TRAFFIC IMPACT ANALYS

COBURG CREEK SUBDIVISION

Eugene, Oregon

May 21, 2020

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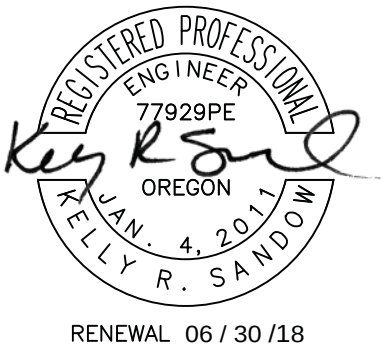
SANDOW
ENGINEERING

Traffic Impact Analysis

COBURD CREEK SUBDIVISION



Kelly Sandow PE

Eugene, Oregon
May 21, 2020

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project # 5840

EXECUTIVE SUMMARY

This report provides the Traffic Impact Analysis and findings prepared for the proposed Coburg Creek Subdivision development located north of the terminus of Coleman Street and Skinner Street in Coburg, Oregon . The subject site is located on Assessor's Map 16-03-28-00 tax lot 501. The 4.76-acre parcel is zoned E-2 Residential. The applicant is proposing the development of 39 single-family homes. The proposal includes street connections to Skinner Street and Coleman Street for access.

The analysis evaluates the transportation impacts as per the City of Coburg criteria, evaluating adjacent roadway and intersection operation with the addition of development traffic for the year of opening and 5 years into the future.

The following report recommendations are based on the information and analysis documented in this report.

FINDINGS

- All studied intersections operate within the mobility standards with and without the development traffic.
- The addition of development traffic does not substantially increase queuing conditions.
- Skinner Street and Coleman Street, while narrower than City street standards, can operate safely and efficiently with the additional traffic added from the development.
- Skinner Street and Coleman Street can operate safely and efficiently for firetrucks and emergency vehicle use.
- The line of sight for a vehicle traveling southbound on Coleman Street around the curve towards Sarah Street can be met as long as obstructions such as buildings, fences, and vehicle parking are not allowed along the inside of the curve.
- The internal site curvature of Skinner Street and Coleman Street should have a restriction for no on-street parking to ensure the line of sight is continues to be met.

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1.0 BACKGROUND

1.1 SITE INFORMATION

This report provides the Traffic Impact Analysis and findings prepared for the proposed Coburg Creek Subdivision development located north of the terminus of Coleman St and Skinner St in Coburg, Oregon. The subject site is located on Assessor's Map 16-03-28-00 tax lot 501. The 4.76-acre parcel is zoned E-2 Residential. The applicant is proposing the development of 39 single-family homes. The proposed use is allowed under the existing zoning. The proposal includes street connections to Skinner Street and Coleman Street for access.

1.2 ANALYSIS SCOPE

The traffic study is performed in accordance with the City of Coburg standards and criteria. Appendix B contains the Scope of Work. A turning movement/intersection analysis was performed for the adjacent intersections anticipated to be most impacted by the development. The following intersections are included in the study:

- E Locust St @ N Skinner St
- N Skinner St @ E Mill St
- N Coleman St @ E Mill St

The operational analysis was performed at the study area intersections for the weekday PM peak hour(4-6 PM). The operational analysis is performed for the following conditions:

- Existing conditions, the year 2020
- Year of completion, the year 2022, with and without the proposed development
- Five-year planning horizon, the year 2027, with and without the proposed development

Evaluation of N Skinner St and N Coleman St was focusing on:

- Street width for 2-way vehicle use
- Street width for emergency access

Evaluation of internal roadway curvature for sight distance.

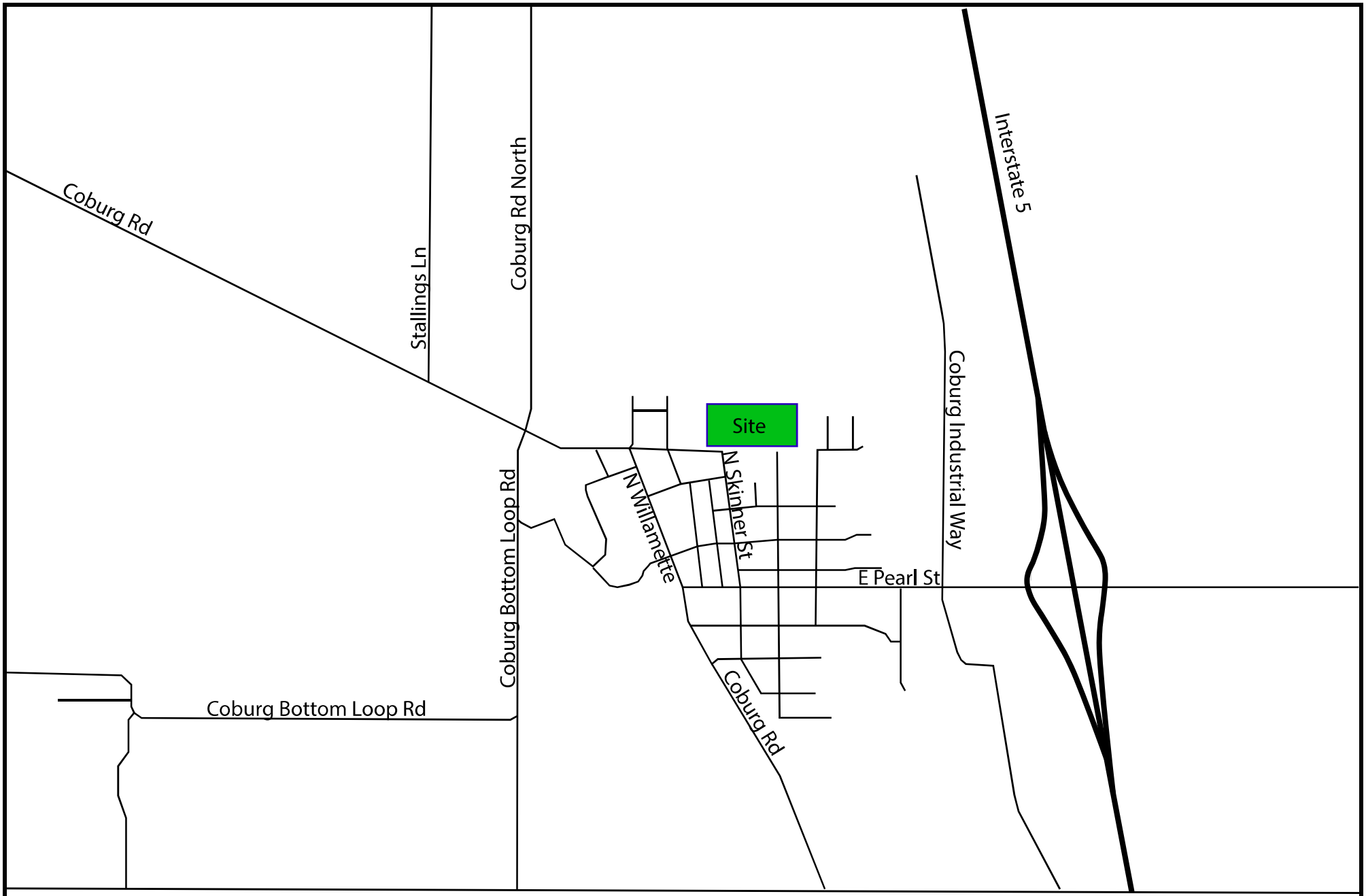
2.0 EXISTING ROADWAY CONDITIONS

2.1 STREET NETWORK

Streets included within the study are N Skinner St, N Coleman St, E Mill St, and E Locust St. The roadway characteristics within the study area are included in Table 1. Figure 1 provides a map of the site location and study area. Figure 2 illustrates the study area intersection geometry and access control.

TABLE 1: ROADWAY CHARACTERISTICS WITHIN STUDY AREA

Characteristic	N Skinner St	N Coleman St	E Mill St	E Locust St
Jurisdiction	City of Coburg	City of Coburg	City of Coburg	City of Coburg
Functional Classification	Local/Collector	Local	Collector	Collector
Lanes per Direction	1	1	1	1
Center Left Turn lane	None	None	None	None
Restrictions in the Median	None	None	None	None
Bikes Lanes Present	None	None	None	None
Sidewalks Present	None	None	None	None
Transit Route	None	None	None	None
On-Street Parking	Yes	Yes	Yes	Yes
Vertical or Horizontal Sight Limitations	None	None	None	None



Coburg Creek Subdivision

Figure 1: Vicinity Map and Site Location

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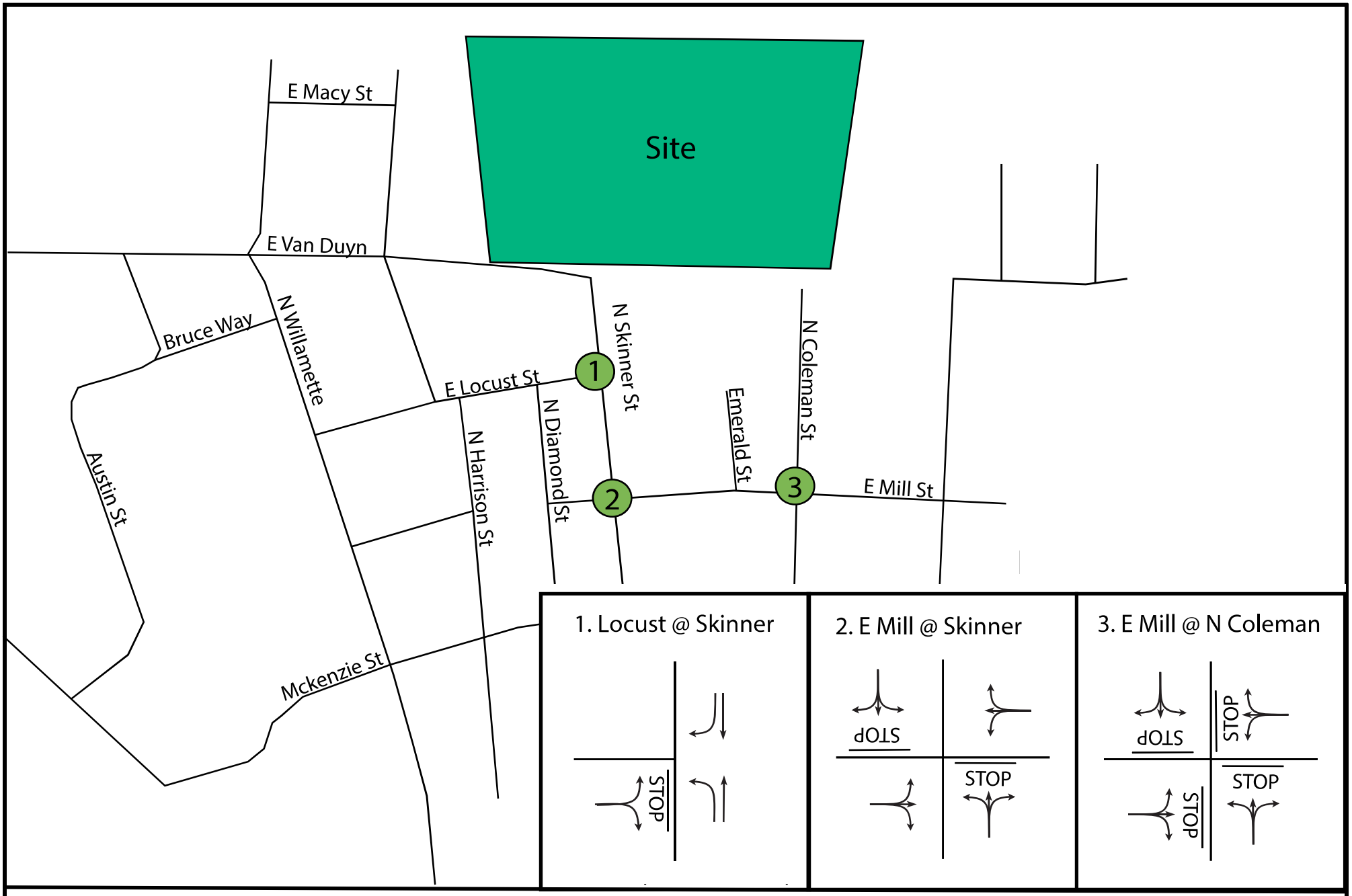

Coburg Creek Subdivision

Figure 2 : Intersection Control and Lane Configuration

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3.0 DEVELOPMENT TRIP GENERATION AND DISTRIBUTION

The development is proposed as 39 single-family houses. The vehicle trips generated to this site are estimated using the ITE Trip Generation Manual 10th Edition. The closest ITE Land Use to the proposed development is ITE Land Use Code 210- Single Family Detached Housing. The PM peak hour development trips are provided in Table 3 .

TABLE 3: TRIP GENERATION-PEAK HOUR

ITE Land Use	Size	Trip Generation					
		Rate	Trips	%IN	%OUT	IN	OUT
PM Peak Hour Trips							
210- Single Family Housing	39	*Eqn1	41	63%	27%	26	15

*Eqn1= ln(t)=0.96ln(x)+0.20

The existing travel patterns from the traffic counts are used to estimate how the development trips will use the surrounding transportation system to access the site. The trips are distributed through the study area based on those existing travel patterns as described below:

- 32% to/from Locust to Willamette St
- 22% to Skinner to Mill St
- 46% to Coleman to Mill St

The traffic volumes were distributed within the study area according to the percentages above and are illustrated in Figure 3.

4.0 BACKGROUND TRAFFIC VOLUMES

4.1 INTERSECTION COUNTS

As part of the analysis, PM peak hour turning movement counts were collected at the intersections of E Locust at N Skinner, E Mill at N Skinner and N Coleman at E Mill. Traffic counts were performed for the weekday peak period of 4:00 PM to 6:00 PM. The turning movement counts illustrate that the peak of the count period occurred between 4:00 PM and 5:00 PM.

The traffic volumes are included in Appendix C.

4.2 VOLUME ADJUSTMENT

The traffic counts were verified for accuracy by comparing the traffic volumes along and turning into Coleman and Skinner with the number of homes along the roadways. Skinner has 8 homes north of Locust and there were 13 trips accessing this section of roadway in the PM peak hour. Skinner has 4 homes that use Skinner between Locust and Mill and there were 6 vehicles accessing

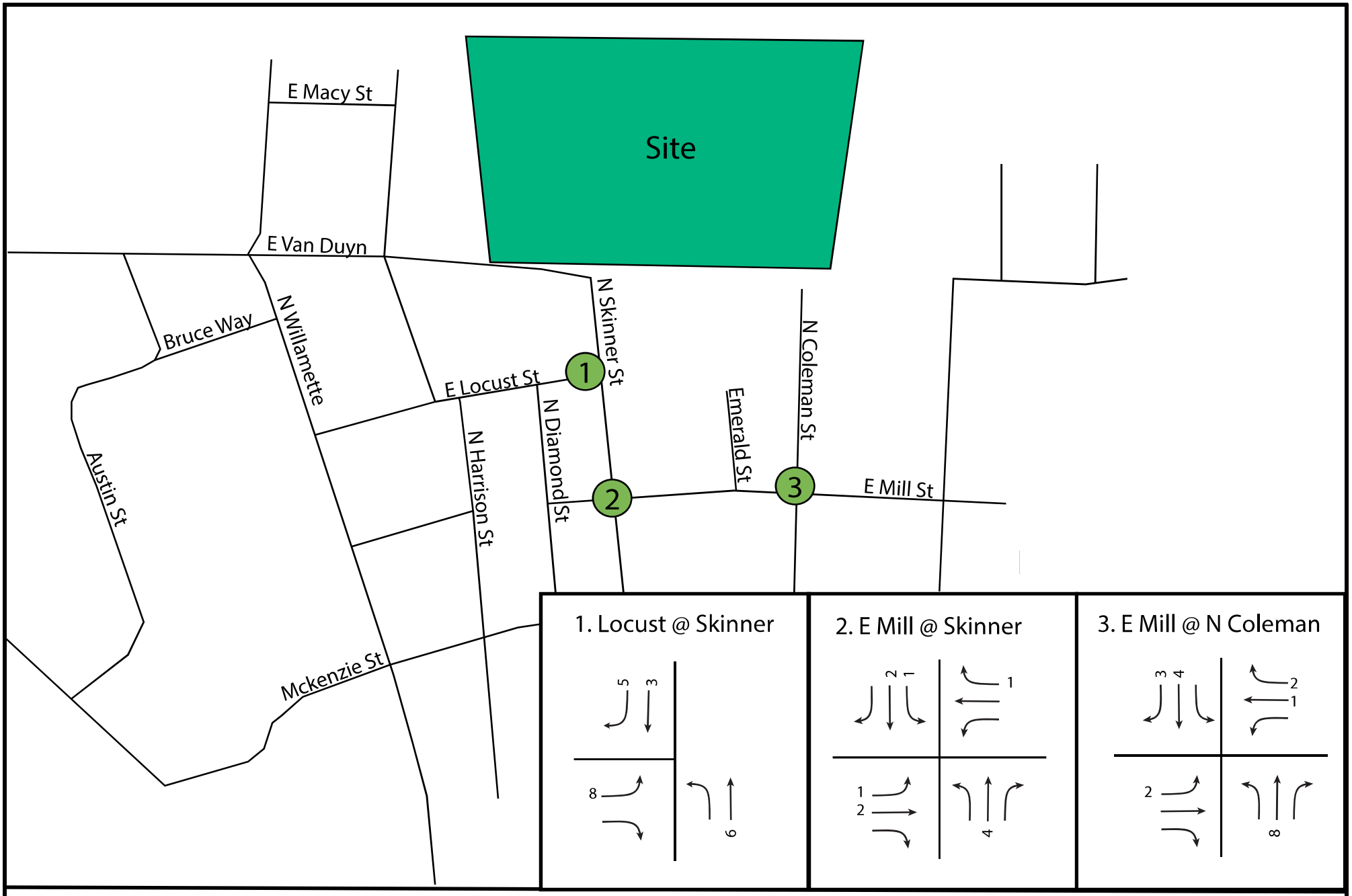
this section of roadway in the PM peak hour. Coleman has 10 homes that access Coleman north of Mill, and there were 6 vehicles accessing this section of roadway in the PM peak hour. The levels of traffic volumes are consistent with what is anticipated for the number of homes on each section of the roadway. Therefore, the traffic counts were determined to be valid for this analysis.

4.3 FUTURE YEAR BACKGROUND VOLUMES

The proposed site development is projected to be completed by the year 2022. Consistent with the traffic impact analysis criteria, the intersections were evaluated for the year of completion, the year 2022, and a 5-year planning horizon, the year 2027. To account for naturally occurring traffic increased between the count year and the future analysis year, an annual growth rate was applied. The growth rate was determined using the population forecast projections for Coburg from the Lane County Coordinated Population Forecast 2015 through 2065 from the Population Research Center at Portland State University. The forecast illustrates a 2020 population of 1,083 and a 2025 population of 1,151. This equates to approximately 1.3% per year of growth. The 1.3% per year was applied to the year 2020 volumes to estimate the year 2022 and the year 2027 background volumes.

4.4 FINAL TRAFFIC VOLUMES

The existing traffic volumes were adjusted according to the methodology described above. Appendix C provides the traffic volume calculations. The development trips are added to the background traffic to volume to represent the build conditions. Figures 4 illustrates the year 2020 background traffic volumes for the peak hour. Figure 5 illustrates the year 2021 PM peak hour traffic volumes, Figure 6 illustrates the year 2021 PM Peak hour volumes with the development, Figure 7 illustrates the year 2027 PM peak hour traffic volumes, and Figure 8 illustrates the year 2027 PM Peak hour volumes with the development,



Coburg Creek Subdivision

Figure 3 : PM Peak Hour Development Trips

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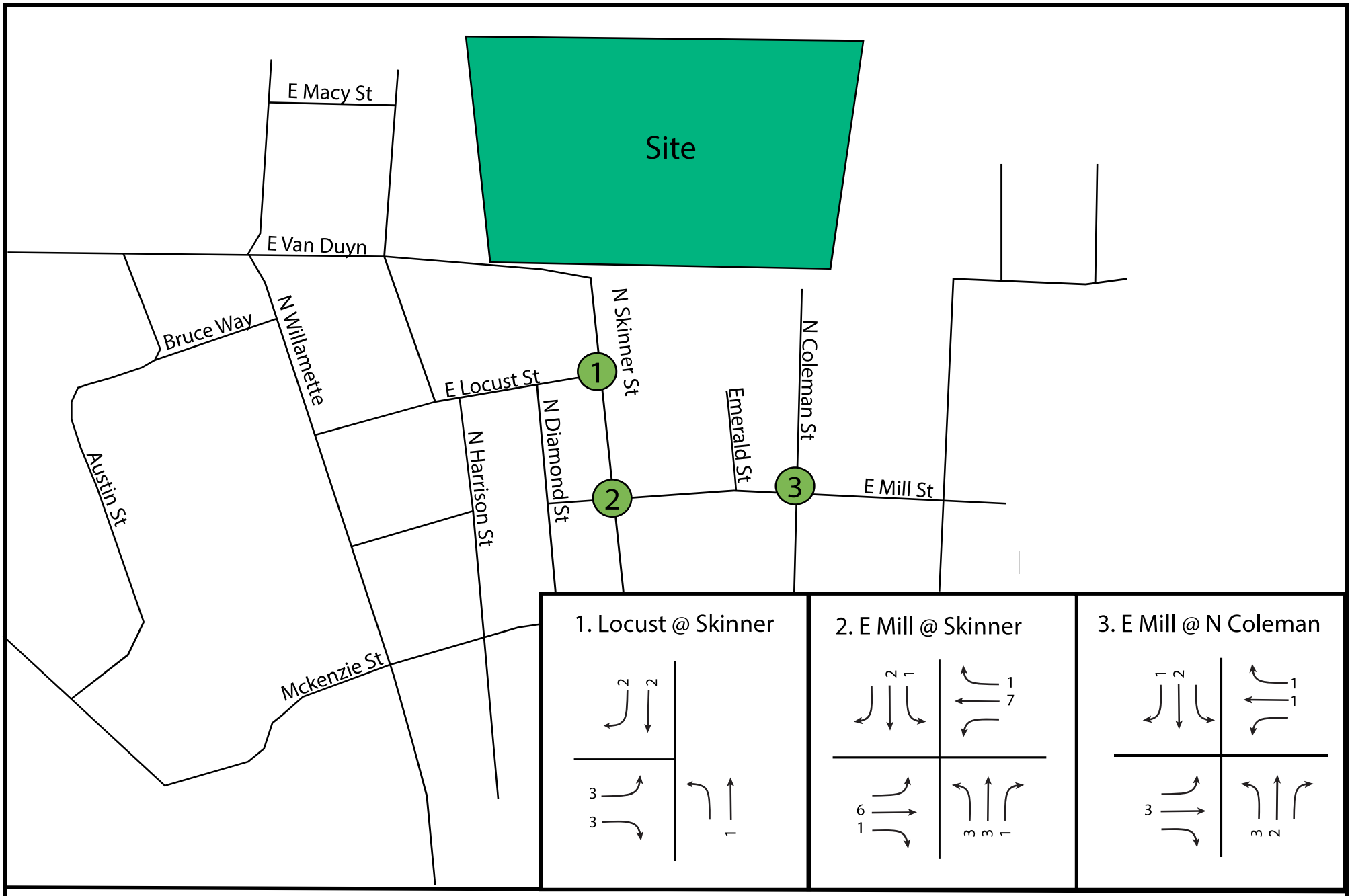

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Figure 4: 2020 Existing Peak Hour Traffic Volumes

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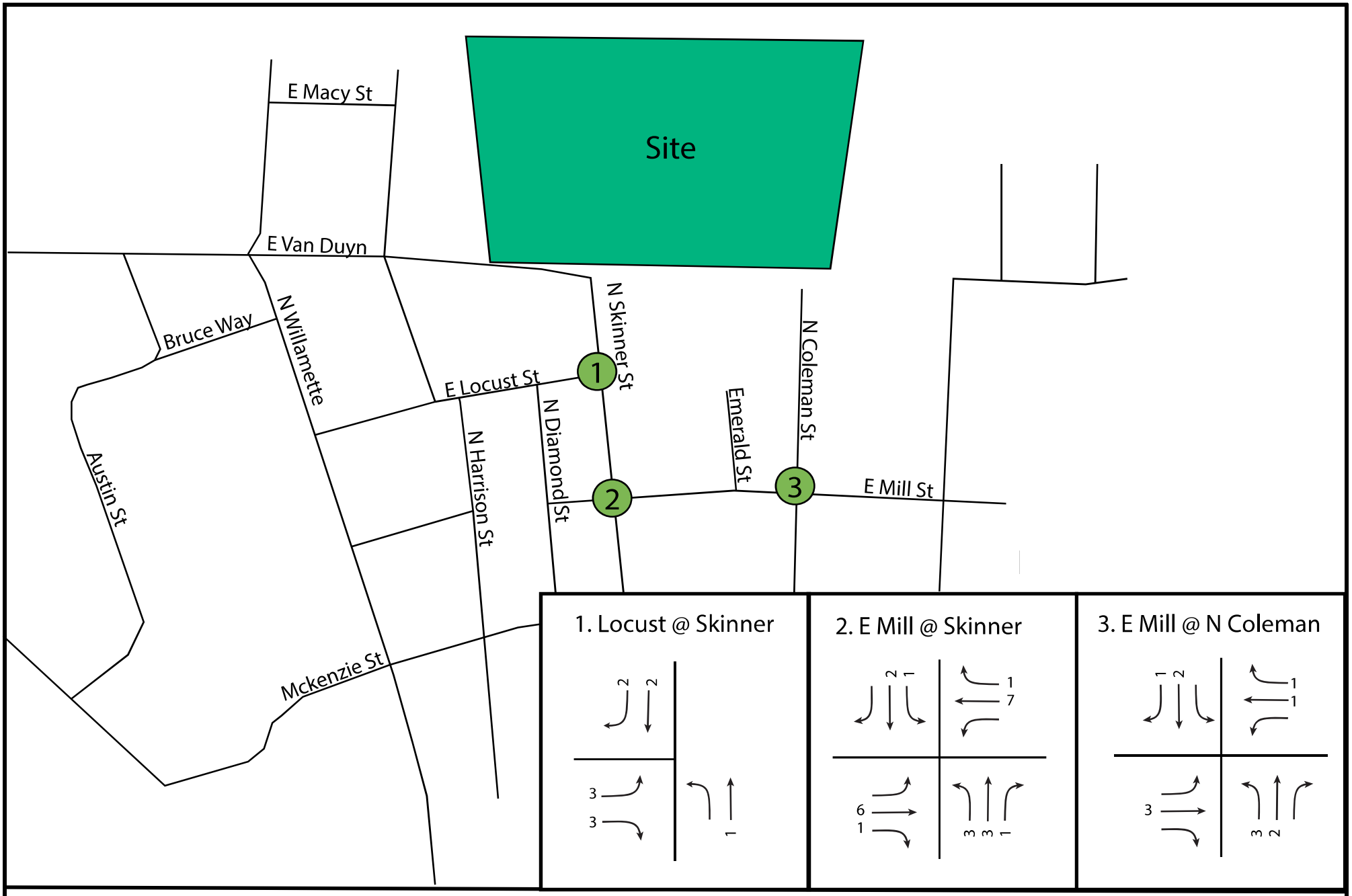

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Figure 5 : 2022 PM Peak Hour Background Traffic Volumes

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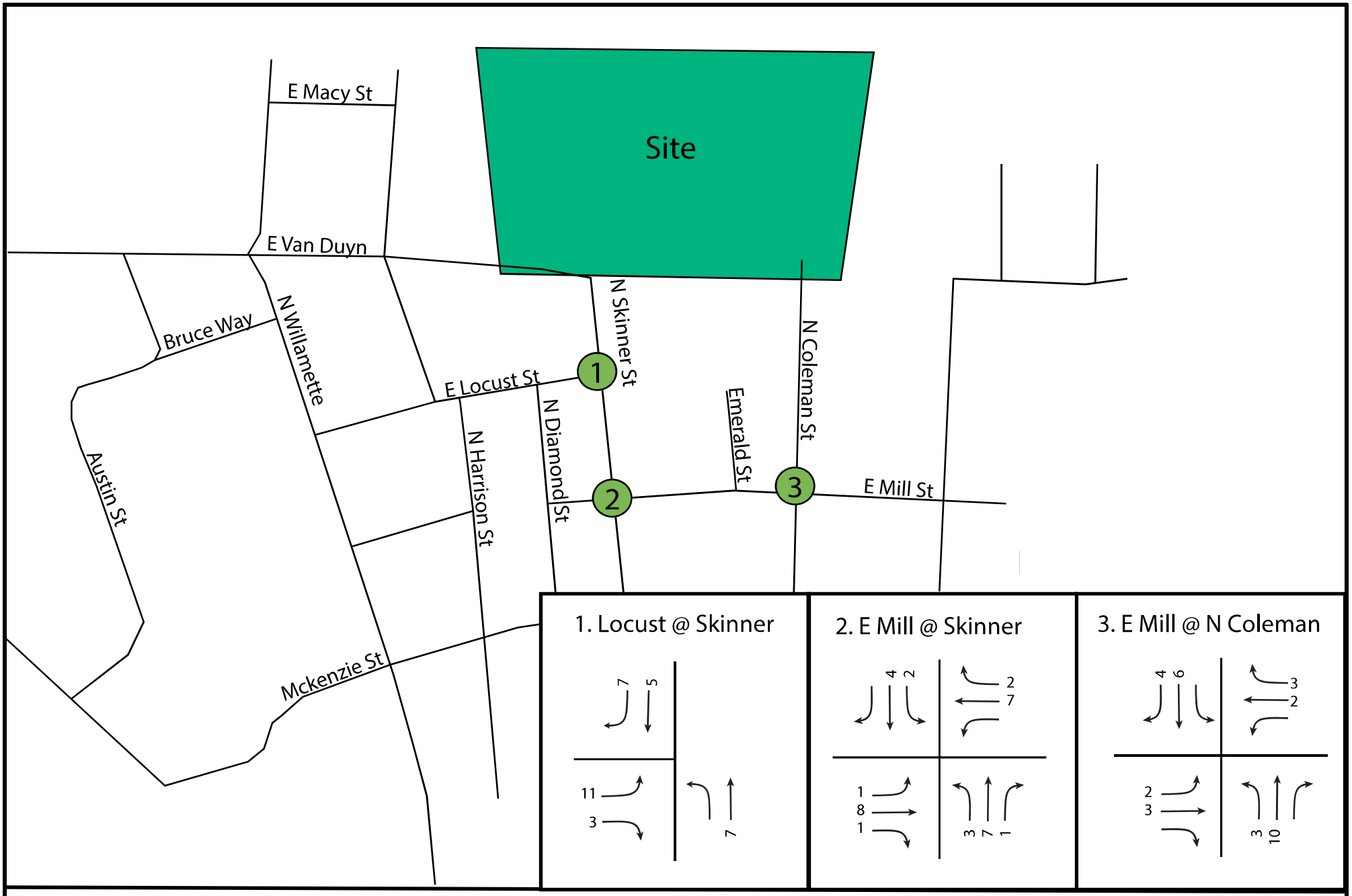
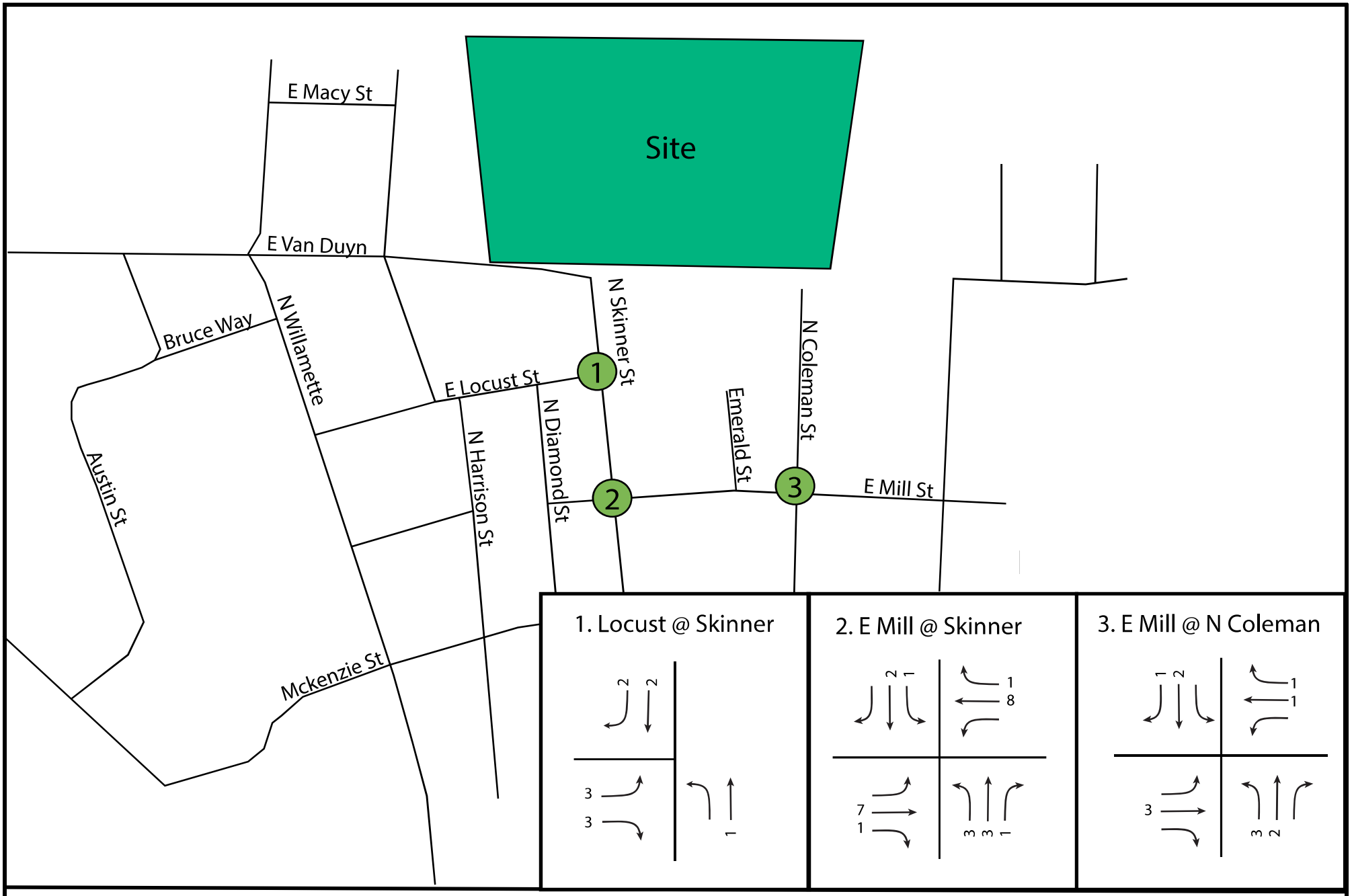


Coburg Creek Subdivision

Figure 6: 2022 PM Peak Hour Traffic Volumes With Development



Coburg Creek Subdivision

Figure 7 : 2027 PM Peak Hour Background Traffic Volumes

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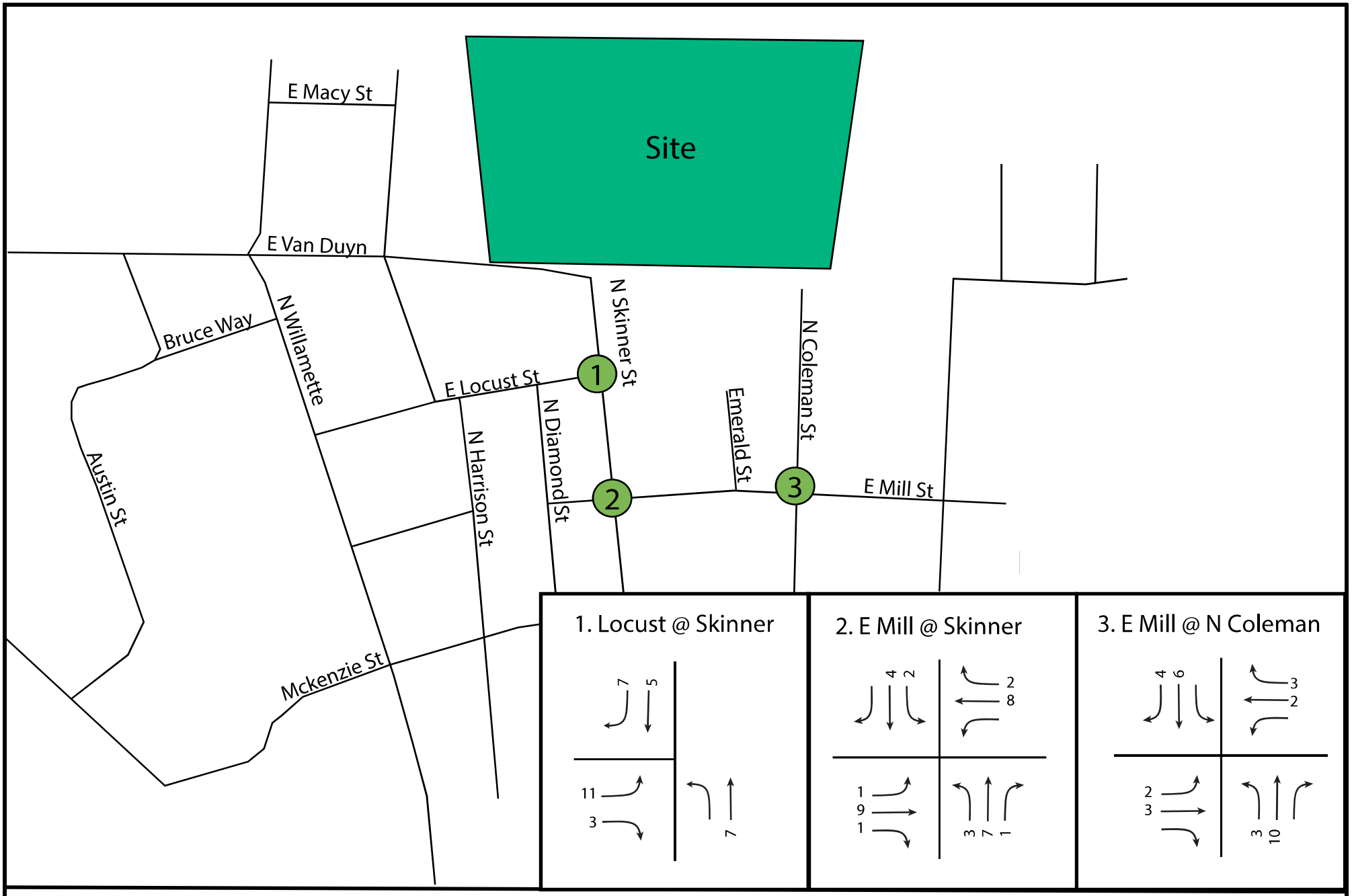

Coburg Creek Subdivision

Figure 8 : 2027 PM Peak Hour Traffic Volumes With Development

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5.0 INTERSECTION ANALYSIS

5.1 PERFORMANCE MEASURES

The measure of performance for intersections in this analysis is based on the Highway Capacity Manual (HCM) defined level of service (LOS). LOS is a concept developed to quantify the degree of comfort (including such elements as travel time, number of stops, total amount of stopped delay, and impediments caused by other vehicles) afforded to drivers as they travel through an intersection or along a roadway segment. It was developed to quantify the quality of service of transportation facilities.

LOS is based on average delay, defined as the average total elapsed time from when a vehicle stops at the end of a queue until the vehicle departs from the stop line. The average delay is measured in seconds per vehicle per hour and then translated into a grade or "level of service" for each intersection. LOS ranges from A to F, with A indicating the most desirable condition and F indicating the most unsatisfactory condition.

The LOS criteria, as defined by the Highway Capacity Manual, for signalized intersections, are provided in Table 4.

TABLE 4: HCM LEVEL OF SERVICE FOR INTERSECTIONS

	Stopped Delay Per Vehicle (Seconds per Vehicle)	
	Unsignalized Intersections	**Signalized Intersections**
A	≤ 10.0	≤ 10
B	> 10.0 and ≤ 15.0	> 10 and ≤ 20
C	> 15.0 and ≤ 25.0	> 20 and ≤ 35
D	> 25.0 and ≤ 35.0	> 35 and ≤ 55
E	> 35.0 and ≤ 50.0	> 55 and ≤ 80
F	> 50.0	> 80

5.2 INTERSECTION ANALYSIS RESULTS

A performance analysis was conducted for the studied intersections for the Year 2020, 2022, and 2027 conditions during the PM peak hours. The intersection evaluation was performed using Synchro 10. The results are shown in Table 5. The SYNCHRO outputs are provided in Appendix D.

TABLE 5: INTERSECTION PERFORMANCE: WEEKDAY AM AND PM PEAK HOUR

Intersection	Mobility Standard LOS	2020 Background	2022 Background	2022 Build	2027 Background	2027 Build
Locust St @ Skinner St	D	A	A	A	A	A
Skinner St @ Mill St	D	A	A	A	A	A
Coleman St @ Mill St	D	A	A	A	A	A

As illustrated in Table 5 the additional if development trips do not impact the operation of the studied intersections.

6.0 QUEUE ANALYSIS

A queuing analysis was conducted for the studied intersections. The analysis was performed using SimTraffic, a microsimulation software tool that uses the HCM defined criteria to estimate the queuing of vehicles within the study area. The average and 95th percentile queuing results are illustrated in Table 6 for the year 2020 and Table 7 for the year 2022 and year 2027 PM peak hour conditions. All results are rounded to 25 feet to represent the total number of vehicles in the queue , as one vehicle typically occupies 25 feet of space. The SimTraffic outputs are provided in Appendix E.

TABLE 6: INTERSECTION QUEUING: THE YEAR 2020 WEEKDAY PM PEAK HOUR

Intersection			Available Storage (Feet)	2020 Background (Feet)	
				Average	95th percentile
Locust St @ Skinner St	EB	L TR	150	25	25
	NB	LTR	280	0	0
	SB	LTR	250	0	0
Skinner St @ Mill St	EB	LTR	140	0	0
	NB	LTR	280	25	50
	SB	LTR	280	25	25
	WB	LTR	250	0	0
Coleman @ Mill St	EB	LTR	180	25	25
	NB	LTR	290	25	25
	SB	LTR	500	25	25
	WB	LTR	320	25	25

TABLE 7: INTERSECTION QUEUING: WEEKDAY PM PEAK HOUR

Intersection			Available Storage (Feet)	2022 Background (Feet)		2022 Build (Feet)		2027 Background (Feet)		2027 Build (Feet)	
				Average	95th percentile	Average	95th percentile	Average	95th percentile	Average	95th percentile
Locust St @ Skinner St	EB	L TR	150	25	50	25	50	25	50	25	50
	NB	LTR	280	0	0	0	0	0	0	0	0
	SB	LTR	250	0	0	0	0	0	0	0	0
Skinner St @ Mill St	EB	LTR	140	0	0	0	0	0	0	0	0
	NB	LTR	280	25	50	25	50	25	50	25	50
	SB	LTR	280	25	25	25	25	25	25	25	25
	WB	LTR	250	0	0	0	0	0	0	0	0
Coleman @ Mill St	EB	LTR	180	25	25	25	25	25	25	25	25
	NB	LTR	290	25	25	25	25	25	25	25	50
	SB	LTR	500	25	25	25	25	25	25	25	50
	WB	LTR	320	25	25	25	25	25	25	25	25

As demonstrated in Table 7, the addition of development traffic does not increase the queuing conditions at the studied intersections.

7.0 SKINNER ST AND COLEMAN ST

Skinner Street is classified as a Local Street within the Transportation System Plan. It is 14-16 feet in width with on-street parking available on both sides. The width is narrower than the City street standards of 20 feet minimum. While the existing width is less than the City standard the added traffic volume of 22 peak hour development trip can be handled on the roadway given there is ample opportunity to treat the street at a queuing style street and a vehicle can pull over to allow for the passing of an oncoming vehicle. The existing width is sufficient to allow for safe firetruck access.

Coleman Street is classified as a Local Street within the Transportation System Plan. It is 14-16 feet in width with on-street parking available on both sides. The width is narrower than the City street standards of 20 feet minimum. While the existing width is less than the City standard the added traffic volume of 19 peak hour development trip can be handled on the roadway given there is ample opportunity to treat the street at a queuing style street and a vehicle can pull over to allow for the passing of an oncoming vehicle. The existing width is sufficient to allow for safe firetruck access.

There are examples of narrow local streets at newer subdivisions within the City of Eugene (West of Candlelight Drive). These streets are built with 18 feet of roadway (curb to curb) and parking is allowed on one side. This results in 10 feet of roadway for 2-way travel. Vehicles utilize these roadways by pulling into the parking area to allow an oncoming car to pass. While it slows down travel time, there is no safety issue with this type of operation. As stated above, while the existing street widths do not meet the standards, they can operate safely and efficiently as long as there is opportunity to pull into parking areas to allow vehicles to pass.

8.0 INTERNAL ROADWAYS

The internal roadway curvature at Skinner Street in the southwest corner and Coleman Street in the southeast corner were evaluated for the line of sight for vehicles traveling on the roadway to around the corners, specifically as it relates the intersections with Sarah Street. A vehicle traveling on Skinner Street or Coleman Street northbound into the development and stopped at Sarah Street needs to have sufficient line of sight to observe a vehicle traveling around the corner in order to judge a sufficient gap to turn safely onto Sara Street. Additionally, there needs to be sufficient line of sight to allow a driver traveling south on Skinner Street or Coleman Street sufficient length to perceive and react to a vehicle stopped at the intersection.

The line of sight evaluations follows the Stopping Sight Distance recommendations within the MUTCD. The MUTCD Stopping Sight Distance considers the length of the distance traversed by a

vehicle when a stationary object is perceived with the roadway. This distance considers the distance traversed to perceive and react to the object and the distance traversed during braking (considering a non-panic breaking). The stopping sight distance is calculated based on roadway speed. While most streets within Coburg have a travel speed of less than 25 mph, the basic rule of 25 mph for a residential neighborhood was assumed for this calculation. Based on a 25 mph speed, the stopping sight distance is 155 feet. This means that a vehicle traveling on the roadway needs to see at a minimum of 155 feet in order to perceive and react to a stationary object in the roadway.

Both intersections and curves were evaluated for stopping sight distance. Figure 9 provides an illustration of the intersection of Skinner St at Sara St and Figure 10 provides an illustration of the intersection of Coleman St and Sara St. As illustrated in Figure 9, there is sufficient clear line of sight for a vehicle traveling north on Skinner St at Sarah St to perceive an oncoming vehicle from the left and judge the appropriate gap in traffic. Additionally, there is sufficient line of sight for a vehicle traveling south on Skinner St/Sarah St to see a vehicle stopped to turn onto Skinner Street at Skinner St.

The intersection of Coleman St at Sarah Street has the ability to have sufficient sight distance available. However, the line of sight cuts into the inside property. It is recommended that this area be clear of any structures that would block the line of sight, including buildings, fences and parked cars.

Additionally, it is recommended that both curves be designated as no parking on both the inside and outside of the curve to preserve the line of sight.

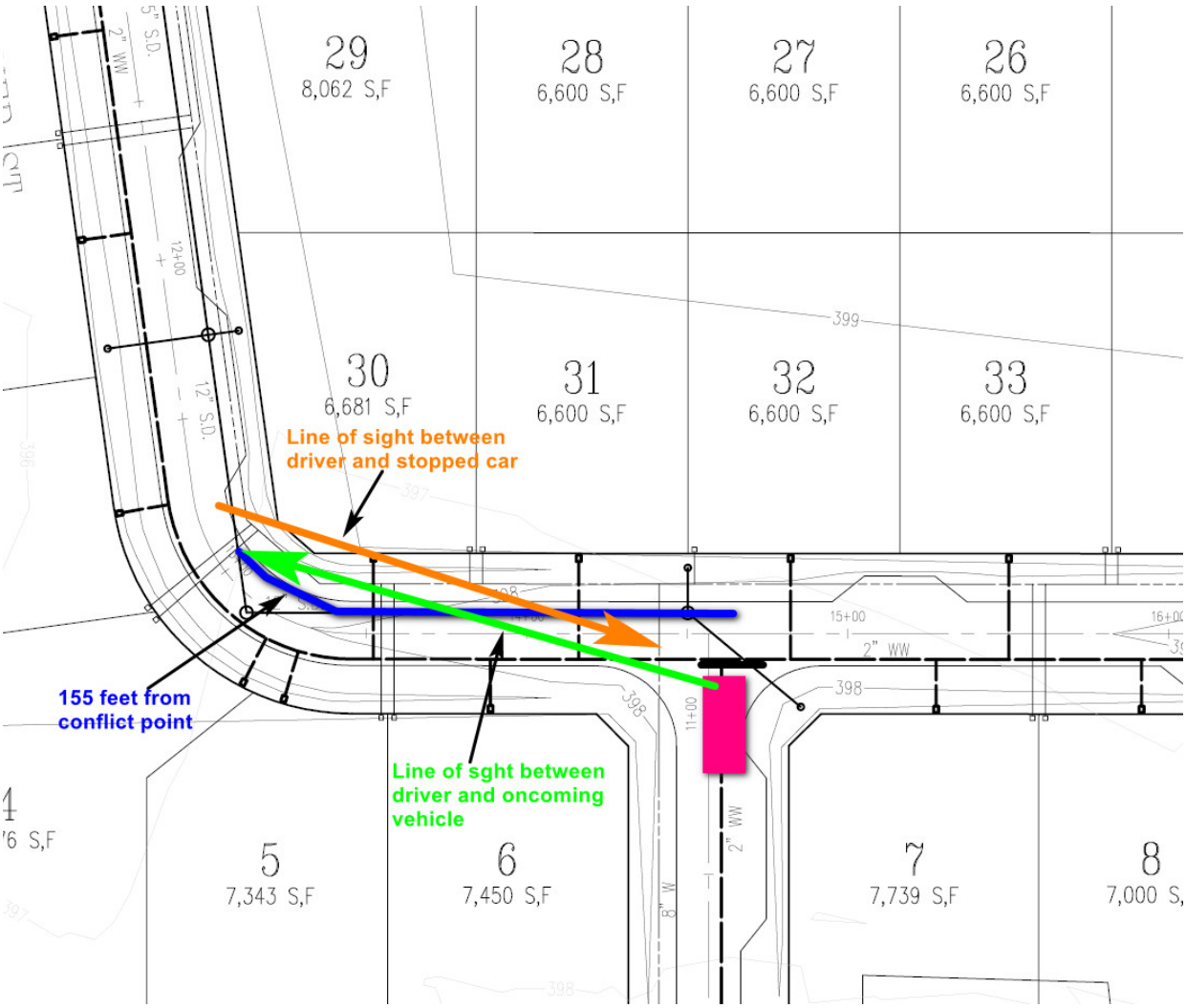

FIGURE 9 – SKINNER ST AT SARA ST SIGHT DISTANCE

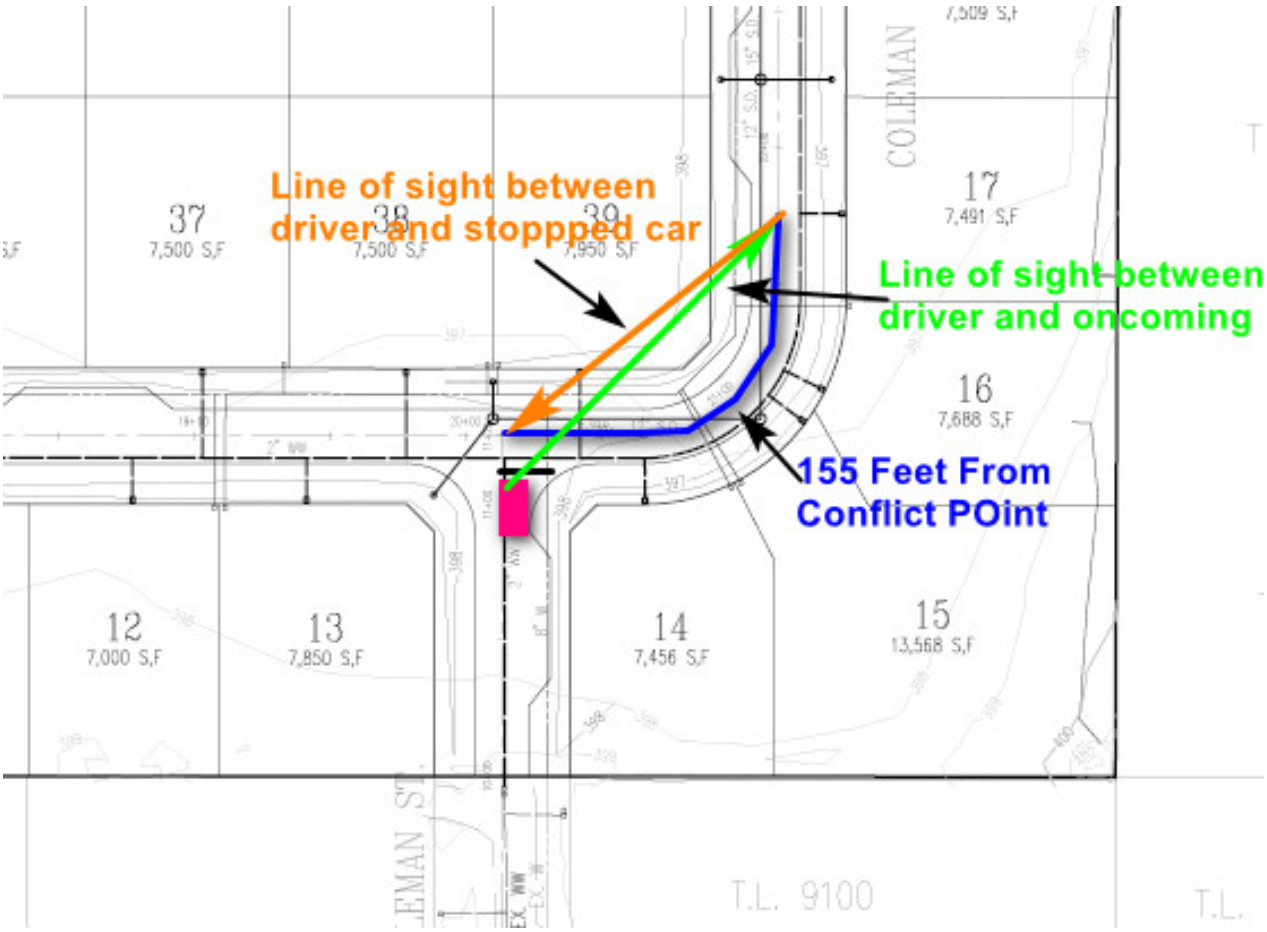

FIGURE 10 – SKINNER AT SARA SIGHT DISTANCE

9.0 CONCLUSION

This report provides the Traffic Impact Analysis and findings prepared for the proposed Coburg Creek Subdivision development located north of the terminus of Coleman Street and Skinner Street in Coburg, Oregon . The subject site is located on Assessor's Map 16-03-28-00 tax lot 501. The 4.76-acre parcel is zoned E-2 Residential. The applicant is proposing the development of 39 single-family homes. The proposal includes street connections to Skinner Street and Coleman Street for access.

FINDINGS

- All studied intersections operate within the mobility standards with and without the development traffic.
- The addition of development traffic does not substantially increase queuing conditions.
- Skinner Street and Coleman Street, while narrower than City street standards, can operate safely and efficiently with the additional traffic added from the development.

- Skinner Street and Coleman Street can operate safely and efficiently for firetrucks and emergency vehicle use.
- The line of sight for a vehicle traveling southbound on Coleman Street around the curve towards Sarah Street can be met as long as obstructions such as buildings, fences, and vehicle parking are not allowed along the inside of the curve.
- The internal site curvature of Skinner Street and Coleman Street should have a restriction for no on-street parking to ensure the line of sight is continues to be met.

APPENDIX A: SITE PLAN

Coburg Creek Subdivison

SANDOW ENGINEERING

CONCEPTUAL GRADING &UTILITIES FOR JONES PROPERTY

CITY OF COBURG
PUBLIC WORKS DEPARTMENT

TAX MAP 17-03-08-00
TAX LOT 307

DRAWN
DATE 02-12-20
DESIGNED
CHECKED
APPROVED:
DATE

NO.	DESCRIPTION	DATE	BY
	REVISIONS		

PLANS PREPARED BY:
THE FAVREAU GROUP
CIVIL ENGINEERING
3750 NORWICH AVE.
EUGENE, OR 97408 (541) 683-7048

REGISTERED PROFESSIONAL ENGINEER
#18240 PE
OREGON
DEC. 31, 1987
ANTHONY J. FAVREAU
EXPIRES DEC. 31, 2021

SHEET 2 OF 3

APPENDIX B: SCOPE OF WORK

Coburg Creek Subdivision

SANDOW ENGINEERING

kellysandow@sandowengineering.com

From: KERNEN Jeff <Jeff.Kernen@ci.coburg.or.us>
Sent: Thursday, May 21, 2020 11:15 AM
To: Damien G; kellysandow@sandowengineering.com
Subject: RE: Coburg Creek Subdivision

Kelly and Damien-

Yes, that is what my understanding is.

FYI, Lane County declined to comment on this referral.

Jeff

From: Damien G <damieng@branchengineering.com>
Sent: Thursday, May 21, 2020 11:08 AM
To: kellysandow@sandowengineering.com; KERNEN Jeff <Jeff.Kernen@ci.coburg.or.us>
Subject: RE: Coburg Creek Subdivision

Kelly,

Thank you. That is consistent with our discussion.

I don't think anything will be required from them related to traffic, but you might double check with Lane County since they will receive a referral from the city on this.

Have a nice day,

Damien

DAMIEN GILBERT, P.E. Principal
BRANCH ENGINEERING, INC.
541.746.0637

From: kellysandow@sandowengineering.com <kellysandow@sandowengineering.com>
Sent: Thursday, May 21, 2020 10:40 AM
To: Damien G <damieng@branchengineering.com>; 'KERNEN Jeff' <Jeff.Kernen@ci.coburg.or.us>
Subject: Coburg Creek Subdivision

Jeff and Damien, my apologies, I had drafted this email and I just saw that it was sitting in my draft folder, that I must have hit save instead of send.

Thanks for the call on the Coburg Creek Subdivision to discuss the scope of work for the TIA. Based on our conversation the following is the proposed scope of work;

- Evaluation of the PM Peak hour 4-6 PM

- Evaluation of the following intersections:
    - Locust/Skinner
    - Skinner/Mill
    - Coleman/Mill

- Traffic counts can be taken now but will be adjusted for reasonable increases to represent typical traffic prior to the Covid lockdowns
- Study to include an evaluation of safety of Skinner, Coleman, and Locust for the additional traffic which will include fire/Emergency access.
- Evaluation of internal site roadway curvature for sight distance

Thank you,

Kelly

KELLY SANDOW PE
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Email: kellysandow@sandowengineering.com
Office: 160 Madison St. Suite A Eugene, Oregon 97402
Web: sandowengineering.com
Oregon DBE/WBE/ESB Certified: #8760

*******WARNING: This email has been sent from OUTSIDE the City of Coburg. Please proceed with caution********

APPENDIX C: TRAFFIC VOLUMES

Coburg Creek Crossing

SANDOW ENGINEERING

Intersection: 1: N Skinner St @ N Locust **City:** Coburg, OR

Counter: Sandow Engineering **Date:** 5.14.2020

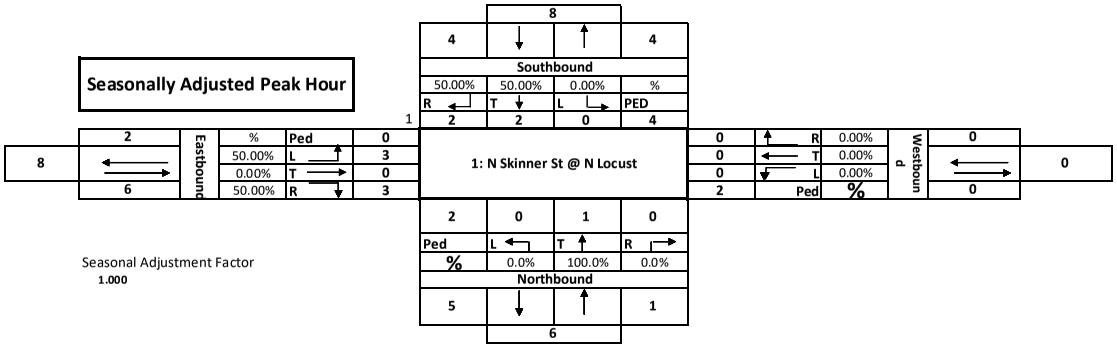
Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
16:00	16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	1	1	0
16:15	16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
16:30	16:45	1	1	0	2	0	0	0	0	0	1	0	1	3	0	1	4	7		3	0	0	0
16:45	17:00	1	1	0	2	0	0	0	0	0	0	0	0	0	0	2	2	4	11	1	1	1	0
17:00	17:15	1	1	0	2	0	0	0	0	0	0	0	0	0	0	1	1	3	14	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	15	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	9	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	6	0	0	0	0
18:00	18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4	2	2	0
18:15	18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	2	2	0
Count Period Total		**3**	**3**	**0**		**0**	**0**	**0**		**0**	**1**	**0**		**3**	**0**	**7**		**17**		**12**	**6**	**6**	**0**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**2**	**2**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**3**	**0**	**3**	**6**	**11**		**4**	**2**	**2**	**0**
PHF	0.50	0.50	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.25	0.25	0.00	0.38	0.38	0.39					
Trucks	0	0	0		0	0	0		0	0	0		0	0	0							
% Trucks	0%	0%	0%		0%	0%	0%		0%	0%	0%		0%	0%	0%							

Seasonally Adjusted Peak Hour



Seasonal Adjustment Factor

1.000

1: N Skinner St @ N Locust

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
4:00 PM	0					1					1					0					0	
4:15 PM	0					0					0					0					0	
4:30 PM	2	1	1			0					0		1			0	3		1		7	
4:45 PM	1	1	1			1					1					0			2		4	11
5:00 PM	0	1	1			0					0					0			1		3	14
5:15 PM	0					0					0					0			1		1	15
5:30 PM	0					0					0					0			1		1	9
5:45 PM	0					0					0					0			1		1	6
6:00 PM	0					0					0					0					0	3
6:15 PM	0					0					0					0					0	2
Total	3	3	3	0		2	0	0	0		2	0	1	0		0	3	0	7			
Peak Hour	**3**	**2**	**2**	**0**		**2**	**0**	**0**	**0**		**2**	**0**	**1**	**0**		**0**	**3**	**0**	**3**		**11**	

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
4:00 PM																	0	
4:15 PM																	0	
4:30 PM																	0	
4:45 PM																	0	0
5:00 PM																	0	0
5:15 PM																	0	0
5:30 PM																	0	0
5:45 PM																	0	0
6:00 PM																	0	0
6:15 PM																	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0			
Peak Hour	**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
4:00 PM																0	0	0	0
4:15 PM																0	0	0	0
4:30 PM	1															1	0	0	0
4:45 PM																0	0	0	0
5:00 PM																0	0	0	0
5:15 PM																0	0	0	0
5:30 PM																0	0	0	0
5:45 PM																0	0	0	0
6:00 PM																0	0	0	0
6:15 PM																0	0	0	0
Total	1	0	0		0	0	0		0	0	0		0	0	0	1	0	0	0
Peak Hour	**1**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
4:00 PM			0		1		1				0			1	1	0	1	1	0
4:15 PM			0				0				0				0	0	0	0	0
4:30 PM			0			1	1		1		1				0	2	0	0	0
4:45 PM		1	1				0		1		1			1	1	1	1	1	0
5:00 PM			0				0				0				0	0	0	0	0
5:15 PM			0				0				0				0	0	0	0	0
5:30 PM			0				0				0				0	0	0	0	0
5:45 PM			0				0				0				0	0	0	0	0
6:00 PM			0				0				0				0	0	0	0	0
6:15 PM			0				0				0				0	0	0	0	0
Total	0	1	1		1	1	2		2	0	2		0	2	2	3	2	2	0
Peak Hour	**0**	**1**	**1**		**1**	**1**	**2**		**2**	**0**	**2**		**0**	**2**	**2**	**3**	**2**	**2**	**0**

Intersection: 2: N Skinner St @ E Mill St **City:** Coburg, OR

Counter: Sandow Engineering **Date:** 5.13.2020

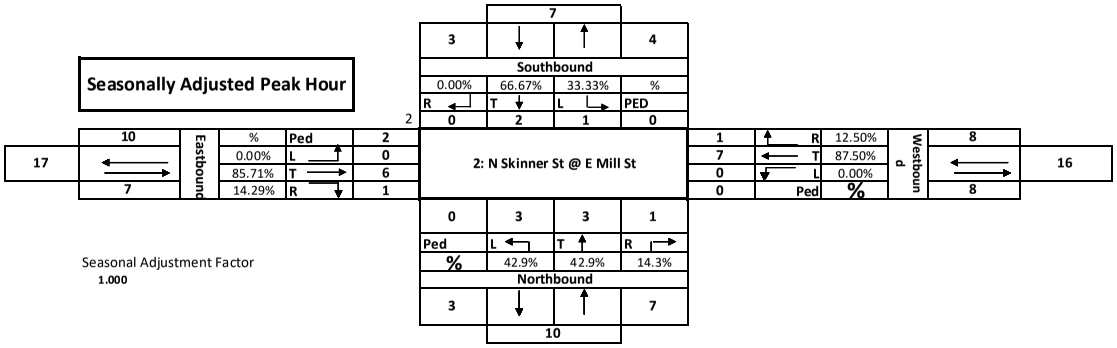
Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
16:00	16:15	0	1	1	2	0	2	0	2	0	3	1	4	0	2	0	2	10		0	0	0	1
16:15	16:30	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2		0	0	0	0
16:30	16:45	0	0	0	0	1	2	0	3	0	0	0	0	0	0	0	0	3		0	0	0	1
16:45	17:00	0	1	0	1	0	3	0	3	1	0	1	2	1	3	0	4	10	25	0	0	0	0
17:00	17:15	0	0	0	0	0	0	1	1	0	0	0	0	0	4	0	4	5	20	0	0	0	0
17:15	17:30	0	0	0	0	0	0	1	1	0	0	0	0	0	2	0	2	3	21	0	0	0	2
17:30	17:45	0	1	0	1	0	1	0	1	0	0	0	0	0	1	0	1	3	21	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2	13	0	0	0	0
18:00	18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	4
18:15	18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	2
Count Period Total		**0**	**3**	**1**		**1**	**8**	**2**		**1**	**4**	**3**		**1**	**14**	**0**		**38**		**0**	**0**	**0**	**10**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**0**	**2**	**1**	**3**	**1**	**7**	**0**	**8**	**1**	**3**	**3**	**7**	**1**	**6**	**0**	**7**	**25**		**0**	**0**	**0**	**2**
PHF	0.00	0.50	0.25	0.38	0.25	0.58	0.00	0.67	0.25	0.25	0.75	0.44	0.25	0.50	0.00	0.44	0.63					
Trucks	0	0	0		0	0	0		0	0	0		0	0	0							
% Trucks	0%	0%	0%		0%	0%	0%		0%	0%	0%		0%	0%	0%							

Seasonally Adjusted Peak Hour



Seasonal Adjustment Factor

1.000

2: N Skinner St @ E Mill St

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
4:00 PM	0		1	1		0		2			0		3	1		1		2			10	
4:15 PM	0					0					0			1		0		1			2	
4:30 PM	0					0	1	2			0					1					3	
4:45 PM	0		1			0		3			0	1		1		0	1	3			10	25
5:00 PM	0					0			1		0					0		4			5	20
5:15 PM	0					0			1		0					2		2			3	21
5:30 PM	0		1			0		1			0					0		1			3	21
5:45 PM	0					0					0		1			0		1			2	13
6:00 PM	0					0					0					0					0	8
6:15 PM	0					0					0					0					0	5
Total	0	0	3	1		0	1	8	2		0	1	4	3		4	1	14	0			
Peak Hour	**0**	**0**	**2**	**1**		**0**	**1**	**7**	**0**		**0**	**1**	**3**	**3**		**2**	**1**	**6**	**0**		**25**	

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
4:00 PM																	0	
4:15 PM																	0	
4:30 PM																	0	
4:45 PM																	0	0
5:00 PM																	0	0
5:15 PM																	0	0
5:30 PM																	0	0
5:45 PM																	0	0
6:00 PM																	0	0
6:15 PM																	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0			
Peak Hour	**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
4:00 PM																0	0	0	0
4:15 PM																0	0	0	0
4:30 PM																0	0	0	0
4:45 PM																0	0	0	0
5:00 PM																0	0	0	0
5:15 PM																0	0	0	0
5:30 PM																0	0	0	0
5:45 PM																0	0	0	0
6:00 PM																0	0	0	0
6:15 PM																0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0				
Peak Hour	**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**				

Pedestrians

Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
4:00 PM			0				0				0		1		1	0	0	0	1
4:15 PM			0				0				0				0	0	0	0	0
4:30 PM			0				0			1	1				0	0	0	0	1
4:45 PM			0				0				0				0	0	0	0	0
5:00 PM			0				0				0				0	0	0	0	0
5:15 PM			0				0				0		2		2	0	0	0	2
5:30 PM			0				0				0				0	0	0	0	0
5:45 PM			0				0				0				0	0	0	0	0
6:00 PM			0				0				0				0	0	0	0	0
6:15 PM			0				0				0				0	0	0	0	0
Total	0	0	0		0	0	0		0	1	1		3	0	3	0	0	0	4
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**2**

Intersection: 3: N Coleman St @ E Mill St **City:** Coburg, OR

Counter: Sandow Engineering **Date:** 5.19.2020

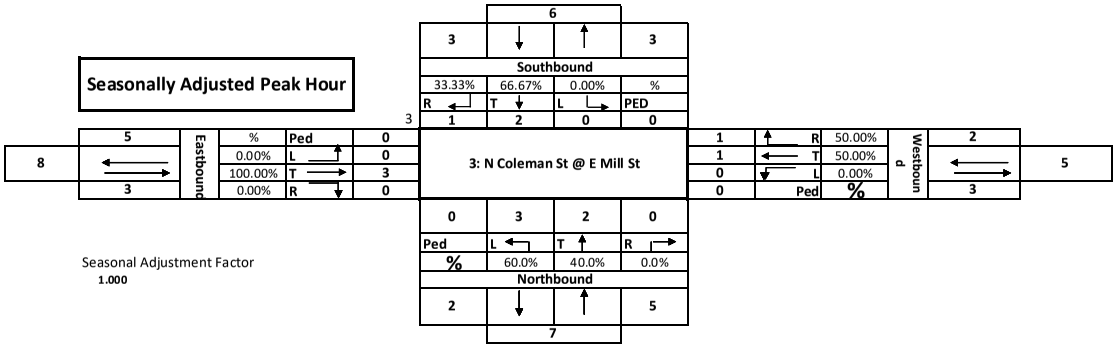
Total of All Vehicles

Time Period		Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total			SB	WB	NB	EB
16:00	16:15	0	1	0	1	0	0	0	0	0	0	0	0	0	1	0	1	2		0	0	0	0
16:15	16:30	0	0	0	0	0	1	0	1	0	2	2	4	0	0	0	0	5		0	0	0	0
16:30	16:45	1	0	0	1	1	0	0	1	0	0	0	0	0	1	0	1	3		0	0	0	0
16:45	17:00	0	1	0	1	0	0	0	0	0	0	1	1	0	1	0	1	3	13	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	2	13	0	0	0	0
17:15	17:30	0	0	0	0	0	1	0	1	1	0	0	1	0	0	0	0	2	10	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0	0	0	0	2	2	1	0	0	1	3	10	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0
18:00	18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0
18:15	18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0
Count Period Total		**1**	**2**	**0**		**1**	**2**	**0**		**1**	**3**	**5**		**2**	**3**	**0**		**20**		**0**	**0**	**0**	**0**

PM Peak Hour Count Summary

	Southbound				Westbound				Northbound				Eastbound						Pedestrians			
	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
Peak Volumes	**1**	**2**	**0**	**3**	**1**	**1**	**0**	**2**	**0**	**2**	**3**	**5**	**0**	**3**	**0**	**3**	**13**		**0**	**0**	**0**	**0**
PHF	0.25	0.50	0.00	0.75	0.25	0.25	0.00	0.50	0.00	0.25	0.38	0.31	0.00	0.75	0.00	0.75	0.65					
Trucks	0	0	0		0	0	0		0	0	0		0	0	0							
% Trucks	0%	0%	0%		0%	0%	0%		0%	0%	0%		0%	0%	0%							

Seasonally Adjusted Peak Hour



Seasonal Adjustment Factor

1.000

3: N Coleman St @ E Mill St

Pedestrians and Cars

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left		Peds	Right	Thru	Left			
4:00 PM	0		1			0					0					0		1			2	
4:15 PM	0					0		1			0		2	2		0					5	
4:30 PM	0	1				0	1				0					0		1			3	
4:45 PM	0		1			0					0			1		0		1			3	13
5:00 PM	0					0					0		1			0	1				2	13
5:15 PM	0					0		1			0	1				0					2	10
5:30 PM	0					0					0			2		0	1				3	10
5:45 PM	0					0					0					0					0	7
6:00 PM	0					0					0					0					0	5
6:15 PM	0					0					0					0					0	3
Total	0	1	2	0		0	1	2	0		0	1	3	5		0	2	3	0			
Peak Hour	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**3**	**0**	**0**	**0**	**3**	**0**	**0**	**13**	

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
4:00 PM																	0	
4:15 PM																	0	
4:30 PM																	0	
4:45 PM																	0	0
5:00 PM																	0	0
5:15 PM																	0	0
5:30 PM																	0	0
5:45 PM																	0	0
6:00 PM																	0	0
6:15 PM																	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0			
Peak Hour	**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	

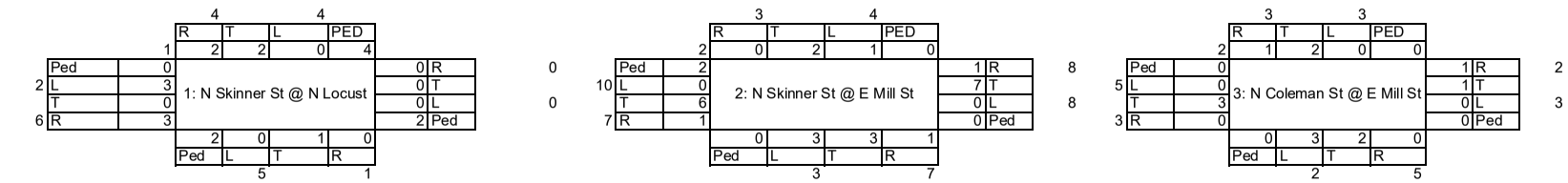
Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
4:00 PM																0	0	0	0
4:15 PM																0	0	0	0
4:30 PM																0	0	0	0
4:45 PM																0	0	0	0
5:00 PM																0	0	0	0
5:15 PM																0	0	0	0
5:30 PM																0	0	0	0
5:45 PM																0	0	0	0
6:00 PM																0	0	0	0
6:15 PM																0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0				
Peak Hour	**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**				

Pedestrians

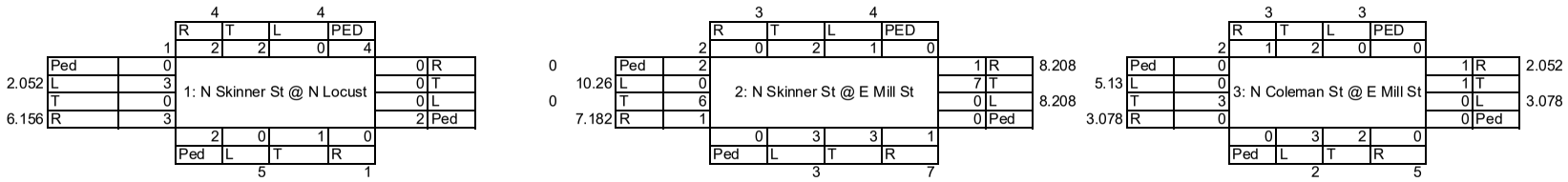
Time Period	NE				NW				SW				SE			SB	WB	NB	EB
	Left	Right	Total		Left	Right	Total		Left	Right	Total		Left	Right	Total				
4:00 PM			0				0				0				0	0	0	0	0
4:15 PM			0				0				0				0	0	0	0	0
4:30 PM			0				0				0				0	0	0	0	0
4:45 PM			0				0				0				0	0	0	0	0
5:00 PM			0				0				0				0	0	0	0	0
5:15 PM			0				0				0				0	0	0	0	0
5:30 PM			0				0				0				0	0	0	0	0
5:45 PM			0				0				0				0	0	0	0	0
6:00 PM			0				0				0				0	0	0	0	0
6:15 PM			0				0				0				0	0	0	0	0
Total	0	0	0		0	0	0		0	0	0		0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**		**0**	**0**	**0**				

Existing 2020 PM Volumes



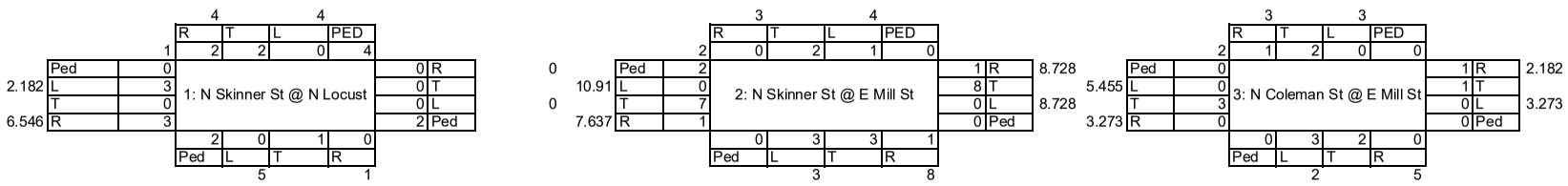
EDIT Highlighted	
Base Year	2020
Target Year	2022
Years of Growth	2
Growth Rate Per Year	0.01
Growth Factor	1.03

2022 PM Volumes Background

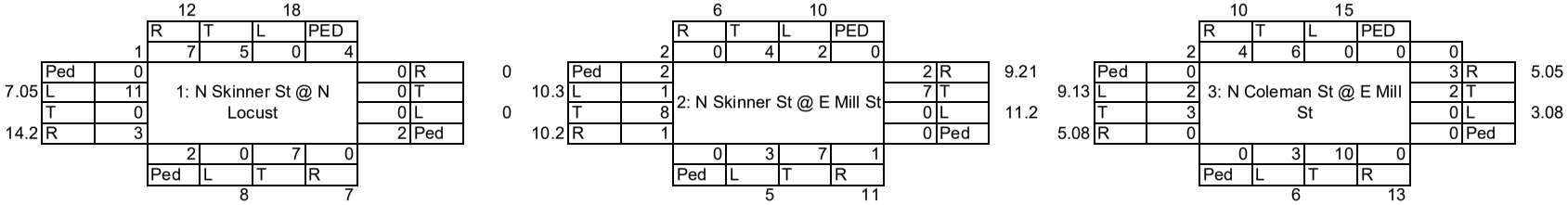


EDIT Highlighted	
Base Year	2020
Target Year	2027
Years of Growth	7
Growth Rate Per Year	0.01
Growth Factor	1.09

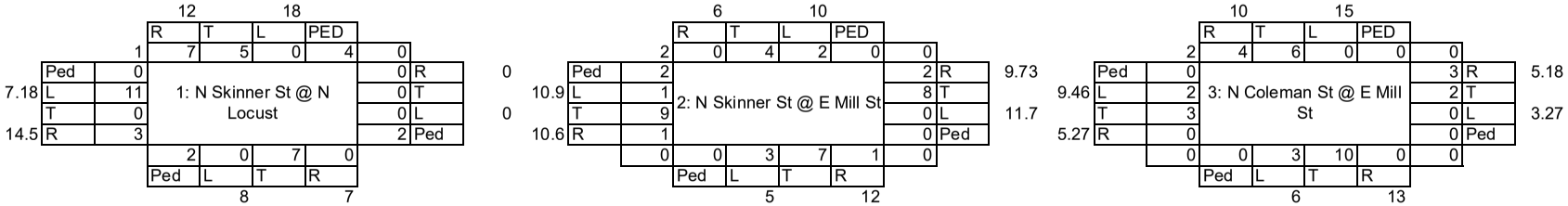
2027 pm Volumes Background



2022 Build Volumes PM



2027 Build Volumes PM



APPENDIX D: SYNCHRO OUTPUTS

Coburg Creek Crossing

SANDOW ENGINEERING

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	0	0	1	1	3	2	0	0	2	1
Future Vol, veh/h	0	3	0	0	1	1	3	2	0	0	2	1
Peak Hour Factor	0.25	0.25	0.25	0.25	0.75	0.25	0.38	0.25	0.25	0.25	0.50	0.25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	12	0	0	1	4	8	8	0	0	4	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	6.7	7.1	6.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	60%	0%	0%	0%
Vol Thru, %	40%	100%	50%	67%
Vol Right, %	0%	0%	50%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	3	2	3
LT Vol	3	0	0	0
Through Vol	2	3	1	2
RT Vol	0	0	1	1
Lane Flow Rate	16	12	5	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.018	0.013	0.005	0.008
Departure Headway (Hd)	4.057	3.945	3.65	3.743
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	886	910	983	960
Service Time	2.062	1.955	1.662	1.75
HCM Lane V/C Ratio	0.018	0.013	0.005	0.008
HCM Control Delay	7.1	7	6.7	6.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0	0	0

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	1	0	7	1	3	3	1	1	2	0
Future Vol, veh/h	0	6	1	0	7	1	3	3	1	1	2	0
Conflicting Peds, #/hr	0	0	4	4	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	50	25	25	58	25	75	25	25	25	50	25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	12	4	0	12	4	4	12	4	4	4	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	16	0	0	20	0	0	34	34	18	36	34	14
Stage 1	-	-	-	-	-	-	18	18	-	14	14	-
Stage 2	-	-	-	-	-	-	16	16	-	22	20	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1615	-	-	1609	-	-	978	863	1066	975	863	1072
Stage 1	-	-	-	-	-	-	1006	884	-	1011	888	-
Stage 2	-	-	-	-	-	-	1009	886	-	1002	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1615	-	-	1603	-	-	971	860	1062	961	860	1072
Mov Cap-2 Maneuver	-	-	-	-	-	-	971	860	-	961	860	-
Stage 1	-	-	-	-	-	-	1002	880	-	1011	888	-
Stage 2	-	-	-	-	-	-	1004	886	-	985	879	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	916	1615	-	-	1603	-	-	908
HCM Lane V/C Ratio	0.022	-	-	-	-	-	-	0.009
HCM Control Delay (s)	9	0	-	-	0	-	-	9
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	3	0	1	2	2
Future Vol, veh/h	3	3	0	1	2	2
Conflicting Peds, #/hr	5	3	3	0	0	3
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	38	25	25	25	50	50
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	12	0	4	4	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	18	12	11	0	-	0
Stage 1	9	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1005	1074	1621	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	999	1068	1616	-	-	-
Mov Cap-2 Maneuver	999	-	-	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	1016	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1616	-	1040	-	-
HCM Lane V/C Ratio	-	-	0.019	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	11	0	1	1	4	3	2	0	0	2	1
Future Vol, veh/h	3	11	0	1	1	4	3	2	0	0	2	1
Peak Hour Factor	0.25	0.75	0.25	0.25	0.25	0.25	0.38	0.25	0.25	0.25	0.50	0.25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	12	15	0	4	4	16	8	8	0	0	4	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.1	6.7	7.2	6.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	60%	21%	17%	0%
Vol Thru, %	40%	79%	17%	67%
Vol Right, %	0%	0%	67%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	14	6	3
LT Vol	3	3	1	0
Through Vol	2	11	1	2
RT Vol	0	0	4	1
Lane Flow Rate	16	27	24	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.018	0.03	0.024	0.008
Departure Headway (Hd)	4.114	4.002	3.594	3.8
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	872	897	998	942
Service Time	2.132	2.014	1.609	1.821
HCM Lane V/C Ratio	0.018	0.03	0.024	0.008
HCM Control Delay	7.2	7.1	6.7	6.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	6	1	7	25	1	3	3	1	1	2	0
Future Vol, veh/h	0	6	1	7	25	1	3	3	1	1	2	0
Conflicting Peds, #/hr	0	0	4	4	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	50	25	25	58	25	75	25	25	25	50	25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	12	4	28	43	4	4	12	4	4	4	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	47	0	0	20	0	0	121	121	18	123	121	45
Stage 1	-	-	-	-	-	-	18	18	-	101	101	-
Stage 2	-	-	-	-	-	-	103	103	-	22	20	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1573	-	-	1609	-	-	859	773	1066	856	773	1031
Stage 1	-	-	-	-	-	-	1006	884	-	910	815	-
Stage 2	-	-	-	-	-	-	908	814	-	1002	883	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1573	-	-	1603	-	-	841	756	1062	831	756	1031
Mov Cap-2 Maneuver	-	-	-	-	-	-	841	756	-	831	756	-
Stage 1	-	-	-	-	-	-	1002	880	-	910	800	-
Stage 2	-	-	-	-	-	-	887	799	-	985	879	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	2.7	9.5	9.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	820	1573	-	-	1603	-	-	792
HCM Lane V/C Ratio	0.024	-	-	-	0.017	-	-	0.01
HCM Control Delay (s)	9.5	0	-	-	7.3	0	-	9.6
HCM Lane LOS	A	A	-	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	3	0	1	2	2
Future Vol, veh/h	3	3	0	1	2	2
Conflicting Peds, #/hr	5	3	3	0	0	3
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	38	25	25	25	50	50
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	8	12	0	4	4	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	18	12	11	0	-	0
Stage 1	9	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1005	1074	1621	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	1019	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	999	1068	1616	-	-	-
Mov Cap-2 Maneuver	999	-	-	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	1016	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.5	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1616	-	1040	-	-
HCM Lane V/C Ratio	-	-	0.019	-	-
HCM Control Delay (s)	0	-	8.5	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	3	0	0	2	3	3	10	0	0	6	4
Future Vol, veh/h	2	3	0	0	2	3	3	10	0	0	6	4
Peak Hour Factor	0.25	0.75	0.25	0.25	0.25	0.25	0.38	0.25	0.25	0.25	0.50	0.25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	4	0	0	8	12	8	40	0	0	12	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	6.8	7.3	6.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	40%	0%	0%
Vol Thru, %	77%	60%	40%	60%
Vol Right, %	0%	0%	60%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	5	5	10
LT Vol	3	2	0	0
Through Vol	10	3	2	6
RT Vol	0	0	3	4
Lane Flow Rate	48	12	20	28
Geometry Grp	1	1	1	1
Degree of Util (X)	0.054	0.014	0.02	0.029
Departure Headway (Hd)	4.024	4.128	3.682	3.753
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	892	866	970	955
Service Time	2.037	2.159	1.713	1.772
HCM Lane V/C Ratio	0.054	0.014	0.021	0.029
HCM Control Delay	7.3	7.2	6.8	6.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.1	0.1

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	8	1	0	7	2	3	7	1	2	4	0
Future Vol, veh/h	1	8	1	0	7	2	3	7	1	2	4	0
Conflicting Peds, #/hr	0	0	4	4	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	50	25	25	58	25	75	25	25	25	50	25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	16	4	0	12	8	4	28	4	8	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	20	0	0	24	0	0	50	50	22	58	48	16
Stage 1	-	-	-	-	-	-	30	30	-	16	16	-
Stage 2	-	-	-	-	-	-	20	20	-	42	32	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1609	-	-	1604	-	-	955	845	1061	944	847	1069
Stage 1	-	-	-	-	-	-	992	874	-	1009	886	-
Stage 2	-	-	-	-	-	-	1004	883	-	978	872	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1609	-	-	1598	-	-	943	839	1057	915	841	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	943	839	-	915	841	-
Stage 1	-	-	-	-	-	-	985	868	-	1006	886	-
Stage 2	-	-	-	-	-	-	995	883	-	940	866	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0	9.3	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	870	1609	-	-	1598	-	-	876
HCM Lane V/C Ratio	0.041	0.002	-	-	-	-	-	0.018
HCM Control Delay (s)	9.3	7.2	0	-	0	-	-	9.2
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	3	0	7	5	7
Future Vol, veh/h	11	3	0	7	5	7
Conflicting Peds, #/hr	5	3	3	0	0	3
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	38	25	25	25	50	50
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	12	0	28	10	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	53	23	27	0	-	0
Stage 1	20	-	-	-	-	-
Stage 2	33	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	960	1060	1600	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	995	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	954	1054	1595	-	-	-
Mov Cap-2 Maneuver	954	-	-	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	992	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1595	-	981	-	-
HCM Lane V/C Ratio	-	-	0.042	-	-
HCM Control Delay (s)	0	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	0	0	1	1	3	2	0	0	2	1
Future Vol, veh/h	0	3	0	0	1	1	3	2	0	0	2	1
Peak Hour Factor	0.25	0.75	0.25	0.25	0.25	0.25	0.75	0.50	0.25	0.25	0.50	0.25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	4	0	0	4	4	4	4	0	0	4	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7	6.7	7.1	6.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	60%	0%	0%	0%
Vol Thru, %	40%	100%	50%	67%
Vol Right, %	0%	0%	50%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	3	2	3
LT Vol	3	0	0	0
Through Vol	2	3	1	2
RT Vol	0	0	1	1
Lane Flow Rate	8	4	8	8
Geometry Grp	1	1	1	1
Degree of Util (X)	0.009	0.004	0.008	0.008
Departure Headway (Hd)	4.047	3.933	3.631	3.727
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	889	914	990	965
Service Time	2.05	1.94	1.637	1.731
HCM Lane V/C Ratio	0.009	0.004	0.008	0.008
HCM Control Delay	7.1	7	6.7	6.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0	0	0	0

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	7	1	0	8	1	3	3	1	1	2	0
Future Vol, veh/h	0	7	1	0	8	1	3	3	1	1	2	0
Conflicting Peds, #/hr	0	0	4	4	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	50	25	25	58	25	75	25	25	25	50	25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	0	14	4	0	14	4	4	12	4	4	4	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	18	0	0	22	0	0	38	38	20	40	38	16
Stage 1	-	-	-	-	-	-	20	20	-	16	16	-
Stage 2	-	-	-	-	-	-	18	18	-	24	22	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1612	-	-	1607	-	-	972	858	1064	969	858	1069
Stage 1	-	-	-	-	-	-	1004	883	-	1009	886	-
Stage 2	-	-	-	-	-	-	1006	884	-	999	881	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1612	-	-	1601	-	-	965	855	1060	955	855	1069
Mov Cap-2 Maneuver	-	-	-	-	-	-	965	855	-	955	855	-
Stage 1	-	-	-	-	-	-	1000	879	-	1009	886	-
Stage 2	-	-	-	-	-	-	1001	884	-	982	877	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	9	9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	911	1612	-	-	1601	-	-	902
HCM Lane V/C Ratio	0.022	-	-	-	-	-	-	0.009
HCM Control Delay (s)	9	0	-	-	0	-	-	9
HCM Lane LOS	A	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	3	1	10	2	2
Future Vol, veh/h	3	3	1	10	2	2
Conflicting Peds, #/hr	5	3	3	0	0	3
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	25	38	25	25	50	50
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	12	8	4	40	4	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	62	12	11	0	-	0
Stage 1	9	-	-	-	-	-
Stage 2	53	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	949	1074	1621	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	975	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	940	1068	1616	-	-	-
Mov Cap-2 Maneuver	940	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	972	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1616	-	987	-	-
HCM Lane V/C Ratio	0.002	-	0.02	-	-
HCM Control Delay (s)	7.2	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	3	0	3	2	0	3	10	0	0	6	4
Future Vol, veh/h	2	3	0	3	2	0	3	10	0	0	6	4
Peak Hour Factor	0.25	0.75	0.25	0.25	0.25	0.25	0.38	0.25	0.25	0.25	0.50	0.25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	8	4	0	12	8	0	8	40	0	0	12	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	7.3	7.3	6.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	23%	40%	60%	0%
Vol Thru, %	77%	60%	40%	60%
Vol Right, %	0%	0%	0%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	5	5	10
LT Vol	3	2	3	0
Through Vol	10	3	2	6
RT Vol	0	0	0	4
Lane Flow Rate	48	12	20	28
Geometry Grp	1	1	1	1
Degree of Util (X)	0.054	0.014	0.023	0.029
Departure Headway (Hd)	4.024	4.128	4.162	3.753
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	891	865	859	953
Service Time	2.043	2.162	2.194	1.778
HCM Lane V/C Ratio	0.054	0.014	0.023	0.029
HCM Control Delay	7.3	7.2	7.3	6.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0	0.1	0.1

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	9	1	0	8	2	3	7	1	2	4	0
Future Vol, veh/h	1	9	1	0	8	2	3	7	1	2	4	0
Conflicting Peds, #/hr	0	0	4	8	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	50	25	25	58	25	75	25	25	25	50	25
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0
Mvmt Flow	4	18	4	0	14	8	4	28	4	8	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	30	0	0	58	58	28	62	56	18
Stage 1	-	-	-	-	-	-	36	36	-	18	18	-
Stage 2	-	-	-	-	-	-	22	22	-	44	38	-
Critical Hdwy	4.1	-	-	4.1	-	-	7.1	6.5	6.2	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.1	5.5	-
Follow-up Hdwy	2.2	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.3
Pot Cap-1 Maneuver	1607	-	-	1596	-	-	944	837	1053	938	839	1066
Stage 1	-	-	-	-	-	-	985	869	-	1006	884	-
Stage 2	-	-	-	-	-	-	1002	881	-	975	867	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1607	-	-	1584	-	-	928	828	1045	908	830	1066
Mov Cap-2 Maneuver	-	-	-	-	-	-	928	828	-	908	830	-
Stage 1	-	-	-	-	-	-	974	859	-	1003	884	-
Stage 2	-	-	-	-	-	-	993	881	-	937	857	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0	9.4	9.2
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	858	1607	-	-	1584	-	-	867
HCM Lane V/C Ratio	0.042	0.002	-	-	-	-	-	0.018
HCM Control Delay (s)	9.4	7.2	0	-	0	-	-	9.2
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	3	0	7	5	7
Future Vol, veh/h	11	3	0	7	5	7
Conflicting Peds, #/hr	5	3	3	0	0	3
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	38	25	25	25	50	50
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	29	12	0	28	10	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	53	23	27	0	-	0
Stage 1	20	-	-	-	-	-
Stage 2	33	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	960	1060	1600	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	995	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	954	1054	1595	-	-	-
Mov Cap-2 Maneuver	954	-	-	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	992	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1595	-	981	-	-
HCM Lane V/C Ratio	-	-	0.042	-	-
HCM Control Delay (s)	0	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

APPENDIX E: QUEUING OUTPUTS

Coburg Creek Crossing

SANDOW ENGINEERING

Intersection: 3: N Coleman & E Mill St, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	22	18	31	24
Average Queue (ft)	9	5	7	6
95th Queue (ft)	31	24	28	26
Link Distance (ft)	430	542	585	703
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: N Coleman & E Mill St, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	6	12	16	24
Average Queue (ft)	0	1	2	1
95th Queue (ft)	5	9	13	12
Link Distance (ft)	430	542	585	703
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: N Coleman & E Mill St, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	22	25	31	24
Average Queue (ft)	2	2	3	2
95th Queue (ft)	15	14	18	16
Link Distance (ft)	430	542	585	703
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Skinner St & E Mill St, Interval #1

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	24
Average Queue (ft)	15	9
95th Queue (ft)	40	32
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Skinner St & E Mill St, Interval #2

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	24	12
Average Queue (ft)	3	1
95th Queue (ft)	19	9
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Skinner St & E Mill St, All Intervals

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	24
Average Queue (ft)	6	3
95th Queue (ft)	26	17
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Skinner St & Locust St, Interval #1

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	11
95th Queue (ft)	33
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Skinner St & Locust St, Interval #2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	22
Average Queue (ft)	1
95th Queue (ft)	11
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Skinner St & Locust St, All Intervals

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	4
95th Queue (ft)	19
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, All Intervals: 0

Intersection: 3: N Coleman & E Mill St, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	33	31	31	31
Average Queue (ft)	16	21	15	7
95th Queue (ft)	41	44	39	27
Link Distance (ft)	430	542	585	703
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: N Coleman & E Mill St, Interval #2

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	28	30	12
Average Queue (ft)	8	2	1
95th Queue (ft)	29	14	7
Link Distance (ft)	430	585	703
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: N Coleman & E Mill St, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	33	31	31	31
Average Queue (ft)	10	5	5	2
95th Queue (ft)	33	24	23	14
Link Distance (ft)	430	542	585	703
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Skinner St & E Mill St, Interval #1

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	29
Average Queue (ft)	16	6
95th Queue (ft)	40	25
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Skinner St & E Mill St, Interval #2

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	24	12
Average Queue (ft)	2	1
95th Queue (ft)	15	9
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Skinner St & E Mill St, All Intervals

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	29
Average Queue (ft)	5	2
95th Queue (ft)	24	14
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Skinner St & Locust St, Interval #1

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	13
95th Queue (ft)	36
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Skinner St & Locust St, Interval #2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	17
Average Queue (ft)	1
95th Queue (ft)	12
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Skinner St & Locust St, All Intervals

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	4
95th Queue (ft)	21
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, All Intervals: 0

Intersection: 3: N Coleman & E Mill St, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	22	36	31	35
Average Queue (ft)	6	17	20	14
95th Queue (ft)	24	45	44	40
Link Distance (ft)	430	542	585	703
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: N Coleman & E Mill St, Interval #2

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	23	30	25
Average Queue (ft)	3	2	4
95th Queue (ft)	18	16	22
Link Distance (ft)	430	585	703
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: N Coleman & E Mill St, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	36	36	35
Average Queue (ft)	4	4	6	7
95th Queue (ft)	19	22	28	28
Link Distance (ft)	430	542	585	703
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Skinner St & E Mill St, Interval #1

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	39	30
Average Queue (ft)	21	9
95th Queue (ft)	47	32
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Skinner St & E Mill St, Interval #2

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	24	29
Average Queue (ft)	4	2
95th Queue (ft)	21	14
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Skinner St & E Mill St, All Intervals

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	39	30
Average Queue (ft)	8	4
95th Queue (ft)	31	20
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Skinner St & Locust St, Interval #1

Movement	EB
Directions Served	LR
Maximum Queue (ft)	42
Average Queue (ft)	23
95th Queue (ft)	47
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Skinner St & Locust St, Interval #2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	4
95th Queue (ft)	20
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Skinner St & Locust St, All Intervals

Movement	EB
Directions Served	LR
Maximum Queue (ft)	43
Average Queue (ft)	9
95th Queue (ft)	31
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, All Intervals: 0

Intersection: 3: N Coleman & E Mill St, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	5	31	31	30
Average Queue (ft)	0	5	11	9
95th Queue (ft)	0	24	36	31
Link Distance (ft)	430	542	585	703
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: N Coleman & E Mill St, Interval #2

Movement	EB	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	28	31	24
Average Queue (ft)	2	4	1
95th Queue (ft)	14	21	11
Link Distance (ft)	430	585	703
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: N Coleman & E Mill St, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	31	31	31
Average Queue (ft)	2	1	6	3
95th Queue (ft)	12	11	25	18
Link Distance (ft)	430	542	585	703
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Skinner St & E Mill St, Interval #1

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	35	29
Average Queue (ft)	17	7
95th Queue (ft)	43	27
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Skinner St & E Mill St, Interval #2

Movement	NB
Directions Served	LTR
Maximum Queue (ft)	30
Average Queue (ft)	3
95th Queue (ft)	17
Link Distance (ft)	518
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 6: Skinner St & E Mill St, All Intervals

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	35	29
Average Queue (ft)	6	2
95th Queue (ft)	27	13
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Skinner St & Locust St, Interval #1

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	13
95th Queue (ft)	35
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Skinner St & Locust St, Interval #2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	11
Average Queue (ft)	1
95th Queue (ft)	8
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Skinner St & Locust St, All Intervals

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	4
95th Queue (ft)	19
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, All Intervals: 0

Intersection: 3: N Coleman & E Mill St, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	31	46	36
Average Queue (ft)	9	17	24	22
95th Queue (ft)	31	42	52	46
Link Distance (ft)	430	542	585	703
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: N Coleman & E Mill St, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	22	12	12	31
Average Queue (ft)	2	1	1	4
95th Queue (ft)	12	7	7	20
Link Distance (ft)	430		585	703
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: N Coleman & E Mill St, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	28	31	46	36
Average Queue (ft)	3	5	6	8
95th Queue (ft)	18	23	28	31
Link Distance (ft)	430	542	585	703
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Skinner St & E Mill St, Interval #1

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	29
Average Queue (ft)	22	11
95th Queue (ft)	44	34
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Skinner St & E Mill St, Interval #2

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	27
Average Queue (ft)	3	2
95th Queue (ft)	17	15
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: Skinner St & E Mill St, All Intervals

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	30
Average Queue (ft)	7	4
95th Queue (ft)	29	21
Link Distance (ft)	518	273
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 10: Skinner St & Locust St, Interval #1

Movement	EB
Directions Served	LR
Maximum Queue (ft)	37
Average Queue (ft)	20
95th Queue (ft)	45
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Skinner St & Locust St, Interval #2

Movement	EB
Directions Served	LR
Maximum Queue (ft)	28
Average Queue (ft)	3
95th Queue (ft)	16
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 10: Skinner St & Locust St, All Intervals

Movement	EB
Directions Served	LR
Maximum Queue (ft)	37
Average Queue (ft)	7
95th Queue (ft)	28
Link Distance (ft)	710
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty, Interval #1: 0
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, All Intervals: 0

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