



Kittitas County CDS

The Outpost at Lake Cle Elum

Kittitas County, WA

Traffic Impact Analysis

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Prepared for:

Michael Jackson
13131 SR 903
Ronald, WA 98940

Prepared by:



Transportation Engineering NorthWest

11400 SE 8th Street, Suite 200
Bellevue, WA 98004
Office: (425) 889-6747

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FINDINGS/ CONCLUSIONS

This traffic impact analysis (TIA) has been prepared for the proposed *Outpost at Lake Cle Elum* project located at 510 Sandelin Lane in Kittitas County, WA.

Project Proposal. The proposed *Outpost at Lake Cle Elum* project would include the development of up to 50 recreational homes/cabins. The existing site is comprised of four parcels and includes one single-family home that may be repurposed with the proposed project. For the purposes of this analysis, no credit was assumed for the existing use. Vehicular access to the proposed development is proposed via one new full access driveway on Salmon La Sac Road.

Time Period for Traffic Analysis. Based on scoping discussions with Kittitas County and the Washington State Department of Transportation (WSDOT), the daily variation in traffic on roadways in the vicinity of the *Outpost at Lake Cle Elum* site is generally higher on Fridays and weekends during the peak summer season. This is a result of the use of second homes located in the vicinity of the proposed project along Cle Elum Lake, other recreational amenities in the area, and the higher level of traffic on SR 903 on Fridays and weekends during the peak summer months. As a result, this traffic impact analysis evaluates conditions during the Friday PM peak hour.

Trip Generation. The proposed *Outpost at Lake Cle Elum* project is anticipated to generate 56 new trips during the Friday PM peak hour (33 entering, 23 exiting).

Intersection Level of Service. Friday PM peak hour LOS analyses were conducted at five (5) unsignalized off-site study intersections: four (4) in Kittitas County and one (1) in the City of Roslyn. The results of the LOS analyses indicated that all turn movements at the stop-controlled study intersections are expected to meet the applicable level of service (LOS) standard during the Friday PM peak hour in 2023 without or with the proposed *Outpost at Lake Cle Elum* project. The minimum LOS standard at all study intersections is LOS C.

Roadway Corridor Level of Service. Friday PM peak hour roadway corridor LOS analyses were conducted for the Salmon La Sac Road corridor between Brekenridge Drive and Wadsworth Loop (southern). The results of the corridor LOS analyses indicated that the corridor is expected to meet the applicable LOS standard in year 2023 without or with the proposed *Outpost at Lake Cle Elum* project. Kittitas County minimum LOS standard for roadway corridors in rural areas is LOS C.

Site Access Level of Service. Per scoping discussions with County staff, Friday PM peak hour LOS and queuing analyses were conducted at the proposed site access driveway location on Salmon La Sac Road. The results of the analyses indicated that the turning movements at the proposed site access driveway on Salmon La Sac Road are anticipated to operate at LOS A with minimal queuing with the proposed project during the Friday PM peak hour.

Sight Distance. Sight distance evaluations were conducted in the vicinity of the proposed site access driveway on Salmon La Sac Road at Wadsworth Loop (northern) and Crawford. Based on field measurements, there are no known constraints on Salmon La Sac Road between Wadsworth Loop (northern) and Crawford that would prevent sight distance requirements from being met at the proposed site access location. Any proposed landscaping, signage, and street furnishings at the proposed site driveway location would need to be positioned in such a way that would avoid creating a sightline obstruction within the sight triangles. Any street trees or other vegetation within the sight triangles would also need to be trimmed to maintain clear visibility.

INTRODUCTION

This traffic impact analysis (TIA) documents the traffic impacts associated with the proposed *Outpost at Lake Cle Elum* project located at 510 Sandelin Lane in Kittitas County, WA. A project vicinity map is provided in **Figure 1**.

Project Description

The proposed *The Outpost at Lake Cle Elum* project would include the development of up to 50 recreational homes/cabins. The existing site is comprised of four parcels and includes one single-family home that may be repurposed with the proposed project. For the purposes of this analysis, no credit was assumed for the existing use. Vehicular access to the proposed development is proposed via one new full access driveway on Salmon La Sac Road. For this analysis, a horizon year of 2023 was used. A preliminary site plan is included in **Figure 2**.

Project Approach

The specific scope of work used in the evaluation of the traffic impacts of the proposed *Outpost at Lake Cle Elum* project were confirmed through scoping discussions with Kittitas County and WSDOT staff. To analyze the traffic impacts from the proposed *Outpost at Lake Cle Elum* project, the following tasks were undertaken:

- Assessed existing conditions through field reconnaissance and reviewed existing planning documents.
- Described existing roads, pedestrian facilities, and transit facilities in the project vicinity.
- Documented the latest 3-year collision history at the study intersections and project frontage.
- Documented existing (2022) traffic volumes and intersection LOS at off-site study intersections during the Friday PM peak hour.
- Documented existing (2022) Friday PM peak hour traffic volumes and LOS for the Salmon La Sac Road corridor between Brekenridge Drive and Wadsworth Loop (southern).
- Documented future planned roadway improvements in the project vicinity.
- Developed trip generation estimates for Friday daily, AM, and PM peak hour conditions based on the proposed land use.
- Documented trip distribution and assignment of Friday PM peak hour project-generated traffic.
- Documented traffic forecasts and assumptions for year 2023 Friday PM peak hour conditions at off-site study intersections without and with the proposed development.
- Analyzed Friday PM peak hour LOS for future year 2023 conditions without and with the proposed development at off-site intersections and along the Salmon La Sac Road corridor between Brekenridge Drive and Wadsworth Loop (southern).
- Assessed operations at the proposed site access location, including LOS and queuing during Friday PM peak hour conditions.
- Evaluated available sight distances along Salmon La Sac Road.
- Documented proposed traffic mitigation.

Primary Data and Information Sources

- 2022 Friday PM Peak Hour traffic counts (IDAX).
- Kittitas County *2023-2028 6-Year Transportation Improvement Plan (Adopted December 7, 2021)*.
- Kittitas County *Transportation Element 2018*.
- Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 11th Edition, 2021.
- Transportation Research Board (TRB), *Highway Capacity Manual (HCM)*, 6th Edition, 2016.
- WSDOT 2019-2021 Collision Data.
- Florida Department of Transportation (FDOT), *2020 Quality/Level of Service Handbook*. June 2020.



Figure 1: Project Site Vicinity



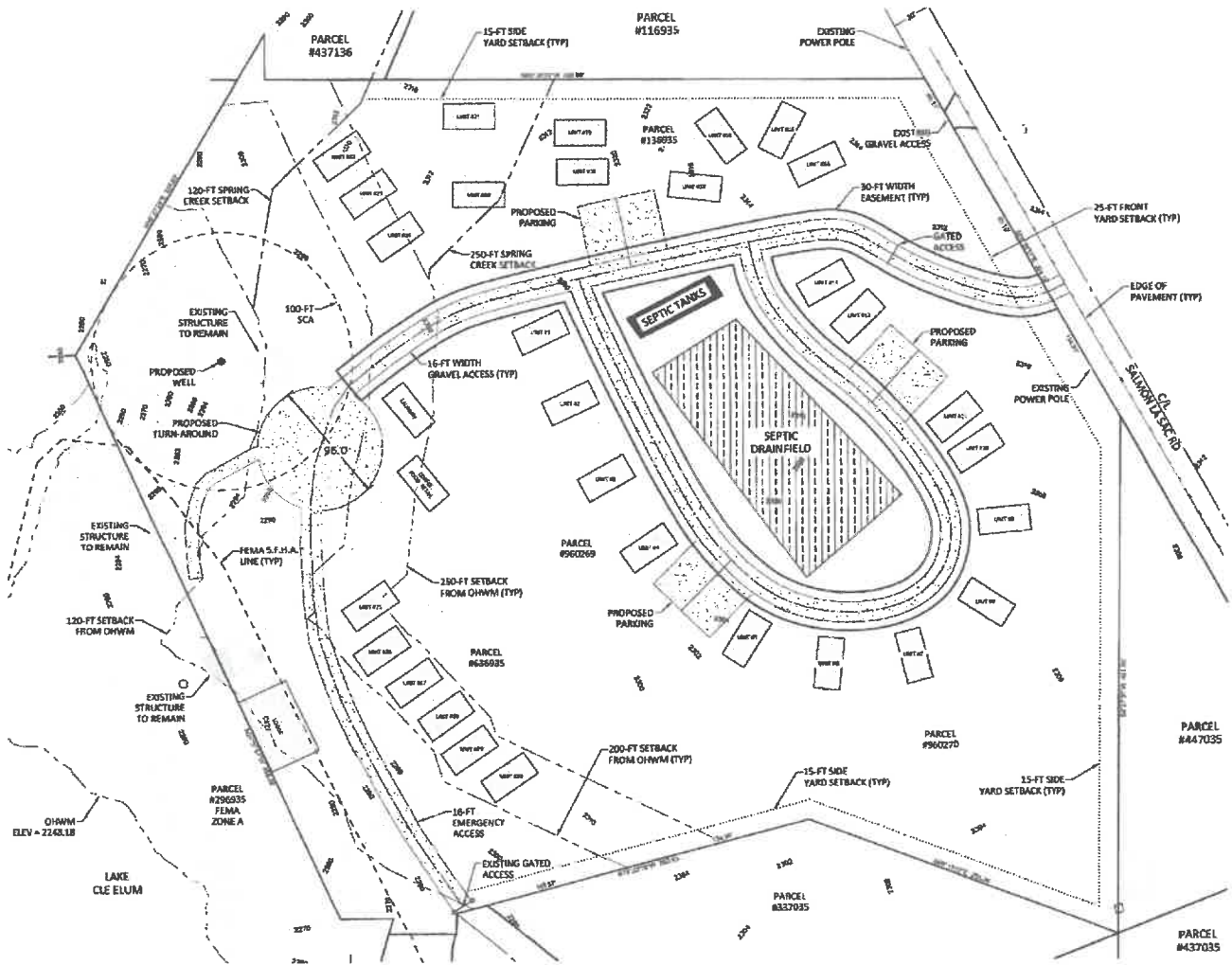


Figure 2: Preliminary Site Plan



EXISTING CONDITIONS

Study Area

The existing transportation study area and roadway network providing access to the *Outpost at Lake Cle Elum* site is shown on **Figure 1**. The off-site study intersections evaluated in this transportation analysis were identified and agreed upon by Kittitas County and WSDOT as part of the traffic scoping process. The five off-site study intersections are as follows (see also **Figure 3**):

1. Salmon La Sac Road / Spring Creek Road
2. Salmon La Sac Road / Wadsworth Loop (northern)
3. Salmon La Sac Road / Crawford Street
4. Salmon La Sac Road / Sandelin Lane
5. W 1st Street (SR 903) / Pennsylvania Ave

Roadway Network

The primary vehicle travel route to and from the site is via Salmon La Sac Road and described below in more detail:

Salmon La Sac Road is a two-way, rural minor collector that borders Cle Elum Lake in Kittitas County, WA. Salmon La Sac Road is a 2-lane roadway that begins at the boundary of the Wenatchee National Forest at Mile Post 10.0, east of Cle Elum Lake, where State Route 903 (SR 903) begins. Along the project frontage, Salmon La Sac Road has a posted speed limit of 35 miles per hour (mph). There are no curb, gutter, sidewalk, illumination, or pedestrian facilities within the immediate vicinity of the site along Salmon La Sac Road.

SR 903 connects from Salmon La Sac Road to the I-90/SR 970/SR 903 interchange at White Road, through the City of Ronald, Roslyn, and Cle Elum.

Transit Service

There are no existing transit services to and from the project vicinity. The closest transit service relative to the project site is located in the City of Ronald, approximately three (3) miles south of the proposed project.

Non-Motorized Transportation Facilities

There are no existing non-motorized transportation facilities in the immediate vicinity of the site. Based on traffic counts conducted at the study intersections, there is no pedestrian activity within the immediate vicinity of the site.

Collision History

Collisions at the study intersections and along Salmon La Sac Road were summarized for the most recent 3-year period from January 1, 2019 to December 31, 2021. Collision data was provided by the Washington State Department of Transportation (WSDOT). Summaries of the total, annual average, and collision type along Salmon La Sac Road are provided in **Error! Reference source not found.** Note that there were no collisions reported at any of the off-site study intersections during the time period evaluated.

Table 1
Collision Data Summary by Type, January 1, 2019 to December 31, 2021

Segment	3-Year Total Collisions	Avg. Annual Collision	Collision Type					
			Angle (T)	Angle (Left/Right)	Rear End	Sideswipe	Ped/Cycle	Other
Salmon La Sac Rd Between Breckenridge Dr and Wadsworth Loop (southern)	1	0.33	0	0	0	0	0	1

Source: WSDOT Collision Records.

Traffic Volumes

Existing Friday PM peak hour traffic volumes at the study intersections were based on traffic counts conducted in August 2022. The PM peak hour represents the highest one-hour time period between 4:00 and 6:00 PM. **Appendix A** includes the existing peak hour traffic count sheets.

The 2022 existing Friday PM peak hour traffic volumes at the study intersections are illustrated in **Figure 3**. The detailed peak hour turning movement count sheets are provided in **Appendix A**.

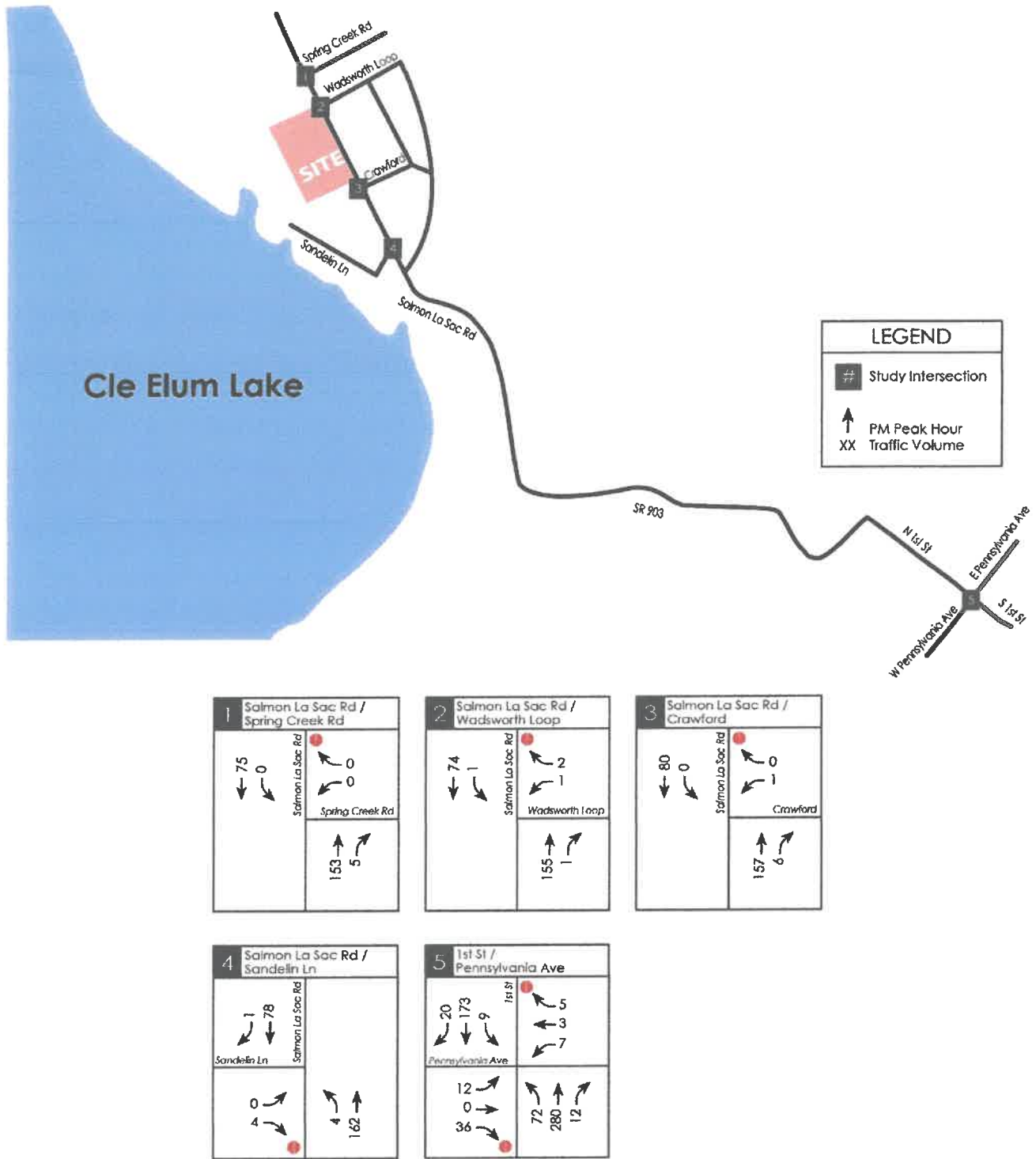


Figure 3: 2022 Existing Friday PM Peak Hour Traffic Volumes



Existing Intersection Level of Service

An existing Friday PM peak hour level of service (LOS) analysis was conducted at the off-site study intersections. LOS generally refers to the degree of congestion on a roadway or intersection. It is a measure of vehicle operating speed, travel time, travel delays, and driving comfort. A letter scale from A to F generally describes intersection LOS. At signalized intersections, LOS A represents free-flow conditions (motorists experience little or no delays), and LOS F represents forced-flow conditions where motorists experience an average delay in excess of 80 seconds per vehicle.

The LOS reported for signalized intersections and stop controlled intersections represents the average control delay (sec/veh) and can be reported for the overall intersection, for each approach, and for each lane group or movement (additional v/c ratio criteria apply to lane group or movement LOS only). The LOS reported at two-way stop-controlled intersections is based on the average control delay and can be reported for each controlled minor approach, controlled minor lane group, and controlled major-street movement (additional v/c ratio criteria apply to lane group or movement LOS only).

Table 2 outlines the current HCM 6th Edition LOS criteria for signalized and unsignalized intersections based on these methodologies.

Table 2
LOS Criteria for Signalized and Stop-Controlled Intersections¹

SIGNALIZED INTERSECTIONS			UNSIGNALIZED INTERSECTIONS		
Control Delay (sec/veh)	LOS by Volume-to Capacity (V/C) Ratio ²		Control Delay (sec/veh)	LOS by Volume-to Capacity (V/C) Ratio ³	
	≤ 1.0	> 1.0		≤ 1.0	> 1.0
≤ 10	A	F	≤ 10	A	F
> 10 to ≤ 20	B	F	> 10 to ≤ 15	B	F
> 20 to ≤ 35	C	F	> 15 to ≤ 25	C	F
> 35 to ≤ 55	D	F	> 25 to ≤ 35	D	F
> 55 to ≤ 80	E	F	> 35 to ≤ 50	E	F
> 80	F	F	> 50	F	F

1) Source: Highway Capacity Manual, Transportation Research Board, 6th Edition, 2016.

2) For approach-based and intersection-wide assessments at signals, LOS is defined solely by control delay.

3) For two-way stop-controlled intersections, the LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole at two-way stop controlled intersections. For approach-based and intersection-wide assessments at all-way stop controlled intersections, LOS is solely defined by control delay.

The analysis was conducted using the methodology and procedures outlined in the 6th Edition of the *Highway Capacity Manual* and *Synchro 11* methodology/traffic analysis software.

Based on the Kittitas County and WSDOT LOS standards, the LOS standard is LOS C at all study intersections.

The 2022 PM LOS analysis results for the off-site study intersections are summarized in **Table 3**. The 2022 existing detailed LOS worksheets are included in **Appendix B**.

Table 3
2022 Existing PM Peak Hour LOS Summary

Study Intersections	2022 Existing	
	LOS	Delay (sec)
<u>Stop-Controlled Intersections:</u>		
1. Salmon La Sac Rd / Spring Creek Rd		
Westbound Approach	A	0.0
Southbound Left-Turn	A	0.0
2. Salmon La Sac Rd / Wadsworth Loop		
Westbound Approach	A	9.3
Southbound Left-Turn	A	7.5
3. Salmon La Sac Rd / Crawford Rd		
Westbound Approach	B	10.1
Southbound Left-Turn	A	0.0
4. Salmon La Sac Rd / Sandelin Ln		
Eastbound Approach	A	9.0
Northbound Left-Turn	A	7.4
5. W 1 st St (SR 903) / Pennsylvania Ave		
Eastbound Approach	B	12.9
Westbound Approach	C	16.1
Northbound Left-Turn	A	8.0
Southbound Left-Turn	A	8.2

As shown in **Table 3**, all turn movements at the stop-controlled study intersections currently meet the applicable level of service (LOS) standard during the Friday PM peak hour.

Existing Corridor Level of Service

An existing PM peak hour LOS analysis was conducted for the Salmon La Sac Road (SR 903) corridor between Breckenridge Drive and Wadsworth Loop (southern). Consistent with the methodology described in Kittitas County *Transportation Element 2018*, the corridor operations were evaluated and assigned an LOS grade based on corridor LOS definitions from the Florida Department of Transportation’s (FDOT) *2020 Quality/Level of Service Handbook*. The detailed LOS definitions used for the analysis is included in **Appendix C**. A summary of the corridor LOS analysis for the year 2022 is shown in **Table 4** below.

Table 4
2022 Existing PM Corridor LOS Summary

Roadway Segment	2022 Existing		LOS
	Peak Hour Two-Way Volume	Maximum Service Volume ¹	
Salmon La Sac Rd (Breckenridge Dr to S Wadsworth Loop)	248	854	C

Notes:

¹ Based on FDOT’s LOS definition for rural undeveloped areas and developed areas less than 5,000 population, the adjusted maximum service volume based on the LOS standard of C is 854 vehicles per hour.

As shown in **Table 4**, the Salmon La Sac Road corridor between Breckenridge Drive to S Wadsworth Loop currently meets the applicable level of service (LOS) standard. Kittitas County minimum corridor LOS standard for rural areas is LOS C.

FUTURE CONDITIONS

The following section describes planned transportation improvements in the project vicinity, new trips generated by the proposed development, distribution and assignment of new project trips to the study area, projected future traffic volumes without and with the project, intersection level of service, and identification of transportation mitigation to offset impacts.

Planned Transportation Improvements

A review of Kittitas County's *2023-2028 6-Year Transportation Improvement Plan* and *Transportation Element 2018* showed that there are no planned transportation improvement projects by the County in the project vicinity.

Project Trip Generation

Full buildout of the proposed project would include the development of up to 50 recreational homes/cabins. The existing site is comprised of four parcels and includes one single-family home that may be repurposed with the proposed project. For the purposes of this analysis, no credit was assumed for the existing use. Trip generation for the currently proposed *Outpost at Lake Cle Elum* project was estimated based on methodology documented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition, 2021) for Land Use Code (LUC) 260 (Recreational Homes).

Table 5 summarizes the resulting new Friday daily, AM peak hour, and PM peak hour trip generation estimates for the proposed project. Detailed trip generation calculations are provided in **Appendix D**.

Table 5
Trip Generation Summary

Time Period	New Trips Generated		
	In	Out	Total
Friday Daily	340	340	680
Friday AM Peak Hour	23	19	42
Friday PM Peak Hour	33	23	56

As shown in **Table 5**, the proposed *Outpost at Lake Cle Elum* project is estimated to generate 680 new Friday daily trips, with 42 new trips occurring during the Friday AM peak hour (23 in, 19 out), and 56 new trips occurring during the Friday PM peak hour (33 in, 23 out).

Project Trip Distribution and Assignment

The distribution of project trips generated by the *Outpost at Lake Cle Elum* project was estimated based on existing and anticipated traffic patterns in the vicinity of the site and confirmed with Kittitas County and WSDOT during scoping. **Table 6** summarizes the resulting general trip distribution patterns.

Table 6
Peak Hour Project Trip Distribution

Route (Direction)	Trip Distribution
Salmon La Sac Road (North)	10%
Salmon La Sac Road (South)	90%
TOTAL	100%

Based on the trip distribution percentages shown in **Table 6**, the Friday PM peak hour project trips were assigned through the off-site study intersections and site access driveway. **Figure 4** illustrates the resulting distribution and assignment of Friday PM peak hour project trips through the study intersections and site access location.

Future Traffic Volumes

To estimate future year 2023 No Action (without project) traffic volumes at the study intersections, a 2.0 percent annual growth rate was applied to existing 2022 peak hour volumes to account for new development in the study area and growth in existing traffic. Consistent with scoping discussions with County staff, no other pipeline developments were considered in the analysis. The future 2023 No Action PM peak hour traffic volumes at the off-site study intersections are shown in **Figure 5**.

Adding the trip assignment from the proposed project (**Figure 4**) to the future 2023 No Action traffic volumes (**Figure 5**) results in the 2023 With Project traffic volumes at the off-site study intersections and site access driveway. The future 2023 With Project PM peak hour traffic volumes at the off-site study intersections and site access driveway are shown in **Figure 6**.

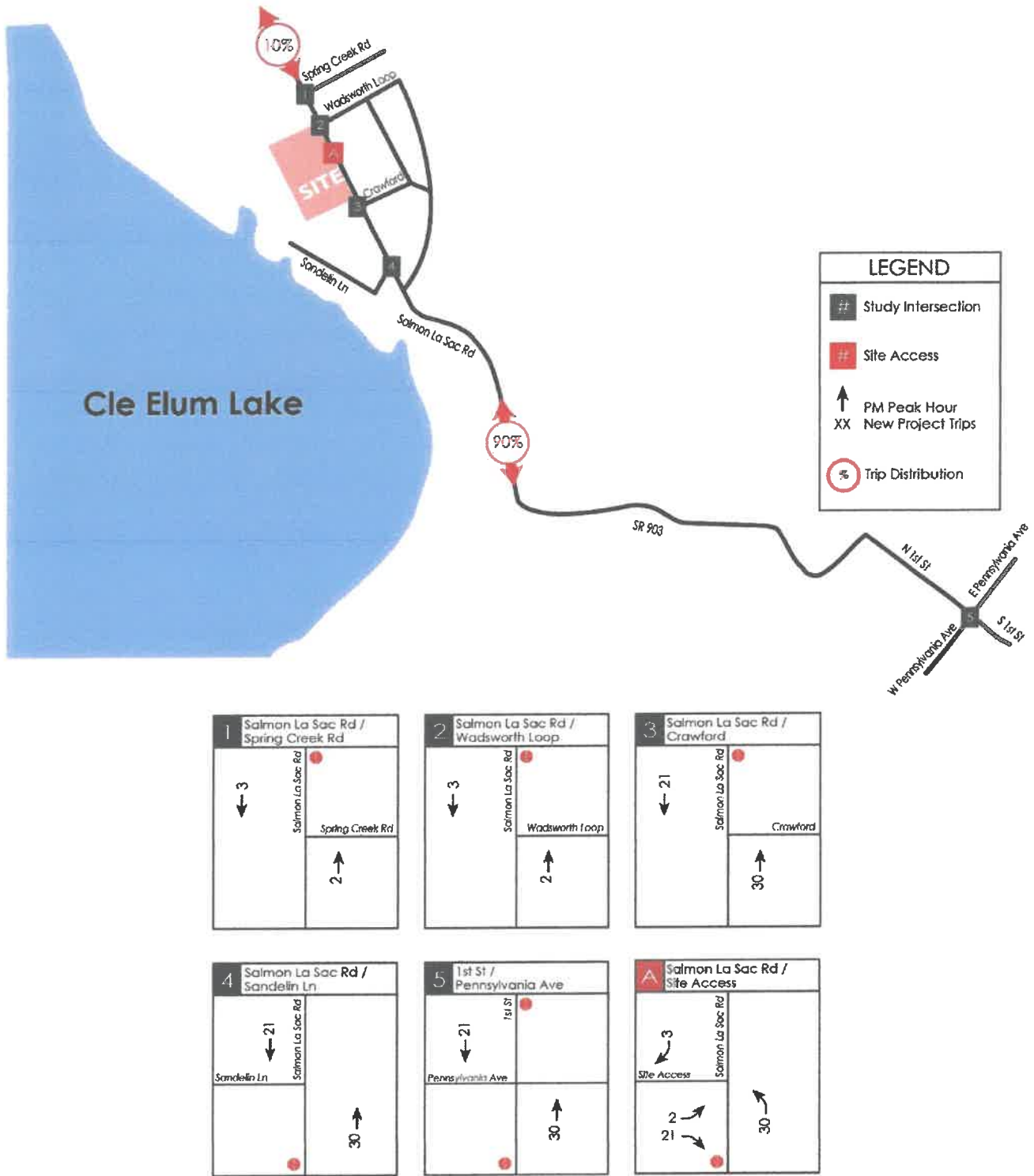


Figure 4: Friday PM Peak Hour Project Trip Assignment and Distribution



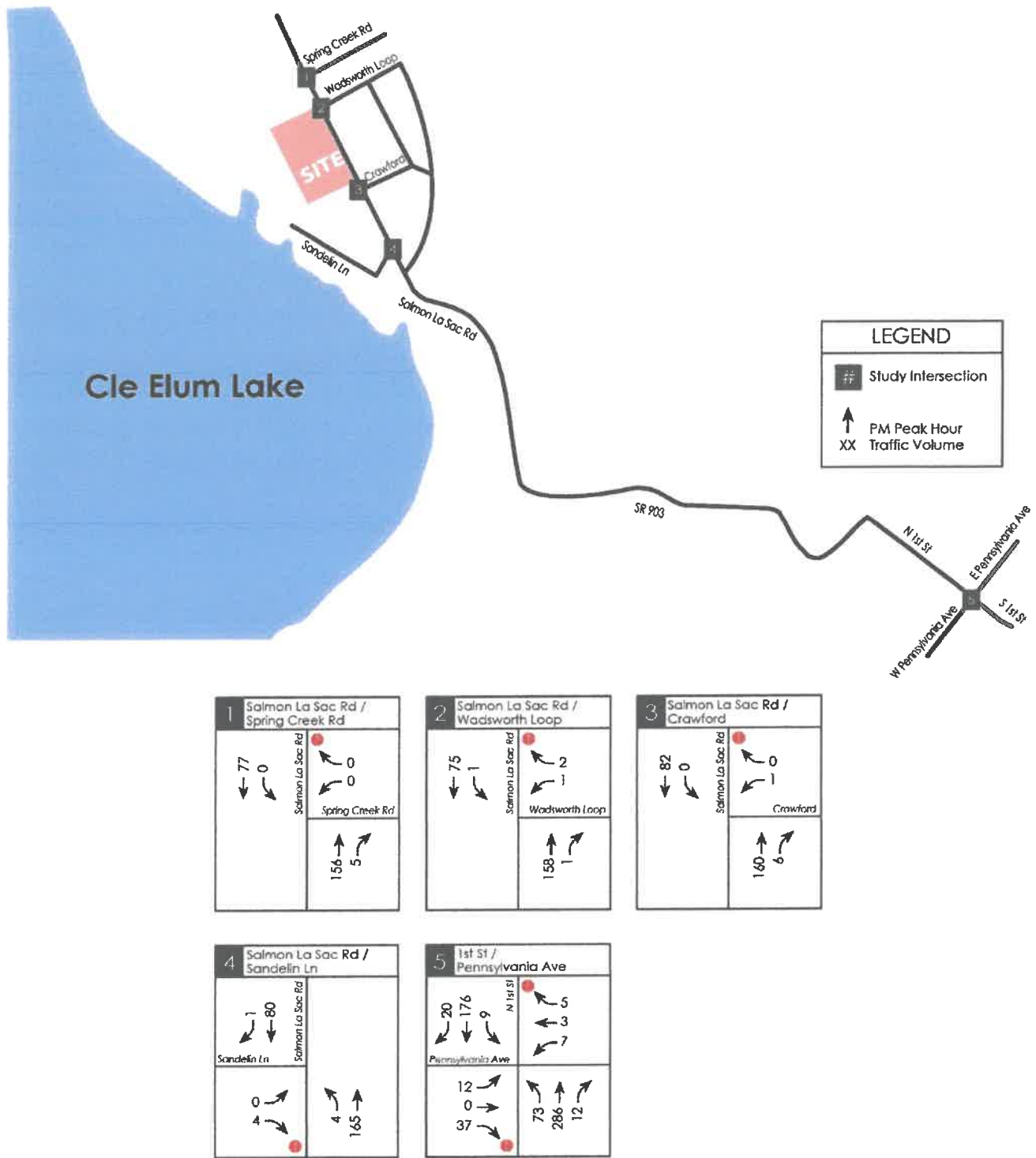


Figure 5: 2023 No Action Friday PM Peak Hour Traffic Volumes



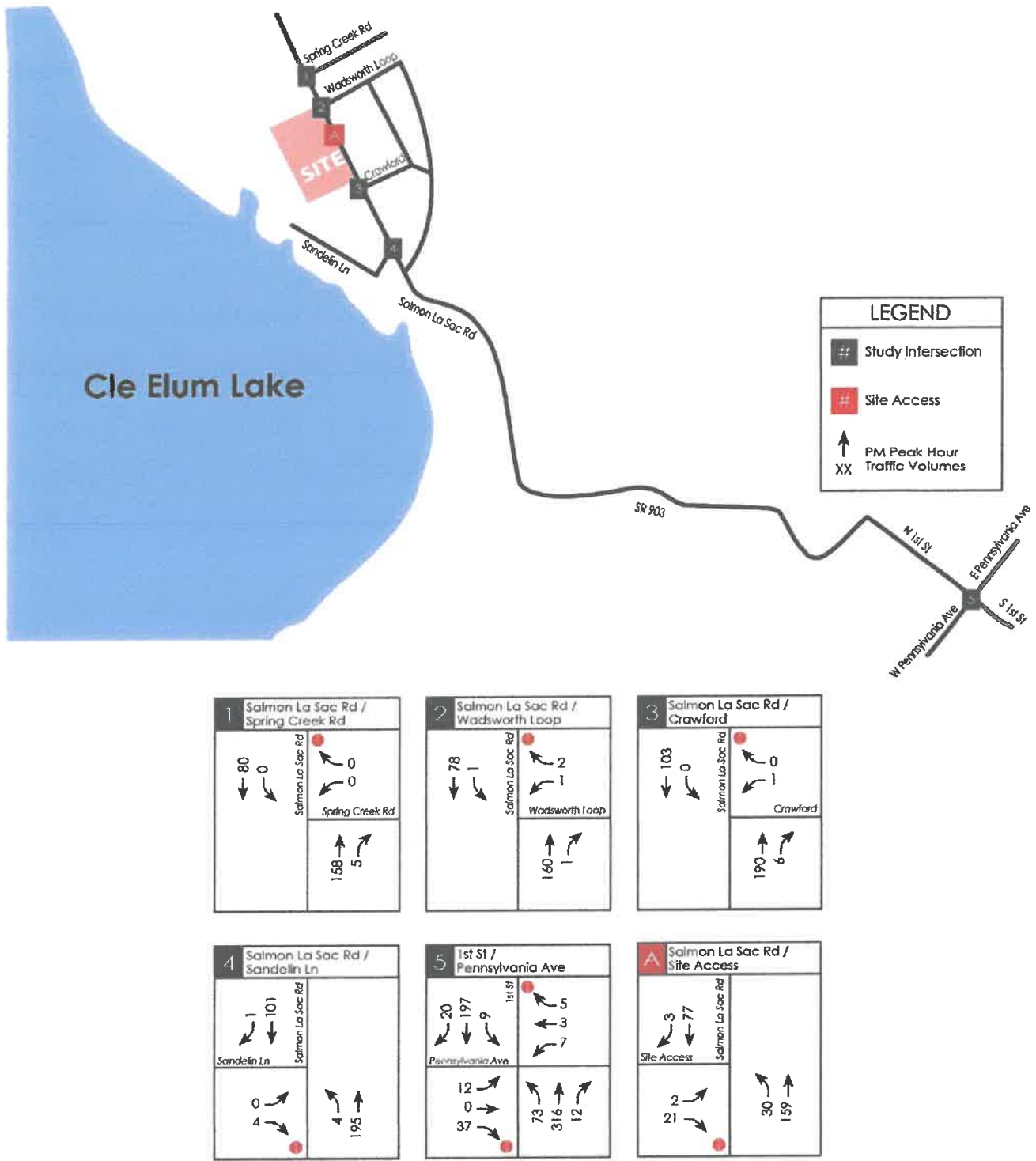


Figure 6: 2023 With Project Friday PM Peak Hour Traffic Volumes



Future Intersection Level of Service

A future year Friday PM peak hour LOS analysis was conducted at the off-site study intersections without and with the proposed project. For this analysis, a horizon year of 2023 was used. Given there are no planned transportation improvements within the study area by 2023, the roadway network assumed in the future LOS analysis was based on existing intersection geometry. The 2023 Friday PM peak hour LOS results at the off-site study intersections without and with the proposed *Outpost at Lake Cle Elum* project are summarized in **Table 7**. The detailed LOS worksheets are included in **Appendix B**.

Table 7
Year 2023 PM Peak Hour LOS Summary

Study Intersection	2023 No Action		2023 With Project	
	LOS	Delay (sec)	LOS	Delay (sec)
<i>Stop-Controlled Intersections:</i>				
1. Salmon La Sac Rd / Spring Creek Rd				
Westbound Approach	A	0.0	A	0.0
Southbound Left-Turn	A	0.0	A	0.0
2. Salmon La Sac Rd / Wadsworth Loop				
Westbound Approach	A	9.3	A	9.3
Southbound Left-Turn	A	7.5	A	7.5
3. Salmon La Sac Rd / Crawford Rd				
Westbound Approach	B	10.2	B	10.6
Southbound Left-Turn	A	0.0	A	0.0
4. Salmon La Sac Rd / Sandelin Ln				
Eastbound Approach	A	9.0	A	9.2
Northbound Left-Turn	A	7.4	A	7.4
5. W 1 st St (SR 903) / Pennsylvania Ave				
Eastbound Approach	B	13.0	B	13.5
Westbound Approach	C	16.3	C	17.3
Northbound Left-Turn	A	8.0	A	8.1
Southbound Left-Turn	A	8.2	A	8.3

As shown in **Table 7**, all turn movements at the stop-controlled study intersections are expected to meet the applicable level of service (LOS) standard during the Friday PM peak hour in 2023, without or with the proposed *Outpost at Lake Cle Elum* project.

Future Corridor Level of Service

A future PM peak hour LOS analysis was conducted for the Salmon La Sac roadway corridor between Breckenridge Drive to S Wadsworth Loop. Consistent with the methodology described in Kittitas County *Transportation Element 2018*, the corridor operations were evaluated and assigned an LOS grade based on corridor LOS definitions from the Florida Department of Transportation’s (FDOT) *2020 Quality/Level of Service Handbook*. The detailed LOS definitions used for the analysis is included in **Appendix C**. A summary of the corridor LOS analysis for the year 2023 is shown in **Table 8** below.

Table 8
2023 Future PM Corridor LOS Summary

Roadway Segment	Peak Hour Two-Way Volume	Maximum Service Volume ¹	LOS	
Salmon La Sac Rd (Breckenridge Dr to S Wadsworth Loop)				
	2023 No Action	253	854	C
	2023 With Project	309	854	C

Notes:

¹ Based on FDOT's LOS definition for rural undeveloped areas and developed areas less than 5,000 population, the adjusted maximum service volume based on the LOS standard of C is 854 vehicles per hour.

As shown in **Table 8**, the Salmon La Sac Road corridor between Breckenridge Drive to S Wadsworth Loop is expected to meet the applicable LOS standard in year 2023 without or with the proposed *Outpost at Lake Cle Elum* development. Kittitas County minimum corridor LOS standard for rural areas is LOS C.

Active Transportation

The majority of project trips traveling to/from the proposed *Outpost at Lake Cle Elum* project are expected to use SR 903, which connects from Salmon La Sac Road to the I-90/SR 970/SR 903 interchange at White Road, through the City of Ronald, Roslyn, and Cle Elum.

WSDOT assigned SR 903 with a Level of Traffic Stress (LTS) Rank 4 in their active transportation analysis of systemic safety and user acceptance of state highways, meaning functional gaps in active transportation may exist along the state route south of the proposed *Outpost at Lake Cle Elum* project. However, there are no current plans to implement active transportation improvements along the corridor.

Site Access Analysis

Vehicular access to the proposed development is proposed via one new full access driveway on Salmon La Sac Road (SR 903). Evaluation of the proposed site access includes peak hour LOS analysis, queuing analysis and sight distance assessments.

LOS and Queuing Analysis at Site Access

Consistent with scoping discussions with Kittitas County and WSDOT, Friday PM peak hour LOS analysis was conducted at the proposed site access driveway on Salmon La Sac Road. The estimated Friday PM peak hour traffic volumes at the proposed site access used in this analysis were shown previously in **Figure 6**. **Table 9** summarizes the 2023 Friday PM peak hour LOS results and 95th percentile queues at the proposed site access driveway on Salmon La Sac Road. The reported 95th percentile queues represent a condition that is exceeded only 5 percent of the time. The detailed LOS worksheets are included in **Appendix B**.

Table 9
Year 2023 With Project Peak Hour Site Access LOS and Queue Summary

Site Access Controlled Movements	LOS	PM Peak Hour	
		Delay (sec)	95 th % Queue (ft) ¹
A. Salmon La Sac Rd / Site Access			
Eastbound Shared Left-Right	A	7.4	< 25'
Northbound Left-Turn	A	9.0	< 25'

1. Queues are 95th Percentile queues. <25' indicates 95th Percentile queue statistically less than 1 veh.

As shown in **Table 9**, the individual movements entering and exiting the site are anticipated to operate at LOS A with minimal queueing (25 feet or less) with the proposed *Outpost at Lake Cle Elum* development during the Friday PM peak hour.

Sight Distance Assessment

The *Outpost at Lake Cle Elum* site access is proposed to be located south of Wadsworth Loop (northern) and north of Crawford on Salmon La Sac Road. The following summarizes the results of the sight distance assessment conducted on Salmon La Sac Road between the Wadsworth Loop (northern) and Crawford intersections.

The assessment was based on a review of Kittitas County Code (KCC) Chapter 12.4, the WSDOT *Design Manual*, and AASHTO's *A Policy on Geometric Design of Highways and Streets*, 7th Edition, 2018. Field measurements were conducted in August 2022 and the posted speed limit on Salmon La Sac Road is 35 mph in the site vicinity.

Intersection Sight Distance (ISD):

Kittitas County Code (KCC) Chapter 12.4 does not include intersection sight distance (ISD) standards. However, AASHTO standards specify a 390-foot and 335-foot minimum required sight distance for a 35-mph design speed for left and right-turning movements, respectively, onto the major roadway.

Based on AASHTO standards, ISD is measured from a point that is 14.5 feet back from the edge of the traveled way and 3.5 feet above the road surface, looking at an object height of 3.5 feet above the road surface.

Based on the field measurements conducted on Salmon La Sac Road, it appears that minimum sight distance requirements would be met for a proposed driveway location anywhere between Wadsworth Loop (northern) and Crawford.

Any proposed landscaping, signage, and street furnishings would need to be positioned in such a way that would avoid creating a sight line obstruction. Any street trees or other vegetation within the sight triangles would also need to be trimmed to maintain clear visibility.

The proposed *Outpost at Lake Cle Elum* site access driveway at Salmon La Sac Road should be designed to meet the Road Design Criteria outlined in Kittitas County Code (KCC) Chapter 12.4.

Photos looking to the northwest and southeast along Salmon La Sac Road from both the Wadsworth Loop (northern) and Crawford intersections are shown next.



Looking Southeast from Salmon La Sac Rd/Wadsworth Loop (northern).



Looking Northeast from Salmon La Sac Rd/Wadsworth Loop (northern).



ISD looking Southeast from Salmon La Sac Rd/Crawford



ISD looking Northeast from Salmon La Sac Rd/Crawford

Stopping Sight Distance

Kittitas County standards specify a 250-foot minimum required stopping sight distance for a road with a 35-mph posted speed limit. Stopping sight distance was field measured based on an object height of 2.0 feet above the road surface and a driver's eye height of 3.5 feet above the road surface.

Based on field measurements, the available SSD for a vehicle traveling either northbound or southbound on Salmon La Sac approaching the proposed access driveway location exceeds 250 feet, meeting Kittitas County requirements.

Appendix A

Traffic Count Data

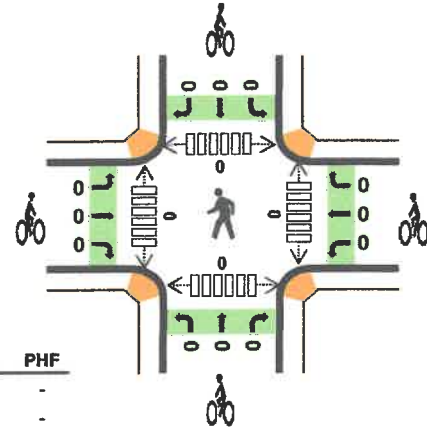
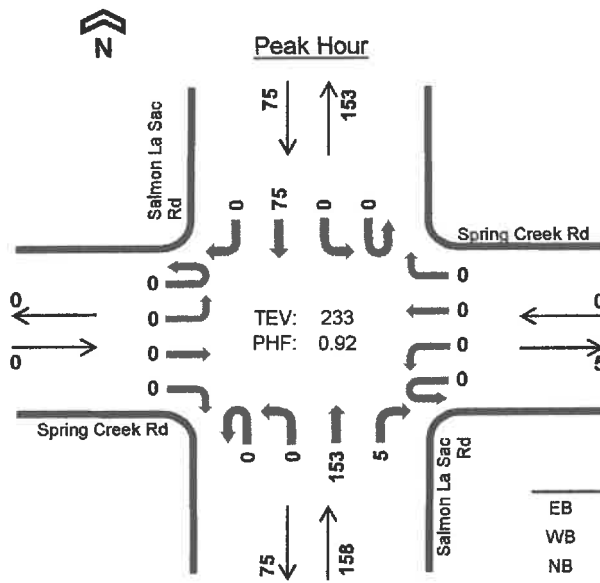
Salmon La Sac Rd Spring Creek Rd



Date: 08/05/2022

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	-	-
WB	-	-
NB	0.6%	0.96
SB	0.0%	0.78
TOTAL	0.4%	0.92

Two-Hour Count Summaries

Interval Start	Spring Creek Rd Eastbound				Spring Creek Rd Westbound				Salmon La Sac Rd Northbound				Salmon La Sac Rd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	0	0	0	0	0	35	0	0	0	21	0	56	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	14	1	0	0	24	0	39	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	36	3	0	0	24	0	63	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	41	0	0	0	20	0	61	219	
5:00 PM	0	0	0	0	0	0	0	0	0	0	36	1	0	0	13	0	50	213	
5:15 PM	0	0	0	0	0	0	0	0	0	0	40	1	0	0	18	0	59	233	
5:30 PM	0	0	0	0	0	0	0	0	0	0	29	0	0	0	24	0	53	223	
5:45 PM	0	0	0	0	0	0	0	0	0	0	35	1	0	0	27	1	64	226	
Count Total	0	0	0	0	0	0	0	0	0	0	266	7	0	0	171	1	445	0	
Peak Hour	All	0	0	0	0	0	0	0	0	0	0	153	5	0	0	75	0	233	0
	HV	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
	HV%	-	-	-	-	-	-	-	-	-	-	0%	20%	-	-	0%	-	0%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	3	0	3	0	0	2	0	2	0	0	0	0	0
Peak Hour	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Spring Creek Rd				Spring Creek Rd				Salmon La Sac Rd				Salmon La Sac Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	0	0	0	0	2	1	0	0	0	0	3	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0

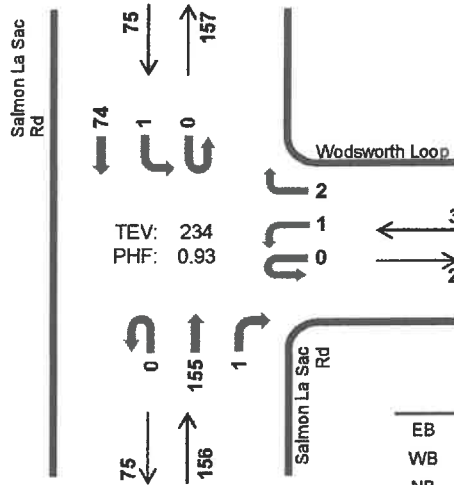
Two-Hour Count Summaries - Bikes														
Interval Start	Spring Creek Rd			Spring Creek Rd			Salmon La Sac Rd			Salmon La Sac Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	0	2	0	0	0	0	0	2
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

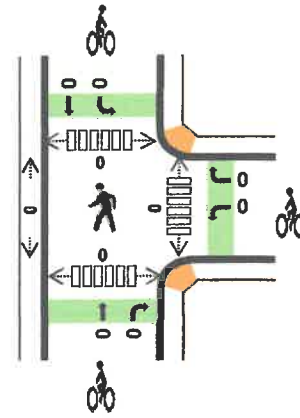
Salmon La Sac Rd Wodsworth Loop



Peak Hour



Date: 08/05/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %	PHF
EB	-	-
WB	0.0%	0.75
NB	0.6%	0.93
SB	0.0%	0.78
TOTAL	0.4%	0.93

Two-Hour Count Summaries

Interval Start	0				Wodsworth Loop				Salmon La Sac Rd				Salmon La Sac Rd				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	0	0	1	0	0	35	1	0	0	22	0	59	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	17	2	0	0	24	0	43	0	
4:30 PM	0	0	0	0	0	1	0	0	0	0	38	0	0	0	24	0	63	0	
4:45 PM	0	0	0	0	0	0	0	1	0	0	42	0	0	0	20	0	63	228	
5:00 PM	0	0	0	0	0	0	0	1	0	0	34	1	0	0	13	0	49	218	
5:15 PM	0	0	0	0	0	0	0	0	0	0	41	0	0	1	17	0	59	234	
5:30 PM	0	0	0	0	0	0	0	0	0	0	30	0	0	0	27	0	57	228	
5:45 PM	0	0	0	0	0	0	0	1	0	0	35	0	0	0	25	0	61	226	
Count Total	0	0	0	0	0	1	0	4	0	0	272	4	0	1	172	0	454	0	
Peak Hour	All	0	0	0	0	0	1	0	2	0	0	165	1	0	1	74	0	234	0
	HV	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	HV%	-	-	-	-	-	0%	-	0%	-	-	1%	0%	-	0%	0%	-	0%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	3	0	3	0	0	2	0	2	0	0	0	0	0
Peak Hr	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	0				Wodsworth Loop				Salmon La Sac Rd				Salmon La Sac Rd				16-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0

Two-Hour Count Summaries - Bikes														
Interval Start	0			Wodsworth Loop			Salmon La Sac Rd			Salmon La Sac Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	0	2	0	0	0	0	2	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

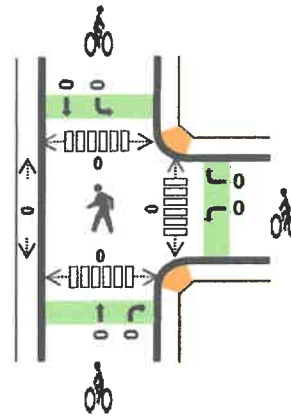
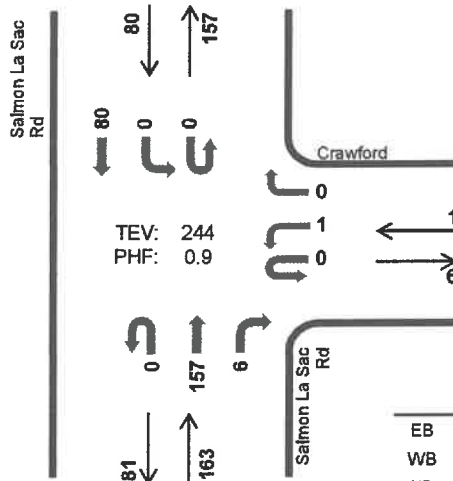
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Salmon La Sac Rd Crawford



Peak Hour

Date: 08/05/2022
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	-	-
WB	0.0%	0.25
NB	0.6%	0.91
SB	0.0%	0.74
TOTAL	0.4%	0.90

Two-Hour Count Summaries

Interval Start	0				Crawford				Salmon La Sac Rd				Salmon La Sac Rd				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	0	0	0	0	0	36	0	0	0	22	0	58	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	19	0	0	0	25	0	44	0	
4:30 PM	0	0	0	0	0	1	0	0	0	0	39	1	0	0	27	0	63	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	42	0	0	0	21	0	63	233	
5:00 PM	0	0	0	0	0	0	0	0	0	0	34	2	0	0	13	0	49	224	
5:15 PM	0	0	0	0	0	0	0	0	0	0	42	3	0	0	19	0	64	244	
5:30 PM	0	0	0	0	0	0	0	0	0	0	30	0	0	0	23	0	53	229	
5:45 PM	0	0	0	0	0	0	0	0	0	0	35	0	0	0	23	0	58	224	
Count Total	0	0	0	0	0	1	0	0	0	0	277	6	0	0	173	0	457	0	
Peak Hour	All	0	0	0	0	0	1	0	0	0	0	157	6	0	0	80	0	244	0
	HV	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
	HV%	-	-	-	-	-	0%	-	-	-	-	1%	0%	-	-	0%	-	0%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	3	0	3	0	0	2	0	2	0	0	0	0	0
Peak Hr	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	0				Crawford				Salmon La Sac Rd				Salmon La Sac Rd			15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH			RT
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0

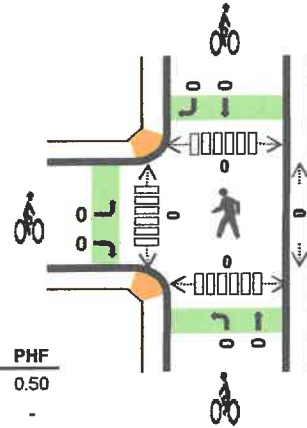
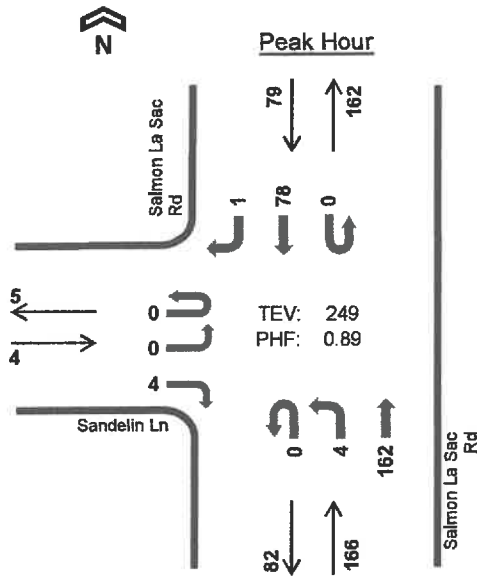
Two-Hour Count Summaries - Bikes														
Interval Start	0			Crawford			Salmon La Sac Rd			Salmon La Sac Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	0	2	0	0	0	0	2	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Salmon La Sac Rd Sandelin Ln



Date: 08/05/2022
 Count Period: 4:00 PM to 6:00 PM
 Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	25.0%	0.50
WB	-	-
NB	0.6%	0.88
SB	0.0%	0.71
TOTAL	0.8%	0.89

Two-Hour Count Summaries

Interval Start	Sandelin Ln				0				Salmon La Sac Rd				Salmon La Sac Rd				15-min Total	Rolling One Hour	
	Eastbound		RT		Westbound		RT		Northbound		RT		Southbound		RT				
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	1	0	0	0	0	0	1	34	0	0	0	22	0	58	0	
4:15 PM	0	0	0	1	0	0	0	0	0	0	21	0	0	0	23	2	47	0	
4:30 PM	0	0	0	2	0	0	0	0	0	1	39	0	0	0	28	0	70	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	42	0	0	0	20	1	63	238	
5:00 PM	0	0	0	0	0	0	0	0	0	1	36	0	0	0	13	0	50	230	
5:15 PM	0	0	0	2	0	0	0	0	0	2	45	0	0	0	17	0	66	249	
5:30 PM	0	0	0	0	0	0	0	0	0	1	30	0	0	0	24	0	55	234	
5:45 PM	0	0	0	0	0	0	0	0	0	0	35	0	0	0	28	0	63	234	
Count Total	0	0	0	6	0	0	0	0	0	6	282	0	0	0	175	3	472	0	
Peak Hour	All	0	0	0	4	0	0	0	0	0	4	162	0	0	0	78	1	249	0
	HV	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	0
	HV%	-	-	-	25%	-	-	-	-	-	0%	1%	-	-	-	0%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0
5:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Count Total	1	0	3	1	5	0	0	2	0	2	0	0	0	0	0
Peak Hr	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Sandelin Ln				0				Salmon La Sac Rd				Salmon La Sac Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
Count Total	0	0	0	1	0	0	0	0	0	0	3	0	0	0	1	0	5	0
Peak Hour	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	2	0

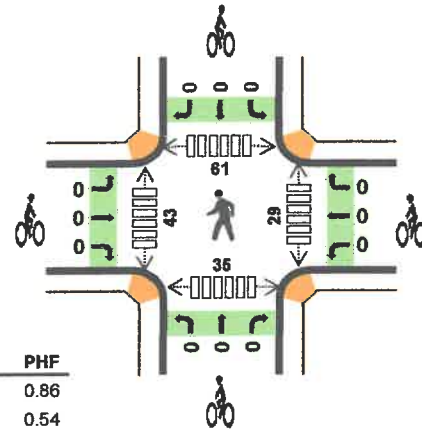
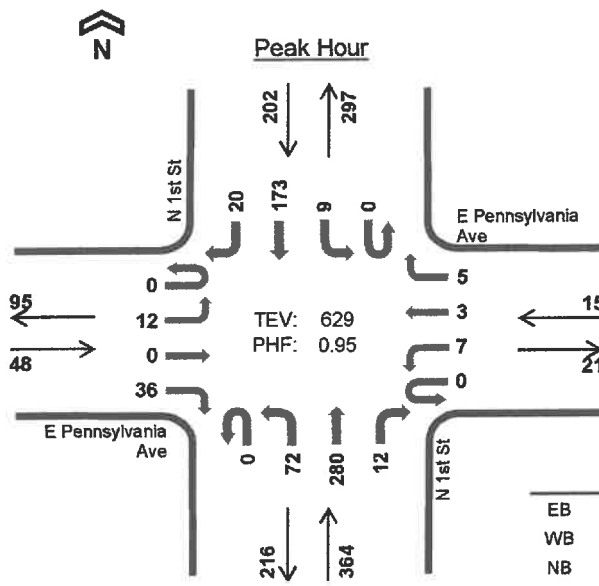
Two-Hour Count Summaries - Bikes														
Interval Start	Sandelin Ln			0			Salmon La Sac Rd			Salmon La Sac Rd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	0	2	0	0	0	0	2	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

N 1st St E Pennsylvania Ave



Date: 08/05/2022
 Count Period: 4:00 PM to 6:00 PM
 Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	0.0%	0.86
WB	6.7%	0.54
NB	1.6%	0.93
SB	3.0%	0.89
TOTAL	2.1%	0.95

Two-Hour Count Summaries

Interval Start	E Pennsylvania Ave Eastbound				E Pennsylvania Ave Westbound				N 1st St Northbound				N 1st St Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	4	3	12	0	3	0	0	0	13	68	1	0	0	47	3	154	0	
4:15 PM	0	5	2	6	0	3	0	0	0	14	62	1	0	2	42	1	138	0	
4:30 PM	0	7	0	4	0	5	1	1	0	14	71	3	0	4	49	2	161	0	
4:45 PM	0	1	0	10	0	2	1	0	0	24	86	6	0	2	47	8	186	619	
5:00 PM	0	2	0	12	0	0	0	1	0	15	67	1	0	2	44	5	149	614	
5:15 PM	0	2	0	10	0	0	1	3	0	19	77	2	0	1	33	5	163	629	
5:30 PM	0	4	0	10	0	0	1	1	0	17	65	4	0	1	35	4	142	610	
5:45 PM	0	3	1	6	0	0	1	0	0	20	65	3	0	0	45	3	147	591	
Count Total	0	28	6	70	0	13	5	6	0	136	540	21	0	12	342	31	1,210	0	
Peak Hour	All	0	12	0	36	0	7	3	5	0	72	280	12	0	9	173	20	629	0
	HV	0	0	0	0	0	0	0	1	0	1	5	0	0	1	5	0	13	0
	HV%	-	0%	-	0%	-	0%	0%	20%	-	1%	2%	0%	-	11%	3%	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	2	2	1	1	0	0	2	9	5	9	22	45
4:15 PM	0	0	0	0	0	0	0	0	0	0	5	16	25	8	54
4:30 PM	0	0	2	2	4	0	0	0	0	0	6	7	8	13	34
4:45 PM	0	0	1	2	3	0	0	0	0	0	4	8	10	8	30
5:00 PM	0	0	1	0	1	0	0	0	0	0	8	6	16	12	42
5:15 PM	0	1	2	2	5	0	0	0	0	0	11	22	27	2	62
5:30 PM	0	0	1	0	1	0	2	0	0	2	4	32	34	9	79
5:45 PM	0	0	2	0	2	0	0	0	0	0	16	19	28	10	73
Count Total	0	1	9	8	18	1	3	0	0	4	63	115	157	84	419
Peak Hour	0	1	6	6	13	0	0	0	0	0	29	43	61	36	168

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E Pennsylvania Ave				E Pennsylvania Ave				N 1st St				N 1st St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	2	0	4	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	9
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	8
5:15 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	1	1	0	5	13
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	10
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	9
Count Total	0	0	0	0	0	0	0	1	0	1	8	0	0	1	6	1	18	0
Peak Hour	0	0	0	0	0	0	0	1	0	1	6	0	0	1	5	0	13	0

Two-Hour Count Summaries - Bikes														
Interval Start	E Pennsylvania Ave			E Pennsylvania Ave			N 1st St			N 1st St			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	1	0	0	3	0	0	0	0	0	0	0	4	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Appendix B

LOS Result Worksheets

Existing 2022 Friday PM Peak Hour

Lanes, Volumes, Timings
 1: SR 903 & Spring Creek Rd

03/07/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	153	5	0	75
Future Volume (vph)	0	0	153	5	0	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%		0%			0%
Link Speed (mph)	10		35			35
Link Distance (ft)	423		814			658
Travel Time (s)	28.8		15.9			12.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	20%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

Lanes, Volumes, Timings
 2: SR 903 & Wadsworth loop

03/07/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	2	155	1	1	74
Future Volume (vph)	1	2	155	1	1	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%		0%			-1%
Link Speed (mph)	10		35			35
Link Distance (ft)	415		832			814
Travel Time (s)	28.3		16.2			15.9
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

HCM 6th TWSC
1: SR 903 & Spring Creek Rd

03/07/2023

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	0	0	153	5	0	75
Future Vol, veh/h	0	0	153	5	0	75
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, %	-1	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	20	0	0
Mvmt Flow	0	0	166	5	0	82

Major/Minor	Minor1	Major1	Major2	Minor2	Minor3
Conflicting Flow All	251	169	0	171	0
Stage 1	169	-	-	-	-
Stage 2	82	-	-	-	-
Critical Hdwy	6.2	6.1	-	4.1	-
Critical Hdwy Stg 1	5.2	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	2.2	-
Pot Cap-1 Maneuver	752	884	-	1418	-
Stage 1	874	-	-	-	-
Stage 2	951	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	752	884	-	1418	-
Mov Cap-2 Maneuver	752	-	-	-	-
Stage 1	874	-	-	-	-
Stage 2	951	-	-	-	-

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)	-	-	-	1418	-
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	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		T			T
Traffic Vol, veh/h	1	2	155	1	1	74
Future Vol, veh/h	1	2	155	1	1	74
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, %	-2	-	0	-	-	-1
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	1	2	167	1	1	80
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	250	168	0	0	168	0
Stage 1	168	-	-	-	-	-
Stage 2	82	-	-	-	-	-
Critical Hdwy	6	6	-	-	4.1	-
Critical Hdwy Stg 1	5	-	-	-	-	-
Critical Hdwy Stg 2	5	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	764	890	-	-	1422	-
Stage 1	883	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	763	890	-	-	1422	-
Mov Cap-2 Maneuver	763	-	-	-	-	-
Stage 1	883	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.3	0		0.1		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	843	1422	-	
HCM Lane V/C Ratio	-	-	0.004	0.001	-	
HCM Control Delay (s)	-	-	9.3	7.5	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Lanes, Volumes, Timings
 3: SR 903 & Crawford

03/07/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	0	157	6	0	80
Future Volume (vph)	1	0	157	6	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	2%		2%			-1%
Link Speed (mph)	10		35			35
Link Distance (ft)	589		922			832
Travel Time (s)	40.2		18.0			16.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖		↗			↖
Traffic Vol, veh/h	1	0	157	6	0	80
Future Vol, veh/h	1	0	157	6	0	80
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, %	2	-	2	-	-	-1
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	1	0	174	7	0	89

Major/Minor	Minor1	Major1	Major2	Major3	Major4
Conflicting Flow All	267	178	0	0	181
Stage 1	178	-	-	-	-
Stage 2	89	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	4.1
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	705	862	-	-	1407
Stage 1	841	-	-	-	-
Stage 2	930	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	705	862	-	-	1407
Mov Cap-2 Maneuver	705	-	-	-	-
Stage 1	841	-	-	-	-
Stage 2	930	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	705	1407	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	-	-	10.1	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Lanes, Volumes, Timings
 4: SR 903 & Sandelin Ln

03/07/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			↑	↓	
Traffic Volume (vph)	0	4	4	162	78	1
Future Volume (vph)	0	4	4	162	78	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%			2%	-2%	
Link Speed (mph)	35			10	10	
Link Distance (ft)	159			549	922	
Travel Time (s)	3.1			37.4	62.9	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	25%	0%	1%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary
 Area Type: Other
 Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑	↑	
Traffic Vol, veh/h	0	4	4	162	78	1
Future Vol, veh/h	0	4	4	162	78	1
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, %	4	-	-	2	-2	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	25	0	1	0	0
Mvmt Flow	0	4	4	182	88	1
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	279	89	89	0	-	0
Stage 1	89	-	-	-	-	-
Stage 2	190	-	-	-	-	-
Critical Hdwy	7.2	6.85	4.1	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.5	3.525	2.2	-	-	-
Pot Cap-1 Maneuver	672	900	1519	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	812	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	670	900	1519	-	-	-
Mov Cap-2 Maneuver	670	-	-	-	-	-
Stage 1	918	-	-	-	-	-
Stage 2	812	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9	0.2		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1519	-	900	-	-	
HCM Lane V/C Ratio	0.003	-	0.005	-	-	
HCM Control Delay (s)	7.4	0	9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Lanes, Volumes, Timings

5: S 1st St/N 1st St & W Pennsylvania Ave/E Pennsylvania Ave

03/07/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	36	7	3	5	72	280	12	9	173	20
Future Volume (vph)	12	0	36	7	3	5	72	280	12	9	173	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			5%			-2%	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		330			456			339			344	
Travel Time (s)		9.0			12.4			9.2			9.4	
Confl. Peds. (#/hr)	61		35	35		61	43		29	29		43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	20%	1%	2%	0%	11%	3%	0%
Parking (#/hr)	0	0	0	0	0	0						
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

HCM 6th TWSC
 5: S 1st St/N 1st St & W Pennsylvania Ave/E Pennsylvania Ave

03/07/2023

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	0	36	7	3	5	72	280	12	9	173	20
Future Vol, veh/h	12	0	36	7	3	5	72	280	12	9	173	20
Conflicting Peds, #/hr	61	0	35	35	0	61	43	0	29	29	0	43
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-2	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	20	1	2	0	11	3	0
Mvmt Flow	13	0	38	7	3	5	76	295	13	9	182	21
Major/Minor	Minor2	Minor1			Major1			Major2				
Conflicting Flow All	773	743	271	748	747	392	246	0	0	337	0	0
Stage 1	254	254	-	483	483	-	-	-	-	-	-	-
Stage 2	519	489	-	265	264	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.4	4.11	-	-	4.21	-	-
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	3.5	4	3.3	3.5	4	3.48	2.209	-	-	2.299	-	-
Pot Cap-1 Maneuver	319	346	773	331	344	619	1326	-	-	1174	-	-
Stage 1	755	701	-	569	556	-	-	-	-	-	-	-
Stage 2	544	553	-	745	694	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	266	297	717	277	295	567	1272	-	-	1142	-	-
Mov Cap-2 Maneuver	266	297	-	277	295	-	-	-	-	-	-	-
Stage 1	672	666	-	513	502	-	-	-	-	-	-	-
Stage 2	468	499	-	676	659	-	-	-	-	-	-	-
Approach	EB	WB			NB			SB				
HCM Control Delay, s	12.9	16.1			1.6			0.4				
HCM LOS	B	C										
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1272	-	-	504	339	1142	-	-				
HCM Lane V/C Ratio	0.06	-	-	0.1	0.047	0.008	-	-				
HCM Control Delay (s)	8	0	-	12.9	16.1	8.2	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %ile Q(veh)	0.2	-	-	0.3	0.1	0	-	-				

2023 No Action PM Peak Hour

Lanes, Volumes, Timings
 1: SR 903 & Spring Creek Rd

03/07/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	156	5	0	77
Future Volume (vph)	0	0	156	5	0	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%		0%			0%
Link Speed (mph)	10		35			35
Link Distance (ft)	423		814			658
Travel Time (s)	28.8		15.9			12.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	20%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		X			Z
Traffic Vol, veh/h	0	0	156	5	0	77
Future Vol, veh/h	0	0	156	5	0	77
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, %	-1	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	20	0	0
Mvmt Flow	0	0	170	5	0	84

Major/Minor	Minor1	Major1	Major2	Major3	Major4
Conflicting Flow All	257	173	0	0	175
Stage 1	173	-	-	-	-
Stage 2	84	-	-	-	-
Critical Hdwy	6.2	6.1	-	-	4.1
Critical Hdwy Stg 1	5.2	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	747	880	-	-	1414
Stage 1	870	-	-	-	-
Stage 2	949	-	-	-	-
Platoon blocked, %					
Mov Cap-1 Maneuver	747	880	-	-	1414
Mov Cap-2 Maneuver	747	-	-	-	-
Stage 1	870	-	-	-	-
Stage 2	949	-	-	-	-

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)	-	-	-	1414	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Lanes, Volumes, Timings
 2: SR 903 & Wadsworth loop

03/07/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	2	158	1	1	75
Future Volume (vph)	1	2	158	1	1	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%		0%			-1%
Link Speed (mph)	10		35			35
Link Distance (ft)	415		832			814
Travel Time (s)	28.3		16.2			15.9
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection:

Int Delay, s/veh 0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y			Y
Traffic Vol, veh/h	1	2	158	1	1	75
Future Vol, veh/h	1	2	158	1	1	75
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, %	-2	-	0	-	-	-1
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	1	2	170	1	1	81

Major/Minor	Minor1	Major1	Major2	Minor2	Major3	Minor3
Conflicting Flow All	254	171	0	0	171	0
Stage 1	171	-	-	-	-	-
Stage 2	83	-	-	-	-	-
Critical Hdwy	6	6	-	-	4.1	-
Critical Hdwy Stg 1	5	-	-	-	-	-
Critical Hdwy Stg 2	5	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	760	886	-	-	1418	-
Stage 1	880	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	759	886	-	-	1418	-
Mov Cap-2 Maneuver	759	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	953	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	839	1418	-
HCM Lane V/C Ratio	-	-	0.004	0.001	-
HCM Control Delay (s)	-	-	9.3	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Lanes, Volumes, Timings
 3: SR 903 & Crawford

03/07/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	0	160	6	0	82
Future Volume (vph)	1	0	160	6	0	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	2%		2%			-1%
Link Speed (mph)	10		35			35
Link Distance (ft)	589		922			832
Travel Time (s)	40.2		18.0			16.2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↘		↗			↖
Traffic Vol, veh/h	1	0	160	6	0	82
Future Vol, veh/h	1	0	160	6	0	82
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, %	2	-	2	-	-	-1
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	1	0	178	7	0	91

Major/Minor	Minor1	Major1	Major2	Major3	Major4
Conflicting Flow All	273	182	0	0	185
Stage 1	182	-	-	-	-
Stage 2	91	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	4.1
Critical Hdwy Stg 1	5.8	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	699	857	-	-	1402
Stage 1	837	-	-	-	-
Stage 2	928	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	699	857	-	-	1402
Mov Cap-2 Maneuver	699	-	-	-	-
Stage 1	837	-	-	-	-
Stage 2	928	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	699	1402	-
HCM Lane V/C Ratio	-	-	0.002	-	-
HCM Control Delay (s)	-	-	10.2	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Lanes, Volumes, Timings
4: SR 903 & Sandelin Ln

03/07/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	4	4	165	80	1
Future Volume (vph)	0	4	4	165	80	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%			2%	-2%	
Link Speed (mph)	35			10	10	
Link Distance (ft)	159			549	922	
Travel Time (s)	3.1			37.4	62.9	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	25%	0%	1%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		↑		↑	
Traffic Vol, veh/h	0	4	4	165	80	1
Future Vol, veh/h	0	4	4	165	80	1
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, %	4	-	-	2	-2	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	25	0	1	0	0
Mvmt Flow	0	4	4	185	90	1
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	284	91	91	0	-	0
Stage 1	91	-	-	-	-	-
Stage 2	193	-	-	-	-	-
Critical Hdwy	7.2	6.85	4.1	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.5	3.525	2.2	-	-	-
Pot Cap-1 Maneuver	667	898	1517	-	-	-
Stage 1	919	-	-	-	-	-
Stage 2	809	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	665	898	1517	-	-	-
Mov Cap-2 Maneuver	665	-	-	-	-	-
Stage 1	916	-	-	-	-	-
Stage 2	809	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	9	0.2	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1517	-	898	-	-	
HCM Lane V/C Ratio	0.003	-	0.005	-	-	
HCM Control Delay (s)	7.4	0	9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Lanes, Volumes, Timings
 5: S 1st St/N 1st St & W Pennsylvania Ave/E Pennsylvania Ave

03/07/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	37	7	3	5	73	286	12	9	176	20
Future Volume (vph)	12	0	37	7	3	5	73	286	12	9	176	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			5%			0%	-2%
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		330			456			339			344	
Travel Time (s)		9.0			12.4			9.2			9.4	
Confl. Peds. (#/hr)	61		35	35		61	43		29	29		43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	20%	1%	2%	0%	11%	3%	0%
Parking (#/hr)	0	0	0	0	0	0						
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

HCM 6th TWSC
5: S 1st St/N 1st St & W Pennsylvania Ave/E Pennsylvania Ave

03/07/2023

Intersection													
Int Delay, s/veh	2.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		🚗			🚗			🚗			🚗		
Traffic Vol, veh/h	12	0	37	7	3	5	73	286	12	9	176	20	
Future Vol, veh/h	12	0	37	7	3	5	73	286	12	9	176	20	
Conflicting Peds, #/hr	61	0	35	35	0	61	43	0	29	29	0	43	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	5	-	-	-2	-	
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95	
Heavy Vehicles, %	0	0	0	0	0	20	1	2	0	11	3	0	
Mvmt Flow	13	0	39	7	3	5	77	301	13	9	185	21	
Major/Minor	Minor2	Minor1		Major1		Major2							
Conflicting Flow All	784	754	274	759	758	398	249	0	0	343	0	0	0
Stage 1	257	257	-	491	491	-	-	-	-	-	-	-	-
Stage 2	527	497	-	268	267	-	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.4	4.11	-	-	4.21	-	-	-
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	3.5	4	3.3	3.5	4	3.48	2.209	-	-	2.299	-	-	-
Pot Cap-1 Maneuver	313	341	770	326	339	614	1323	-	-	1167	-	-	-
Stage 1	752	699	-	563	552	-	-	-	-	-	-	-	-
Stage 2	538	548	-	742	692	-	-	-	-	-	-	-	-
Platoon blocked, %													
Mov Cap-1 Maneuver	260	292	714	272	290	562	1269	-	-	1135	-	-	-
Mov Cap-2 Maneuver	260	292	-	272	290	-	-	-	-	-	-	-	-
Stage 1	668	664	-	507	497	-	-	-	-	-	-	-	-
Stage 2	462	493	-	672	657	-	-	-	-	-	-	-	-
Approach	EB	WB		NB		SB							
HCM Control Delay, s	13	16.3		1.6		0.4							
HCM LOS	B	C											
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1269	-	-	500	334	1135	-	-					
HCM Lane V/C Ratio	0.061	-	-	0.103	0.047	0.008	-	-					
HCM Control Delay (s)	8	0	-	13	16.3	8.2	0	-					
HCM Lane LOS	A	A	-	B	C	A	A	-					
HCM 95th %tile Q(veh)	0.2	-	-	0.3	0.1	0	-	-					

2023 With Project Friday PM Peak Hour

Lanes, Volumes, Timings
 1: SR 903 & Spring Creek Rd

03/07/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	158	5	0	80
Future Volume (vph)	0	0	158	5	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%		0%			0%
Link Speed (mph)	10		35			35
Link Distance (ft)	423		814			658
Travel Time (s)	28.8		15.9			12.8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	20%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	🦋		🦋			🦋
Traffic Vol, veh/h	0	0	158	5	0	80
Future Vol, veh/h	0	0	158	5	0	80
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, %	-1	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	20	0	0
Mvmt Flow	0	0	172	5	0	87

Major/Minor	Minor1	Major1	Major2	Minor2	Minor3
Conflicting Flow All	262	175	0	0	177
Stage 1	175	-	-	-	-
Stage 2	87	-	-	-	-
Critical Hdwy	6.2	6.1	-	-	4.1
Critical Hdwy Stg 1	5.2	-	-	-	-
Critical Hdwy Stg 2	5.2	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2
Pot Cap-1 Maneuver	742	878	-	-	1411
Stage 1	869	-	-	-	-
Stage 2	946	-	-	-	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	742	878	-	-	1411
Mov Cap-2 Maneuver	742	-	-	-	-
Stage 1	869	-	-	-	-
Stage 2	946	-	-	-	-

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)	-	-	-	1411	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Lanes, Volumes, Timings
 2: SR 903 & Wadsworth loop

03/07/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	2	160	1	1	78
Future Volume (vph)	1	2	160	1	1	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-2%		0%			-1%
Link Speed (mph)	10		35			35
Link Distance (ft)	415		188			814
Travel Time (s)	28.3		3.7			15.9
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM 6th TWSC
2: SR 903 & Wadsworth loop

03/07/2023

Intersection						
Int Delay, s/veh	0.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		Y			Y
Traffic Vol, veh/h	1	2	160	1	1	78
Future Vol, veh/h	1	2	160	1	1	78
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, %	-2	-	0	-	-	-1
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	1	2	172	1	1	84
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	259	173	0	0	173	0
Stage 1	173	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	6	6	-	-	4.1	-
Critical Hdwy Stg 1	5	-	-	-	-	-
Critical Hdwy Stg 2	5	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	756	884	-	-	1416	-
Stage 1	879	-	-	-	-	-
Stage 2	951	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	755	884	-	-	1416	-
Mov Cap-2 Maneuver	755	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	950	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.3	0	0.1			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	836	1416	-	
HCM Lane V/C Ratio	-	-	0.004	0.001	-	
HCM Control Delay (s)	-	-	9.3	7.5	0	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	0	-	

Lanes, Volumes, Timings
 3: SR 903 & Crawford

03/07/2023



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	0	190	6	0	103
Future Volume (vph)	1	0	190	6	0	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	2%		2%			-1%
Link Speed (mph)	10		35			35
Link Distance (ft)	589		922			644
Travel Time (s)	40.2		18.0			12.5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	0%	1%	0%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop		Free			Free

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		X			↑
Traffic Vol, veh/h	1	0	190	6	0	103
Future Vol, veh/h	1	0	190	6	0	103
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, %	2	-	2	-	-	-1
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	1	0	0	0
Mvmt Flow	1	0	211	7	0	114
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	329	215	0	0	218	0
Stage 1	215	-	-	-	-	-
Stage 2	114	-	-	-	-	-
Critical Hdwy	6.8	6.4	-	-	4.1	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	646	820	-	-	1364	-
Stage 1	806	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Platoon blocked, %						
Mov Cap-1 Maneuver	646	820	-	-	1364	-
Mov Cap-2 Maneuver	646	-	-	-	-	-
Stage 1	806	-	-	-	-	-
Stage 2	904	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	10.6	0	0			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT	
Capacity (veh/h)	-	-	646	1364	-	-
HCM Lane V/C Ratio	-	-	0.002	-	-	-
HCM Control Delay (s)	-	-	10.6	0	-	-
HCM Lane LOS	-	-	B	A	-	-
HCM 95th %tile Q(veh)	-	-	0	0	-	-

Lanes, Volumes, Timings
4: SR 903 & Sandelin Ln

03/07/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	4	4	195	101	1
Future Volume (vph)	0	4	4	195	101	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%			2%	-2%	
Link Speed (mph)	35			10	10	
Link Distance (ft)	159			549	922	
Travel Time (s)	3.1			37.4	62.9	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	0%	25%	0%	1%	0%	0%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑		↑
Traffic Vol, veh/h	0	4	4	195	101	1
Future Vol, veh/h	0	4	4	195	101	1
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, %	4	-	-	2	-2	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	0	25	0	1	0	0
Mvmt Flow	0	4	4	219	113	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	341	114	114	0	-	0
Stage 1	114	-	-	-	-	-
Stage 2	227	-	-	-	-	-
Critical Hdwy	7.2	6.85	4.1	-	-	-
Critical Hdwy Stg 1	6.2	-	-	-	-	-
Critical Hdwy Stg 2	6.2	-	-	-	-	-
Follow-up Hdwy	3.5	3.525	2.2	-	-	-
Pot Cap-1 Maneuver	611	869	1488	-	-	-
Stage 1	893	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	609	869	1488	-	-	-
Mov Cap-2 Maneuver	609	-	-	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.2	0.1		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1488	-	869	-	-	
HCM Lane V/C Ratio	0.003	-	0.005	-	-	
HCM Control Delay (s)	7.4	0	9.2	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Lanes, Volumes, Timings
 5: S 1st St/N 1st St & W Pennsylvania Ave/E Pennsylvania Ave

03/07/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	0	37	7	3	5	73	316	12	9	197	20
Future Volume (vph)	12	0	37	7	3	5	73	316	12	9	197	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			5%			-2%	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		330			456			339			344	
Travel Time (s)		9.0			12.4			9.2			9.4	
Confl. Peds. (#/hr)	61		35	35		61	43		29	29		43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	0%	0%	20%	1%	2%	0%	11%	3%	0%
Parking (#/hr)	0	0	0	0	0	0						
Shared Lane Traffic (%)												
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

HCM 6th TWSC
 5: S 1st St/N 1st St & W Pennsylvania Ave/E Pennsylvania Ave

03/07/2023

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	0	37	7	3	5	73	316	12	9	197	20
Future Vol, veh/h	12	0	37	7	3	5	73	316	12	9	197	20
Conflicting Peds, #/hr	61	0	35	35	0	61	43	0	29	29	0	43
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	5	-	-	-2	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	20	1	2	0	11	3	0
Mvmt Flow	13	0	39	7	3	5	77	333	13	9	207	21
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	838	808	296	813	812	430	271	0	0	375	0	0
Stage 1	279	279	-	523	523	-	-	-	-	-	-	-
Stage 2	559	529	-	290	289	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.4	4.11	-	-	4.21	-	-
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	3.5	4	3.3	3.5	4	3.48	2.209	-	-	2.299	-	-
Pot Cap-1 Maneuver	288	317	748	299	315	589	1298	-	-	1136	-	-
Stage 1	732	683	-	541	534	-	-	-	-	-	-	-
Stage 2	517	530	-	722	677	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	239	270	693	248	269	539	1245	-	-	1105	-	-
Mov Cap-2 Maneuver	239	270	-	248	269	-	-	-	-	-	-	-
Stage 1	648	649	-	486	479	-	-	-	-	-	-	-
Stage 2	442	475	-	653	643	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13.5		17.3		1.5		0.3					
HCM LOS	B		C									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1245	-	-	473	308	1105	-	-				
HCM Lane V/C Ratio	0.062	-	-	0.109	0.051	0.009	-	-				
HCM Control Delay (s)	8.1	0	-	13.5	17.3	8.3	0	-				
HCM Lane LOS	A	A	-	B	C	A	A	-				
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0.2	0	-	-				

Lanes, Volumes, Timings
6: SR 903 & Site Access

03/07/2023



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	2	21	30	159	77	3
Future Volume (vph)	2	21	30	159	77	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-1%	
Link Speed (mph)	25			35	35	
Link Distance (ft)	189			644	188	
Travel Time (s)	5.2			12.5	3.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)						
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection

Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			↑		↑
Traffic Vol, veh/h	2	21	30	159	77	3
Future Vol, veh/h	2	21	30	159	77	3
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	-1	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	2	23	33	173	84	3

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	325	86	87	0	-	0
Stage 1	86	-	-	-	-	-
Stage 2	239	-	-	-	-	-
Critical Hdwy	6.43	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.327	2.227	-	-	-
Pot Cap-1 Maneuver	667	970	1503	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	651	970	1503	-	-	-
Mov Cap-2 Maneuver	651	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	798	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	1.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1503	-	930	-	-
HCM Lane V/C Ratio	0.022	-	0.027	-	-
HCM Control Delay (s)	7.4	0	9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Appendix C

Florida Department of Transportation Corridor LOS Definition

Appendix A:
Florida Department of Transportation Roadway
Level of Service Definitions



Generalized Peak Hour Two-Way Volumes for Florida's Rural Undeveloped Areas and Developed Areas Less Than 5,000 Population¹

12/18/12

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	1,220	1,350	**	4	3,020	4,510	5,490	6,300	
4	Divided	*	2,790	2,890	**	6	4,510	6,720	8,220	9,720	
6	Divided	*	4,300	4,350	**	8	6,040	8,970	10,960	12,970	
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.)						Freeway Adjustments Auxiliary Lanes Present in Both Directions + 1,800					
Non-State Signalized Roadways - 10%											
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Rural Undeveloped					
2	Divided	Yes	No	+5%		Lanes	Median	B	C	D	E
2	Undivided	No	No	-20%		2	Undivided	440	790	1,350	2,710
Multi	Undivided	Yes	No	-5%		4	Divided	2,440	3,820	4,840	5,500
Multi	Undivided	No	No	-25%		6	Divided	3,680	5,730	7,280	8,240
-	-	-	Yes	+ 5%		Developed Areas					
One-Way Facility Adjustment Multiply the corresponding two-directional volumes in this table by 0.6						Lanes	Median	B	C	D	E
						2	Undivided	820	1,550	2,190	2,990
						4	Divided	2,460	3,860	4,970	5,660
						6	Divided	3,680	5,790	7,440	8,500
						Passing Lane Adjustments Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length					
BICYCLE MODE² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						Uninterrupted Flow Highway Adjustments					
Rural Undeveloped						Lanes	Median	Exclusive left lanes	Adjustment factors		
Paved Shoulder/Bicycle						2	Divided	Yes	+5%		
Lane Coverage	B	C	D	E		Multi	Undivided	Yes	-5%		
0-49%	*	120	190	300		Multi	Undivided	No	-25%		
50-84%	100	200	310	>1,010							
85-100%	250	370	1,760	>1,760							
Developed Areas											
Paved Shoulder/Bicycle											
Lane Coverage	B	C	D	E							
0-49%	*	220	460	1,480							
50-84%	170	430	1,270	>1,760							
85-100%	560	1,760	>1,760	**							
PEDESTRIAN MODE² (Multiply motorized vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage	B	C	D	E							
0-49%	*	*	220	840							
50-84%	*	120	780	1,390							
85-100%	320	940	1,560	>1,820							
						¹ Values shown are presented as peak hour two-way volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the Highway Capacity Manual and the Transit Capacity and Quality of Service Manual.					
						² Level of service for the bicycle and pedestrian modes in this table is based on number of motorized vehicles, not number of bicyclists or pedestrians using the facility.					
						* Cannot be achieved using table input value defaults.					
						** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.					
						Source: Florida Department of Transportation Systems Planning Office www.dot.state.fl.us/planning/systems/sm/los/default.shtm					

Appendix D

Trip Generation Calculations

The Outpost at Lake Cle Elum - Kittitas County, WA Trip Generation Summary

Land Use	Units ¹	ITE ³ LUC	Directional Distribution ³		Trip Rate ²	Trips Generated		
			In	Out		In	Out	Total
<i>Friday</i>								
Proposed Use: Recreational Homes ²	50 DU	260	50%	50%	13.59	340	340	680
New Daily Trips Generated =						340	340	680
<i>Friday AM Peak Hour</i>								
Proposed Use: Recreational Homes ²	50 DU	260	55%	45%	0.84	23	19	42
New AM Peak Hour Trips Generated =						23	19	42
<i>Friday PM Peak Hour</i>								
Proposed Use: Recreational Homes	50 DU	260	59%	41%	1.11	33	23	56
New PM Peak Hour Trips Generated =						33	23	56

Notes:

¹ DU = Dwelling Unit.

² Daily and AM peak hour trip rates on a Friday based on the ratio of weekday to Friday PM peak hour rates in ITE Trip Generation Manual, 11th Edition.

³ Land Use Code, trip rate, and directional splits from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition, 2021.