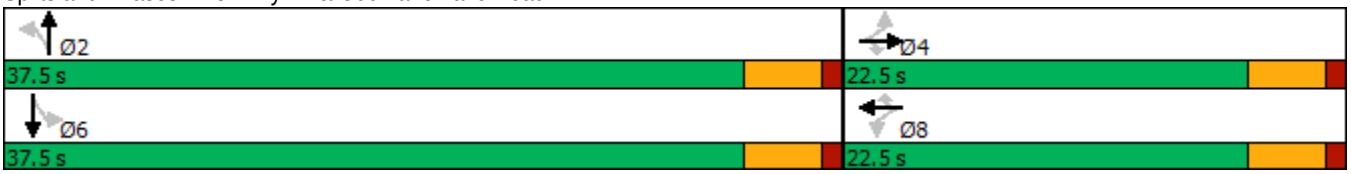
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5		24.5	24.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	37.5	37.5		37.5	37.5	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	33.0	33.0		33.0	33.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		10.6	10.6		10.6	10.6	29.4	29.4		29.4	29.4	
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.60	0.60		0.60	0.60	
v/c Ratio		0.19	0.44		0.10	0.01	0.65	0.47		0.02	0.46	
Control Delay		18.5	6.8		17.5	0.4	14.2	7.2		4.1	6.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		18.5	6.8		17.5	0.4	14.2	7.2		4.1	6.9	
LOS		B	A		B	A	B	A		A	A	
Approach Delay		9.2			15.1			9.9			6.8	
Approach LOS		A			B			A			A	
Queue Length 50th (m)		3.5	0.0		2.0	0.0	14.8	18.9		0.3	17.1	
Queue Length 95th (m)		11.5	13.0		7.8	0.4	#42.8	38.9		1.5	35.7	
Internal Link Dist (m)		448.8			234.7			215.6			154.9	
Turn Bay Length (m)			10.0			10.0	140.0			140.0		
Base Capacity (vph)		487	656		523	608	579	1232		548	1197	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.11	0.31		0.06	0.01	0.56	0.41		0.02	0.40	

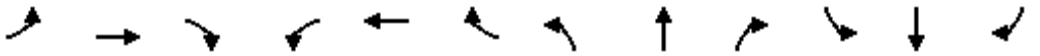
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 49.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 9.0		Intersection LOS: A	
Intersection Capacity Utilization 65.7%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

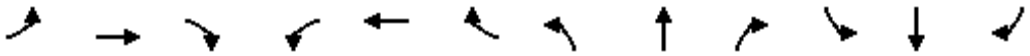
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hwy 22 & Cochrane Lake Road





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	31	12	303	25	143	15	284	238	102	198	8
Future Volume (vph)	5	31	12	303	25	143	15	284	238	102	198	8
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	160.0		200.0	140.0		0.0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.994	
Flt Protected		0.993			0.956		0.950			0.950		
Satd. Flow (prot)	0	1857	1590	0	1772	1590	1777	1748	1486	1676	1653	0
Flt Permitted		0.951			0.716		0.629			0.583		
Satd. Flow (perm)	0	1779	1590	0	1327	1590	1177	1748	1486	1029	1653	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			33			119			238		5	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		212.4			225.6			328.7			212.0	
Travel Time (s)		15.9			16.9			24.7			15.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	7%	7%	6%	13%	0%
Adj. Flow (vph)	5	31	12	303	25	143	15	284	238	102	198	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	12	0	328	143	15	284	238	102	206	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	



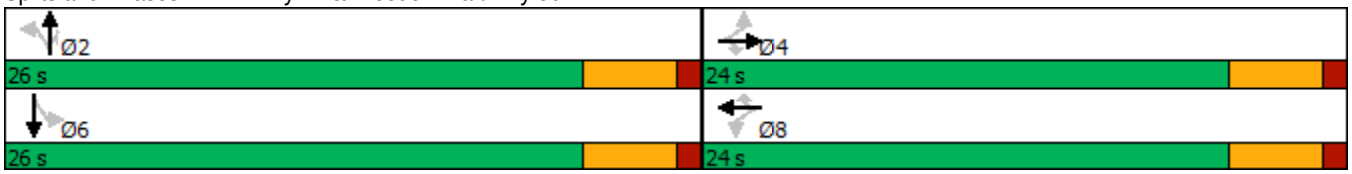
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5	24.5	24.5	24.5	
Total Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	26.0	26.0	26.0	26.0	26.0	
Total Split (%)	48.0%	48.0%	48.0%	48.0%	48.0%	48.0%	52.0%	52.0%	52.0%	52.0%	52.0%	
Maximum Green (s)	19.5	19.5	19.5	19.5	19.5	19.5	21.5	21.5	21.5	21.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
Act Effct Green (s)		15.5	15.5		15.5	15.5	20.3	20.3	20.3	20.3	20.3	
Actuated g/C Ratio		0.35	0.35		0.35	0.35	0.45	0.45	0.45	0.45	0.45	
v/c Ratio		0.06	0.02		0.72	0.23	0.03	0.36	0.30	0.22	0.27	
Control Delay		9.5	1.8		22.4	4.4	8.5	10.7	2.9	10.4	9.8	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		9.5	1.8		22.4	4.4	8.5	10.7	2.9	10.4	9.8	
LOS		A	A		C	A	A	B	A	B	A	
Approach Delay		7.6			17.0			7.2			10.0	
Approach LOS		A			B			A			B	
Queue Length 50th (m)		1.8	0.0		21.2	1.2	0.6	14.3	0.0	4.8	9.6	
Queue Length 95th (m)		5.8	1.1		#43.7	9.0	3.1	30.4	9.3	13.3	22.1	
Internal Link Dist (m)		188.4			201.6			304.7			188.0	
Turn Bay Length (m)			10.0			10.0	160.0		200.0	140.0		
Base Capacity (vph)		779	715		581	763	568	844	840	496	800	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.05	0.02		0.56	0.19	0.03	0.34	0.28	0.21	0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 44.9			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 11.2		Intersection LOS: B	
Intersection Capacity Utilization 69.8%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: Hwy 22 & Weedon Trail/Hwy 567



Intersection	
Int Delay, s/veh	197.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	131	1	535	25	5	5	241	388	21	5	491	66
Future Vol, veh/h	131	1	535	25	5	5	241	388	21	5	491	66
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	21	0	0	5	0	0	0	9	6	0	5	0
Mvmt Flow	131	1	535	25	5	5	241	388	21	5	491	66

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1420	1425	524	1683	1448	399	557	0	0	409	0	0
Stage 1	534	534	-	881	881	-	-	-	-	-	-	-
Stage 2	886	891	-	802	567	-	-	-	-	-	-	-
Critical Hdwy	7.31	6.5	6.2	7.15	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.689	4	3.3	3.545	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 104	137	557	73	133	655	1024	-	-	1161	-	-
Stage 1	497	528	-	337	367	-	-	-	-	-	-	-
Stage 2	314	363	-	373	510	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 81	104	557	~ 2	101	655	1024	-	-	1161	-	-
Mov Cap-2 Maneuver	~ 81	104	-	~ 2	101	-	-	-	-	-	-	-
Stage 1	380	526	-	258	281	-	-	-	-	-	-	-
Stage 2	234	278	-	~ 15	508	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	128.3	$ 8275.6	3.6	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1024	-	-	81	557	2	655	1161	-	-
HCM Lane V/C Ratio	0.235	-	-	1.63	0.961	15	0.008	0.004	-	-
HCM Control Delay (s)	9.6	-	-	$ 420.6	56.2	$ 9653.1	10.5	8.1	-	-
HCM Lane LOS	A	-	-	F	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0.9	-	-	10.9	12.9	5.5	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	519	233	65	151	4
Future Vol, veh/h	1	519	233	65	151	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	6	13	17	5	0
Mvmt Flow	1	519	233	65	151	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	298	0	-	0	754	233
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	521	-
Critical Hdwy	4.1	-	-	-	6.45	6.2
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.3
Pot Cap-1 Maneuver	1275	-	-	-	373	811
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	590	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1275	-	-	-	373	811
Mov Cap-2 Maneuver	-	-	-	-	373	-
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	590	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1275	-	-	-	373	811
HCM Lane V/C Ratio	0.001	-	-	-	0.405	0.005
HCM Control Delay (s)	7.8	0	-	-	21.1	9.5
HCM Lane LOS	A	A	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	1.9	0

Intersection	
Int Delay, s/veh	41.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	25	28	223	25	149	12	297	227	119	335	9
Future Vol, veh/h	3	25	28	223	25	149	12	297	227	119	335	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	9	22	0	0	7	11	6	4	29
Mvmt Flow	3	25	28	223	25	149	12	297	227	119	335	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	986	899	340	925	903	297	344	0	-	297	0	0
Stage 1	578	578	-	321	321	-	-	-	-	-	-	-
Stage 2	408	321	-	604	582	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.19	6.72	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.581	4.198	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	229	281	707	242	257	747	1226	-	0	1242	-	-
Stage 1	505	504	-	676	617	-	-	-	0	-	-	-
Stage 2	624	655	-	473	469	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	155	251	707	~ 198	230	747	1226	-	-	1242	-	-
Mov Cap-2 Maneuver	155	251	-	~ 198	230	-	-	-	-	-	-	-
Stage 1	500	456	-	669	611	-	-	-	-	-	-	-
Stage 2	474	648	-	388	424	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.3	121.8	0.3	2.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1226	-	235	707	201	747	1242	-	-
HCM Lane V/C Ratio	0.01	-	0.119	0.04	1.234	0.199	0.096	-	-
HCM Control Delay (s)	8	-	22.4	10.3	188.3	11	8.2	-	-
HCM Lane LOS	A	-	C	B	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0.1	13	0.7	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	357	1	60	239	1	162
Future Vol, veh/h	357	1	60	239	1	162
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	100	100	100	100	100	100
Heavy Vehicles, %	5	5	5	5	2	2
Mvmt Flow	357	1	60	239	1	162

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	358	0	717	358
Stage 1	-	-	-	-	358	-
Stage 2	-	-	-	-	359	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1184	-	396	686
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	707	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1184	-	373	686
Mov Cap-2 Maneuver	-	-	-	-	373	-
Stage 1	-	-	-	-	707	-
Stage 2	-	-	-	-	666	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	682	-	-	1184	-
HCM Lane V/C Ratio	0.239	-	-	0.051	-
HCM Control Delay (s)	11.9	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.2	-

Intersection	
Int Delay, s/veh	4.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	162	55	1	60	132
Future Vol, veh/h	1	162	55	1	60	132
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	5	5	5	5
Mvmt Flow	1	162	55	1	60	132

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	308	56	0	0	56	0
Stage 1	56	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	684	1011	-	-	1530	-
Stage 1	967	-	-	-	-	-
Stage 2	790	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	655	1011	-	-	1530	-
Mov Cap-2 Maneuver	655	-	-	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	757	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	2.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1008	1530	-
HCM Lane V/C Ratio	-	-	0.162	0.039	-
HCM Control Delay (s)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Intersection	
Int Delay, s/veh	257.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	116	3	357	30	1	5	597	467	40	9	413	151
Future Vol, veh/h	116	3	357	30	1	5	597	467	40	9	413	151
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	6	0	12	0	0	0	0	4	0	0	5	14
Mvmt Flow	116	3	357	30	1	5	597	467	40	9	413	151

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2191	2208	489	2368	2263	487	564	0	0	507	0	0
Stage 1	507	507	-	1681	1681	-	-	-	-	-	-	-
Stage 2	1684	1701	-	687	582	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.5	6.32	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4	3.408	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 32	45	559	~ 25	41	585	1018	-	-	1068	-	-
Stage 1	541	543	-	121	152	-	-	-	-	-	-	-
Stage 2	116	149	-	440	502	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 16	18	559	~ 4	17	585	1018	-	-	1068	-	-
Mov Cap-2 Maneuver	~ 16	18	-	~ 4	17	-	-	-	-	-	-	-
Stage 1	224	539	-	50	63	-	-	-	-	-	-	-
Stage 2	~ 47	62	-	157	498	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 858.3	$ 4098.1	7.3	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1018	-	-	16	559	4	585	1068	-	-
HCM Lane V/C Ratio	0.586	-	-	7.438	0.639	7.75	0.009	0.008	-	-
HCM Control Delay (s)	13.4	-	-	$ 3366.9	22.3	$ 4757.3	11.2	8.4	-	-
HCM Lane LOS	B	-	-	F	C	F	B	A	-	-
HCM 95th %tile Q(veh)	4	-	-	15.7	4.5	5.5	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	376	577	170	90	4
Future Vol, veh/h	8	376	577	170	90	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	20	7	17	6	9	0
Mvmt Flow	8	376	577	170	90	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	747	0	-	0	969	577
Stage 1	-	-	-	-	577	-
Stage 2	-	-	-	-	392	-
Critical Hdwy	4.3	-	-	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.38	-	-	-	3.581	3.3
Pot Cap-1 Maneuver	785	-	-	-	273	520
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	785	-	-	-	269	520
Mov Cap-2 Maneuver	-	-	-	-	269	-
Stage 1	-	-	-	-	541	-
Stage 2	-	-	-	-	668	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	24.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	785	-	-	-	269	520
HCM Lane V/C Ratio	0.01	-	-	-	0.335	0.008
HCM Control Delay (s)	9.6	0	-	-	25	12
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0	-	-	-	1.4	0

Intersection	
Int Delay, s/veh	86.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	31	12	357	25	143	15	306	283	102	234	8
Future Vol, veh/h	5	31	12	357	25	143	15	306	283	102	234	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	1	0	0	0	7	7	6	13	0
Mvmt Flow	5	31	12	357	25	143	15	306	283	102	234	8

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	862	778	238	800	782	306	242	0	-	306	0	0
Stage 1	442	442	-	336	336	-	-	-	-	-	-	-
Stage 2	420	336	-	464	446	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.11	6.5	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.509	4	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	277	330	806	~ 304	328	739	1336	-	0	1232	-	-
Stage 1	598	580	-	680	645	-	-	-	0	-	-	-
Stage 2	615	645	-	580	577	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	194	299	806	~ 256	297	739	1336	-	-	1232	-	-
Mov Cap-2 Maneuver	194	299	-	~ 256	297	-	-	-	-	-	-	-
Stage 1	591	532	-	673	638	-	-	-	-	-	-	-
Stage 2	471	638	-	494	529	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.3	200.9	0.4	2.4
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1336	-	278	806	258	739	1232	-	-
HCM Lane V/C Ratio	0.011	-	0.129	0.015	1.481	0.194	0.083	-	-
HCM Control Delay (s)	7.7	-	19.9	9.5	272	11	8.2	-	-
HCM Lane LOS	A	-	C	A	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.4	0	22	0.7	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	274	1	180	567	1	111
Future Vol, veh/h	274	1	180	567	1	111
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	100	100	100	100	100	100
Heavy Vehicles, %	5	5	5	5	2	2
Mvmt Flow	274	1	180	567	1	111

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	275	0	1202	275
Stage 1	-	-	-	-	275	-
Stage 2	-	-	-	-	927	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1271	-	204	764
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	385	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1271	-	162	764
Mov Cap-2 Maneuver	-	-	-	-	162	-
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	305	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	739	-	-	1271	-
HCM Lane V/C Ratio	0.152	-	-	0.142	-
HCM Control Delay (s)	10.7	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.5	-

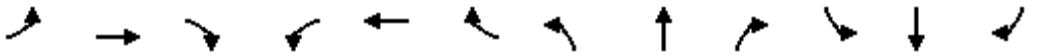
Intersection	
Int Delay, s/veh	4.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	111	71	1	180	231
Future Vol, veh/h	1	111	71	1	180	231
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	5	5	5	5
Mvmt Flow	1	111	71	1	180	231

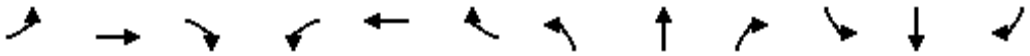
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	663	72	0	0	72	0
Stage 1	72	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	426	990	-	-	1509	-
Stage 1	951	-	-	-	-	-
Stage 2	553	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	368	990	-	-	1509	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	951	-	-	-	-	-
Stage 2	477	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	3.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	975	1509	-
HCM Lane V/C Ratio	-	-	0.115	0.119	-
HCM Control Delay (s)	-	-	9.2	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.4	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	131	1	535	25	5	5	241	388	21	5	491	66
Future Volume (vph)	131	1	535	25	5	5	241	388	21	5	491	66
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	140.0		0.0	140.0		0.0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.992			0.982	
Flt Protected		0.953			0.960		0.950			0.950		
Satd. Flow (prot)	0	1475	1590	0	1724	1590	1777	1705	0	1777	1759	0
Flt Permitted		0.706			0.770		0.219			0.522		
Satd. Flow (perm)	0	1093	1590	0	1383	1590	410	1705	0	976	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			355			109		5			13	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		472.8			258.7			239.6			178.9	
Travel Time (s)		35.5			19.4			18.0			13.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	21%	0%	0%	5%	0%	0%	0%	9%	6%	0%	5%	0%
Adj. Flow (vph)	131	1	535	25	5	5	241	388	21	5	491	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	132	535	0	30	5	241	409	0	5	557	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	



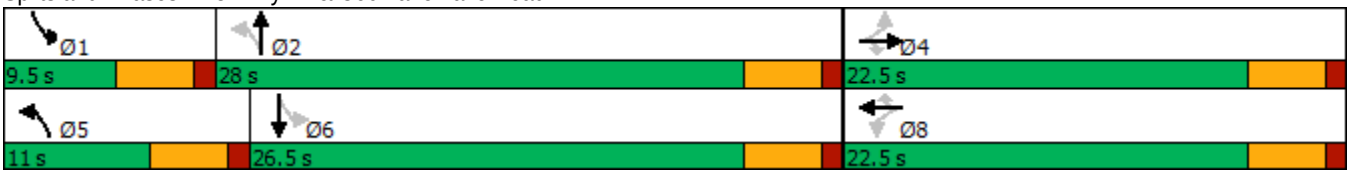
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	24.5		9.5	24.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	11.0	28.0		9.5	26.5	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	18.3%	46.7%		15.8%	44.2%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	6.5	23.5		5.0	22.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		14.2	14.2		14.2	14.2	31.8	30.6		26.3	21.3	
Actuated g/C Ratio		0.26	0.26		0.26	0.26	0.57	0.55		0.47	0.38	
v/c Ratio		0.47	0.80		0.09	0.01	0.61	0.44		0.01	0.82	
Control Delay		23.7	17.2		16.0	0.0	15.4	11.1		6.4	28.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		23.7	17.2		16.0	0.0	15.4	11.1		6.4	28.6	
LOS		C	B		B	A	B	B		A	C	
Approach Delay		18.5			13.7			12.7			28.4	
Approach LOS		B			B			B			C	
Queue Length 50th (m)		11.4	15.4		2.3	0.0	11.0	20.8		0.3	49.5	
Queue Length 95th (m)		24.6	#53.0		7.3	0.0	#30.9	59.1		1.4	#105.4	
Internal Link Dist (m)		448.8			234.7			215.6			154.9	
Turn Bay Length (m)			10.0			10.0	140.0			140.0		
Base Capacity (vph)		356	757		450	591	395	940		534	708	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.37	0.71		0.07	0.01	0.61	0.44		0.01	0.79	

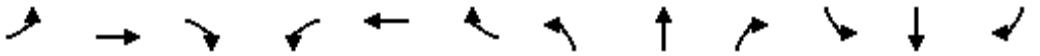
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 55.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 19.3		Intersection LOS: B	
Intersection Capacity Utilization 84.3%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

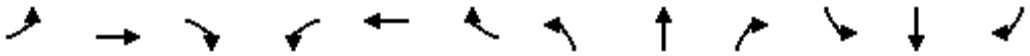
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hwy 22 & Cochrane Lake Road





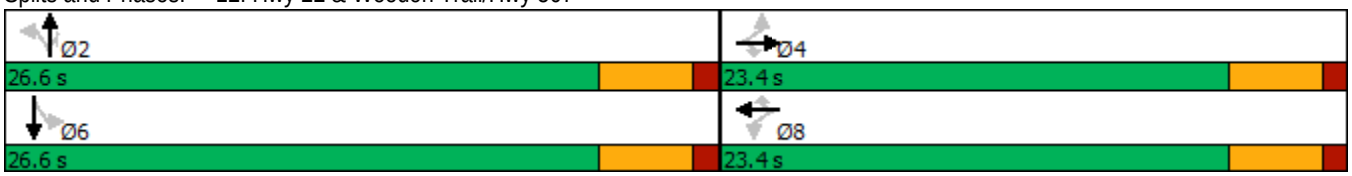
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	25	28	223	25	149	12	297	227	119	335	9
Future Volume (vph)	3	25	28	223	25	149	12	297	227	119	335	9
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	160.0		200.0	140.0		0.0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.995			0.957		0.950			0.950		
Satd. Flow (prot)	0	1861	1590	0	1623	1590	1777	1748	1432	1676	1780	0
Flt Permitted		0.967			0.727		0.530			0.578		
Satd. Flow (perm)	0	1809	1590	0	1233	1590	991	1748	1432	1020	1780	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			33			149			227		3	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		212.4			225.6			328.7			212.0	
Travel Time (s)		15.9			16.9			24.7			15.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	9%	22%	0%	0%	7%	11%	6%	4%	29%
Adj. Flow (vph)	3	25	28	223	25	149	12	297	227	119	335	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	28	28	0	248	149	12	297	227	119	344	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	

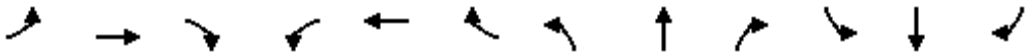


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5	24.5	24.5	24.5	
Total Split (s)	23.4	23.4	23.4	23.4	23.4	23.4	26.6	26.6	26.6	26.6	26.6	
Total Split (%)	46.8%	46.8%	46.8%	46.8%	46.8%	46.8%	53.2%	53.2%	53.2%	53.2%	53.2%	
Maximum Green (s)	18.9	18.9	18.9	18.9	18.9	18.9	22.1	22.1	22.1	22.1	22.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
Act Effct Green (s)		13.9	13.9		13.9	13.9	20.5	20.5	20.5	20.5	20.5	
Actuated g/C Ratio		0.32	0.32		0.32	0.32	0.47	0.47	0.47	0.47	0.47	
v/c Ratio		0.05	0.05		0.63	0.24	0.03	0.36	0.29	0.25	0.41	
Control Delay		10.0	4.3		20.5	3.6	7.8	9.9	2.7	9.8	10.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		10.0	4.3		20.5	3.6	7.8	9.9	2.7	9.8	10.2	
LOS		A	A		C	A	A	A	A	A	B	
Approach Delay		7.1			14.1			6.8			10.1	
Approach LOS		A			B			A			B	
Queue Length 50th (m)		1.4	0.0		15.1	0.0	0.4	12.4	0.0	4.7	14.7	
Queue Length 95th (m)		5.1	3.2		33.5	8.0	2.7	31.0	8.8	14.9	36.1	
Internal Link Dist (m)		188.4			201.6			304.7			188.0	
Turn Bay Length (m)			10.0			10.0	160.0		200.0	140.0		
Base Capacity (vph)		792	715		540	780	507	895	844	522	913	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.04	0.04		0.46	0.19	0.02	0.33	0.27	0.23	0.38	

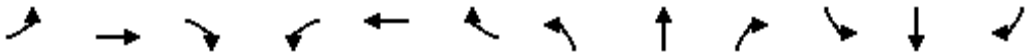
Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 43.5			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 9.9		Intersection LOS: A	
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: Hwy 22 & Weedon Trail/Hwy 567





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	116	3	357	30	1	5	597	467	40	9	413	151
Future Volume (vph)	116	3	357	30	1	5	597	467	40	9	413	151
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	140.0		0.0	140.0		0.0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.988			0.960	
Flt Protected		0.954			0.954		0.950			0.950		
Satd. Flow (prot)	0	1686	1420	0	1785	1590	1777	1782	0	1777	1672	0
Flt Permitted		0.709			0.707		0.158			0.477		
Satd. Flow (perm)	0	1253	1420	0	1322	1590	296	1782	0	892	1672	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			349			127		8			22	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		472.8			258.7			239.6			178.9	
Travel Time (s)		35.5			19.4			18.0			13.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	0%	12%	0%	0%	0%	0%	4%	0%	0%	5%	14%
Adj. Flow (vph)	116	3	357	30	1	5	597	467	40	9	413	151
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	119	357	0	31	5	597	507	0	9	564	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	



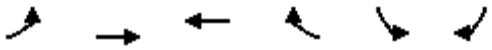
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	24.5		9.5	24.5	
Total Split (s)	22.8	22.8	22.8	22.8	22.8	22.8	31.6	57.6		9.6	35.6	
Total Split (%)	25.3%	25.3%	25.3%	25.3%	25.3%	25.3%	35.1%	64.0%		10.7%	39.6%	
Maximum Green (s)	18.3	18.3	18.3	18.3	18.3	18.3	27.1	53.1		5.1	31.1	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		13.9	13.9		13.9	13.9	61.8	60.0		35.2	30.1	
Actuated g/C Ratio		0.16	0.16		0.16	0.16	0.73	0.71		0.42	0.36	
v/c Ratio		0.58	0.68		0.14	0.01	0.86	0.40		0.02	0.93	
Control Delay		44.8	11.4		31.8	0.0	32.2	7.3		8.1	50.2	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		44.8	11.4		31.8	0.0	32.2	7.3		8.1	50.2	
LOS		D	B		C	A	C	A		A	D	
Approach Delay		19.8			27.4			20.8			49.5	
Approach LOS		B			C			C			D	
Queue Length 50th (m)		18.3	1.1		4.4	0.0	66.8	25.2		0.4	84.0	
Queue Length 95th (m)		34.8	25.3		11.8	0.0	#138.5	68.6		1.7	#156.1	
Internal Link Dist (m)		448.8			234.7			215.6			154.9	
Turn Bay Length (m)			10.0			10.0	140.0			140.0		
Base Capacity (vph)		271	581		286	444	691	1263		423	630	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.44	0.61		0.11	0.01	0.86	0.40		0.02	0.90	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 84.7			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 28.2		Intersection LOS: C	
Intersection Capacity Utilization 90.4%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

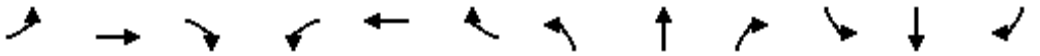
Queue shown is maximum after two cycles.

Splits and Phases: 3: Hwy 22 & Cochrane Lake Road

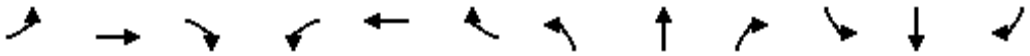


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	8	376	577	170	90	4
Future Volume (vph)	8	376	577	170	90	4
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0			30.0	0.0	10.0
Storage Lanes	0			1	1	1
Taper Length (m)	7.6				7.6	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	1742	1599	1500	1630	1590
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	1742	1599	1500	1630	1590
Link Speed (k/h)		48	48		48	
Link Distance (m)		246.3	472.8		202.2	
Travel Time (s)		18.5	35.5		15.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	20%	7%	17%	6%	9%	0%
Adj. Flow (vph)	8	376	577	170	90	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	384	577	170	90	4
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		3.7	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		4.9	4.9		4.9	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	43.0%	ICU Level of Service	A
Analysis Period (min)	15		



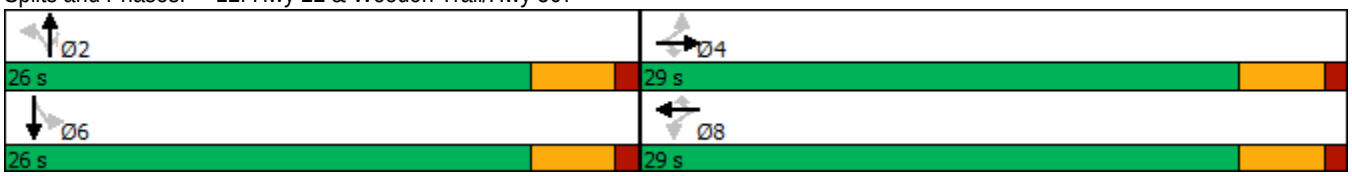
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	31	12	357	25	143	15	306	283	102	234	8
Future Volume (vph)	5	31	12	357	25	143	15	306	283	102	234	8
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	160.0		200.0	140.0		0.0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.995	
Flt Protected		0.993			0.955		0.950			0.950		
Satd. Flow (prot)	0	1857	1590	0	1770	1590	1777	1748	1486	1676	1653	0
Flt Permitted		0.950			0.714		0.608			0.544		
Satd. Flow (perm)	0	1777	1590	0	1323	1590	1137	1748	1486	960	1653	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			30			102			283		4	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		212.4			225.6			328.7			212.0	
Travel Time (s)		15.9			16.9			24.7			15.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	7%	7%	6%	13%	0%
Adj. Flow (vph)	5	31	12	357	25	143	15	306	283	102	234	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	12	0	382	143	15	306	283	102	242	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5	24.5	24.5	24.5	
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	26.0	26.0	26.0	26.0	26.0	
Total Split (%)	52.7%	52.7%	52.7%	52.7%	52.7%	52.7%	47.3%	47.3%	47.3%	47.3%	47.3%	
Maximum Green (s)	24.5	24.5	24.5	24.5	24.5	24.5	21.5	21.5	21.5	21.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
Act Effct Green (s)		18.2	18.2		18.2	18.2	20.6	20.6	20.6	20.6	20.6	
Actuated g/C Ratio		0.38	0.38		0.38	0.38	0.43	0.43	0.43	0.43	0.43	
v/c Ratio		0.05	0.02		0.76	0.21	0.03	0.41	0.35	0.25	0.34	
Control Delay		8.9	1.8		23.5	4.7	10.5	13.1	3.3	12.8	12.3	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		8.9	1.8		23.5	4.7	10.5	13.1	3.3	12.8	12.3	
LOS		A	A		C	A	B	B	A	B	B	
Approach Delay		7.1			18.3			8.5			12.5	
Approach LOS		A			B			A			B	
Queue Length 50th (m)		1.8	0.0		26.1	2.1	0.7	17.4	0.0	5.4	13.0	
Queue Length 95th (m)		5.7	1.2		53.2	9.9	3.7	39.0	11.4	15.8	30.7	
Internal Link Dist (m)		188.4			201.6			304.7			188.0	
Turn Bay Length (m)			10.0			10.0	160.0		200.0	140.0		
Base Capacity (vph)		922	839		686	874	517	796	831	437	755	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.04	0.01		0.56	0.16	0.03	0.38	0.34	0.23	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 47.9			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 12.7		Intersection LOS: B	
Intersection Capacity Utilization 72.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: Hwy 22 & Weedon Trail/Hwy 567



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	274	1	180	567	1	111
Future Volume (vph)	274	1	180	567	1	111
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.866	
Flt Protected				0.988		
Satd. Flow (prot)	1781	0	0	1760	1588	0
Flt Permitted				0.988		
Satd. Flow (perm)	1781	0	0	1760	1588	0
Link Speed (k/h)	48			48	48	
Link Distance (m)	225.8			316.1	189.3	
Travel Time (s)	16.9			23.7	14.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	5%	5%	5%	2%	2%
Adj. Flow (vph)	274	1	180	567	1	111
Shared Lane Traffic (%)						
Lane Group Flow (vph)	275	0	0	747	112	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)		14	24		24	14
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 72.9%		ICU Level of Service C	
Analysis Period (min) 15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	111	71	1	180	231
Future Volume (vph)	1	111	71	1	180	231
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.866		0.998			
Flt Protected						0.979
Satd. Flow (prot)	1588	0	1778	0	0	1744
Flt Permitted						0.979
Satd. Flow (perm)	1588	0	1778	0	0	1744
Link Speed (k/h)	48		48			48
Link Distance (m)	231.0		141.1			121.9
Travel Time (s)	17.3		10.6			9.1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	5%	5%	5%	5%
Adj. Flow (vph)	1	111	71	1	180	231
Shared Lane Traffic (%)						
Lane Group Flow (vph)	112	0	72	0	0	411
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24	14		14	24	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	19.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	2	314	31	6	6	171	473	26	6	598	42
Future Vol, veh/h	57	2	314	31	6	6	171	473	26	6	598	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	21	0	0	5	0	0	0	9	6	0	5	0
Mvmt Flow	57	2	314	31	6	6	171	473	26	6	598	42

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1465	1472	619	1617	1480	486	640	0	0	499	0	0
Stage 1	631	631	-	828	828	-	-	-	-	-	-	-
Stage 2	834	841	-	789	652	-	-	-	-	-	-	-
Critical Hdwy	7.31	6.5	6.2	7.15	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.689	4	3.3	3.545	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	96	128	492	82	127	585	954	-	-	1075	-	-
Stage 1	438	477	-	361	389	-	-	-	-	-	-	-
Stage 2	336	383	-	379	467	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	78	104	492	~ 25	104	585	954	-	-	1075	-	-
Mov Cap-2 Maneuver	78	104	-	~ 25	104	-	-	-	-	-	-	-
Stage 1	360	474	-	296	319	-	-	-	-	-	-	-
Stage 2	268	314	-	136	464	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	41	$ 401.9	2.4	0.1
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	954	-	-	79	492	29	585	1075	-	-
HCM Lane V/C Ratio	0.179	-	-	0.747	0.638	1.276	0.01	0.006	-	-
HCM Control Delay (s)	9.6	-	-	129.8	24.3	$ 465.3	11.2	8.4	-	-
HCM Lane LOS	A	-	-	F	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0.7	-	-	3.6	4.4	4.3	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	206	129	74	169	5
Future Vol, veh/h	1	206	129	74	169	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	6	13	17	5	0
Mvmt Flow	1	206	129	74	169	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	203	0	-	0	337	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	208	-
Critical Hdwy	4.1	-	-	-	6.45	6.2
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.3
Pot Cap-1 Maneuver	1381	-	-	-	652	926
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	820	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1381	-	-	-	651	926
Mov Cap-2 Maneuver	-	-	-	-	651	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	820	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1381	-	-	-	651	926
HCM Lane V/C Ratio	0.001	-	-	-	0.26	0.005
HCM Control Delay (s)	7.6	0	-	-	12.5	8.9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	1	0

Intersection	
Int Delay, s/veh	90.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	27	34	246	29	182	14	321	216	145	393	11
Future Vol, veh/h	3	27	34	246	29	182	14	321	216	145	393	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	9	22	0	0	7	11	6	4	29
Mvmt Flow	3	27	34	246	29	182	14	321	216	145	393	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1144	1038	399	1068	1043	321	404	0	-	321	0	0
Stage 1	689	689	-	349	349	-	-	-	-	-	-	-
Stage 2	455	349	-	719	694	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.19	6.72	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.581	4.198	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	179	233	655	~ 193	212	724	1166	-	0	1217	-	-
Stage 1	439	450	-	653	600	-	-	-	0	-	-	-
Stage 2	589	637	-	409	415	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	106	203	655	~ 148	184	724	1166	-	-	1217	-	-
Mov Cap-2 Maneuver	106	203	-	~ 148	184	-	-	-	-	-	-	-
Stage 1	434	396	-	645	593	-	-	-	-	-	-	-
Stage 2	414	629	-	318	366	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	272.6	0.3	2.2
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1166	-	186	655	151	724	1217	-	-
HCM Lane V/C Ratio	0.012	-	0.161	0.052	1.821	0.251	0.119	-	-
HCM Control Delay (s)	8.1	-	28	10.8	$ 445.3	11.6	8.4	-	-
HCM Lane LOS	A	-	D	B	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.6	0.2	20.5	1	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	39.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	3	220	37	1	6	353	569	48	11	503	71
Future Vol, veh/h	58	3	220	37	1	6	353	569	48	11	503	71
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	6	0	12	0	0	0	0	4	0	0	5	14
Mvmt Flow	58	3	220	37	1	6	353	569	48	11	503	71

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1864	1884	539	1971	1895	593	574	0	0	617	0	0
Stage 1	561	561	-	1299	1299	-	-	-	-	-	-	-
Stage 2	1303	1323	-	672	596	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.5	6.32	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4	3.408	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 54	72	524	47	70	509	1009	-	-	973	-	-
Stage 1	505	513	-	200	234	-	-	-	-	-	-	-
Stage 2	194	228	-	449	495	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 38	46	524	~ 19	45	509	1009	-	-	973	-	-
Mov Cap-2 Maneuver	~ 38	46	-	~ 19	45	-	-	-	-	-	-	-
Stage 1	328	507	-	130	152	-	-	-	-	-	-	-
Stage 2	124	148	-	256	490	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	128.4	$ 770	3.8	0.2
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1009	-	-	38	524	19	509	973	-	-
HCM Lane V/C Ratio	0.35	-	-	1.605	0.42	2	0.012	0.011	-	-
HCM Control Delay (s)	10.5	-	-	$ 530.8	16.8	$ 889.7	12.2	8.7	-	-
HCM Lane LOS	B	-	-	F	C	F	B	A	-	-
HCM 95th %tile Q(veh)	1.6	-	-	6.4	2.1	5.1	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	169	231	191	100	5
Future Vol, veh/h	9	169	231	191	100	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	20	7	17	6	9	0
Mvmt Flow	9	169	231	191	100	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	422	0	-	0	418	231
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	187	-
Critical Hdwy	4.3	-	-	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.38	-	-	-	3.581	3.3
Pot Cap-1 Maneuver	1047	-	-	-	578	813
Stage 1	-	-	-	-	791	-
Stage 2	-	-	-	-	828	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1047	-	-	-	573	813
Mov Cap-2 Maneuver	-	-	-	-	573	-
Stage 1	-	-	-	-	784	-
Stage 2	-	-	-	-	828	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1047	-	-	-	573	813
HCM Lane V/C Ratio	0.009	-	-	-	0.175	0.006
HCM Control Delay (s)	8.5	0	-	-	12.6	9.5
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.6	0

Intersection	
Int Delay, s/veh	120.5

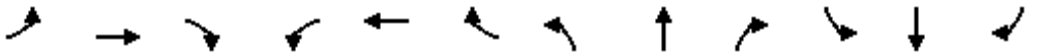
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	35	14	355	27	174	18	345	289	124	240	10
Future Vol, veh/h	6	35	14	355	27	174	18	345	289	124	240	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	1	0	0	0	7	7	6	13	0
Mvmt Flow	6	35	14	355	27	174	18	345	289	124	240	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	975	874	245	899	879	345	250	0	-	345	0	0
Stage 1	493	493	-	381	381	-	-	-	-	-	-	-
Stage 2	482	381	-	518	498	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.11	6.5	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.509	4	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	233	290	799	~ 261	288	702	1327	-	0	1192	-	-
Stage 1	562	550	-	643	617	-	-	-	0	-	-	-
Stage 2	569	617	-	542	548	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	147	256	799	~ 210	254	702	1327	-	-	1192	-	-
Mov Cap-2 Maneuver	147	256	-	~ 210	254	-	-	-	-	-	-	-
Stage 1	554	493	-	634	608	-	-	-	-	-	-	-
Stage 2	403	608	-	443	491	-	-	-	-	-	-	-

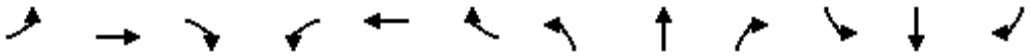
Approach	EB	WB	NB	SB
HCM Control Delay, s	20.3	288	0.4	2.8
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1327	-	231	799	213	702	1192	-	-
HCM Lane V/C Ratio	0.014	-	0.177	0.018	1.793	0.248	0.104	-	-
HCM Control Delay (s)	7.8	-	23.9	9.6	$ 413.8	11.8	8.4	-	-
HCM Lane LOS	A	-	C	A	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.6	0.1	26.5	1	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



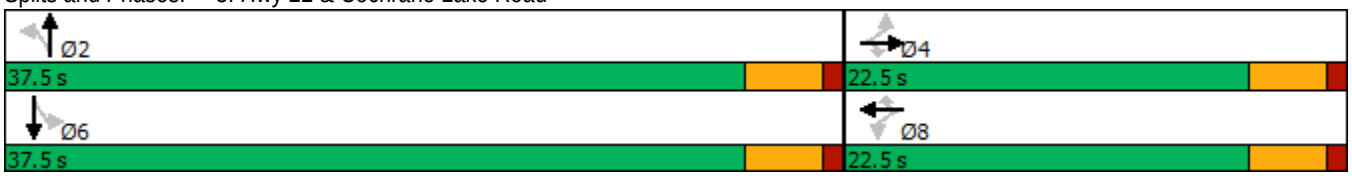
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	2	314	31	6	6	171	473	26	6	598	42
Future Volume (vph)	57	2	314	31	6	6	171	473	26	6	598	42
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	140.0		0.0	140.0		0.0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.992			0.990	
Flt Protected		0.954			0.960		0.950			0.950		
Satd. Flow (prot)	0	1484	1590	0	1724	1590	1777	1705	0	1777	1769	0
Flt Permitted		0.737			0.783		0.302			0.414		
Satd. Flow (perm)	0	1146	1590	0	1406	1590	565	1705	0	774	1769	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			265			27		7			9	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		472.8			258.7			239.6			178.9	
Travel Time (s)		35.5			19.4			18.0			13.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	21%	0%	0%	5%	0%	0%	0%	9%	6%	0%	5%	0%
Adj. Flow (vph)	57	2	314	31	6	6	171	473	26	6	598	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	59	314	0	37	6	171	499	0	6	640	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	

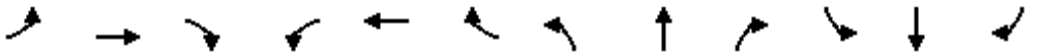


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5		24.5	24.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	37.5	37.5		37.5	37.5	
Total Split (%)	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%	62.5%	62.5%		62.5%	62.5%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	33.0	33.0		33.0	33.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		11.2	11.2		11.2	11.2	23.3	23.3		23.3	23.3	
Actuated g/C Ratio		0.26	0.26		0.26	0.26	0.53	0.53		0.53	0.53	
v/c Ratio		0.20	0.52		0.10	0.01	0.57	0.55		0.01	0.68	
Control Delay		16.3	7.5		14.9	1.2	16.0	9.4		5.2	11.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		16.3	7.5		14.9	1.2	16.0	9.4		5.2	11.7	
LOS		B	A		B	A	B	A		A	B	
Approach Delay		8.9			13.0			11.1			11.7	
Approach LOS		A			B			B			B	
Queue Length 50th (m)		3.0	2.5		1.9	0.0	6.7	19.0		0.2	27.0	
Queue Length 95th (m)		12.4	19.9		8.5	0.5	26.4	47.5		1.4	66.6	
Internal Link Dist (m)		448.8			234.7			215.6			154.9	
Turn Bay Length (m)			10.0			10.0	140.0			140.0		
Base Capacity (vph)		482	822		591	685	436	1317		597	1367	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.12	0.38		0.06	0.01	0.39	0.38		0.01	0.47	

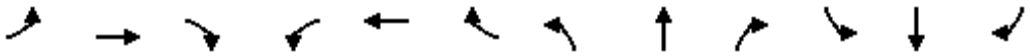
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 43.7			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 10.9		Intersection LOS: B	
Intersection Capacity Utilization 74.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Hwy 22 & Cochrane Lake Road





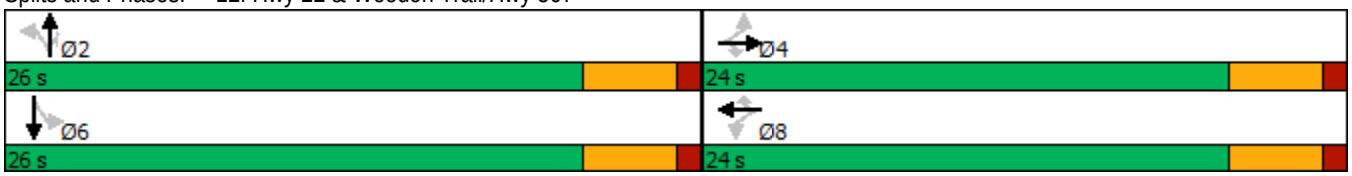
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	27	34	246	29	182	14	321	216	145	393	11
Future Volume (vph)	3	27	34	246	29	182	14	321	216	145	393	11
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	160.0		200.0	140.0		0.0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.995			0.957		0.950			0.950		
Satd. Flow (prot)	0	1861	1590	0	1622	1590	1777	1748	1432	1676	1780	0
Flt Permitted		0.969			0.727		0.464			0.548		
Satd. Flow (perm)	0	1813	1590	0	1232	1590	868	1748	1432	967	1780	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			34			181			216		4	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		212.4			225.6			328.7			212.0	
Travel Time (s)		15.9			16.9			24.7			15.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	9%	22%	0%	0%	7%	11%	6%	4%	29%
Adj. Flow (vph)	3	27	34	246	29	182	14	321	216	145	393	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	34	0	275	182	14	321	216	145	404	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	

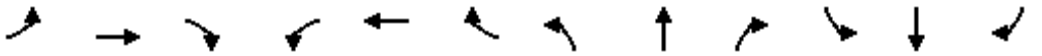


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5	24.5	24.5	24.5	
Total Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	26.0	26.0	26.0	26.0	26.0	
Total Split (%)	48.0%	48.0%	48.0%	48.0%	48.0%	48.0%	52.0%	52.0%	52.0%	52.0%	52.0%	
Maximum Green (s)	19.5	19.5	19.5	19.5	19.5	19.5	21.5	21.5	21.5	21.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
Act Effct Green (s)		14.7	14.7		14.7	14.7	20.4	20.4	20.4	20.4	20.4	
Actuated g/C Ratio		0.33	0.33		0.33	0.33	0.46	0.46	0.46	0.46	0.46	
v/c Ratio		0.05	0.06		0.67	0.28	0.03	0.40	0.28	0.32	0.49	
Control Delay		9.7	4.5		21.7	3.5	8.4	10.7	2.9	11.5	11.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		9.7	4.5		21.7	3.5	8.4	10.7	2.9	11.5	11.7	
LOS		A	A		C	A	A	B	A	B	B	
Approach Delay		7.0			14.4			7.6			11.7	
Approach LOS		A			B			A			B	
Queue Length 50th (m)		1.5	0.0		17.2	0.1	0.5	14.5	0.0	6.3	19.1	
Queue Length 95th (m)		5.2	3.8		37.3	8.7	3.0	34.7	8.8	19.0	44.6	
Internal Link Dist (m)		188.4			201.6			304.7			188.0	
Turn Bay Length (m)			10.0			10.0	160.0		200.0	140.0		
Base Capacity (vph)		807	726		548	808	426	857	812	474	875	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.04	0.05		0.50	0.23	0.03	0.37	0.27	0.31	0.46	

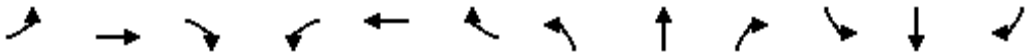
Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 44.2			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 10.9		Intersection LOS: B	
Intersection Capacity Utilization 72.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 12: Hwy 22 & Weedon Trail/Hwy 567





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	3	220	37	0	6	353	569	48	11	503	71
Future Volume (vph)	58	3	220	37	0	6	353	569	48	11	503	71
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	140.0		0.0	140.0		0.0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.988			0.981	
Flt Protected		0.955			0.950		0.950			0.950		
Satd. Flow (prot)	0	1690	1420	0	1777	1590	1777	1782	0	1777	1729	0
Flt Permitted		0.718			0.717		0.389			0.361		
Satd. Flow (perm)	0	1271	1420	0	1341	1590	728	1782	0	675	1729	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			220			23		11			19	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		472.8			258.7			239.6			178.9	
Travel Time (s)		35.5			19.4			18.0			13.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	0%	12%	0%	0%	0%	0%	4%	0%	0%	5%	14%
Adj. Flow (vph)	58	3	220	37	0	6	353	569	48	11	503	71
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	61	220	0	37	6	353	617	0	11	574	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	



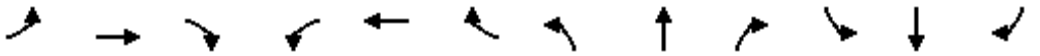
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0		20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5		24.5	24.5	
Total Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	47.5	47.5		47.5	47.5	
Total Split (%)	32.1%	32.1%	32.1%	32.1%	32.1%	32.1%	67.9%	67.9%		67.9%	67.9%	
Maximum Green (s)	18.0	18.0	18.0	18.0	18.0	18.0	43.0	43.0		43.0	43.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min		Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0		0	0	
Act Effct Green (s)		10.8	10.8		10.8	10.8	36.0	36.0		36.0	36.0	
Actuated g/C Ratio		0.19	0.19		0.19	0.19	0.64	0.64		0.64	0.64	
v/c Ratio		0.25	0.49		0.14	0.02	0.76	0.54		0.03	0.51	
Control Delay		24.8	8.1		23.1	2.5	20.1	7.3		3.7	6.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		24.8	8.1		23.1	2.5	20.1	7.3		3.7	6.9	
LOS		C	A		C	A	C	A		A	A	
Approach Delay		11.7			20.2			11.9			6.9	
Approach LOS		B			C			B			A	
Queue Length 50th (m)		5.9	0.0		3.5	0.0	18.9	25.3		0.3	22.6	
Queue Length 95th (m)		15.3	15.2		10.5	0.9	#73.9	52.5		1.7	47.5	
Internal Link Dist (m)		448.8			234.7			215.6			154.9	
Turn Bay Length (m)			10.0			10.0	140.0			140.0		
Base Capacity (vph)		418	615		441	538	572	1403		530	1363	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.15	0.36		0.08	0.01	0.62	0.44		0.02	0.42	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 56			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 10.5		Intersection LOS: B	
Intersection Capacity Utilization 73.1%		ICU Level of Service D	
Analysis Period (min) 15			

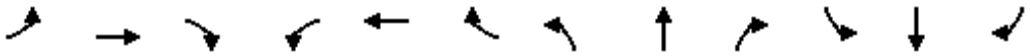
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Hwy 22 & Cochrane Lake Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	35	14	355	27	174	18	345	289	124	240	10
Future Volume (vph)	6	35	14	355	27	174	18	345	289	124	240	10
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	160.0		200.0	140.0		0.0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.994	
Flt Protected		0.993			0.956		0.950			0.950		
Satd. Flow (prot)	0	1857	1590	0	1772	1590	1777	1748	1486	1676	1653	0
Flt Permitted		0.944			0.711		0.604			0.510		
Satd. Flow (perm)	0	1766	1590	0	1318	1590	1130	1748	1486	900	1653	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			33			125			289		5	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		212.4			225.6			328.7			212.0	
Travel Time (s)		15.9			16.9			24.7			15.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	7%	7%	6%	13%	0%
Adj. Flow (vph)	6	35	14	355	27	174	18	345	289	124	240	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	14	0	382	174	18	345	289	124	250	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	



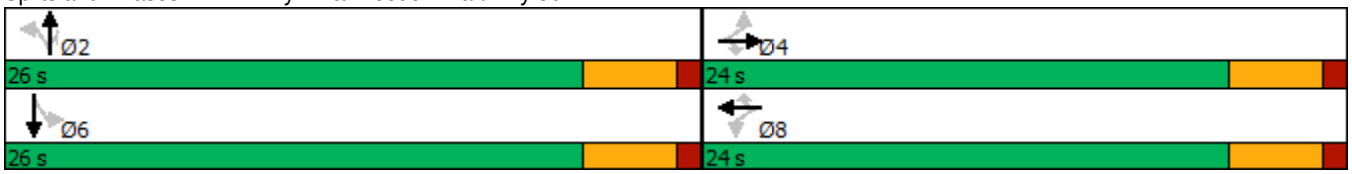
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5	24.5	24.5	24.5	
Total Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	26.0	26.0	26.0	26.0	26.0	
Total Split (%)	48.0%	48.0%	48.0%	48.0%	48.0%	48.0%	52.0%	52.0%	52.0%	52.0%	52.0%	
Maximum Green (s)	19.5	19.5	19.5	19.5	19.5	19.5	21.5	21.5	21.5	21.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
Act Effct Green (s)		16.8	16.8		16.8	16.8	20.4	20.4	20.4	20.4	20.4	
Actuated g/C Ratio		0.36	0.36		0.36	0.36	0.44	0.44	0.44	0.44	0.44	
v/c Ratio		0.06	0.02		0.80	0.26	0.04	0.45	0.35	0.31	0.34	
Control Delay		9.6	2.1		28.4	5.1	8.7	12.2	2.9	12.2	10.9	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		9.6	2.1		28.4	5.1	8.7	12.2	2.9	12.2	10.9	
LOS		A	A		C	A	A	B	A	B	B	
Approach Delay		7.7			21.1			8.0			11.3	
Approach LOS		A			C			A			B	
Queue Length 50th (m)		2.1	0.0		26.2	2.5	0.9	20.4	0.0	6.9	13.7	
Queue Length 95th (m)		6.5	1.4		#64.7	11.7	3.5	37.5	10.0	16.6	26.7	
Internal Link Dist (m)		188.4			201.6			304.7			188.0	
Turn Bay Length (m)			10.0			10.0	160.0		200.0	140.0		
Base Capacity (vph)		748	693		558	746	527	816	848	420	775	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.05	0.02		0.68	0.23	0.03	0.42	0.34	0.30	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 46.3			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 74.9%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: Hwy 22 & Weedon Trail/Hwy 567



Intersection	
Int Delay, s/veh	93.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	138	2	557	31	6	6	260	473	26	6	598	72
Future Vol, veh/h	138	2	557	31	6	6	260	473	26	6	598	72
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	21	0	0	5	0	0	0	9	6	0	5	0
Mvmt Flow	138	2	557	31	6	6	260	473	26	6	598	72

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1658	1665	634	1932	1688	486	670	0	0	499	0	0
Stage 1	646	646	-	1006	1006	-	-	-	-	-	-	-
Stage 2	1012	1019	-	926	682	-	-	-	-	-	-	-
Critical Hdwy	7.31	6.5	6.2	7.15	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.31	5.5	-	6.15	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.689	4	3.3	3.545	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 70	98	~ 483	49	95	585	930	-	-	1075	-	-
Stage 1	430	470	-	287	321	-	-	-	-	-	-	-
Stage 2	266	317	-	318	453	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 51	70	~ 483	-	68	585	930	-	-	1075	-	-
Mov Cap-2 Maneuver	~ 51	70	-	-	68	-	-	-	-	-	-	-
Stage 1	310	467	-	207	231	-	-	-	-	-	-	-
Stage 2	185	228	-	-	450	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	287		3.6	0.1
HCM LOS	F	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	930	-	-	51	483	-	585	1075	-	-
HCM Lane V/C Ratio	0.28	-	-	2.745	1.153	-	0.01	0.006	-	-
HCM Control Delay (s)	10.4	-	-	$ 959.5	118	-	11.2	8.4	-	-
HCM Lane LOS	B	-	-	F	F	-	B	A	-	-
HCM 95th %tile Q(veh)	1.1	-	-	14.7	19.8	-	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	530	248	74	169	5
Future Vol, veh/h	1	530	248	74	169	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	0	6	13	17	5	0
Mvmt Flow	1	530	248	74	169	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	322	0	-	0	780	248
Stage 1	-	-	-	-	248	-
Stage 2	-	-	-	-	532	-
Critical Hdwy	4.1	-	-	-	6.45	6.2
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.3
Pot Cap-1 Maneuver	1249	-	-	-	360	796
Stage 1	-	-	-	-	786	-
Stage 2	-	-	-	-	583	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1249	-	-	-	360	796
Mov Cap-2 Maneuver	-	-	-	-	360	-
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	583	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	23.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1249	-	-	-	360	796
HCM Lane V/C Ratio	0.001	-	-	-	0.469	0.006
HCM Control Delay (s)	7.9	0	-	-	23.5	9.6
HCM Lane LOS	A	A	-	-	C	A
HCM 95th %tile Q(veh)	0	-	-	-	2.4	0

Intersection	
Int Delay, s/veh	115.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	27	34	264	29	182	14	353	264	145	404	11
Future Vol, veh/h	3	27	34	264	29	182	14	353	264	145	404	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	9	22	0	0	7	11	6	4	29
Mvmt Flow	3	27	34	264	29	182	14	353	264	145	404	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1187	1081	410	1111	1086	353	415	0	-	353	0	0
Stage 1	700	700	-	381	381	-	-	-	-	-	-	-
Stage 2	487	381	-	730	705	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.19	6.72	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.19	5.72	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.581	4.198	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	167	220	646	~ 181	199	695	1155	-	0	1184	-	-
Stage 1	433	444	-	627	580	-	-	-	0	-	-	-
Stage 2	566	617	-	403	410	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	97	191	646	~ 138	173	695	1155	-	-	1184	-	-
Mov Cap-2 Maneuver	97	191	-	~ 138	173	-	-	-	-	-	-	-
Stage 1	428	390	-	619	573	-	-	-	-	-	-	-
Stage 2	392	610	-	312	360	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.9	$ 350.5	0.3	2.2
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1155	-	174	646	141	695	1184	-	-
HCM Lane V/C Ratio	0.012	-	0.172	0.053	2.078	0.262	0.122	-	-
HCM Control Delay (s)	8.2	-	30	10.9	$ 560.7	12	8.5	-	-
HCM Lane LOS	A	-	D	B	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.6	0.2	23.6	1	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	368	1	60	262	1	162
Future Vol, veh/h	368	1	60	262	1	162
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	100	100	100	100	100	100
Heavy Vehicles, %	5	5	5	5	2	2
Mvmt Flow	368	1	60	262	1	162

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	369	0	751	369
Stage 1	-	-	-	-	369	-
Stage 2	-	-	-	-	382	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1173	-	378	677
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	690	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1173	-	355	677
Mov Cap-2 Maneuver	-	-	-	-	355	-
Stage 1	-	-	-	-	699	-
Stage 2	-	-	-	-	649	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	673	-	-	1173	-
HCM Lane V/C Ratio	0.242	-	-	0.051	-
HCM Control Delay (s)	12.1	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0.2	-

Intersection	
Int Delay, s/veh	4.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	162	66	1	60	156
Future Vol, veh/h	1	162	66	1	60	156
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	5	5	5	5
Mvmt Flow	1	162	66	1	60	156

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	343	67	0	0	67	0
Stage 1	67	-	-	-	-	-
Stage 2	276	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	653	997	-	-	1516	-
Stage 1	956	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	625	997	-	-	1516	-
Mov Cap-2 Maneuver	625	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	738	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	2.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	993	1516	-
HCM Lane V/C Ratio	-	-	0.164	0.04	-
HCM Control Delay (s)	-	-	9.3	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.1	-

Intersection	
Int Delay, s/veh	716.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	124	3	375	37	1	6	622	569	48	11	503	160
Future Vol, veh/h	124	3	375	37	1	6	622	569	48	11	503	160
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	10	-	-	10	140	-	-	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	6	0	12	0	0	0	0	4	0	0	5	14
Mvmt Flow	124	3	375	37	1	6	622	569	48	11	503	160

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2446	2466	583	2631	2522	593	663	0	0	617	0	0
Stage 1	605	605	-	1837	1837	-	-	-	-	-	-	-
Stage 2	1841	1861	-	794	685	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.5	6.32	7.1	6.5	6.2	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4	3.408	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 21	31	494	~ 16	28	509	935	-	-	973	-	-
Stage 1	478	491	-	98	128	-	-	-	-	-	-	-
Stage 2	~ 94	124	-	384	451	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 9	10	494	~ 1	9	509	935	-	-	973	-	-
Mov Cap-2 Maneuver	~ 9	10	-	~ 1	9	-	-	-	-	-	-	-
Stage 1	160	486	-	~ 33	43	-	-	-	-	-	-	-
Stage 2	~ 30	42	-	91	446	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	$ 1720.8	$ 20184.6	8.1	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	935	-	-	9	494	1	509	973	-	-
HCM Lane V/C Ratio	0.665	-	-	14.111	0.759	38	0.012	0.011	-	-
HCM Control Delay (s)	16.1	-	-	$ 6708	31.2	$ 23369.7	12.2	8.7	-	-
HCM Lane LOS	C	-	-	F	D	F	B	A	-	-
HCM 95th %tile Q(veh)	5.3	-	-	17.5	6.6	6.7	0	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	390	590	191	100	5
Future Vol, veh/h	9	390	590	191	100	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	30	0	10
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	20	7	17	6	9	0
Mvmt Flow	9	390	590	191	100	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	781	0	-	0	998	590
Stage 1	-	-	-	-	590	-
Stage 2	-	-	-	-	408	-
Critical Hdwy	4.3	-	-	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	2.38	-	-	-	3.581	3.3
Pot Cap-1 Maneuver	762	-	-	-	262	511
Stage 1	-	-	-	-	540	-
Stage 2	-	-	-	-	656	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	762	-	-	-	258	511
Mov Cap-2 Maneuver	-	-	-	-	258	-
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	656	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	26.8
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	762	-	-	-	258	511
HCM Lane V/C Ratio	0.012	-	-	-	0.388	0.01
HCM Control Delay (s)	9.8	0	-	-	27.5	12.1
HCM Lane LOS	A	A	-	-	D	B
HCM 95th %tile Q(veh)	0	-	-	-	1.7	0

Intersection	
Int Delay, s/veh	190.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	35	14	409	27	174	18	367	333	124	275	10
Future Vol, veh/h	6	35	14	409	27	174	18	367	333	124	275	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	10	-	-	10	160	-	200	140	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	0	0	0	1	0	0	0	7	7	6	13	0
Mvmt Flow	6	35	14	409	27	174	18	367	333	124	275	10

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1032	931	280	956	936	367	285	0	-	367	0	0
Stage 1	528	528	-	403	403	-	-	-	-	-	-	-
Stage 2	504	403	-	553	533	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.11	6.5	6.2	4.1	-	-	4.16	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.11	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.509	4	3.3	2.2	-	-	2.254	-	-
Pot Cap-1 Maneuver	213	269	764	~ 239	267	683	1289	-	0	1170	-	-
Stage 1	538	531	-	626	603	-	-	-	0	-	-	-
Stage 2	554	603	-	519	528	-	-	-	0	-	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	132	237	764	~ 190	235	683	1289	-	-	1170	-	-
Mov Cap-2 Maneuver	132	237	-	~ 190	235	-	-	-	-	-	-	-
Stage 1	530	475	-	617	595	-	-	-	-	-	-	-
Stage 2	389	595	-	422	472	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.9	$ 451.9	0.4	2.6
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1289	-	212	764	192	683	1170	-	-
HCM Lane V/C Ratio	0.014	-	0.193	0.018	2.271	0.255	0.106	-	-
HCM Control Delay (s)	7.8	-	26	9.8	$ 627.4	12.1	8.4	-	-
HCM Lane LOS	A	-	D	A	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	0.7	0.1	35.2	1	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	289	1	180	602	1	111
Future Vol, veh/h	289	1	180	602	1	111
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	100	100	100	100	100	100
Heavy Vehicles, %	5	5	5	5	2	2
Mvmt Flow	289	1	180	602	1	111

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	290	0	1252	290
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	962	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1255	-	190	749
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	371	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1255	-	149	749
Mov Cap-2 Maneuver	-	-	-	-	149	-
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	291	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	723	-	-	1255	-
HCM Lane V/C Ratio	0.155	-	-	0.143	-
HCM Control Delay (s)	10.9	-	-	8.3	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.5	-

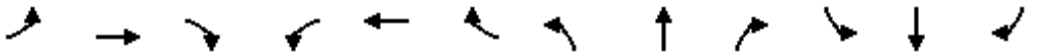
Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	111	87	1	180	265
Future Vol, veh/h	1	111	87	1	180	265
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	100	100	100	100	100	100
Heavy Vehicles, %	2	2	5	5	5	5
Mvmt Flow	1	111	87	1	180	265

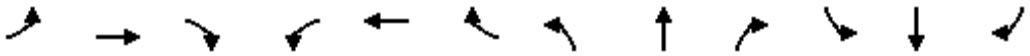
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	713	88	0	0	88	0
Stage 1	88	-	-	-	-	-
Stage 2	625	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.15	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.245	-
Pot Cap-1 Maneuver	398	970	-	-	1489	-
Stage 1	935	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	341	970	-	-	1489	-
Mov Cap-2 Maneuver	341	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	458	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	3.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	954	1489	-
HCM Lane V/C Ratio	-	-	0.117	0.121	-
HCM Control Delay (s)	-	-	9.3	7.8	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.4	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	2	557	31	6	6	260	473	26	6	598	72
Future Volume (vph)	138	2	557	31	6	6	260	473	26	6	598	72
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		60.0	0.0		10.0	140.0		0.0	140.0		0.0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.992			0.984	
Flt Protected		0.953			0.960		0.950			0.950		
Satd. Flow (prot)	0	1477	1590	0	1724	1590	1777	1705	0	1777	1762	0
Flt Permitted		0.702			0.757		0.156			0.481		
Satd. Flow (perm)	0	1088	1590	0	1359	1590	292	1705	0	900	1762	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			324			127		5			9	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		472.8			258.7			239.6			178.9	
Travel Time (s)		35.5			19.4			18.0			13.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	21%	0%	0%	5%	0%	0%	0%	9%	6%	0%	5%	0%
Adj. Flow (vph)	138	2	557	31	6	6	260	473	26	6	598	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	140	557	0	37	6	260	499	0	6	670	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	



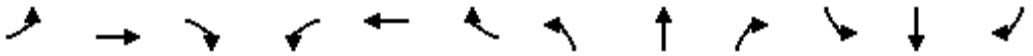
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	24.5		9.5	24.5	
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	16.0	51.4		9.6	45.0	
Total Split (%)	32.2%	32.2%	32.2%	32.2%	32.2%	32.2%	17.8%	57.1%		10.7%	50.0%	
Maximum Green (s)	24.5	24.5	24.5	24.5	24.5	24.5	11.5	46.9		5.1	40.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		19.5	19.5		19.5	19.5	49.7	48.0		39.1	33.8	
Actuated g/C Ratio		0.25	0.25		0.25	0.25	0.63	0.61		0.50	0.43	
v/c Ratio		0.52	0.87		0.11	0.01	0.66	0.48		0.01	0.88	
Control Delay		34.9	28.7		25.4	0.0	18.6	11.7		7.0	35.6	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		34.9	28.7		25.4	0.0	18.6	11.7		7.0	35.6	
LOS		C	C		C	A	B	B		A	D	
Approach Delay		30.0			21.9			14.1			35.4	
Approach LOS		C			C			B			D	
Queue Length 50th (m)		20.2	38.8		4.8	0.0	17.7	40.5		0.4	97.9	
Queue Length 95th (m)		38.1	#96.9		12.1	0.0	#44.5	83.3		1.7	#161.5	
Internal Link Dist (m)		448.8			234.7			215.6			154.9	
Turn Bay Length (m)			60.0			10.0	140.0			140.0		
Base Capacity (vph)		354	736		442	604	412	1138		507	953	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.40	0.76		0.08	0.01	0.63	0.44		0.01	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 78.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 25.9		Intersection LOS: C	
Intersection Capacity Utilization 91.8%		ICU Level of Service F	
Analysis Period (min) 15			

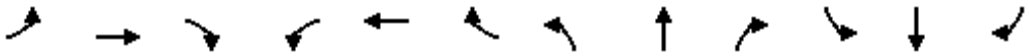
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Hwy 22 & Cochrane Lake Road



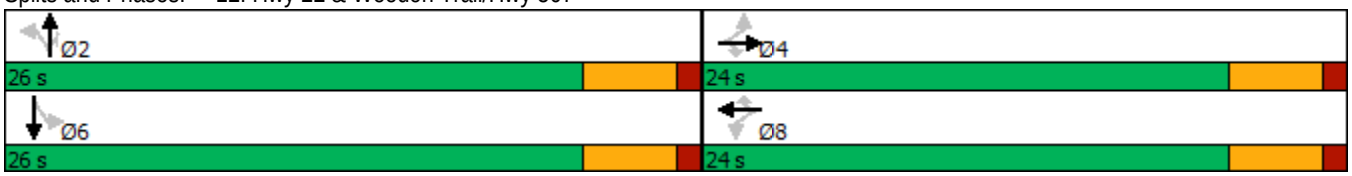
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	27	34	264	29	182	14	353	264	145	404	11
Future Volume (vph)	3	27	34	264	29	182	14	353	264	145	404	11
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	160.0		200.0	140.0		0.0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.996	
Flt Protected		0.995			0.957		0.950			0.950		
Satd. Flow (prot)	0	1861	1590	0	1623	1590	1777	1748	1432	1676	1780	0
Flt Permitted		0.968			0.725		0.448			0.511		
Satd. Flow (perm)	0	1811	1590	0	1230	1590	838	1748	1432	902	1780	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			34			170			264		3	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		212.4			225.6			328.7			212.0	
Travel Time (s)		15.9			16.9			24.7			15.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	9%	22%	0%	0%	7%	11%	6%	4%	29%
Adj. Flow (vph)	3	27	34	264	29	182	14	353	264	145	404	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	30	34	0	293	182	14	353	264	145	415	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	

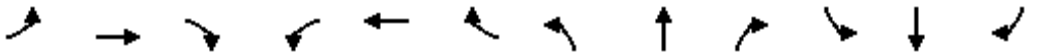


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5	24.5	24.5	24.5	
Total Split (s)	24.0	24.0	24.0	24.0	24.0	24.0	26.0	26.0	26.0	26.0	26.0	
Total Split (%)	48.0%	48.0%	48.0%	48.0%	48.0%	48.0%	52.0%	52.0%	52.0%	52.0%	52.0%	
Maximum Green (s)	19.5	19.5	19.5	19.5	19.5	19.5	21.5	21.5	21.5	21.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
Act Effct Green (s)		15.3	15.3		15.3	15.3	20.4	20.4	20.4	20.4	20.4	
Actuated g/C Ratio		0.34	0.34		0.34	0.34	0.46	0.46	0.46	0.46	0.46	
v/c Ratio		0.05	0.06		0.70	0.28	0.04	0.44	0.33	0.35	0.51	
Control Delay		9.6	4.5		22.6	3.8	8.6	11.6	2.9	12.4	12.4	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		9.6	4.5		22.6	3.8	8.6	11.6	2.9	12.4	12.4	
LOS		A	A		C	A	A	B	A	B	B	
Approach Delay		6.9			15.4			7.9			12.4	
Approach LOS		A			B			A			B	
Queue Length 50th (m)		1.5	0.0		18.6	0.6	0.6	18.1	0.0	7.1	21.9	
Queue Length 95th (m)		5.2	3.8		40.6	9.4	3.0	38.7	9.7	19.5	46.0	
Internal Link Dist (m)		188.4			201.6			304.7			188.0	
Turn Bay Length (m)			10.0			10.0	160.0		200.0	140.0		
Base Capacity (vph)		795	717		540	793	405	846	829	436	863	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.04	0.05		0.54	0.23	0.03	0.42	0.32	0.33	0.48	

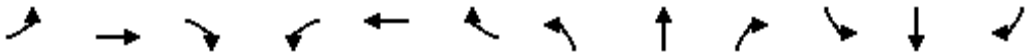
Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 44.8			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 73.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 12: Hwy 22 & Weedon Trail/Hwy 567





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	124	3	375	37	1	6	622	569	48	11	503	160
Future Volume (vph)	124	3	375	37	1	6	622	569	48	11	503	160
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		60.0	0.0		10.0	140.0		0.0	140.0		0.0
Storage Lanes	0		1	0		1	1		0	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.988			0.964	
Flt Protected		0.953			0.954		0.950			0.950		
Satd. Flow (prot)	0	1684	1420	0	1785	1590	1777	1782	0	1777	1683	0
Flt Permitted		0.703			0.593		0.123			0.431		
Satd. Flow (perm)	0	1242	1420	0	1109	1590	230	1782	0	806	1683	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			375			89		8			16	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		472.8			258.7			239.6			178.9	
Travel Time (s)		35.5			19.4			18.0			13.4	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	0%	12%	0%	0%	0%	0%	4%	0%	0%	5%	14%
Adj. Flow (vph)	124	3	375	37	1	6	622	569	48	11	503	160
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	127	375	0	38	6	622	617	0	11	663	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	



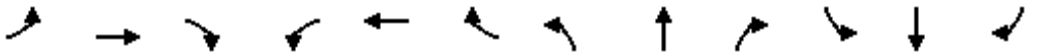
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2			6		
Detector Phase	4	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	5.0	20.0		5.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	9.5	24.5		9.5	24.5	
Total Split (s)	23.4	23.4	23.4	23.4	23.4	23.4	45.0	95.4		9.6	60.0	
Total Split (%)	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	35.0%	74.3%		7.5%	46.7%	
Maximum Green (s)	18.9	18.9	18.9	18.9	18.9	18.9	40.5	90.9		5.1	55.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0			0	
Act Effct Green (s)		16.1	16.1		16.1	16.1	93.2	91.4		54.4	49.2	
Actuated g/C Ratio		0.14	0.14		0.14	0.14	0.79	0.77		0.46	0.42	
v/c Ratio		0.76	0.73		0.25	0.02	0.89	0.45		0.03	0.94	
Control Delay		78.4	13.8		53.1	0.2	44.1	6.5		9.5	54.8	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		78.4	13.8		53.1	0.2	44.1	6.5		9.5	54.8	
LOS		E	B		D	A	D	A		A	D	
Approach Delay		30.2			45.8			25.4			54.0	
Approach LOS		C			D			C			D	
Queue Length 50th (m)		30.9	0.0		8.6	0.0	120.6	43.0		0.8	150.5	
Queue Length 95th (m)		#58.6	31.2		19.6	0.0	#192.8	85.1		2.6	#223.9	
Internal Link Dist (m)		448.8			234.7			215.6			154.9	
Turn Bay Length (m)			60.0			10.0	140.0			140.0		
Base Capacity (vph)		201	544		180	332	719	1451		412	811	
Starvation Cap Reductn		0	0		0	0	0	0		0	0	
Spillback Cap Reductn		0	0		0	0	0	0		0	0	
Storage Cap Reductn		0	0		0	0	0	0		0	0	
Reduced v/c Ratio		0.63	0.69		0.21	0.02	0.87	0.43		0.03	0.82	

Intersection Summary			
Area Type:	Other		
Cycle Length: 128.4			
Actuated Cycle Length: 118.5			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 34.6		Intersection LOS: C	
Intersection Capacity Utilization 97.7%		ICU Level of Service F	
Analysis Period (min) 15			

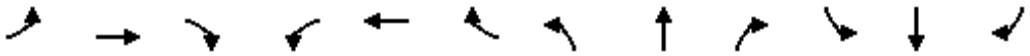
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Hwy 22 & Cochrane Lake Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	35	14	409	27	174	18	367	333	124	275	10
Future Volume (vph)	6	35	14	409	27	174	18	367	333	124	275	10
Ideal Flow (vphpl)	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850	1850
Storage Length (m)	0.0		10.0	0.0		10.0	160.0		200.0	140.0		0.0
Storage Lanes	0		1	0		1	1		1	1		0
Taper Length (m)	7.6			7.6			7.6			7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.995	
Flt Protected		0.993			0.955		0.950			0.950		
Satd. Flow (prot)	0	1857	1590	0	1770	1590	1777	1748	1486	1676	1654	0
Flt Permitted		0.944			0.709		0.557			0.465		
Satd. Flow (perm)	0	1766	1590	0	1314	1590	1042	1748	1486	821	1654	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			30			109			333		4	
Link Speed (k/h)		48			48			48			48	
Link Distance (m)		212.4			225.6			328.7			212.0	
Travel Time (s)		15.9			16.9			24.7			15.9	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	1%	0%	0%	0%	7%	7%	6%	13%	0%
Adj. Flow (vph)	6	35	14	409	27	174	18	367	333	124	275	10
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	41	14	0	436	174	18	367	333	124	285	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	



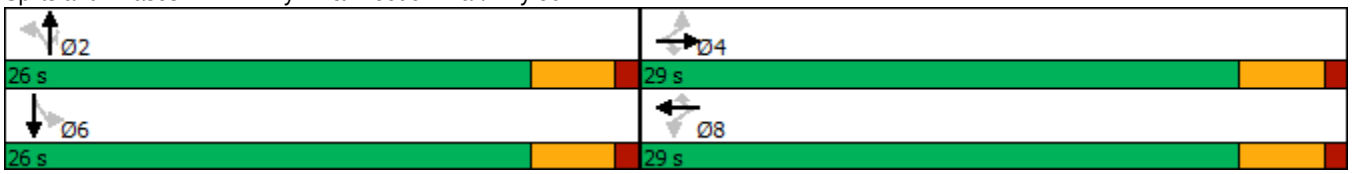
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	4		4	8		8	2		2	6		
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	20.0	20.0	20.0	20.0	20.0	
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5	24.5	24.5	24.5	24.5	24.5	
Total Split (s)	29.0	29.0	29.0	29.0	29.0	29.0	26.0	26.0	26.0	26.0	26.0	
Total Split (%)	52.7%	52.7%	52.7%	52.7%	52.7%	52.7%	47.3%	47.3%	47.3%	47.3%	47.3%	
Maximum Green (s)	24.5	24.5	24.5	24.5	24.5	24.5	21.5	21.5	21.5	21.5	21.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	Min	Min	Min	Min	Min	
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0	0	0	
Act Effct Green (s)		20.2	20.2		20.2	20.2	20.8	20.8	20.8	20.8	20.8	
Actuated g/C Ratio		0.40	0.40		0.40	0.40	0.42	0.42	0.42	0.42	0.42	
v/c Ratio		0.06	0.02		0.82	0.25	0.04	0.51	0.41	0.36	0.41	
Control Delay		9.0	2.1		28.4	5.2	10.8	15.1	3.5	15.7	13.7	
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		9.0	2.1		28.4	5.2	10.8	15.1	3.5	15.7	13.7	
LOS		A	A		C	A	B	B	A	B	B	
Approach Delay		7.2			21.8			9.6			14.3	
Approach LOS		A			C			A			B	
Queue Length 50th (m)		2.1	0.0		31.7	3.3	1.0	25.7	0.0	8.1	18.8	
Queue Length 95th (m)		6.3	1.5		#75.5	12.3	4.2	47.8	12.3	20.3	36.5	
Internal Link Dist (m)		188.4			201.6			304.7			188.0	
Turn Bay Length (m)			10.0			10.0	160.0		200.0	140.0		
Base Capacity (vph)		873	801		650	841	452	758	833	356	720	
Starvation Cap Reductn		0	0		0	0	0	0	0	0	0	
Spillback Cap Reductn		0	0		0	0	0	0	0	0	0	
Storage Cap Reductn		0	0		0	0	0	0	0	0	0	
Reduced v/c Ratio		0.05	0.02		0.67	0.21	0.04	0.48	0.40	0.35	0.40	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 50.1			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 79.1%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: Hwy 22 & Weedon Trail/Hwy 567



APPENDIX D: WARRANT ANALYSIS OUTPUTS

AT Canadian Matrix Traffic Signal Warrant Analysis

Main Street (name)	Hwy 22	Direction (EW or NS)	NS	Road Authority:	AT
Side Street (name)	Cochrane Lake Rd	Direction (EW or NS)	EW	City:	Rocky View County
Quadrant / Int #		Comments	Signal Warrant Analysis for 2023 Post Development Conditions on opening day of Cochrane Lake Hamlet	Analysis Date:	Feb 17-2022
for Warrant Calculation Results, please hit 'Page Down'	CHECK SHEET			Count Date:	2023 Post Dev
				Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Hwy 22	NB	1				1		3,000	1
Hwy 22	SB	1				1		3,000	1
Cochrane Lake Rd	WB				1				
Cochrane Lake Rd	EB				1				
Are the Cochrane Lake Rd WB right turns significantly impeded by through movements? (y/n)							y		
Are the Cochrane Lake Rd EB right turns significantly impeded by through movements? (y/n)							y		

Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,000
Central Business District	(y/n)	n

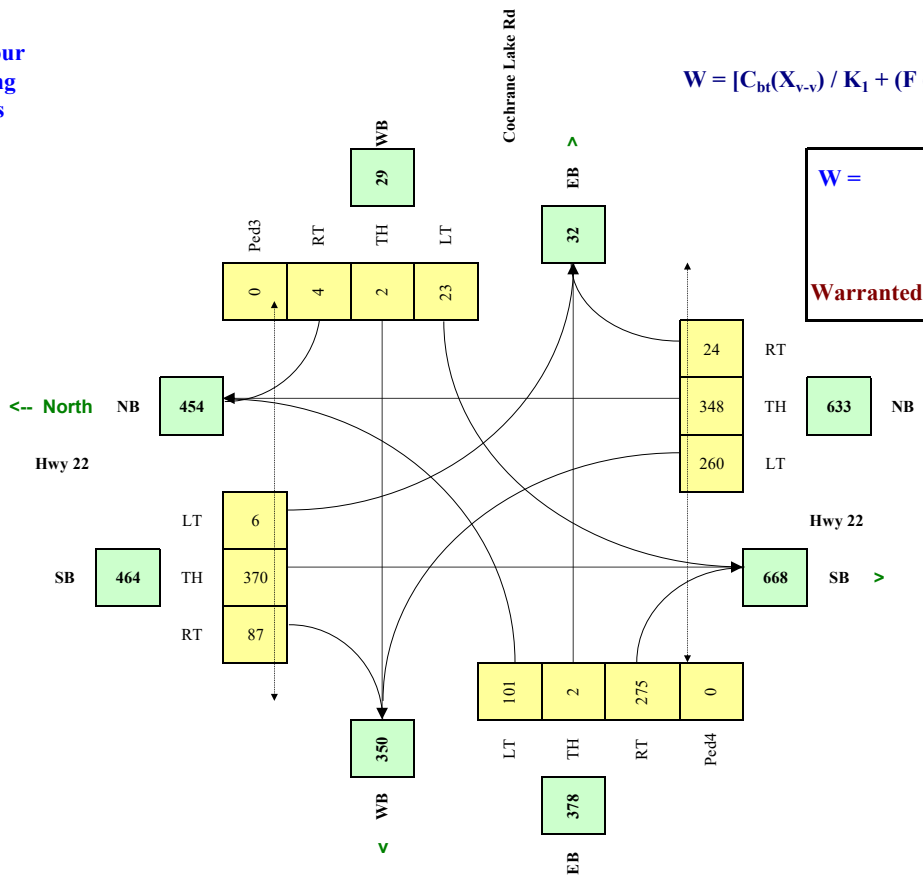
Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Hwy 22	NS	100	5.0%	n	0.0
Cochrane Lake Rd	EW		0.0%	n	

Set Peak Hours

Traffic Input	NB			SB			WB			EB			Ped1 NS	Ped2 NS	Ped3 EW	Ped4 EW
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S Side
7:00 - 8:00	162	318	17	4	403	54	21	4	4	107	1	329				
8:00 - 9:00	153	301	16	4	382	51	20	4	4	101	1	312				
12:00 - 13:00	290	385	27	7	408	97	25	2	5	112	2	302				
13:00 - 14:00	290	385	27	7	408	97	25	2	5	112	2	302				
16:00 - 17:00	365	383	32	8	339	123	25	0	4	96	2	221				
17:00 - 18:00	302	317	27	7	281	102	21	0	3	80	2	183				
Total (6-hour peak)	1,562	2,089	146	37	2,221	524	137	12	25	608	10	1,649	0	0	0	0
Average (6-hour peak)	260	348	24	6	370	87	23	2	4	101	2	275	0	0	0	0

Average 6-hour Peak Turning Movements

$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F\,(X_{v\text{-}p})\,L) / K_2] \times C_i$$



W =	260	260	0
		Veh	Ped

Warranted

RESET SHEET

AT Canadian Matrix Traffic Signal Warrant Analysis

Main Street (name)	Hwy 22	Direction (EW or NS)	NS	Road Authority:	AT
Side Street (name)	Hwy 567	Direction (EW or NS)	EW	City:	Rocky View County
Quadrant / Int #		Comments	Signal Warrant Analysis for 2023 Post Development Conditions on opening day of Cochrane Lake Hamlet	Analysis Date:	Feb 17-2022
for Warrant Calculation Results, please hit 'Page Down'	CHECK SHEET			Count Date:	2023 Post Dev
				Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Hwy 22	NB	1		1			1	3,000	1
Hwy 22	SB	1				1		3,000	1
Hwy 567	WB				1				
Hwy 567	EB				1				
Are the Hwy 567 WB right turns significantly impeded by through movements? (y/n)							y		
Are the Hwy 567 EB right turns significantly impeded by through movements? (y/n)							y		

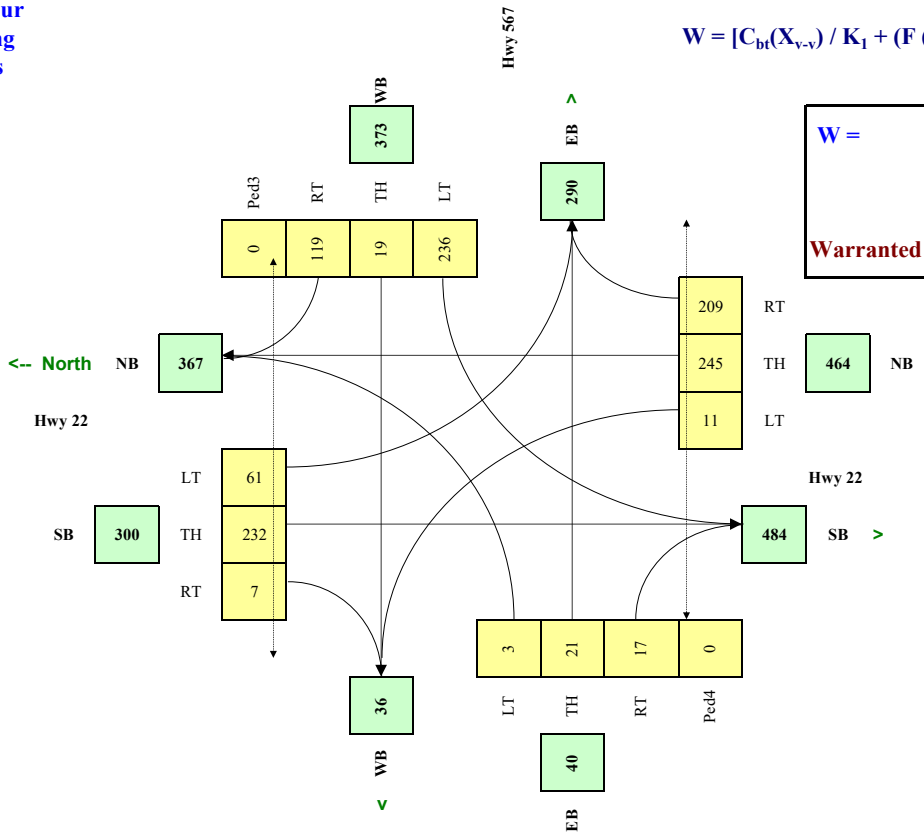
Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,000
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Hwy 22	NS	100	5.0%	n	0.0
Hwy 567	EW		0.0%	n	

Set Peak Hours

Traffic Input	NB			SB			WB			EB			Ped1 NS	Ped2 NS	Ped3 EW	Ped4 EW
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S Side
7:00 - 8:00	10	242	187	97	274	8	183	19	122	2	18	23				
8:00 - 9:00	9	229	177	92	259	8	173	18	116	2	17	22				
12:00 - 13:00	12	270	231	66	255	8	262	21	131	4	23	18				
13:00 - 14:00	12	270	230	66	255	7	261	20	131	3	23	18				
16:00 - 17:00	12	250	233	23	191	6	293	18	117	4	24	10				
17:00 - 18:00	10	207	193	19	158	5	243	15	97	3	20	8				
Total (6-hour peak)	**65**	**1,468**	**1,251**	**363**	**1,392**	**42**	**1,415**	**111**	**714**	**18**	**125**	**99**	**0**	**0**	**0**	**0**
Average (6-hour peak)	**11**	**245**	**209**	**61**	**232**	**7**	**236**	**19**	**119**	**3**	**21**	**17**	**0**	**0**	**0**	**0**

Average 6-hour Peak Turning Movements



$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F(X_{v\text{-}p}) L) / K_2] \times C_i$$

W =	166	166	0
		Veh	*Ped*

Warranted

RESET SHEET

AT Canadian Matrix Traffic Signal Warrant Analysis

Main Street (name)	Hwy 22	Direction (EW or NS)	NS	Road Authority:	AT
Side Street (name)	Cochrane Lake Rd	Direction (EW or NS)	EW	City:	Rocky View County
Quadrant / Int #		Comments	Signal Warrant Analysis for 2023 Post Development Conditions on opening day of Cochrane Lake Hamlet	Analysis Date:	Feb 17-2022
for Warrant Calculation Results, please hit 'Page Down'	CHECK SHEET			Count Date:	2033 Background
				Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Hwy 22	NB	1				1		3,000	1
Hwy 22	SB	1				1		3,000	1
Cochrane Lake Rd	WB				1				
Cochrane Lake Rd	EB				1				
Are the Cochrane Lake Rd WB right turns significantly impeded by through movements? (y/n)							y		
Are the Cochrane Lake Rd EB right turns significantly impeded by through movements? (y/n)							y		

Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,000
Central Business District	(y/n)	n

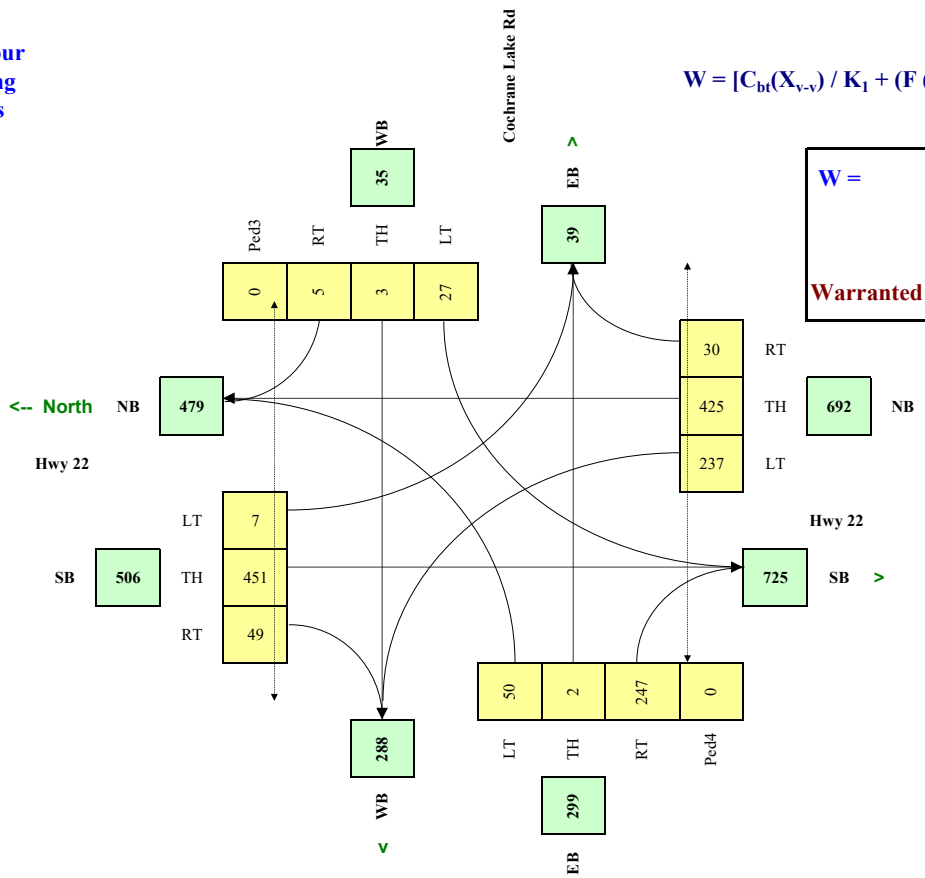
Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Hwy 22	NS	100	5.0%	n	0.0
Cochrane Lake Rd	EW		0.0%	n	

Set Peak Hours

Traffic Input	NB			SB			WB			EB			Ped1 NS	Ped2 NS	Ped3 EW	Ped4 EW
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S Side
7:00 - 8:00	152	388	21	5	491	36	25	5	5	50	1	292				
8:00 - 9:00	144	367	20	5	465	34	24	5	5	47	1	277				
12:00 - 13:00	263	470	34	8	496	54	30	3	6	55	2	272				
13:00 - 14:00	263	469	33	7	496	54	30	2	5	55	2	271				
16:00 - 17:00	327	467	40	9	413	62	30	0	5	50	3	203				
17:00 - 18:00	271	387	33	7	342	51	25	0	4	41	2	168				
Total (6-hour peak)	**1,420**	**2,548**	**181**	**41**	**2,703**	**291**	**164**	**15**	**30**	**298**	**11**	**1,483**	**0**	**0**	**0**	**0**
Average (6-hour peak)	**237**	**425**	**30**	**7**	**451**	**49**	**27**	**3**	**5**	**50**	**2**	**247**	**0**	**0**	**0**	**0**

Average 6-hour Peak Turning Movements

$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F(X_{v\text{-}p}) L) / K_2] \times C_i$$



W =	242	242	0
		Veh	*Ped*

Warranted

RESET SHEET

AT Canadian Matrix Traffic Signal Warrant Analysis

Main Street (name)	Hwy 22	Direction (EW or NS)	NS	Road Authority:	AT
Side Street (name)	Hwy 567	Direction (EW or NS)	EW	City:	Rocky View County
Quadrant / Int #		Comments	Signal Warrant Analysis for 2023 Post Development Conditions on opening day of Cochrane Lake Hamlet	Analysis Date:	Feb 17-2022
for Warrant Calculation Results, please hit 'Page Down'	CHECK SHEET			Count Date:	2023 Post Dev
				Date Entry Format:	(yyyy-mm-dd)

Lane Configuration		Excl LT	Th & LT	Through	Th+RT+LT	Th & RT	Excl RT	UpStream Signal (m)	# of Thru Lanes
Hwy 22	NB	1		1			1	3,000	1
Hwy 22	SB	1				1		3,000	1
Hwy 567	WB				1				
Hwy 567	EB				1				
Are the Hwy 567 WB right turns significantly impeded by through movements? (y/n)							y		
Are the Hwy 567 EB right turns significantly impeded by through movements? (y/n)							y		

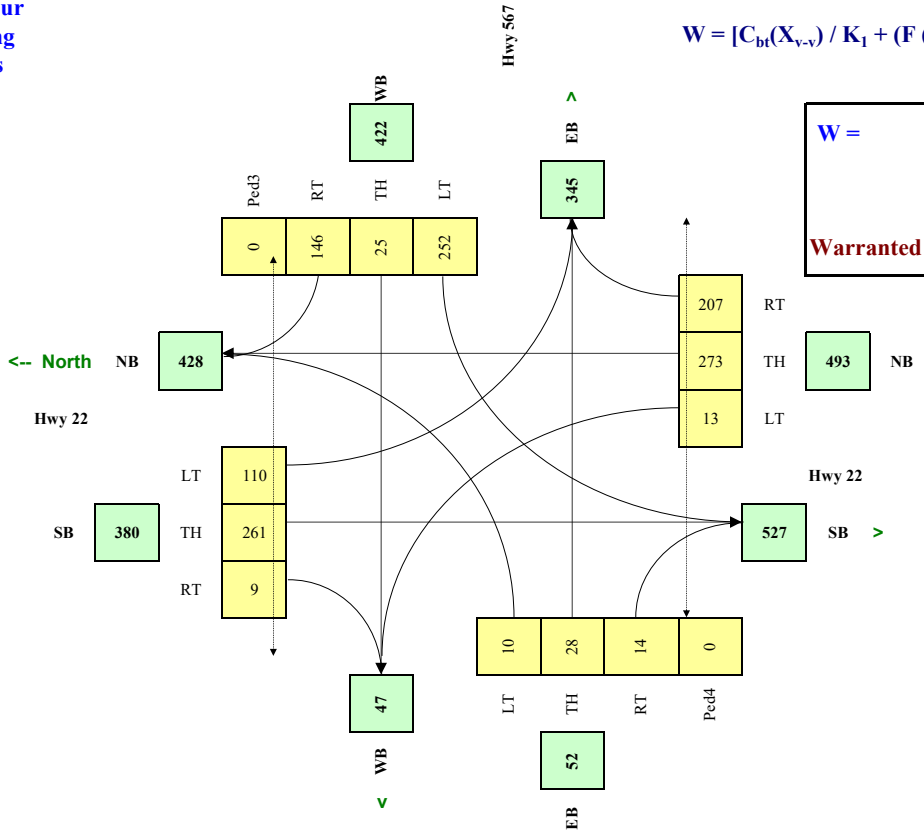
Demographics		
Elem. School/Mobility Challenged	(y/n)	n
Senior's Complex	(y/n)	n
Pathway to School	(y/n)	n
Metro Area Population	(#)	1,000
Central Business District	(y/n)	n

Other input		Speed (Km/h)	Truck %	Bus Rt (y/n)	Median (m)
Hwy 22	NS	100	5.0%	n	0.0
Hwy 567	EW		0.0%	n	

Set Peak Hours

Traffic Input	NB			SB			WB			EB			Ped1 NS	Ped2 NS	Ped3 EW	Ped4 EW
	LT	Th	RT	LT	Th	RT	LT	Th	RT	LT	Th	RT	W Side	E Side	N Side	S Side
7:00 - 8:00	12	265	179	119	323	9	205	25	149	3	25	28				
8:00 - 9:00	11	251	170	113	306	9	194	24	141	3	24	27				
12:00 - 13:00	15	302	229	122	286	10	279	28	161	22	31	5				
13:00 - 14:00	15	301	229	121	286	9	279	27	160	22	30	4				
16:00 - 17:00	15	284	238	102	198	8	303	25	143	5	31	12				
17:00 - 18:00	12	235	197	85	164	7	251	21	119	4	26	10				
Total (6-hour peak)	**80**	**1,638**	**1,242**	**662**	**1,563**	**52**	**1,511**	**150**	**873**	**59**	**167**	**86**	**0**	**0**	**0**	**0**
Average (6-hour peak)	**13**	**273**	**207**	**110**	**261**	**9**	**252**	**25**	**146**	**10**	**28**	**14**	**0**	**0**	**0**	**0**

Average 6-hour Peak Turning Movements



$$W = [C_{bt}(X_{v\text{-}v}) / K_1 + (F\,(X_{v\text{-}p})\,L) / K_2] \times C_i$$

W =	236	236	0
		Veh	*Ped*

Warranted

RESET SHEET

Illumination of Isolated Rural Intersections
LIGHTING WARRANT SPREADSHEET

This spreadsheet is to be used in conjunction with *Illumination of Isolated Rural Intersections* , Transportation Association of Canada, February 2001.

Please enter information in the cells with yellow background

INTERSECTION CHARACTERISTICS

Highway 22	Main Road
Cochrane Lake Road	Minor Road
Rocky View County	City/Town

Date February 18, 2022
Other 2023 Post Development Volumes

GEOMETRIC FACTORS

	Value	Rating	Weight	Comments	Check	Score
Channelization Rating	Descriptive	0		Refer to Table 1(A) to determine rating value	OK	
Presence of raised channelization? (Y / N)	n				OK	
Highest operating speed on raised, channelized approach (km/h)	0		5		OK	
Channelization Factor					OK	0
Approach Sight Distance on most constrained approach (%)	100	0	10	Relative to the recommended minimum sight distance	OK	0
Posted Speed limit (in 10's of km/h)	100				OK	
Radius of Horizontal Curve (m)	T			Enter "T" for tangent (no horizontal curve at the intersection)	OK	
Posted Speed Category =		0				
Posted Speed Category =	B	0				
Posted Speed Category =		0				
Posted Speed Category =		0				
Horizontal Curvature Factor		0	5		OK	0
Angle of Intersection (10's of Degrees)	90	0	5		OK	0
Downhill Approach Grade (x.x%)	2.0	0	3	Rounded to nearest tenth of a percent	OK	0
Number of Intersection Legs	4	2	3	Number of legs = 3 or more	OK	6
				Geometric Factors Subtotal		**6**

OPERATIONAL FACTORS

Is the intersection signalized ? (Y/ N)	y			Illumination is Warranted		
AADT on Major Road (2-way)	14000	4	10	Either Use the two AADT inputs **OR** the Descriptive Signalization Warrant (Unused values should be set to Zero) Refer to Table 1(B) for description and rating values for signalization warrant.	OK	40
AADT on Minor Road (2-way)	8000	4	20		OK	80
Signalization Warrant	Descriptive		30		OK	0
					OK	
Night-Time Hourly Pedestrian Volume	0	0	10	Refer to Table 1(B), note #2, to account for children and seniors	OK	0
Intersecting Roadway Classification	Descriptive	4	5	Refer to Table 1(B) for ratings.	OK	20
Operating Speed or Posted Speed on Major Road (km/h)	100	4	5	Refer to Table 1(B), note #3	OK	20
Operating Speed on Minor Road (km/h)	50	0	5	Refer to Table 1(B), note #3	OK	0
				Operational Factors Subtotal		**160**

ENVIRONMENTAL FACTOR

Lighted Developments within 150 m radius of intersection	0	0	5	Maximum of 4 quadrants	OK	0
				Environmental Factor Subtotal		**0**

COLLISION HISTORY

Average Annual night-time collision frequency due to inadequate lighting (collisions/yr, rounded to nearest whole #)	0.0	0	0	Enter **either** the annual frequency (See Table 1(C), note #4)	OK	0
OR				**OR** the number of collisions / MEV		
Collision Rate over last 3 years, due to inadequate lighting (/MEV)	0	0	0	(Unused values should be set to Zero)	OK	0
Is the average ratio of **all** night to day collisions >= 1.5 (Y/N)	0	0			Use Y or N	
					OK	
				Collision History Subtotal		**Check Entry**

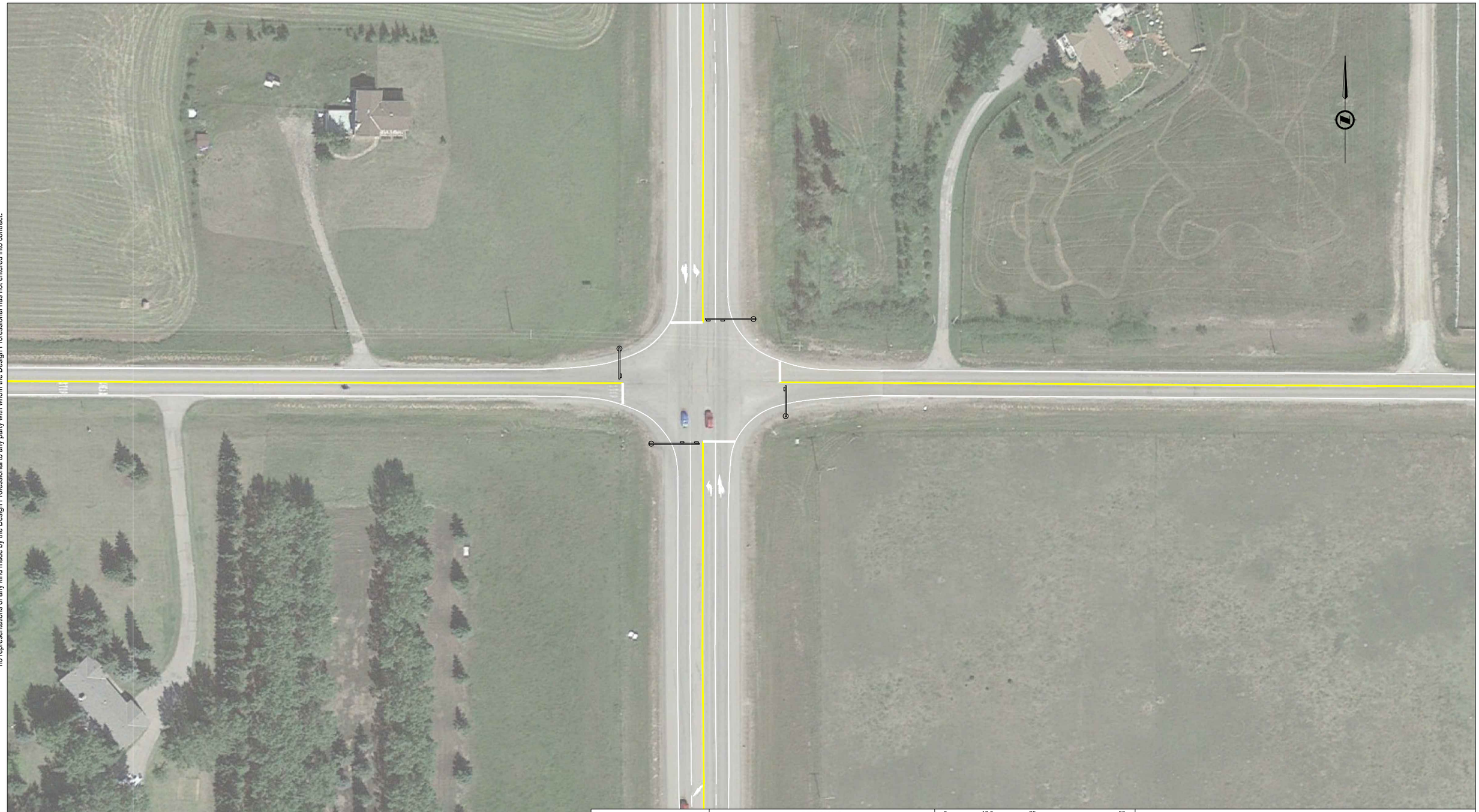
Check Intersection Signalization:
Intersection is Signalized

FULL ILLUMINATION WARRANTED

SUMMARY

Geometric Factors Subtotal	6
Operational Factor Subtotal	160
Environmental Factor Subtotal	0
Collision History Subtotal	Check Entry
TOTAL POINTS	**166**

APPENDIX E: CONCEPTUAL DESIGNS - HIGHWAY 22 / COCHRANE LAKE ROAD SIGNAL



PROJECT: G:\Projects\3929.G01 – Cochrane Lake Hamlet Development\02 – Transportation\5 – Design\Cochrane Lake Hamlet TIA_Intersection Concept_Mar 10–2022.dwg
PLOT DATE: 3/11/2022 11:30 AM
PLOTTED BY: Tanner Vollema

SEAL:

REVISIONS		
0		
1		
2		
3		
4		
5		
6		
7		
8		

0 12.5m 25m 50m
1:1,000

DESIGNED:	DRAWN:	CHECKED:	APRVD:
TV			

DESIGN VEHICLE:	DESIGN SPEED:
PROJECT NO: 3929.G01	DRAWING NO:
DATE: MAR 11, 2022	REVISION: 0

TITLE:
2033 PD HORIZON - CONCEPT DESIGN
HWY 22 / COCHRANE LAKE RD SIGNAL
COCHRANE LAKE HAMLET TIA

WATT Consulting Group
#501, 740 – Hillside Ave Victoria, BC V8B TZ4
T. 250.388.9877
F. 250.388.9879
www.wattconsultinggroup.com

PROJECT: G:\Projects\3929.G01 - Cochrane Lake Hamlet Development\02 - Transportation\5 - Design\Cochrane Lake Hamlet TIA_Intersection Concept_Mar 10-2022.dwg
PLOT DATE: 3/11/2022 11:30 AM
PLOTTED BY: Tanner Vollema

SEAL:

REVISIONS		
0		
1		
2		
3		
4		
5		
6		
7		
8		

0 12.5m 25m 50m
1:1,000

DESIGNED:	DRAWN:	CHECKED:	APRVD:
TV			

DESIGN VEHICLE:	DESIGN SPEED:
PROJECT NO: 3929.G01	DRAWING NO:
DATE: MAR 11, 2022	REVISION: 0

TITLE:
2043 PD HORIZON - CONCEPT DESIGN
HWY 22 / COCHRANE LAKE RD SIGNAL
COCHRANE LAKE HAMLET TIA

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