

TRAFFIC IMPACT ANALYSIS

CROMAN MILL TRAFFIC IMPACT ANALYSIS

ASHLAND, OREGON

August 16, 2024

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TRAFFIC IMPACT ANALYSIS TRANSPORTATION PLANNING RULE ANALYSIS

THURSTON SUBDIVISION



RENEWAL 06/30/26

Springfield, Oregon
August 16, 2024
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EXECUTIVE SUMMARY

This report provides the Traffic Impact Analysis prepared for the Croman Mill mixed-use community project in Ashland, Oregon. This development site will occupy approximately 62 acres of currently vacant land in southeast Ashland. The project proposal is 575 residential units comprised of single-family and multi-family units, 30,000 square feet of commercial/retail space, and 120,000 square feet of light industrial space. Primary access to the site will be via Mistletree Road to the north and a new street connection to Highway 99 to the south.

The evaluation considers the impacts to adjacent roadways and intersections at the time of full completion of the project and a 5-year planning horizon as required by ODOT for a project of this size.

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

FINDINGS

- All study area intersections will meet the applicable LOS or v/c standards with the development in place.
- The addition of development traffic does not substantially increase queuing conditions at the study area intersection.
- The new street connection to the site frontage on Siskiyou Highway can operate safely and efficiently as a standard stop-controlled intersection. If the new intersection is constructed as a stop-controlled intersection, it is recommended that a separate southbound left turn pocket with a minimum of 150 feet of storage be constructed on Siskiyou Highway. Alternatively, to a stop-controlled intersection a roundabout with a minimum outside diameter of 150 feet could be constructed. A roundabout would provide the safest intersection configuration in terms of reducing the higher speed of approaching vehicles on Siskiyou Highway, therefore reducing the severity of any future crashes. A roundabout would also provide a safer crossing for pedestrians and bicycles across Siskiyou Highway.

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1.0 BACKGROUND

1.1 DEVELOPMENT PROPOSAL

The applicant is proposing a multi-use development containing residential, commercial, and light industrial uses. The development will be constructed over three to six phases, with the final completion of the final phase anticipated by the year 2030. The first phases will be constructed on the south side of the site along Highway 99 with the development construction finishing on the north side of the development. Appendix A contains the site plan.

The completed development will include:

- 125 Single Family Detached Units
- 150 Single Family Attached Units
- 300 Multi-Family Units
- 30,000 square feet Commercial/Retail Space
- 120,000 square feet Light Industrial Space

The site will access the adjacent street network during phase 1 via a new street connection to Highway 99 at the south end of the site and an internal connection to Mistletoe Road. As phases are constructed to the north, the internal street network will be completed.

This planned development focuses on a walkable, bikeable, and live-work-play layout. There will be an interconnected internal street grid layout with a focus on residents and visitors traveling internally by biking and walking. The site will contain parks, open spaces, walking paths, and other community gathering spaces that community members can access without having to leave the overall development site. Additionally, the site is designed to facilitate transit use with a transit center and route throughout the site.

1.2 SITE INFORMATION

The site is located north of Siskiyou Blvd, south of the Central Oregon & Pacific Railroad rail line, and east of the existing Mistletoe Road. Figure 1 provides the vicinity map and site location. The site is approximately 62 acres and is currently vacant of any development that would generate trips in the peak hours. More specifically, the site is comprised of the following tax lots:

- 900 391E14AC
- 800 391E14AC
- 1800 391E14AC
- 1700 391E14AC
- 1200 391E14D
- 1301 391E14D
- 1100 391E14D

- 1000 391E14D
- 900 391E14D
- 800 391E14D

The site is currently zoned:

- Croman Zone- Compatible Industrial: CM-CI
- Croman Zone- Mixed Use: CM-MU
- Croman Zone- Office Employment: CM-OE
- Croman Zone- Open Space: CM-OS

The proposed use is allowed within the existing zoning. Therefore, a zone change is not required.

1.3 ANALYSIS SCOPE

The development proposal triggers an evaluation of the impacts that the site trips will have on the adjacent transportation system during the AM and PM peak hours of the system. The evaluation is prepared for the conditions at the time of development completion, estimated at the year 2030, and for 5 years beyond completion (year 2035).

The traffic study is performed in accordance with the City of Ashland and ODOT's standards. Sandow Engineering, ODOT, and the City of Ashland coordinated a Scope of Work for the analysis, defining the analysis parameters, impact measures, and system assumption. Appendix B contains the coordinated Scope of Work. Intersections to be included in the study are :

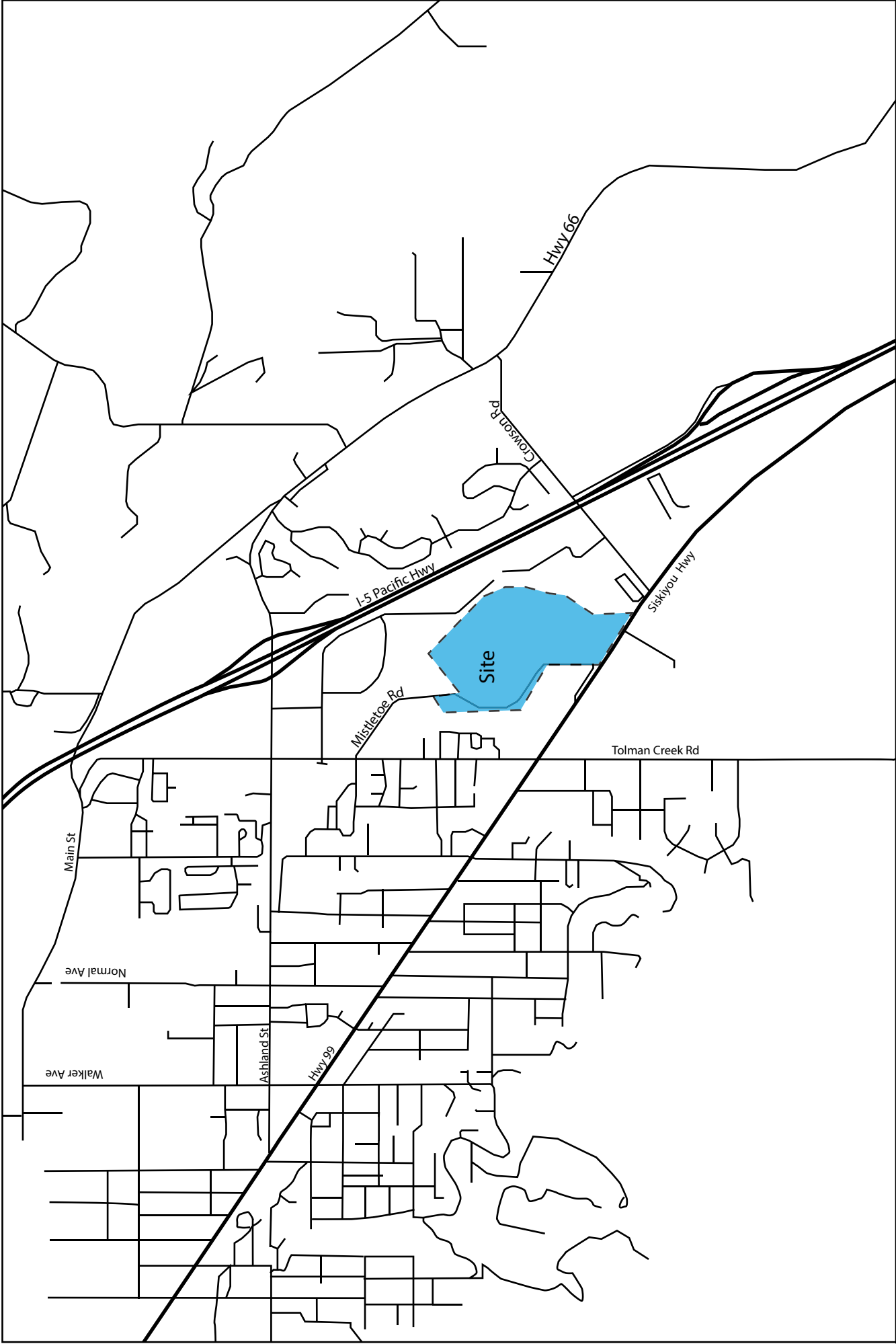
- Siskiyou Highway at New Site Street Connection
- Siskiyou Highway at Tolman Creek Road
- Siskiyou Highway at Highway 66/Ashland Street
- Tolman Creek Road at Mistletoe Road
- Tolman Creek Road at Highway 66/Ashland Street
- Ashland Street at I-5 Southbound Ramps
- Ashland Street at I-5 Northbound Ramps

The intersection operational analysis was performed at the study area intersections for the weekday AM peak period (7:00-9:00 AM) and PM peak period (4:00-6:00 PM). The operational analysis is performed for the following conditions:

- Existing conditions, year 2024
- Year of completion, year 2030, with and without the proposed development
- Five-year planning horizon, the year 2035, with and without the proposed development

The system evaluation includes:

- Intersection Level of Service
- Intersection volume-to-capacity
- Intersection queuing
- Intersection crash history
- Intersection mitigation evaluation, including signal warrants, turn pockets, etc.
- Site Access geometry at Highway 99
- Change of use at all access points
- Sight Distance at all access points
- Turn lane evaluation at the Siskiyou Highway new intersection



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Figure 1: Site Location and Vicinity Map

2.0 EXISTING ROADWAY NETWORK

2.1 STREET NETWORK

The adjacent streets included within the study are Siskiyou Highway, Tolman Creek Road, Highway 66/Ashland Street, and Mistletoe Road. The roadway characteristics of these roadways within the study area are included in Table 1. Figure 2 illustrates the street classifications and the study area intersection geometry and access control.

TABLE 1: ROADWAY CHARACTERISTICS WITHIN STUDY AREA

Characteristic	Highway 99	Tolman Creek Road	Ashland Street	Mistletoe Road
Jurisdiction	ODOT	City	ODOT	City
Functional Classification	District	Local	District	Minor Collector
Lanes per Direction	1-2	1	2	1
Center Left Turn lane	West of Walker Ave	North of Mistletoe	Yes	None
Restrictions in the Median	None	Planters	Planters	None
Bikes Lanes Present	Yes	Yes	Yes	None
Sidewalks Present	Yes	Yes	Yes	None
Transit Route	West of Tolman	Yes	Yes	None
On-Street Parking	Yes	Yes	None	None

2.2 STUDY INTERSECTIONS

Intersections included in the study are:

- Siskiyou Highway at Tolman Creek Road
- Siskiyou Highway at Highway 66/Ashland Street
- Tolman Creek Road at Mistletoe Road
- Tolman Creek Road at Highway 66/Ashland Street
- Ashland Street at I-5 Southbound Ramps
- Ashland Street at I-5 Northbound Ramps

Siskiyou Highway at Tolman Creek Road: This is a 4-legged all-way stop-controlled intersection. There is one lane on each approach with no turn pockets. There are marked crosswalks and ADA ramps on all four approaches.

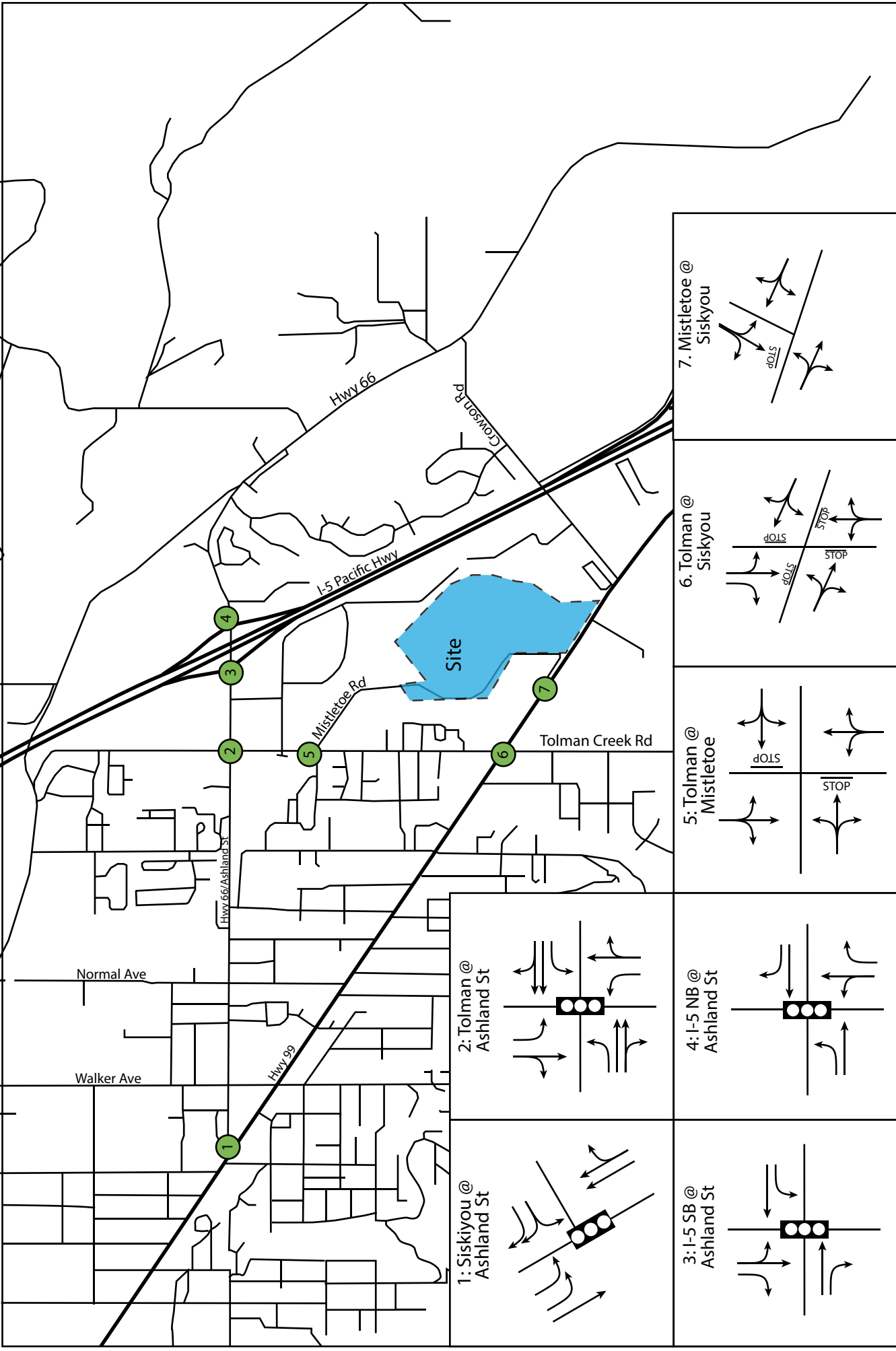
Siskiyou Highway at Ashland Street: This is a 3-legged signalized intersection. The Siskiyou Highway approaches have 2 northbound through lanes and 1 southbound through lane. The Ashland Street approach has 2 lanes in each direction. All westbound movements from Ashland Street are forced to make a right turn onto Siskiyou Highway. There are marked crosswalks across the Ashland Street approach and the south Siskiyou Highway approach.

Tolman Creek Road at Mistletoe Road: This is a 4-legged stop-controlled intersection with the stop on the Mistletoe Road and Takelma Way approaches. Mistletoe Road will serve as the northern entrance into the Croman Mill site. All roadway approaches have one travel lane with no separate turn pockets. There is a marked crosswalk across Tolman Creek Road on the south side of the intersection. The entrance to the Central Bike Path is located between Mistletoe Road and the railroad tracks, with an ADA-accessible ramp from the path directly to Tolman Creek Road. The Central Oregon & Pacific Railroad has a railroad crossing with signalized gate arms just to the north of this intersection.

Tolman Creek Road at Highway 66/Ashland Street: This is a 4-legged signalized intersection. There are separate left turn pockets on all approaches. The Ashland Street approaches have 2 through travel lanes per direction, and the Tolman Creek Road approaches have one through travel lane per direction. There are marked crosswalks and ADA ramps on all approaches.

Highway 66/Ashland Street at I-5 Southbound Ramps: This is a 4-legged signalized intersection with the north and south approach as one-way southbound only to exit or enter I-5. There are separate left turn pockets for the southbound and westbound left-turn movements. There are marked crosswalks and ADA ramps on the north, east, and south approaches. This intersection has a bicycle separate signal for eastbound bike movements.

Highway 66/Ashland Street at I-5 Northbound Ramps: This is a 4-legged signalized intersection with the north and south approach as one-way northbound only to exit or enter I-5. There is a separate left turn pocket and phasing for the northbound and eastbound left turn movements. There are marked crosswalks and ADA ramps on the north, west, and south approaches.



1: Siskiyou @ Ashland St	2: Tolman @ Ashland St	3: I-5 SB @ Ashland St	4: I-5 NB @ Ashland St	5: Tolman @ Mistletoe	6: Tolman @ Siskiyou	7: Mistletoe @ Siskiyou

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Figure 2: Intersection Control and Lane Configuration

2.3 TRANSIT SERVICE

Transit Service is currently provided near the development site by Rogue Valley Transportation District (RVTd). The following is the information for the existing transit service within the study area.

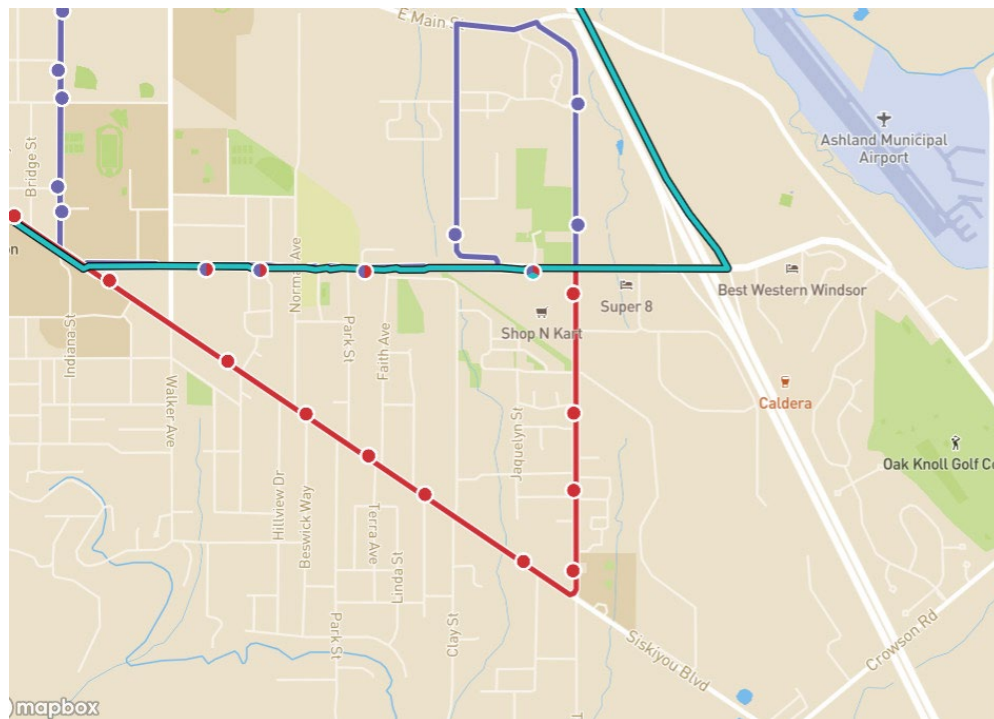
Route 10 Ashland: This route provides service within the City of Ashland, with the route traveling along Tolman Creek Road, Ashland Street, and Siskiyou Highway. Service is provided at 20-to-30-minute headways from 5 AM-10 PM on the weekdays, and 30-minute headways from 7 AM-8 PM on Saturdays.

Route 1X Medford Express: This route provides service between Medford and Ashland, with the route traveling along Ashland Street. This route has service from 6:30 AM to 8:30 PM at one-hour headways on the weekdays.

Route 17 Ashland Circulator: This route provides service within the City of Ashland, with the route traveling along Ashland Street (west of Tolman Creek) and Tolman Creek (north of Ashland Street). Service is provided at 60-minute headways between 9 AM-5 PM on weekdays.

FUTURE TRANSIT SERVICE

The Croman Mills site is being specifically designed to encourage the use of transit. The site will contain a station for future high-volume ridership. As per the RVTd 2040 Transit Master Plan, this site will likely be serviced by Route 10.



Existing RVTd Routes Near Croman Mill

2.4 PEDESTRIAN AND BIKE CONNECTIONS

EXISTING INFRASTRUCTURE

The site has direct connections to the existing bike and pedestrian network. The adjacent existing bicycle and pedestrian connections are described in the following. Figure 3 provides an illustration of the existing adjacent network.

Tolman Creek Road: Tolman Creek Road has on-street bike lanes and sidewalks on both the east and west sides between Siskiyou Highway to the south and Main Street to the north. There are several high visibility marked crosswalks across Tolman Creek Road. There are signalized crosswalks across Ashland Street that provide signal phasing to allow for crossing Ashland Street to access services north of Ashland Street, such as the YMCA and the Albertson's shopping center. Tolman Creek provides a connection to the Central Bike Path.

Siskiyou Highway: There are striped bike lanes along Siskiyou Highway from Crowson Road to downtown Ashland. There is an off-street shared path on the south side of Siskiyou Highway from Walker Avenue to Tolman Creek Road with high visibility crosswalk markings at all street crossings. There are intermittent sidewalks along the north side of Siskiyou Highway.

Ashland Street: Ashland Street has striped on-street bike lanes and sidewalks on both the north and south sides from Sutton Place to downtown Ashland.

Central Bike Path: The Central Bike Path's eastern terminus is at Tolman Creek Road between Mistletoe Road and the railroad tracks. The bike path extends to the north/west under Ashland Street, providing a connection to Hunter Park, Walker Elementary School, Ashland High School, and Southern Oregon University with minimal vehicle interaction. The shared path provides a connection to downtown Ashland via 4th Street and to the Bear Creek Greenway path via city streets.

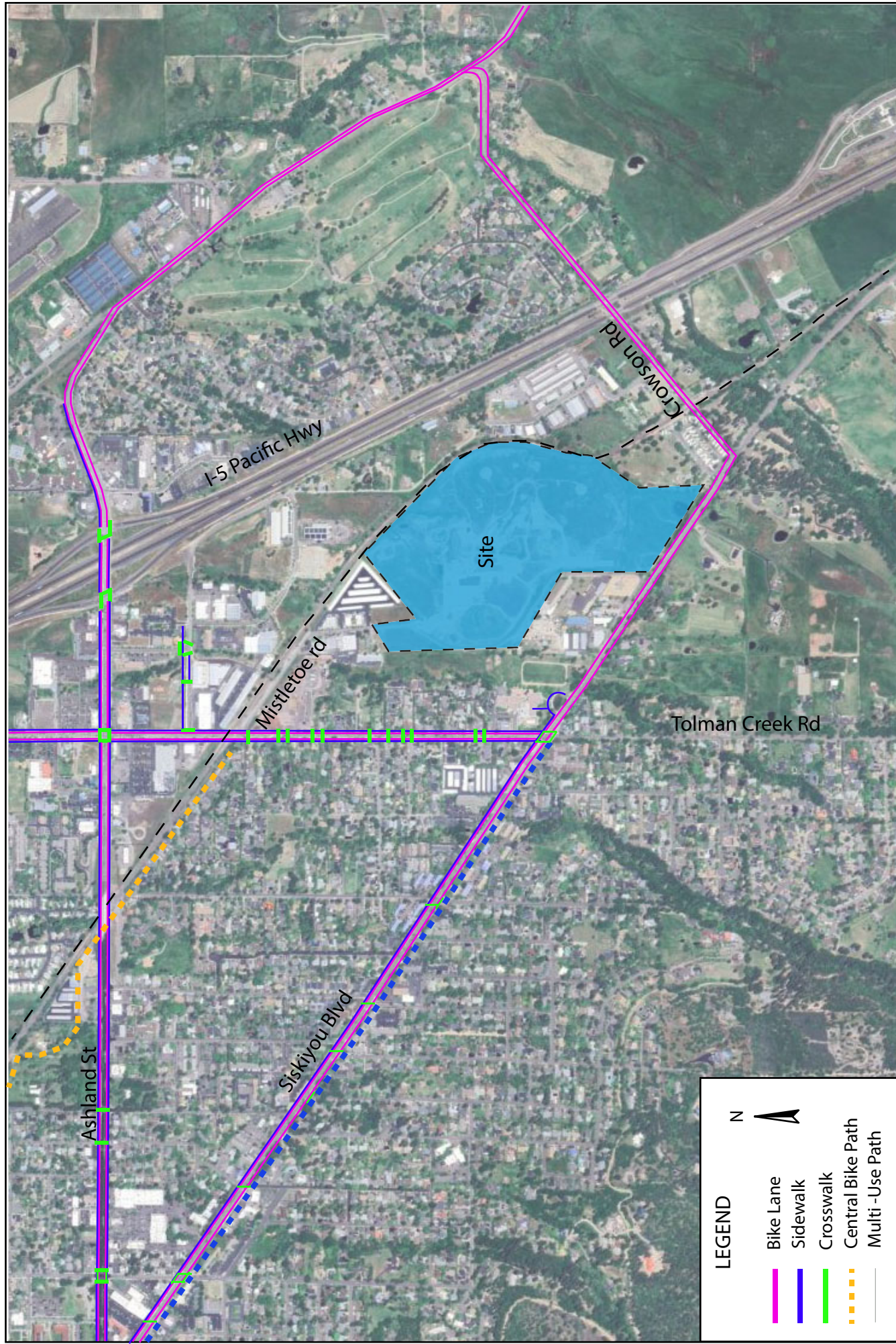


Figure 3: Existing Pedestrian Network

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3.0 CRASH ANALYSIS

A crash evaluation was performed for the study area intersections. The analysis investigates crash data available for the most recent 5 years, 1/1/2018-12/31/2022, to determine the crash rate in crashes per million entering vehicles, patterns of crashes that have occurred, and severity of crashes. The crash analysis follows the HSM Critical Crash Rate methodology outlined in ODOT's Analysis Procedures Manual. The intersection crash rates are compared to the calculated Critical Crash Rates. If the intersection crash rate exceeds the Critical Crash Rate, there is a pattern of crashes, or there are crashes with severe injuries or fatalities, the intersection is further evaluated for possible mitigation measures. The crash data is provided in Appendix C. The crash rates are provided in Table 2. Table 3 summarizes the crash data.

TABLE 2: INTERSECTION CRASH RATE

Location	Intersection Type	Number of Crashes	AADT	MEV	Crash Rate*	Critical Crash Rate*	
Ashland St at I-5 NB	Signal	4	14,170	25.86	0.15	0.51	Under
Ashland St at I-5 SB	Signal	3	16,540	30.19	0.10	0.49	Under
Ashland St at Tolman Creek	Signal	17	14,860	27.12	0.63	0.50	Over
Ashland St at Siskiyou	Signal	8	11,290	20.60	0.39	0.53	Under
Siskiyou at Tolman Creek	Stop	10	6,300	11.50	0.87	1.37	Under
Siskiyou at Mistletoe	Stop	0	2,620	4.78	-	-	-
Mistletoe at Tolman Creek	Stop	0	3,120	5.69	-	-	-

*(crashes/million entering vehicles)

Ashland Street at Tolman Creek Road has a crash rate that is higher than the Critical Crash Rate for the study area. All other intersections have crash rates under the Critical Crash Rate.

TABLE 3: INTERSECTION CRASH PATTERNS

Location	Number of Crashes	Types of Crashes						Severity		
		Head	Rear	Side	Turn	Other	Ped/Bike	PDO	Injury	Fatal
Ashland St at I-5 NB	4	0	2	0	1	1	0	1	3	0
Ashland St at I-5 SB	3	0	2	0	0	1	0	2	1	0
Ashland St at Tolman Creek	17	0	2	0	10	3	2	7	10	0
Ashland St at Siskiyou	8	0	3	0	2	1	2	1	7	0
Siskiyou at Tolman Creek	10	0	0	0	3	7	0	5	5	0
Siskiyou at Mistletoe	0	0	0	0	0	0	0	0	0	0
Mistletoe at Tolman Creek	0	0	0	0	0	0	0	0	0	0

*(crashes/million entering vehicles)

At the intersection of Ashland Street at Tolman Creek Road, there were 2 crashes involving pedestrians and a high number of injury crashes. Additionally, there were 2 pedestrian-involved crashes at the intersection of Ashland Street at Siskiyou Boulevard. The following discusses the crash patterns.

PEDESTRIAN CRASHES

Ashland Street at Tolman Creek Road: There were 3 crashes involving pedestrians within the past 5 years. The following describes the crashes.

- **November 1, 2020:** This crash occurred on a Sunday at approximately 8 PM. This crash involved a vehicle making a westbound left turn and a pedestrian in the crosswalk. The error was assigned to the pedestrian for disregarding the signal and for having non-reflective clothing.
- **December 2, 2020:** This crash occurred on a Wednesday at approximately 5 PM. This crash involved a vehicle making a westbound left turn and a pedestrian in the crosswalk on the south leg of the intersection. The error was assigned to the pedestrian for disregarding the signal.

Ashland Street at Siskiyou Boulevard: There were 2 crashes involving pedestrians in the past 5 years. The following describes the crashes.

- **October 27, 2019:** This crash occurred on a Sunday at approximately 5 PM. This crash involved a vehicle traveling southbound through on Siskiyou Boulevard and a pedestrian in the crosswalk crossing Siskiyou Blvd on the south side of the intersection. The error was assigned to the pedestrian for disregarding the pedestrian signal.
- **February 21, 2021:** This crash occurred on a Sunday at approximately 5 PM. This crash involved a vehicle making a westbound right turn from Ashland Street and a pedestrian in the crosswalk crossing across the Ashland Street approach. The error was assigned to the vehicle for failing to yield the right of way.

There are no apparent geometric or signal timing issues that resulted in the pedestrian-involved crashes at either of these intersections. Therefore, no specific mitigation is recommended.

VEHICLE CRASH PATTERNS

Ashland Street at Tolman Creek Road: This intersection has a crash rate that exceeds the study area's critical crash rate. Additionally, the majority of crashes involved turning movements. Most of the turning movement crashes involved a left turning vehicle colliding with oncoming through traffic; specifically, the eastbound and westbound left turns. The left turns have protected phasing; therefore, it is recommended that the red and yellow clearance intervals be reviewed and updated.

Siskiyou Highway at Tolman Creek Road: This intersection has the majority of crashes labeled as “other” crashes as they do not fit into the categories that other crashes typically fall into. These crashes included vehicles colliding with objects in the roadway (likely the stop sign that used to be in the roadway on Tolman Creek Road) or vehicles colliding with each other on turns. The City updated the geometry of the intersection, resulting in no more crashes of this type. There were 2 crashes in the year 2022; one was a rear end collision, and the second was a driver making a right turn from Tolman Creek Road onto Siskiyou and colliding with a stopped vehicle in the intersection. The geometric changes have reduced the crash frequency and type at this intersection. No further mitigation is recommended.

4.0 VEHICLE TRIP GENERATION AND DISTRIBUTION

4.1 VEHICLE TRIP GENERATION

The ITE Trip Generation Manual 11th edition is used to estimate the AM peak hour, PM peak hour, and Daily vehicle trips generated by this site to/from the adjacent street network. Tables 4, 5, and 6 provide the trip generation estimates during these times. The most reasonable ITE Land Uses/rates for each use are described in the following:

- **Single Family Detached Units-** ITE land use 210-Single Family Detached Housing is used for these units. The trips are estimated using the number of homes as the independent variable.
- **Single Family Attached Units-** ITE land use code 215-Single Family Attached Housing is used for these units. The trips are estimated using the number of homes as the independent variable.
- **Multi-Family Units-** ITE land use code 220 Multi-family Housing (Low-Rise) is used for these units. This land use is to be used when the buildings have at least 3 other dwelling units, and there are up to 3 floors with stacked units (a separate unit on the second or third floor). Trips are estimated using the number of units as the independent variable.
- **Commercial-** No specific tenants are identified for the commercial space. The commercial space is assumed to be a mix of 50% office, 25% restaurant, and 25% retail for the purposes of this study. ITE land use codes 720- General Office, 932- High-Turnover Restaurant, and 822- Strip Retail <40 ksf are used. ITE does not have a land use code for small standalone retail. Therefore, the small strip retail trip rates are used. The trips are estimated using the total building square footage as the independent variable.
- **Industrial-** Industrial on this site is anticipated to be small-scale light industrial uses. The most reasonable ITE code is 140- Manufacturing. This code is defined as having office, warehouse, and manufacturing uses, and the primary business is converting raw materials to goods.

- **Internal Trips-** The site's internal trips are calculated using NCHRP 684 and ITE Methodology. The AM peak hour is anticipated to have 9% internal trips. The PM Peak Hour is anticipated to have 10% internal trips. The ITE spreadsheets are included in Appendix D.

TABLE 4: VEHICLE TRIP GENERATION- AM PEAK HOUR

ITE Code	Units	Rate	Trips	In	Out
210- Single Family Detached	125	$\ln(T)=0.91\ln(x)+0.12$	91	23 (25%)	68 (75%)
215- Single Family Attached	150	$=0.52(x)-5.7$	72	18 (25%)	54 (75%)
220- Multi-Family	300	$=0.31(x)+22.54$	116	28 (24%)	88 (76%)
720- General Office	15 ksf	$\ln(T)=0.86\ln(x)+1.16$	33	29 (88%)	4 (12%)
932- High Turnover Restaurant	8 ksf	9.57	77	42 (55%)	34 (45%)
822- Strip Retail <40k	7 ksf	$\ln(T)=0.66\ln(x)+1.84$	23	14 (60%)	9 (40%)
140- Manufacturing	120 ksf	$=0.61(x)+9.54$	83	63 (76%)	20 (24%)
Total			494	216	278
Internal Trips		9%	-44	-19	-25
External Trips			450	197	253

TABLE 5: PEAK HOUR TRIP GENERATION- PM PEAK HOUR

ITE Code	Units	Rate	Trips	In	Out
210- Single Family Detached	125	$\ln(T)=0.94\ln(x)+0.27$	123	77 (63%)	45 (37%)
215- Single Family Attached	150	$=0.60(x)-3.93$	86	51 (59%)	35 (41%)
220- Multi-Family	300	$=0.43(x)+20.55$	150	95 (63%)	55 (37%)
720- General Office	15 ksf	$\ln(T)=0.83\ln(x)+1.29$	34	6 (17%)	29 (83%)
932- High Turnover Restaurant	8 ksf	9.05	72	44 (61%)	28 (39%)
822- Strip Retail <40k	120 ksf	$\ln(T)=0.71\ln(x)+2.72$	60	36 (60%)	24 (40%)
140- Manufacturing	120 ksf	0.74	89	28 (31%)	61 (69%)
Total			614	336	278
Internal Trips		16%	-98	-54	-44
External Trips			516	282	234

TABLE 6: PEAK HOUR TRIP GENERATION- DAILY TRIPS

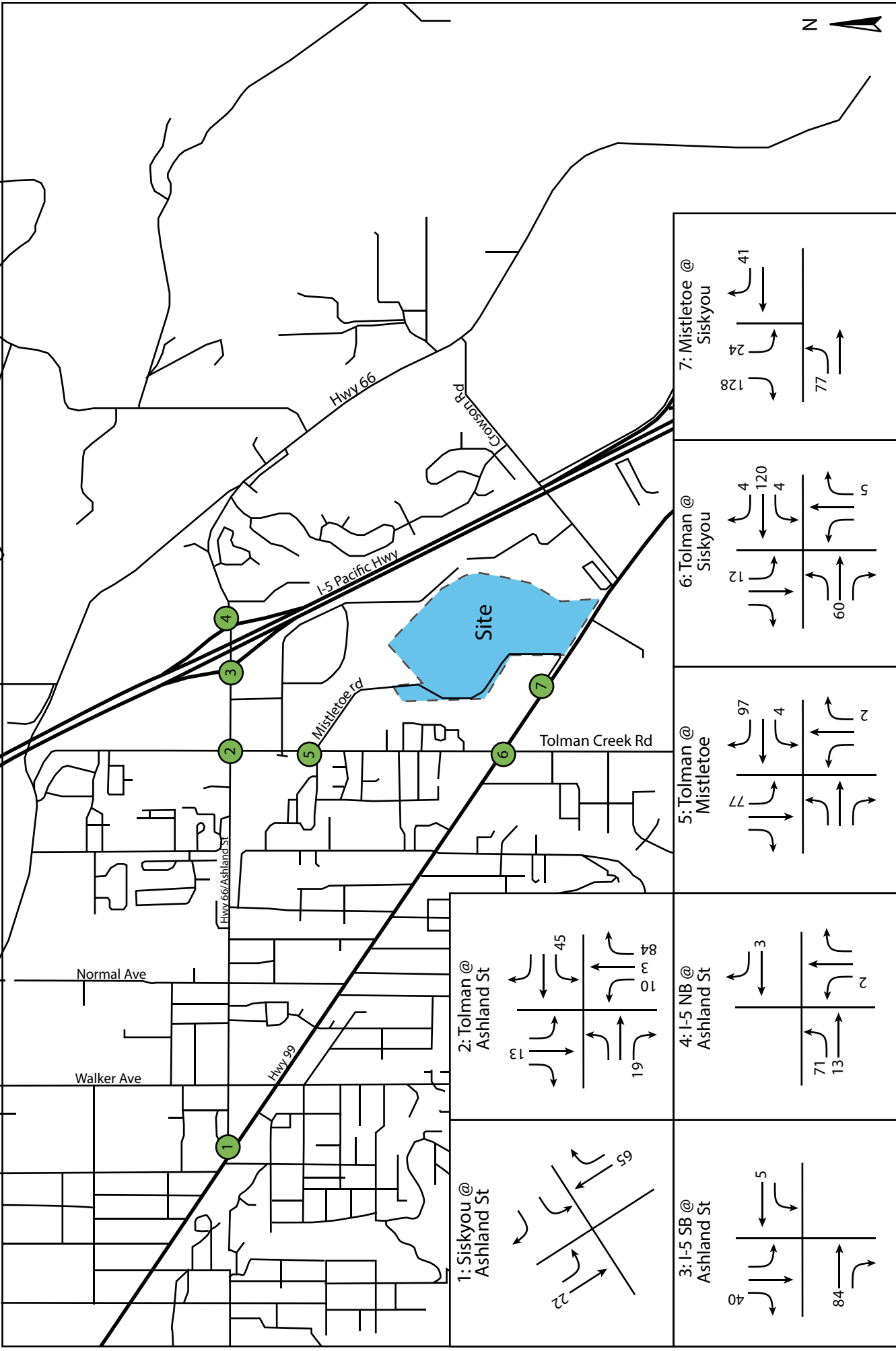
ITE Code	Units	Rate	Trips	In	Out
210- Single Family Detached	125	$\ln(T)=0.94\ln(x)+0.27$	1329	620 (50%)	619 (50%)
215- Single Family Attached	150	$=0.60(x)-3.93$	1093	546 (50%)	547 (50%)
220- Multi-Family	300	$=0.43(x)+20.55$	1998	999 (50%)	999 (50%)
720- General Office	15 ksf	$\ln(T)=0.83\ln(x)+1.29$	537	269 (50%)	268 (50%)
932- High Turnover Restaurant	8 ksf	9.05	858	429 (50%)	429 (50%)
822- Strip Retail <40k	120 ksf	$\ln(T)=0.71\ln(x)+2.72$	525	262 (50%)	263 (50%)
140- Manufacturing	120 ksf	0.74	654	327 (50%)	327 (50%)
Total			6904	3425	3452
Internal Trips		15%	-1036	-518	-518
External Trips			5868	2934	2934

4.2 TRIP DISTRIBUTION

The trips are distributed on the system using the Rouge Valley Council of Government (RVCOG) Transportation Demand Model (TDM) that is currently being managed by ODOT's Planning Analysis Unit. The Croman Mill site occupies the entirety of the Transportation Analysis Zone (TAZ) 732 and a portion of TAZ 729. The model was seeded with the number and mix of homes, and the number of employees that are anticipated to work within the commercial and industrial uses on site. The trips are then distributed on the network based on the underlying model information. Appendix D contains the model outputs.

The data seeded into the TAZs does not represent the total trips generated by the site, as the model does not take into consideration the number of customers, visitors, or deliveries to the site. Therefore, the model is used for determining the travel patterns but not the exact number of trips on each roadway. The model run trips on each roadway were converted into percentages of overall trips, and those percentages are used to distribute the site trips found within Tables 4 and 5 above.

Figure 4 illustrates the trip distribution in the AM peak hour, and Figure 5 illustrates the trip distribution during the PM Peak hour.



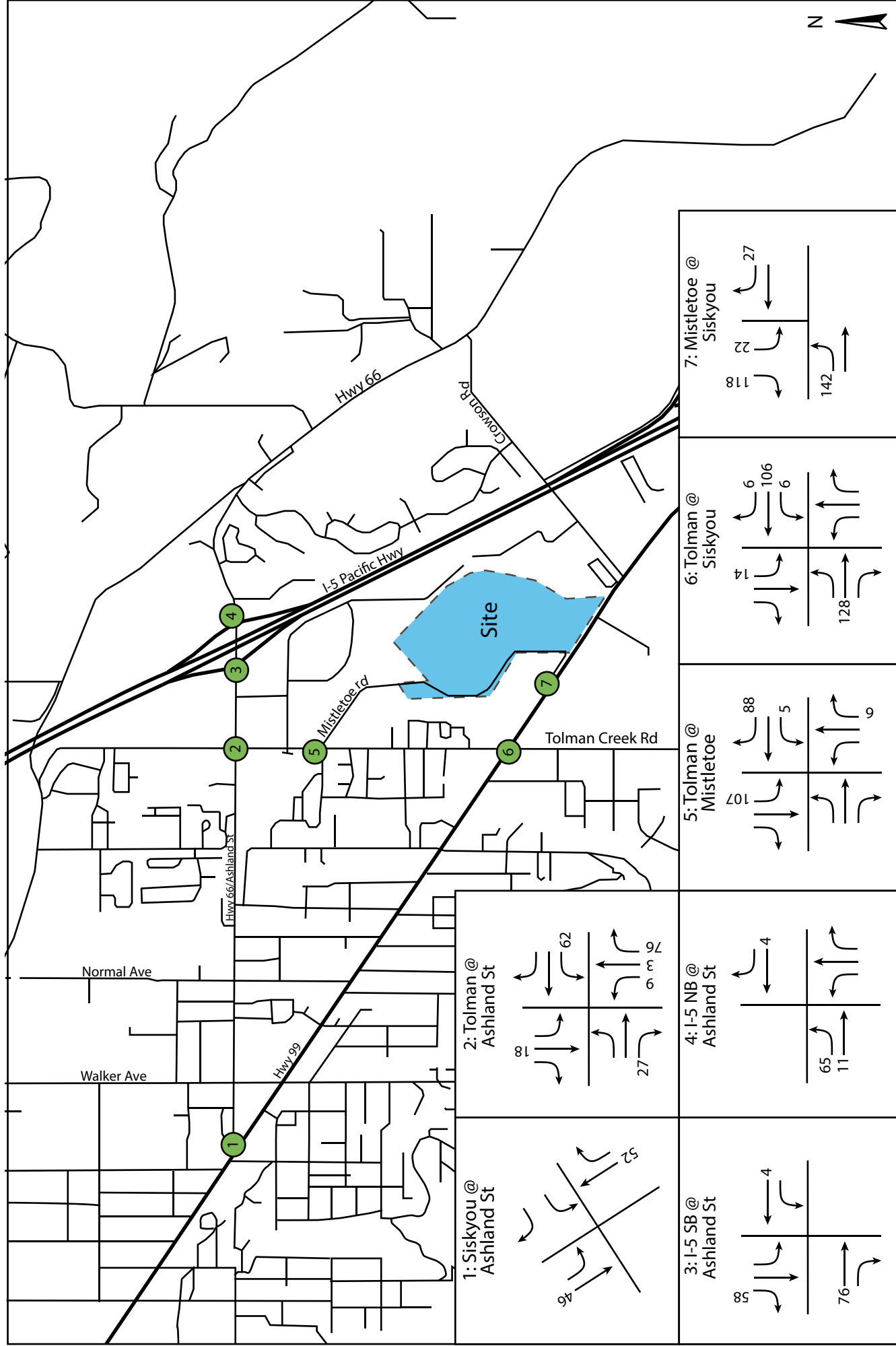
1: Siskyou @ Ashland St	2: Tolman @ Ashland St	3: I-5 SB @ Ashland St	4: I-5 NB @ Ashland St	5: Tolman @ Mistletoe	6: Tolman @ Siskyou	7: Mistletoe @ Siskyou

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Figure 4: AM Peak Hour Development Trip Distribution

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Figure 5: PM Peak Hour Development Trip Distribution

5.0 INTERSECTION TRAFFIC VOLUMES

5.1 INTERSECTION COUNTS

Turning movement counts were collected in May of 2024 at the study intersections from 6:00-9:00 AM and 3:00-6:00 PM. The peak hours of the system are from 8:00 AM-9:00 AM and 3:00-4:00 PM.

The traffic counts are included in Appendix E.

5.2 COUNT ADJUSTMENTS

The application of seasonal adjustment factors (SAF) accounts for the fact that volumes along State Highways and recreational routes tend to fluctuate from month to month due to changes in recreational behavior, etc. Monthly volume variations for routes with recreational traffic show much higher seasonal peaking than routes with predominantly intercity traffic. ODOT's Analysis Procedures Manual details the methodology for calculating the seasonal adjustment factor.

Counts on the local street network were deemed to be taken during peak season since the counts were taken during typical commuter and school travel days. The counts were taken when both the Ashland K-12 schools and Southern Oregon University were on normal schedules. Therefore, no seasonal adjustment factor was applied.

Intersections on Siskiyou Boulevard from Tolman Creek Road to the south are more rural in nature and may experience seasonal peaking. The area to the south is primarily rural residential; therefore, any seasonal peaking would likely be from commuter peaks. Using the ODOT Seasonal Trend Table, the SAF for the May counts using the commuter trend is 1.02. The 1.02 SAF was applied to counts on Siskiyou Boulevard from Tolman Creek Road to the south.

5.3 FUTURE YEAR BACKGROUND VOLUMES

The proposed site development is projected to be completed by the year 2030. Consistent with the traffic impact analysis criteria, the intersections were evaluated for the year of completion, the year 2030, and a 5-year planning horizon, the year 2035.

As requested by ODOT, the growth within the study area is determined using the RVCOG Travel Demand Model (TDM). The base Year 2017 and future year 2045 model outputs were obtained from ODOT's Transportation Planning Analysis Unit. The year 2030 and year 2035 background traffic volumes were estimated using the TDM model outputs following ODOT's methodology outlined in ODOT's Analysis Procedures Manual (APM). The following briefly describes the process for estimating the year 2030 and year 2035 intersection turning movement volumes using the TDM model runs.

- 1) The model outputs have data seeded within the site's TAZ (TAZ 732). The trips from the TAZ were removed from the roadway links for the base year 2017 and future year 2045 volumes.
- 2) The year 2024 traffic counts are converted into link inflows and outflows.

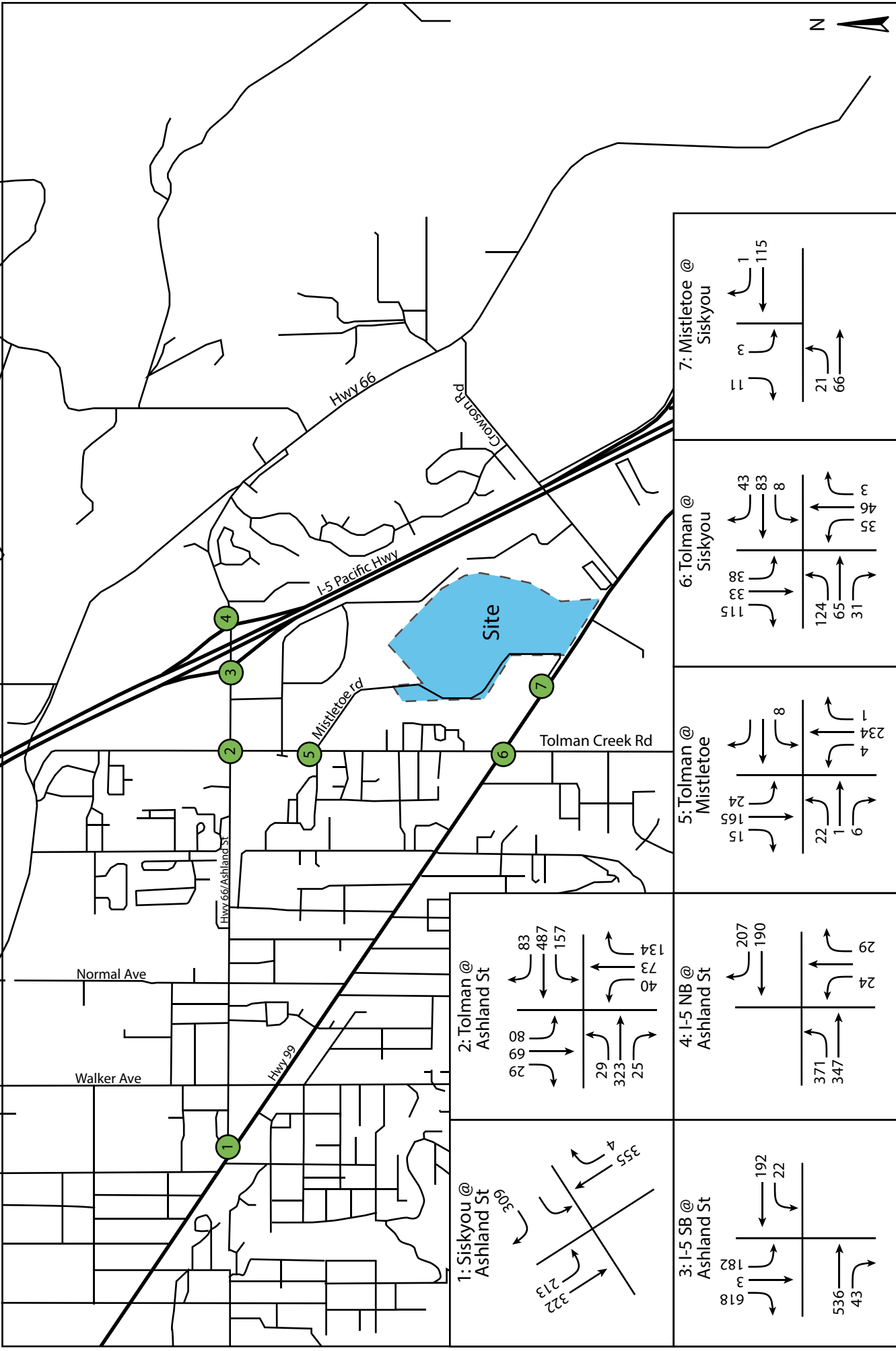
- 3) The year 2024 inflows and outflows are grown to the year 2030 and year 2035 inflows and outflows following the APM methodology. The data is provided in Appendix E.
- 4) The year 2030 and year 2035 inflows and outflows are post-processed to turning movement volumes at the study area intersections using TurnsW32 software. The outputs from the software are included in Appendix E.

The TDM model predicts that between the year 2017 and year 2045, many of the roadways within the study area will have a reduction in traffic volumes.

5.4 FINAL TRAFFIC VOLUMES

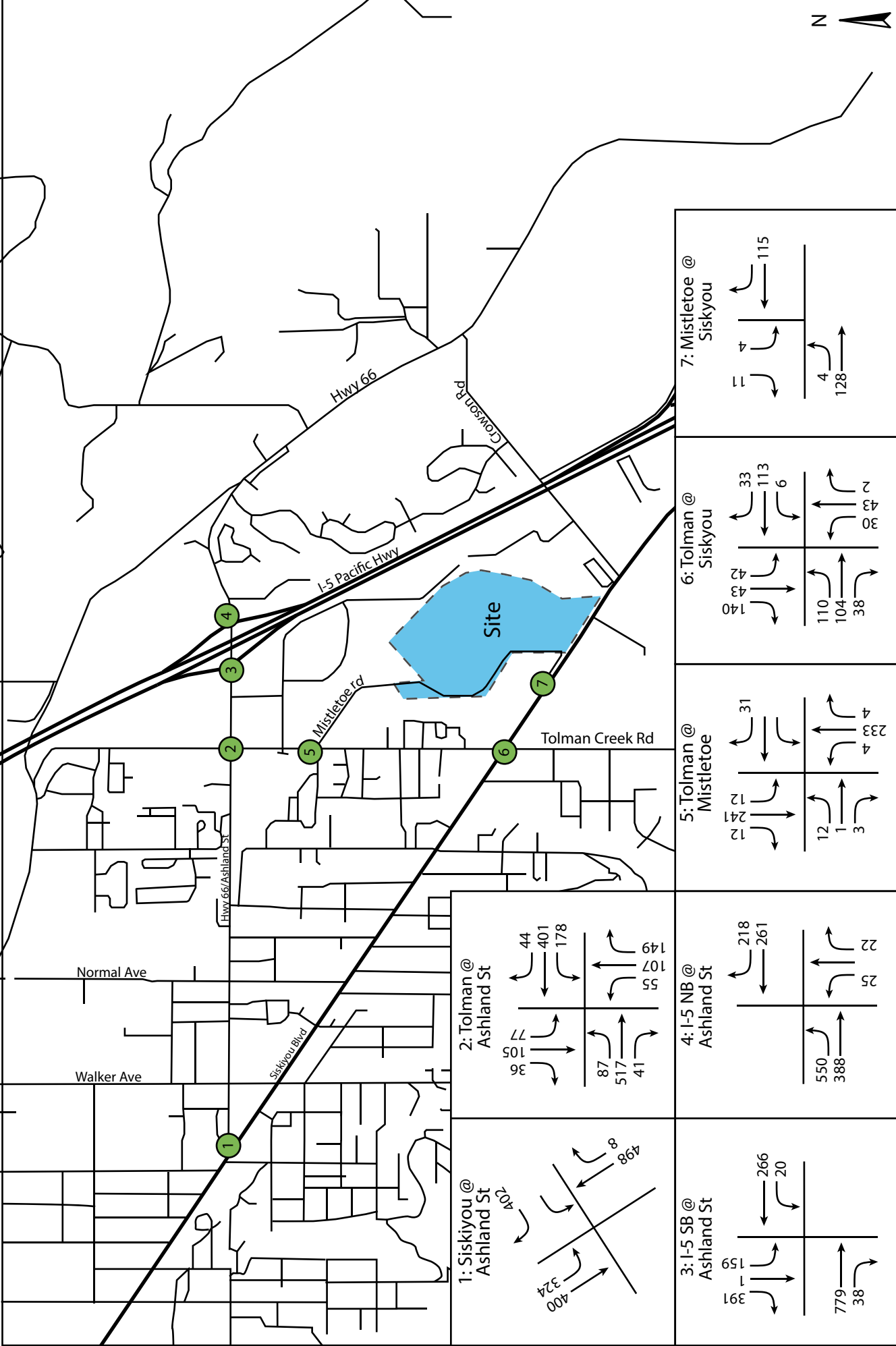
The existing traffic volumes were adjusted according to the methodology described above. The development trips are added to the background traffic to volume to represent the build conditions. The traffic volumes are provided in the following figures:

- Figure 6- Year 2024 AM Peak Hour
- Figure 7- Year 2024 PM Peak Hour
- Figure 8- Year 2030 AM Peak Hour Background
- Figure 9- Year 2030 PM Peak Hour Background
- Figure 10- Year 2035 AM Peak Hour Background
- Figure 11- Year 2035 PM Peak Hour Background
- Figure 12- Year 2030 AM Peak Hour with Development
- Figure 13- Year 2030 PM Peak Hour with Development
- Figure 14- Year 2035 AM Peak Hour with Development
- Figure 15: Year 2035 PM Peak Hour with Development



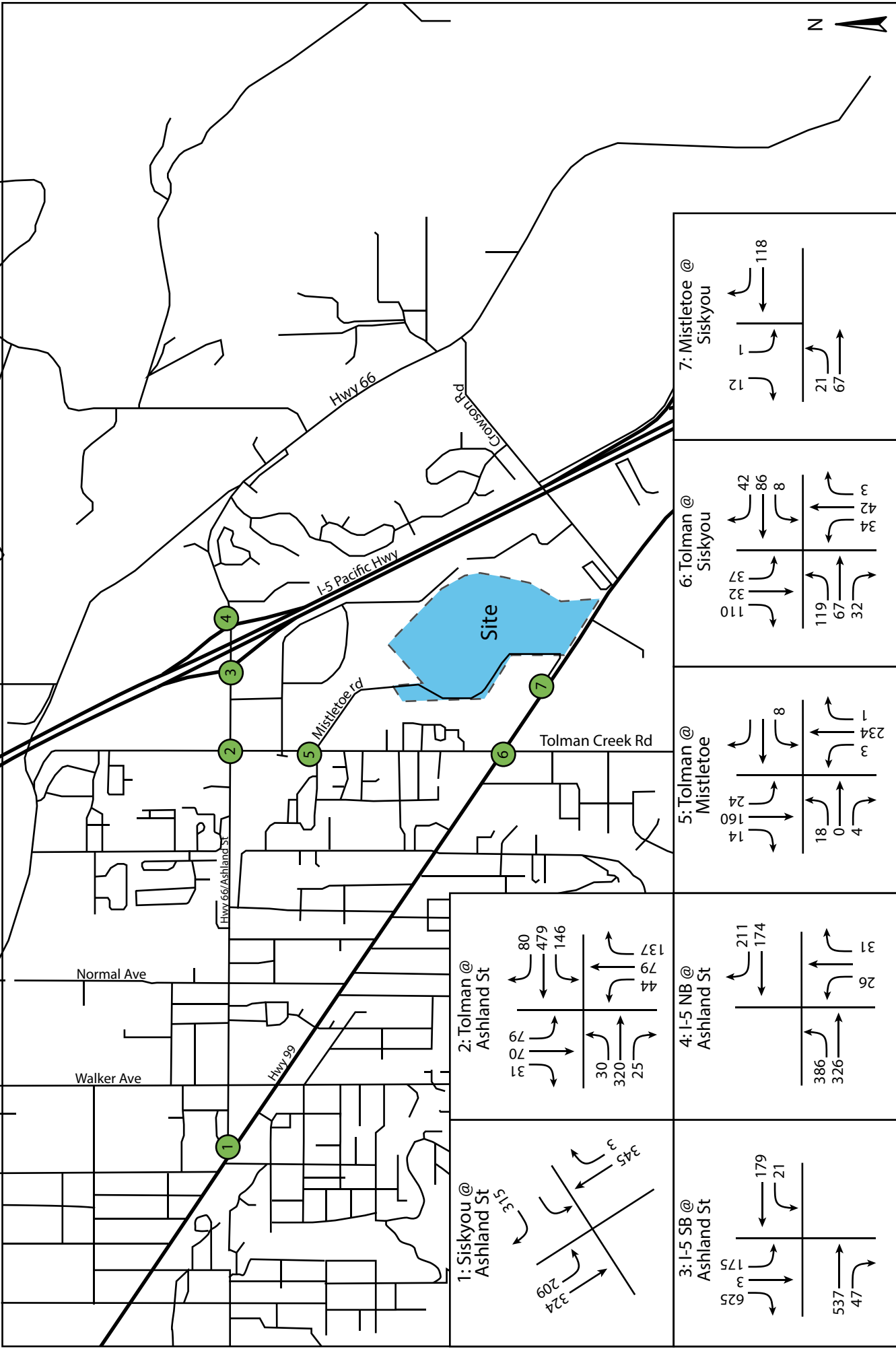
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Figure 6: Year 2024 AM Peak Hour Traffic Volumes



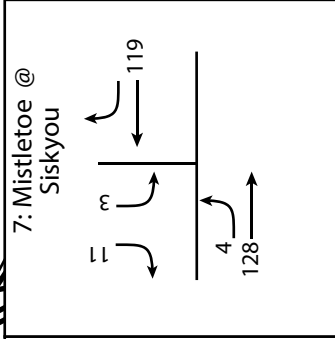
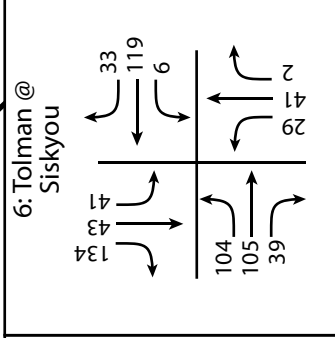
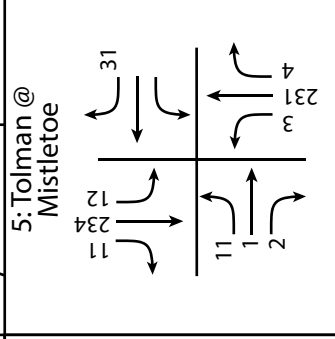
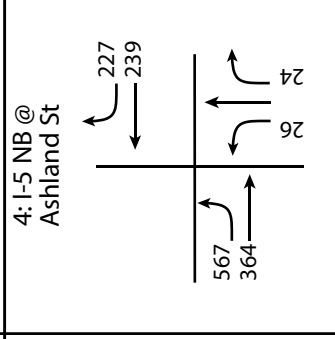
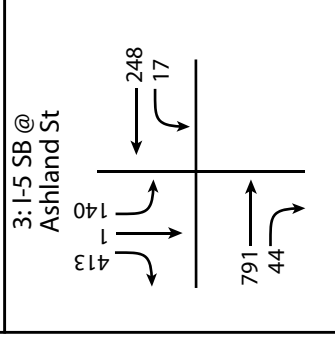
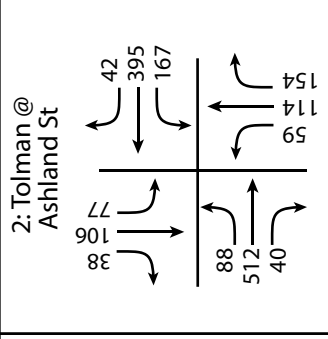
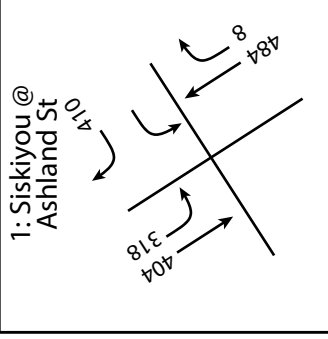
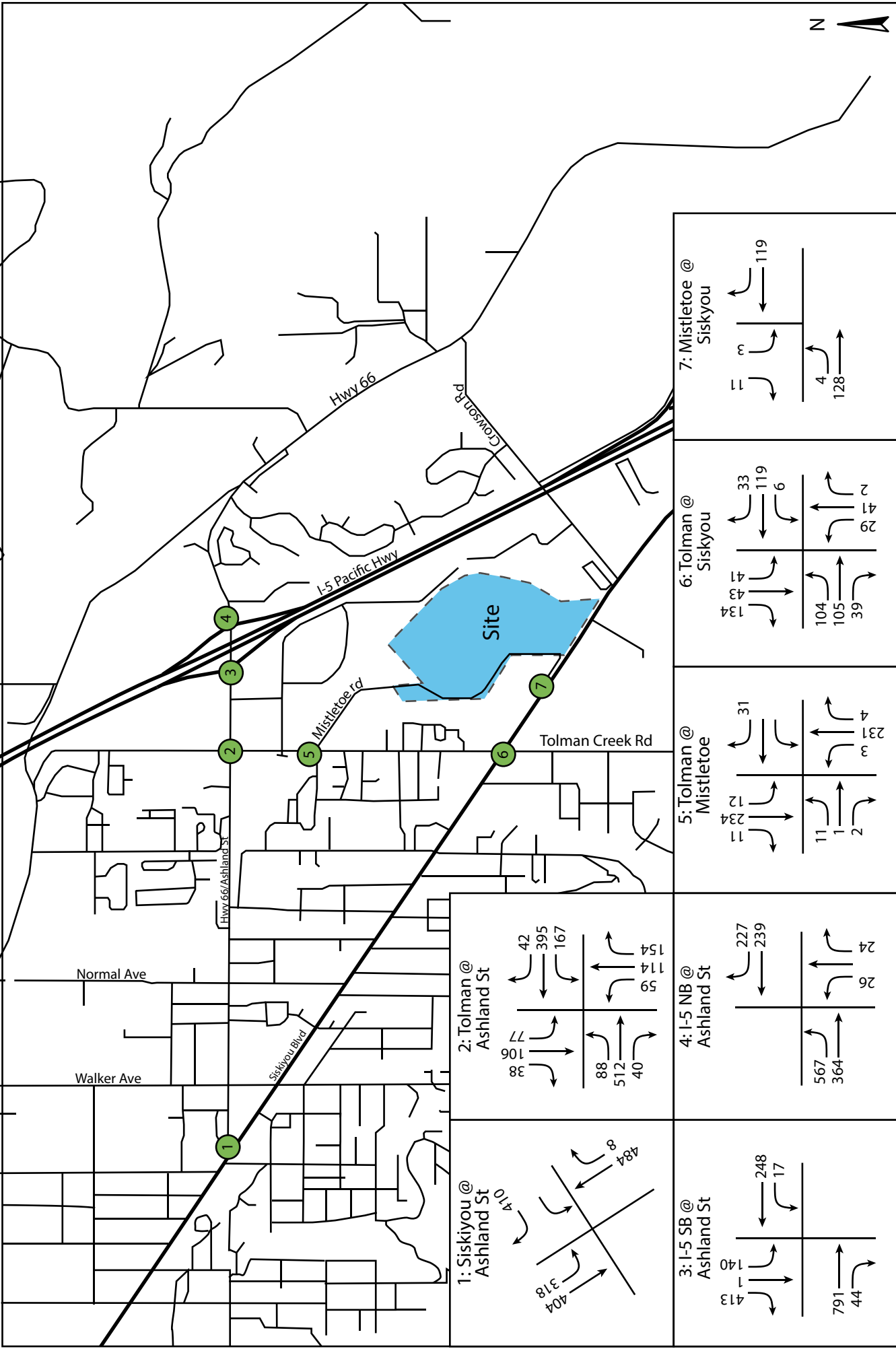
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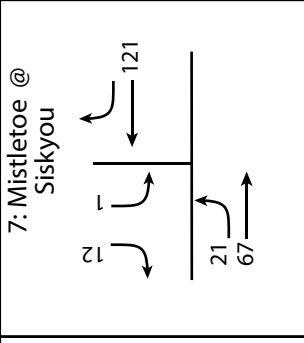
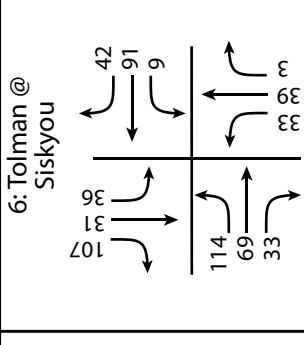
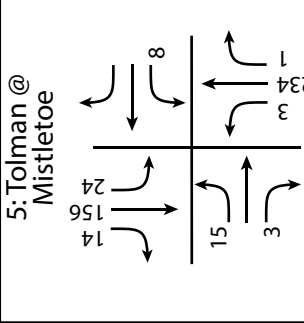
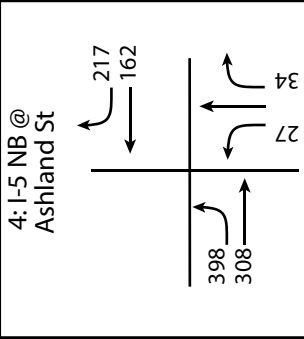
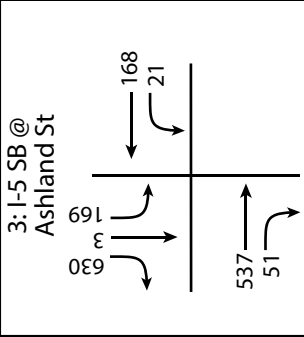
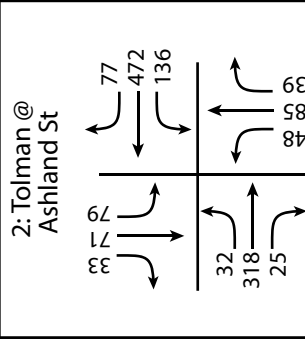
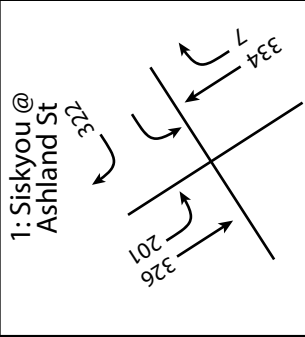
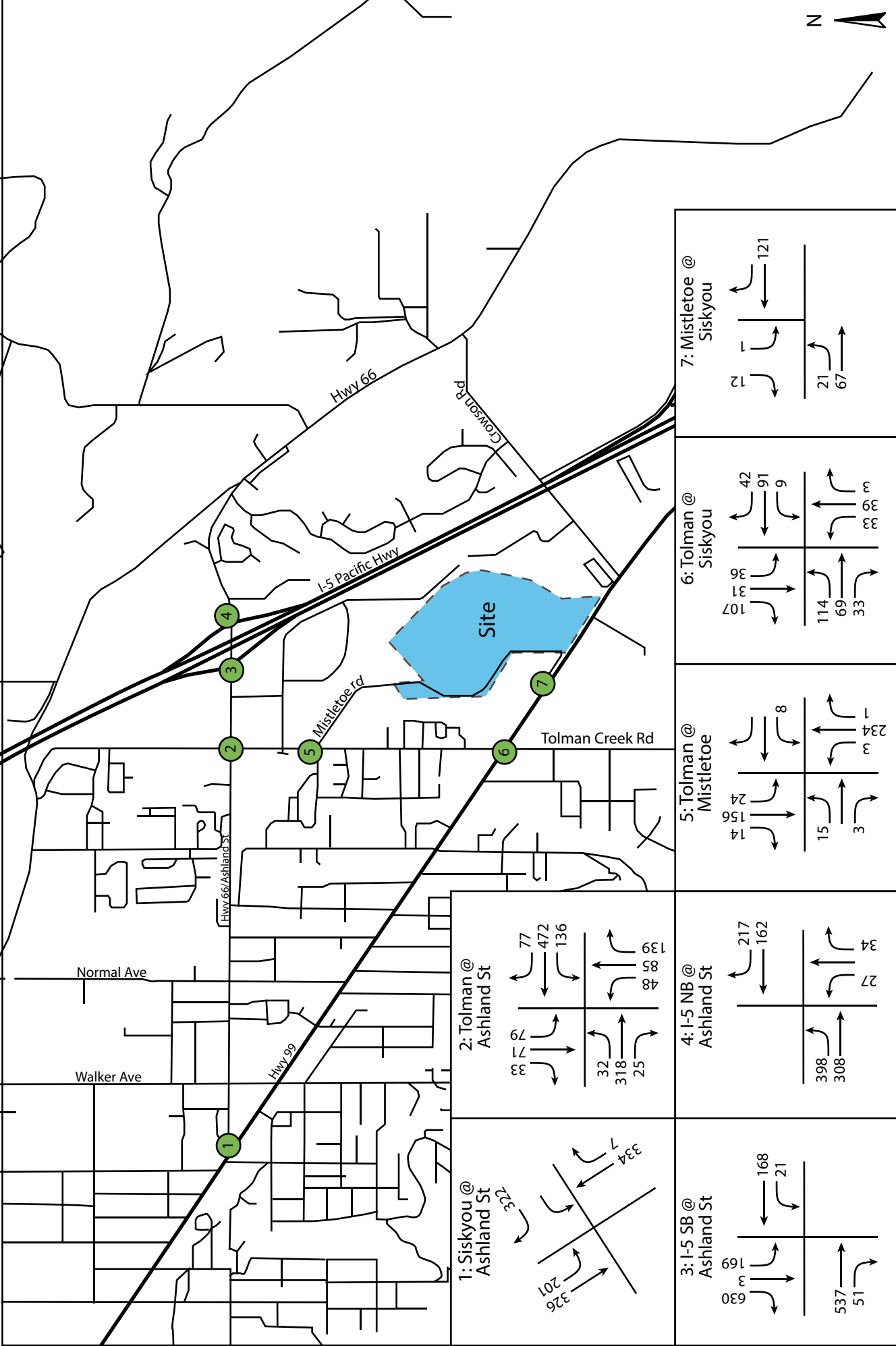
Figure 7: Year 2024 PM Peak Hour Traffic Volumes



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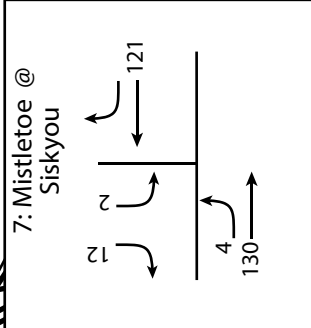
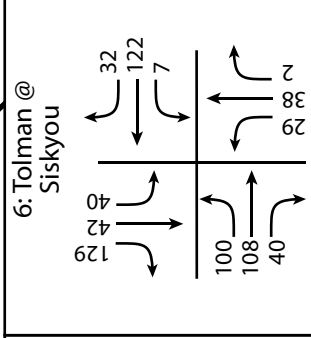
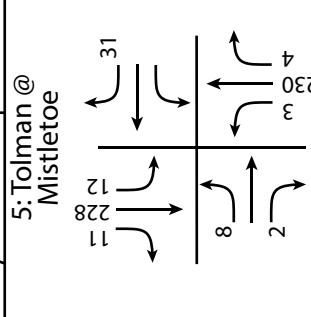
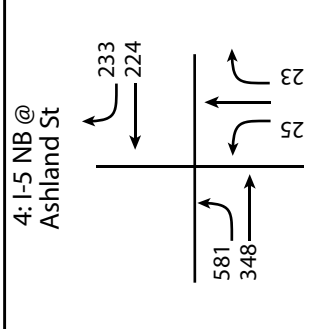
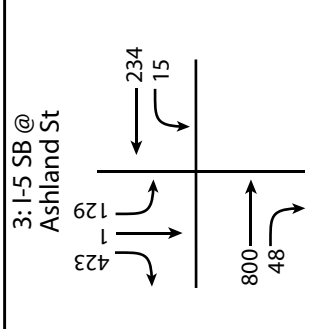
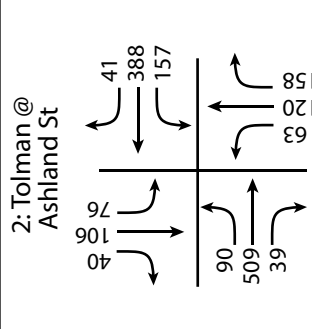
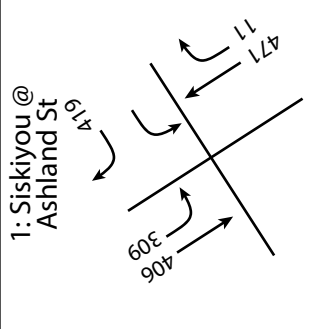
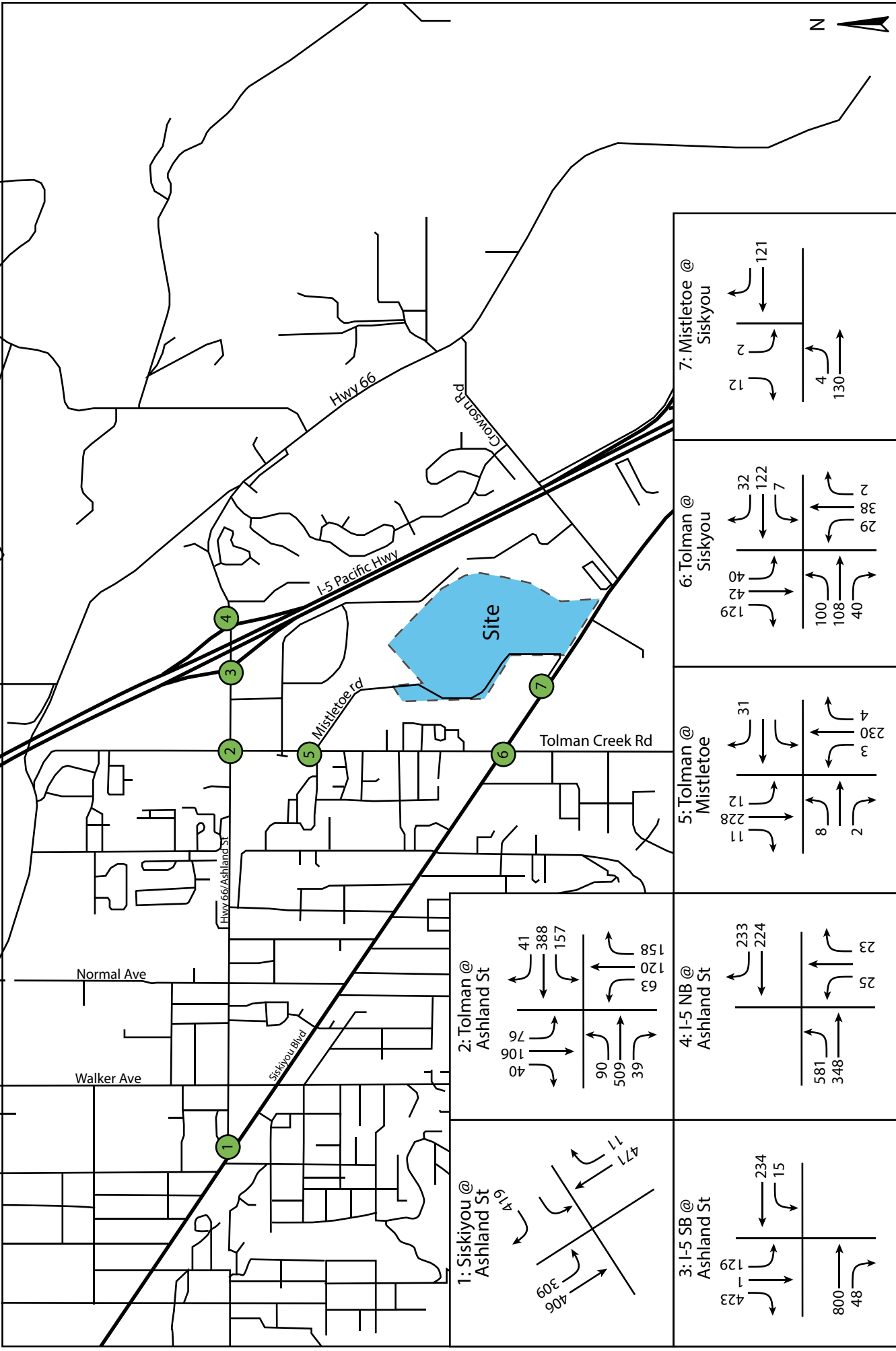
Figure 8: Year 2030 AM Peak Hour Background

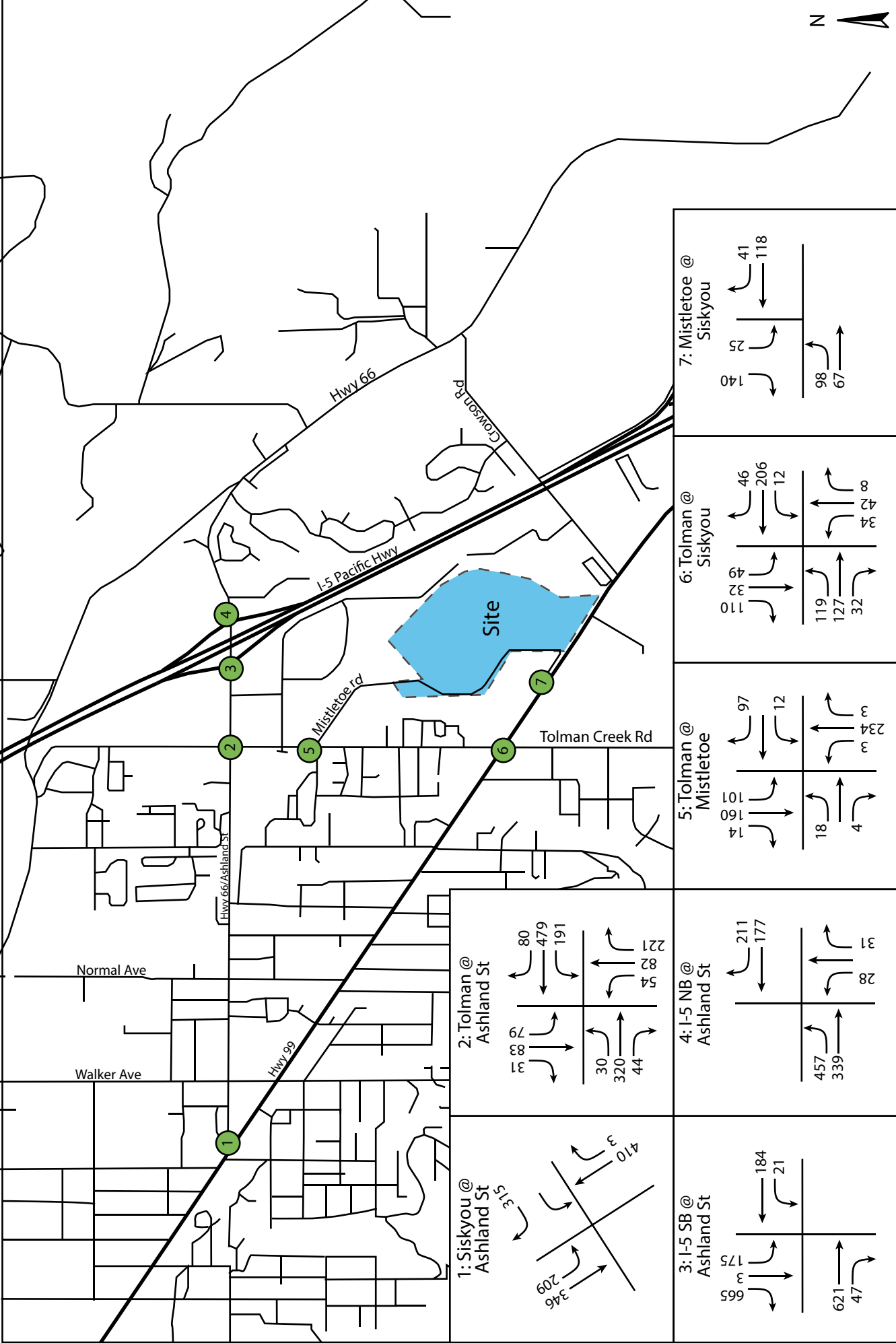




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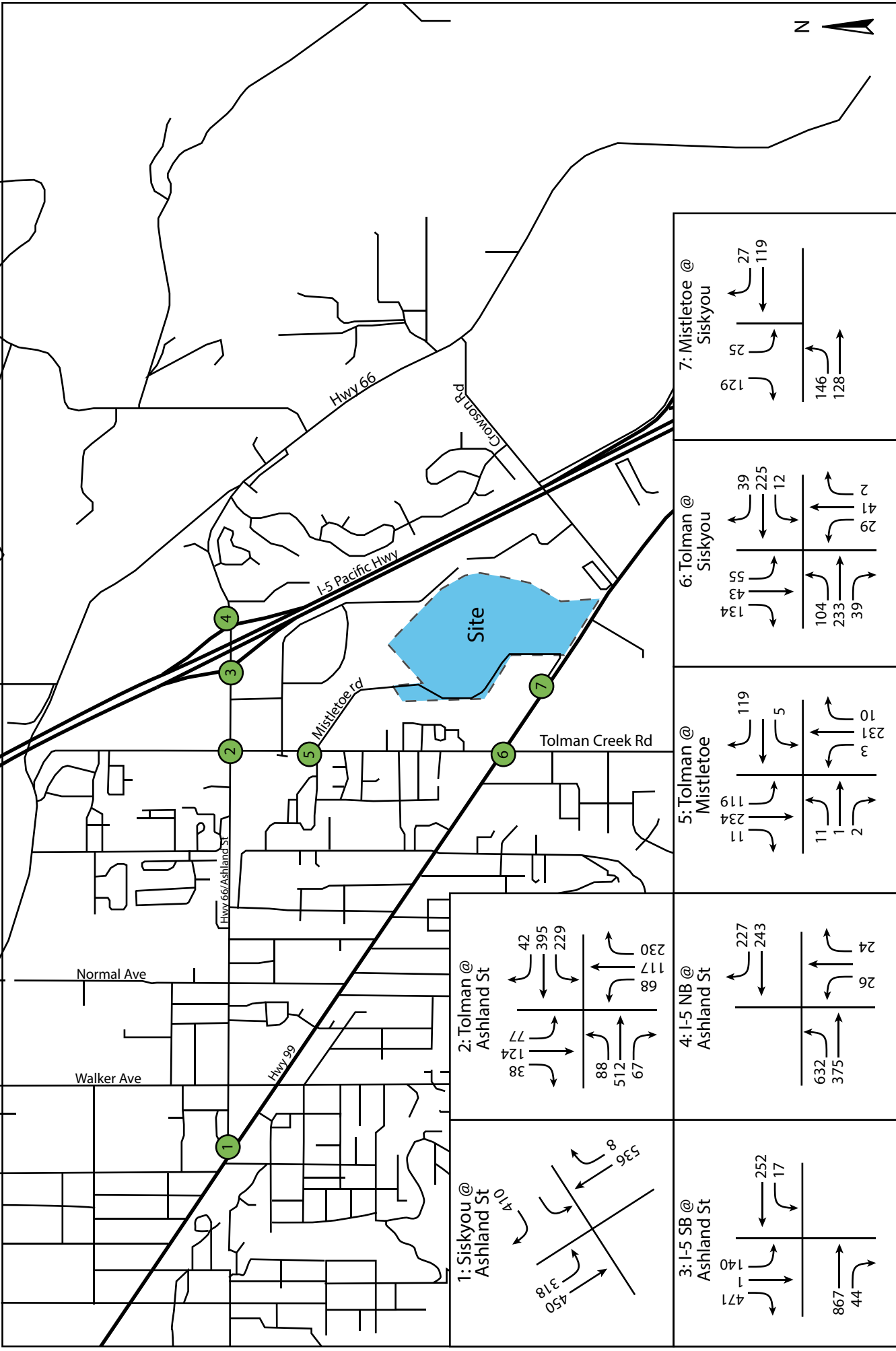
Figure 10: Year 2035 AM Peak Hour Background



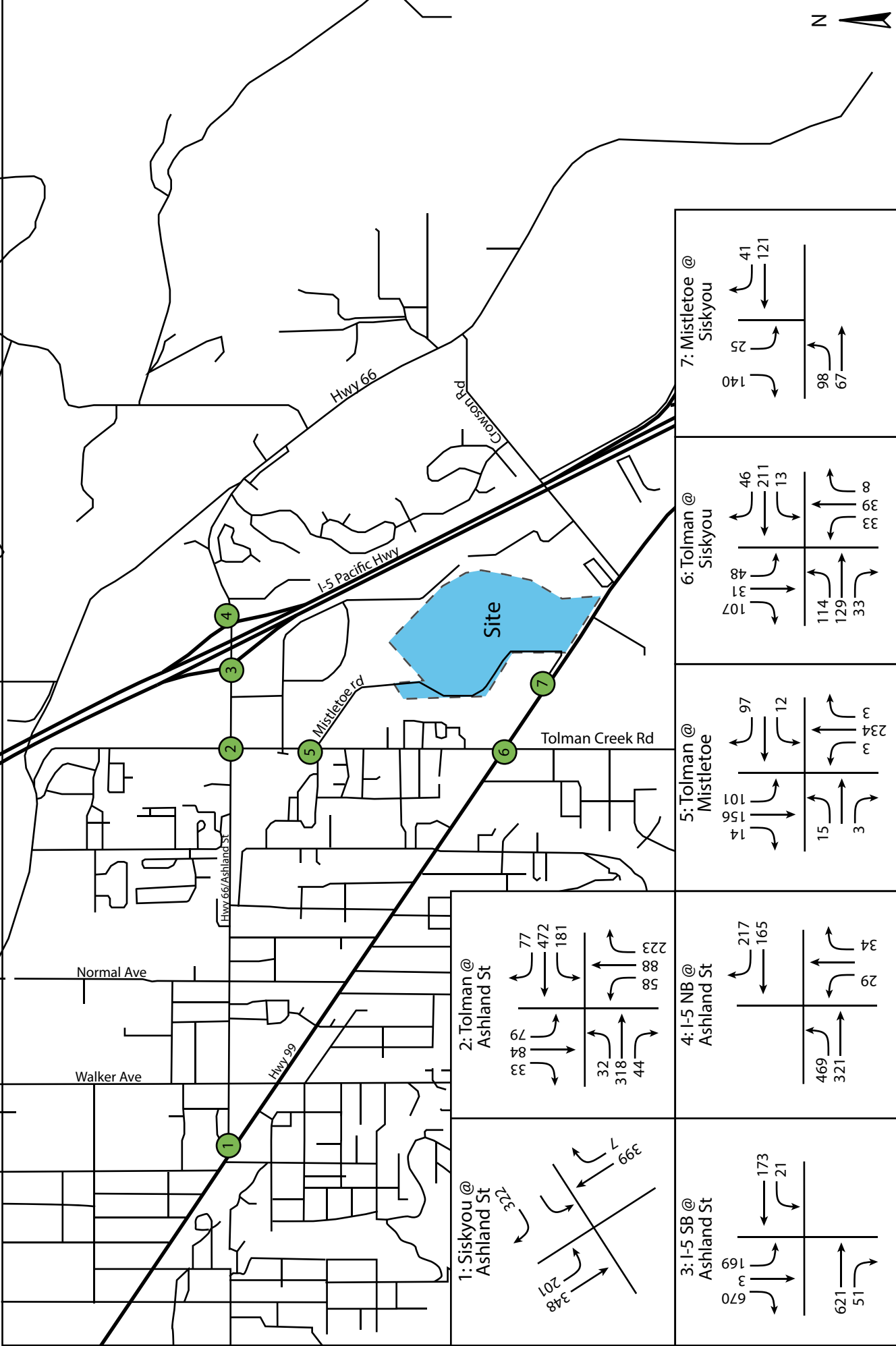


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Figure 12: Year 2030 AM Peak Hour with Development

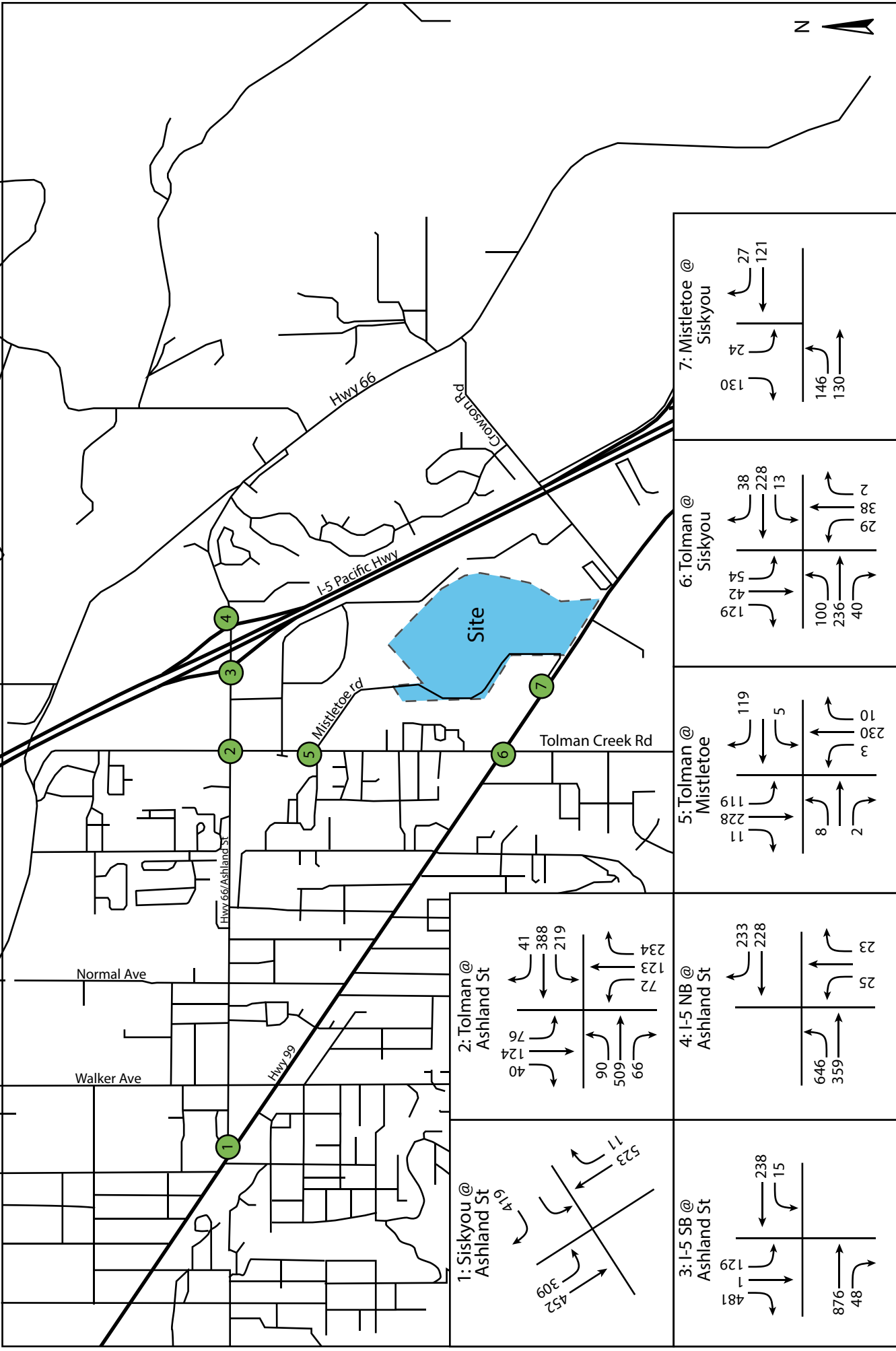


1: Siskyou @ Ashland St	2: Tolman @ Ashland St	3: I-5 SB @ Ashland St	4: I-5 NB @ Ashland St	5: Tolman @ Mistletoe	6: Tolman @ Siskyou	7: Mistletoe @ Siskyou



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Figure 14: Year 2035 AM Peak Hour with Development



1: Siskyou @ Ashland St	
419	523
452	309
11	11

2: Tolman @ Ashland St	
41	388
219	123
234	72

3: I-5 SB @ Ashland St	
129	238
481	15
876	48

4: I-5 NB @ Ashland St	
233	228
23	25
646	359

5: Tolman @ Mistletoe	
119	119
228	5
8	2

6: Tolman @ Siskyou	
38	228
13	2
29	38

7: Mistletoe @ Siskyou	
27	121
24	130
146	130

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Figure 15: Year 2035 PM Peak Hour with Development

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6.0 INTERSECTION ANALYSIS

6.1 PERFORMANCE MEASURES

The City of Ashland uses a Level of Service (LOS) standard for intersections under the City's jurisdiction. The LOS standard 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. Average delay is measured in seconds per vehicle per hour and is 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 City of Ashland has a standard of LOS D for all intersections.

The LOS criteria, as defined by the Highway Capacity Manual (HCM 6) for signalized intersections, are provided in Table 7.

TABLE 7: 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

Oregon Department of Transportation uses a volume-to-capacity ratio (v/c) for intersections within their jurisdiction. Volume-to-capacity ratio describes the capability of an intersection to meet volume demand based on the maximum number of vehicles that could be served in an hour. As defined in the Oregon Highway Plan (OHP), the V/C thresholds are based on roadway classification and speed. Highway 66 (Ashland Street) and Highway 99 (Siskiyou Boulevard) are classified as District Highways, and the study area is within the RVCOG MPO area. Therefore, all intersections

are to have a v/c of 0.95. As per the OHP, intersections serving as ramp terminals are to operate at a v/c of 0.85 or better.

Table 8 below provides the standard for each of the studied intersections.

TABLE 8: INTERSECTION STANDARDS

Intersection	Jurisdiction	Control	Standard
Ashland Street at I5 NB Ramps	ODOT	Signal	v/c 0.85
Ashland Street at I5 SB Ramps	ODOT	Signal	v/c 0.85
Ashland Street at Tolman Creek	ODOT	Signal	v/c 0.85
Ashland Street at Siskiyou Boulevard	City	Signal	LOS D
Siskiyou Highway at Tolman Creek Road	ODOT	Stop	v/c 0.95
Siskiyou Highway at Mistletoe	ODOT	Stop	v/c 0.95
Siskiyou Highway at Site Access	ODOT	Stop	v/c 0.95
Tolman Creek Road at Mistletoe Road	City	Stop	LOS D

6.2 INTERSECTION ANALYSIS RESULTS

A performance analysis was conducted for the studied intersections for the Years 2024, 2030, and 2035 conditions during the AM and PM peak hours. The intersection evaluation was performed using Synchro 10, utilizing the HCM 6 methodology. The results are shown in Table 9 for the AM peak hour and Table 10 for the PM peak hour. The SYNCHRO outputs are provided in Appendix F.

TABLE 9: INTERSECTION PERFORMANCE: WEEKDAY AM PEAK HOUR

Intersection	Mobility Standard	2024 Background	2030 Background	2030 Build	2035 Background	2035 Build
Ashland Street at I5 NB Ramps	0.85	0.60	0.60	0.67	0.60	0.67
Ashland Street at I5 SB Ramps	0.85	0.75	0.75	0.77	0.75	0.77
Ashland Street at Tolman Creek	0.85	0.66	0.67	0.81	0.67	0.81
Ashland Street at Siskiyou Boulevard	D	A	A	A	A	A
Siskiyou Highway at Tolman Creek Road	0.95	0.37	0.35	0.53	0.34	0.52
Siskiyou Highway at Mistletoe	0.95	0.02	0.02	0.02	0.02	0.02
Siskiyou Highway at Site Access	0.95	-	-	0.16	-	0.16
Tolman Creek Road at Mistletoe Road	D	B	B	C	B	C

As demonstrated in Table 9, all intersections will meet the LOS and v/c standards through the year 2035 with the full development in place.

TABLE 10: INTERSECTION PERFORMANCE: WEEKDAY PM PEAK HOUR

Intersection	Mobility Standard	2024 Background	2030 Background	2030 Build	2035 Background	2035 Build
Ashland Street at I5 NB Ramps	0.85	0.77	0.77	0.81	0.77	0.82
Ashland Street at I5 SB Ramps	0.85	0.81	0.80	0.82	0.79	0.81
Ashland Street at Tolman Creek	0.85	0.73	0.75	0.82	0.75	0.83
Ashland Street at Siskiyou Boulevard	D	B	B	B	B	B
Siskiyou Highway at Tolman Creek Road	0.95	0.41	0.40	0.63	0.39	0.61
Siskiyou Highway at Mistletoe	0.95	0.02	0.02	0.03	0.02	0.03
Siskiyou Highway at Site Access	0.95	-	-	0.16	-	0.16
Tolman Creek Road at Mistletoe Road	D	B	B	C	B	C

As demonstrated in Table 10, all intersections will meet the LOS and v/c standards through the year 2035 with the full development in place.

6.3 QUEUE ANALYSIS

A queuing analysis was conducted for the studied intersections. The queuing 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 11 for the AM peak hour and Table 12 for the PM peak hour. 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 G.

TABLE 11: INTERSECTION QUEUING: WEEKDAY AM PEAK HOUR

Intersection			Available Storage (Feet)	2024 Background (Feet)		2030 Background (Feet)		2030 Build (Feet)		2035 Background (Feet)		2035 Build (Feet)	
				95 th	Average	95 th	Average	95 th	Average	95 th	Average	95 th	Average
Ashland at I-5 SB Ramps	EB	T	360	200	100	225	100	225	125	175	100	250	150
	EB	R	230	25	0	25	0	25	25	25	25	25	0
	WB	L	120	75	25	75	25	50	25	50	25	50	25
	WB	T	425	100	50	75	50	75	50	75	50	75	25
	SB	LT	340	150	50	100	50	175	75	225	75	225	75
	SB	R	330	200	125	200	100	250	150	250	125	275	150
Ashland at I-5 NB Ramps	EB	L	250	150	100	175	100	175	125	150	100	200	125
	EB	T	425	75	25	75	25	50	25	75	25	50	25
	WB	T	760	100	50	100	50	100	50	100	50	100	50
	WB	R	260	75	50	100	50	100	50	100	50	125	50
	NB	LT	950	50	25	50	25	75	25	50	25	50	25
	NB	R	160	75	25	75	25	75	25	50	25	75	25
Tolman Creek at Ashland	EB	L	300	50	25	75	25	75	25	75	25	75	25
	EB	T	400	125	75	150	75	150	100	125	75	150	100
	EB	TR	400	75	50	75	50	100	50	100	50	100	50
	WB	L	275	125	75	125	75	150	100	125	75	150	100
	WB	T	650	100	50	100	50	100	50	100	50	100	50
	WB	TR	650	125	75	125	75	125	100	125	75	125	100
	NB	L	150	75	25	75	25	100	50	75	50	75	50
	NB	TR	600	125	75	150	75	200	100	150	75	200	100
	SB	L	125	75	50	100	50	100	50	100	50	100	50
Siskiyou at Ashland	SB	TR	370	100	50	100	50	100	50	100	50	100	50
	WB	R	550	25	25	25	25	25	25	25	25	50	25
	NB	T	530	25	25	100	50	100	75	100	75	100	75
	NB	TR	530	100	75	100	50	100	75	100	50	100	75
	SB	L	210	100	75	100	75	75	25	100	75	125	75
Tolman Creek at Mistletoe	SB	T	210	100	50	100	50	125	75	100	50	125	50
	EB	LTR	300	50	25	50	25	50	25	50	25	50	25
	WB	LTR	500+	25	25	25	25	50	25	25	25	50	25
	NB	LTR	275	25	25	25	25	0	0	25	25	25	25
Siskiyou at Tolman Creek	SB	LTR	425	50	25	50	25	75	25	50	25	75	25
	EB	LTR	400	50	25	25	25	50	25	50	25	50	25
	WB	LTR	725	25	0	25	0	25	25	25	25	25	25
	NB	LTR	575	50	50	50	25	75	50	50	50	75	50
Siskiyou at Mistletoe	SB	LTR	422	100	50	100	50	125	75	100	50	125	75
	EB	LT	1000+	25	25	25	25	25	25	25	25	25	25
Siskiyou at Access	SB	LR	250	25	25	25	25	25	25	25	25	25	25
	EB	LT	150	N/A	N/A	N/A	N/A	50	25	N/A	N/A	50	25
	SB	L	150	N/A	N/A	N/A	N/A	50	25	N/A	N/A	50	25
	SB	R	150	N/A	N/A	N/A	N/A	75	50	N/A	N/A	50	50

TABLE 12: INTERSECTION QUEUING: WEEKDAY PM PEAK HOUR

Intersection			Available Storage (Feet)	2024 Background (Feet)		2030 Background (Feet)		2030 Build (Feet)		2035 Background (Feet)		2035 Build (Feet)	
				95 th	Average	95 th	Average	95 th	Average	95 th	Average	95 th	Average
Ashland at I-5 SB Ramps	EB	T	360	300	125	275	125	350	175	275	125	300	175
	EB	R	230	25	25	25	0	25	25	25	25	75	25
	WB	L	120	50	25	50	25	50	25	50	25	50	25
	WB	T	425	100	50	100	50	100	50	100	50	100	50
	SB	LT	340	100	50	125	75	125	50	100	50	100	50
	SB	R	330	125	75	150	75	150	100	150	75	175	100
Ashland at I-5 NB Ramps	EB	L	250	225	150	250	150	250	175	225	150	250	175
	EB	T	425	75	25	50	25	125	25	75	25	175	50
	WB	T	760	150	75	150	75	175	100	125	75	125	75
	WB	R	260	125	75	125	75	150	75	125	75	125	75
	NB	LT	950	50	25	50	25	50	25	50	25	50	25
	NB	R	160	50	25	50	25	50	25	50	25	50	25
Tolman Creek at Ashland	EB	L	300	100	50	125	75	150	75	100	50	150	75
	EB	T	400	200	150	225	150	250	175	225	150	250	175
	EB	TR	400	200	100	175	100	225	125	175	100	200	125
	WB	L	275	150	100	125	100	175	100	150	75	175	125
	WB	T	650	100	50	100	50	100	50	150	75	125	75
	WB	TR	650	125	75	125	75	125	100	125	75	125	100
	NB	L	150	100	50	75	50	125	50	75	50	125	50
	NB	TR	600	175	100	150	100	225	125	150	100	225	125
	SB	L	125	75	50	100	50	100	50	100	50	100	50
	SB	TR	370	125	75	125	75	150	75	125	75	125	75
Siskiyou at Ashland	WB	R	550	50	25	50	25	50	25	50	25	50	25
	NB	T	530	125	75	125	75	125	75	125	75	125	75
	NB	TR	530	125	75	125	75	125	100	125	75	150	75
	SB	L	210	150	100	150	100	150	100	150	100	100	50
	SB	T	210	125	75	125	75	125	75	125	75	150	100
Tolman Creek at Mistletoe	EB	LTR	300	50	25	50	25	50	25	50	25	50	25
	WB	LTR	500+	25	25	25	25	50	25	25	25	50	25
	NB	LTR	275	25	0	25	0	25	0	25	25	25	25
	SB	LTR	425	25	25	25	25	75	25	25	25	75	50
Siskiyou at Tolman Creek	EB	LTR	400	50	25	25	25	75	25	25	25	50	25
	WB	LTR	725	25	25	25	25	25	5	25	0	25	25
	NB	LTR	575	75	50	75	50	75	50	50	25	75	50
	SB	LTR	422	100	75	100	75	150	75	125	75	125	75
Siskiyou at Mistletoe	EB	LT	1000+	25	25	25	0	25	25	25	0	25	25
	SB	LR	250	25	25	25	25	25	25	25	25	25	25
Siskiyou at Access	EB	LT	150	N/A	N/A	N/A	N/A	75	25	N/A	N/A	75	25
	SB	L	150	N/A	N/A	N/A	N/A	50	25	N/A	N/A	50	25
	SB	R	150	N/A	N/A	N/A	N/A	50	25	N/A	N/A	50	25

As demonstrated in Tables 11 and 12, the addition of development traffic does not substantially increase the queuing conditions at the studied intersections.

7.0 SISKIYOU HIGHWAY ACCESS EVALUATION

The development is proposing a new street connection to Siskiyou Highway, approximately 845 feet south of Mistletoe Road. This new street connection will serve as the main entrance to the site. The new street connection was evaluated for safety and geometry as described in the following.

7.1 SIGHT DISTANCE

The new street connection to Siskiyou Highway was evaluated for sight distance according to the AASHTO methodology. Sight distances are classified by the stopping sight distance (SSD) for the major roadway and departure/intersection sight distance (ISD) for the site accesses. The SSD is the length of roadway needed for a vehicle traveling at the design speed to safely stop for a stationary object in the roadway. The required sight distance allows a driver to perceive and react to an object 2 feet high on the roadway visible from a driver's eye height of 3.5 feet above the ground. The (ISD) is a measure of the length of visibility of the roadway given to a stopped driver on a minor road approach. The distance provides time to perceive and react to gaps in traffic to allow a driver to safely turn into the roadway. For this calculation, it is assumed that the driver's eye is 3.5 feet above the ground and that the object to be seen is 3.5 feet above the ground of the intersecting road.

The standards for evaluating SSD and ISD follow the methodology in the AASHTO's *A Policy on Geometric Design of Highways and Streets* (2011). As per the AASHTO methodology, intersections and driveways should, at a minimum, meet the SSD requirements. However, it is desirable to achieve the ISD whenever possible.

Stopping Sight Distance

Stopping sight distance is based on the speed of the major roadway. Thurston Road has a posted speed of 45 mph from Crowson Road to Mistletoe Road. As per AASHTO, the SSD at 45 mph is 360 feet. There is no horizontal or vertical curvature on the roadway within 360 feet of the proposed street connection that would limit the available SSD near the new street location.

Intersection Sight Distance

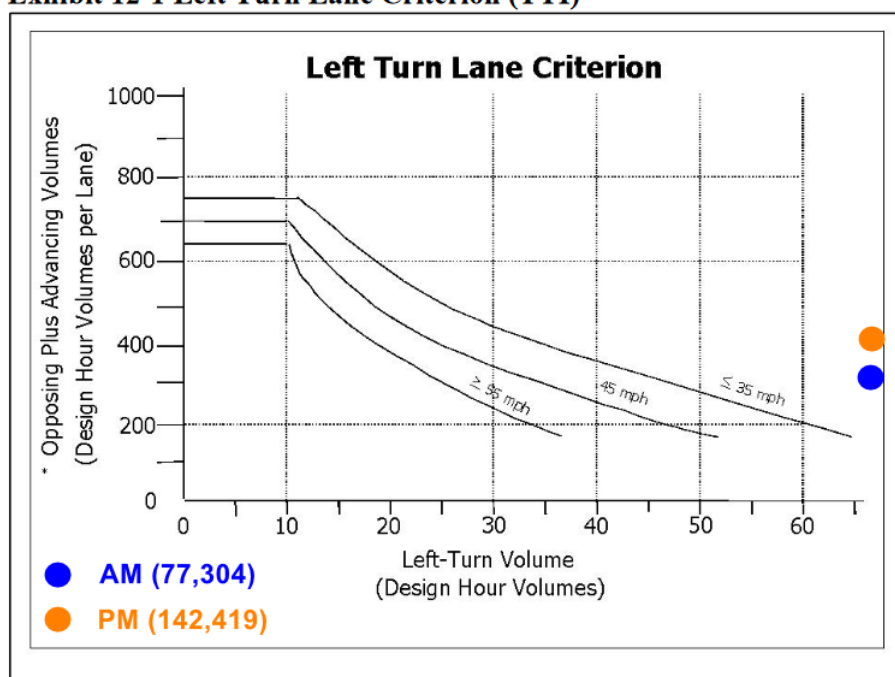
The recommended intersection sight distance is calculated for a vehicle turning from the new street connection for both left and right turn maneuvers. Therefore, the intersection site distance calculations are based on Case B1 of the AASHTO manual. Again, the speed used is 45 mph. Therefore, the ISD is 500 feet. There are no roadway geometric issues that limit the ISD at the site access.

7.2 TURN POCKET EVALUATION

The site access to Siskiyou Highway was evaluated for the need for a left and right turn pocket on Siskiyou Highway utilizing ODOT's Analysis Procedures Manual Turn Lane Criteria. The turn lane evaluation starts with a comparison of the turning vehicles, through vehicles, and the speed of the roadway. If the warrants are met, the location is further evaluated to determine if the turn lane will increase the safety of the roadway, balancing the safety for all users (pedestrian crossing distances and bike lane conflicts).

The turn warrant thresholds are evaluated for the AM and PM peak periods at the time of completion (year 2030) and are demonstrated in the graphs below. Siskiyou Highway has a posted speed of 55 mph at the site access.

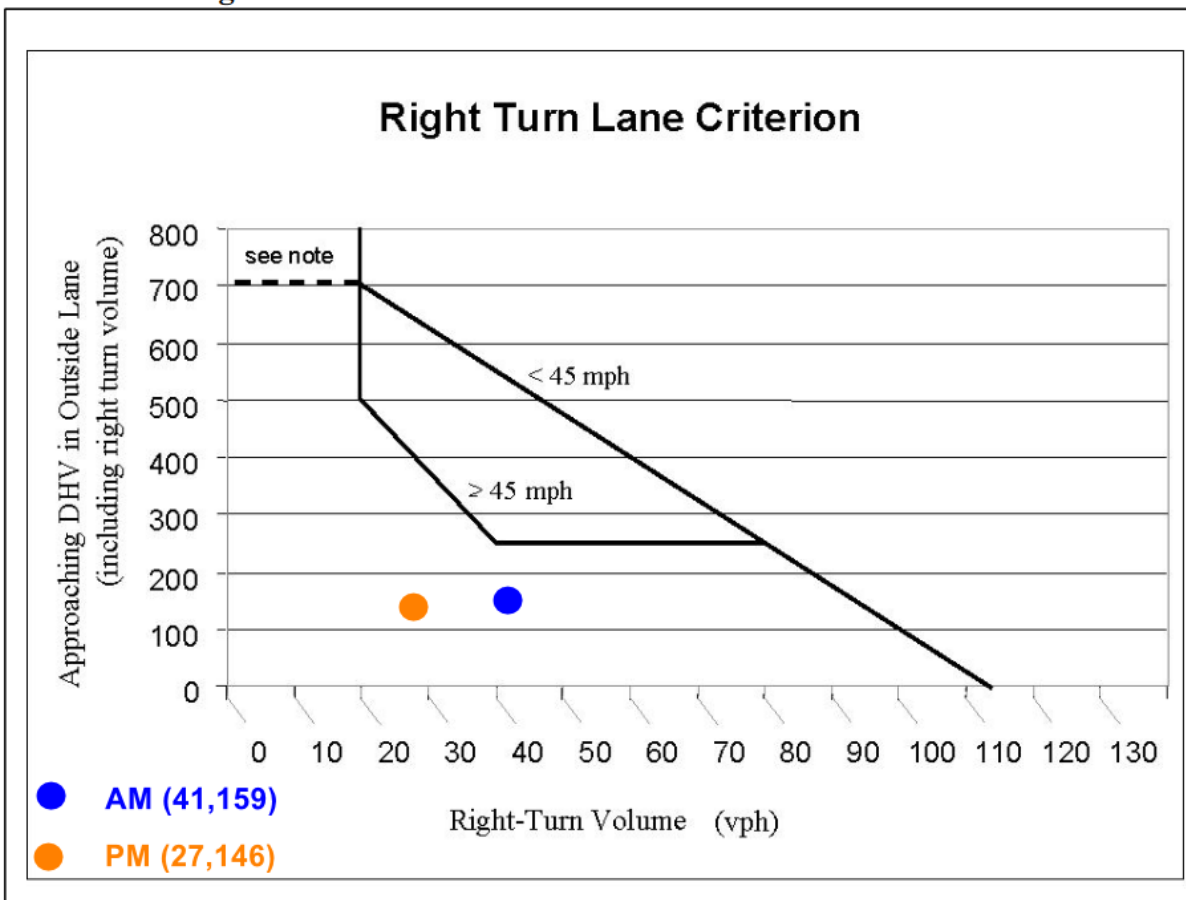
Exhibit 12-1 Left Turn Lane Criterion (TTI)



*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes)
Opposing left turns are not counted as opposing volumes

As shown in the graph above, the warrant volumes are met for the southbound left turn at the site access during the AM and PM peak hours at the time of completion. It is recommended that the site access consider the need for a separate left turn lane as part of the final design.

Exhibit 12-2 Right Turn Lane Criterion



Note: If there is no right turn lane, a shoulder needs to be provided. If this intersection is in a rural area and is a connection to a public street, a right turn lane is needed.

As demonstrated, the right turn lane warrant volumes are not met for either the AM or PM peak hours at the time of development completion for the northbound right turn at the site access.

7.3 GEOMETRIC EVALUATION

The new street connection was modeled at a stop-controlled intersection with the new street connection as the stop control and Siskiyou Highway as a free movement. The Siskiyou Highway approaches were modeled as one lane in each direction and no turn pockets. The new street connection was modeled with separate left and right turn pockets. The site access was evaluated with this configuration to get an accurate measurement each movement will have in terms of delay and queuing. As provided in Section 6, the exiting approach is anticipated to operate at a v/c of 0.16 and a LOS of C with a 95th percentile queue of 50 feet. The southbound Siskiyou Highway approach is anticipated to operate at a v/c 0.12, LOS of A, and a 95th percentile queue of 75 feet. The following discusses the intersection configuration recommendations.

TURN POCKETS

As provided in this section, the southbound left turn movement from Siskiyou Highway into the site meets ODOT's turn pocket warrants. During the PM peak hour, the 95th percentile queue is anticipated to be up to 75 feet. As this section of Siskiyou Highway is 45 mph, it is recommended that if the new intersection is to be constructed as a standard stop-controlled intersection, a southbound left turn pocket of a minimum of 150 feet be constructed.

It is also recommended that the new street connection have separate left and right turn pockets.

TRAFFIC SIGNAL

The new street connection was evaluated for the need for a traffic signal. As demonstrated, the new intersection will operate within ODOT's standards and there is sufficient line of sight for safe maneuvers into and out of the new street connection. Therefore, a signal is not necessary for safe and efficient operations. Additionally, ODOT follows the Manual of Uniform Traffic Control Devices (MUTCD) methodology for when a signal can be installed. The ODOT developed signal warrants are based on traffic volumes on all approaches. The new street connection will not meet the minimum volume threshold for warranting a traffic signal. Therefore, a traffic signal is not recommended at this time.

ROUNDAABOUT

An optional intersection configuration is a single-lane roundabout. The roundabout would provide the safest intersection configuration in terms of reducing the higher speed of approaching vehicles on Siskiyou Highway, therefore reducing the severity of any future crashes. A roundabout would also provide a safer crossing for pedestrians and bicycles across Siskiyou Highway. A one lane roundabout has enough capacity for the level of vehicles anticipated through this intersection. Additionally, there is sufficient right of way and sufficient street frontage to construct a single lane roundabout with the appropriate outside diameter (approximately 150').

8.0 CONCLUSION

This report provides the Traffic Impact Analysis, and findings prepared for the proposed Croman Mill mixed-use development located in Ashland, Oregon. The analysis evaluates the transportation impacts as per the City of Ashland and ODOT, evaluating adjacent roadway and intersection operation with the addition of development traffic for the year of completion and 5 years into the future.

FINDINGS

- All study area intersections will meet the applicable LOS or v/c standards with the development in place.
- The addition of development traffic does not substantially increase queuing conditions at the study area intersection.

- The new street connection to the site frontage on Siskiyou Highway can operate safely and efficiently as a standard stop-controlled intersection. If the new intersection is constructed as a stop-controlled intersection, it is recommended that a separate southbound left turn pocket with a minimum of 150 feet of storage be constructed on Siskiyou Highway. Alternatively, to a stop-controlled intersection a roundabout with a minimum outside diameter of 150 feet could be constructed. A roundabout would provide the safest intersection configuration in terms of reducing the higher speed of approaching vehicles on Siskiyou Highway, therefore reducing the severity of any future crashes. A roundabout would also provide a safer crossing for pedestrians and bicycles across Siskiyou Highway.

Croman-Mill



DRAFT MASTERPLAN
JULY 24, 2024

CROMAN MILL, ASHLAND, OREGON
MICHAEL WEINSTOCK - TOWN MAKERS LLC.

QAMAIL AND ASSOCIATES INC. - ARCHITECTURE AND TOWN PLANNING
STRUCTURA NATURALIS INC. - URBAN PLANNING
GIBBS PLANNING GROUP - RETAIL PLANNING
PARAMETRIX INC. - CIVIL ENGINEERING

0 50 100 200 400 FT.

PLAN KEY:

- MIXED-USE RETAIL
- MULTI-FAMILY
- SINGLE FAMILY (ATTACHED OR DETACHED)
- LIGHT INDUSTRIAL
- PARK / OPEN SPACE
- COMMUNITY BUILDING

Croman-Mill

TECH MEMO

DATE: March 26, 2024

TO: Michael Wang
Oregon Department of Transportation

FROM: Kelly Sandow P.E.
Sandow Engineering

RE: Scope of Work- Crowman Mill

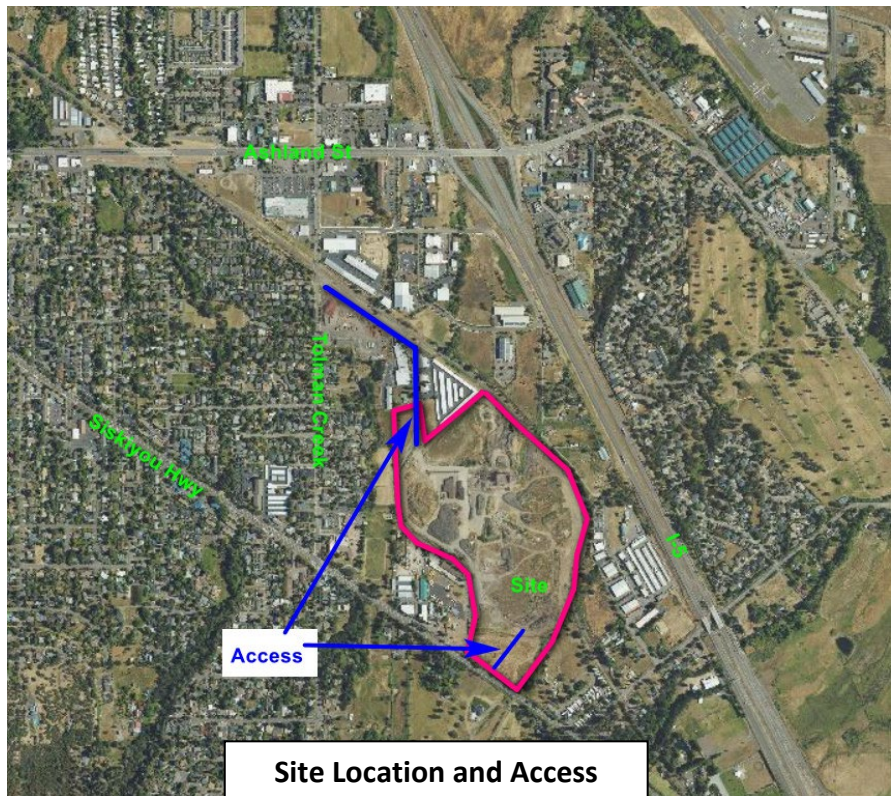
The following provides the trip generation estimate and recommended Scope of Work for the proposed Crowman Mill development located in southeast Ashland.

SITE INFORMATION

The site is located north of Siskiyou Blvd, south of the railroad tracks and Mistletoe Road. The site is approximately 60.92 acres and is currently vacant of any development that would generate trips in the peak hours.

Access to the site is currently via Mistletoe Road from the north and Siskiyou Highway from the south.

The site is currently zoned CM-CI, CM-OE, CM-OS, and CM-MU. The development proposal is allowed within the zoning. No zone change is required.



DEVELOPMENT PROPOSAL

The applicant is proposing a multi-use development containing residential, commercial, and light industrial uses. The development will be constructed over several phases. The first phases will be constructed on the south side with the development construction finishing on the north side of the development.

The completed development will include:

- 125 Single Family Detached Units
- 125 Single Family Attached Units
- 250 Multi-Family Units
- 30,000 sf- Commercial Space
- 120,000 sf- Light Industrial Space



Croman Mill Neighborhood, Ashland, Oregon
Town Makers LLC., Developers

Qamar and Associates Inc. - Urban Design
Structura Naturalis Inc. - Planning

0 100 200 400ft.

Development Phases

Trip Generation

The ITE Trip Generation Manual 11th ed is used to estimate the AM and PM peak hour trip generation. Tables 1 and 2 provide the trip generation estimates. The most reasonable ITE Lane Uses/rates for each use are:

- **Single Family Detached Units-** 210-Single Family Detached is used for these units.
- **Single Family Attached Units-** 215- Single Family Attached is used for these units.
- **Multi-Family Units-** ITE Code 220 Multi-Family is used for these units. The multi-family units are assumed to be no more than 3 floors. Therefore, this land use is most appropriate.
- **Commercial-** No specific tenants are identified for the commercial space. The commercial space is assumed to be a mix of 50% office, 25% restaurant, and 25% retail for the purposes of this study. ITE Land Use codes 720- General Office, 932- High-Turnover Restaurant, and 822- Strip Retail <40 ksf are used. ITE does not have a land use code for small standalone retail. Therefore, the small strip retail trip rates are used.
- **Industrial-** The most reasonable ITE Code is 140- Manufacturing. This code is defined as having office, warehouse, and manufacturing uses, and the primary business is connecting raw materials to goods. ITE Land Use code 110- General Light Industrial. Therefore, it provides a more conservative analysis.
- **Internal Trips-** The site's internal trips are calculated using NEHRP 684 and ITE Methodology. The AM peak hour is anticipated to have 10% internal trips. The PM Peak Hour is anticipated to have 17% internal trips. The ITE spreadsheets are attached.

TABLE 1: PEAK HOUR TRIP GENERATION- AM PEAK HOUR

ITE Code	Units	Rate	Trips	In	Out
210- Single Family Detached	125	$\ln(T)=0.91\ln(x)+0.12$	91	23 (25%)	68 (75%)
215- Single Family Attached	125	$=0.52(x)-5.7$	59	15 (25%)	44 (75%)
220- Multi-Family	250	$=0.31(x)+22.54$	100	24 (24%)	76 (76%)
720- General Office	15 ksf	$\ln(T)=0.86\ln(x)+1.16$	33	29 (88%)	4 (12%)
932- High Turnover Restaurant	8 ksf	9.57	77	42 (55%)	34 (45%)
822- Strip Retail <40k	7 ksf	$\ln(T)=0.66\ln(x)+1.84$	23	14 (60%)	9 (40%)
140- Manufacturing	120 ksf	$=0.61(x)+9.54$	83	63 (76%)	20 (24%)
Total			466	209	257
Internal Trips		10%	-47	-21	-26
External Trips			419	188	231

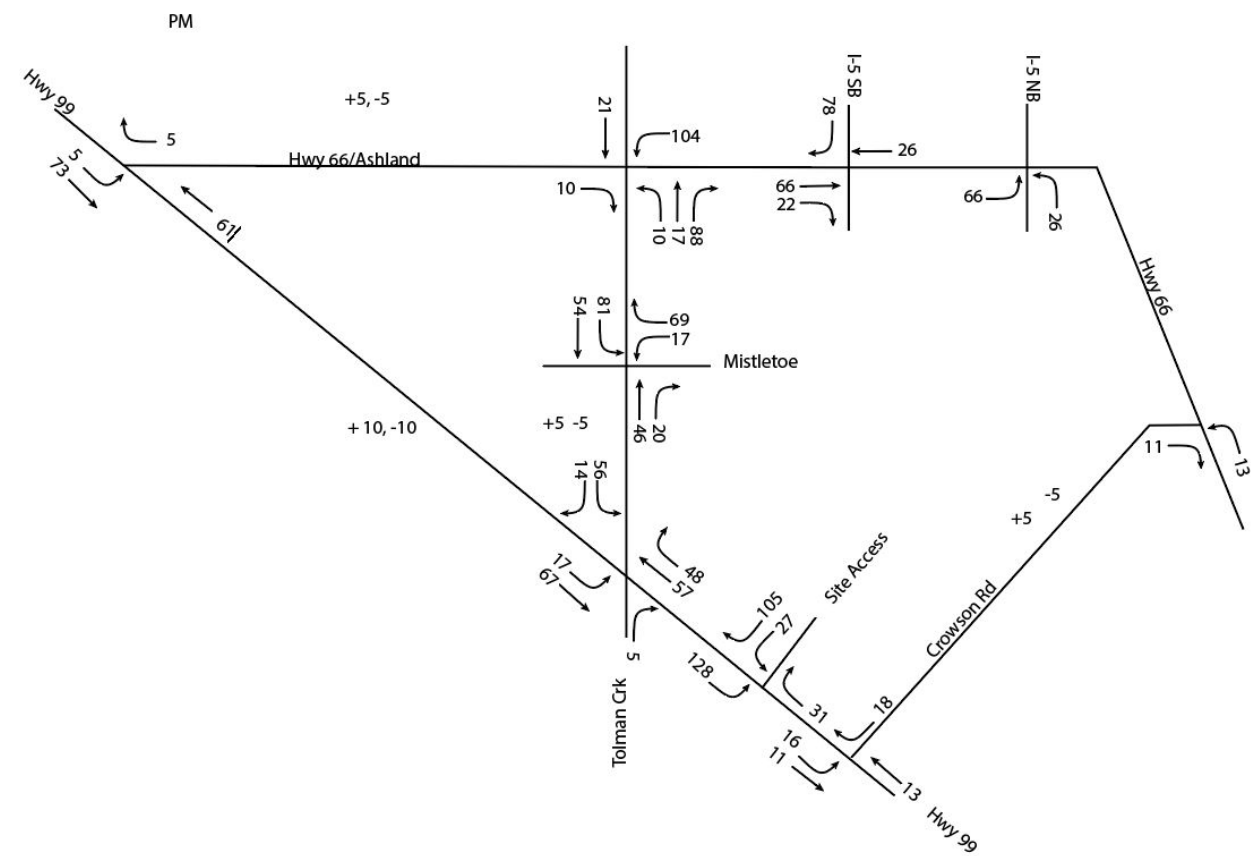
TABLE 2: PEAK HOUR TRIP GENERATION- PM PEAK HOUR

ITE Code	Units	Rate	Trips	In	Out
210- Single Family Detached	125	$\ln(T)=0.94\ln(x)+0.27$	123	77 (63%)	45 (37%)
215- Single Family Attached	125	$=0.60(x)-3.93$	71	42 (59%)	29 (41%)
220- Multi-Family	250	$=0.43(x)+20.55$	128	81 (63%)	47 (37%)
720- General Office	15 ksf	$\ln(T)=0.83\ln(x)+1.29$	34	6 (17%)	29 (83%)
932- High Turnover Restaurant	8 ksf	9.05	72	44 (61%)	28 (39%)
822- Strip Retail <40k	120 ksf	$\ln(T)=0.71\ln(x)+2.72$	60	36 (60%)	24 (40%)
140- Manufacturing	120 ksf	0.74	89	28 (31%)	61 (69%)
Total			577	313	264
Internal Trips		17%	-98	-53	-45
External Trips			479	260	219

The trip distribution follows the existing travel patterns based on recent traffic counts taken at adjacent intersections with modifications for reasonable origins/destinations. The trip generation will be further refined as all traffic counts are collected.

The trip distribution is shown in the images below for AM and PM Peak Hours.





Trip Distribution PM Peak Hour

ANALYSIS PARAMETERS

The following analysis is proposed for this project.

- Years
 - 2023- Existing
 - 2030- Full Build Out
 - 2035- 5 years after buildout
- PM Peak Period 4-6 PM
- AM Peak Period 7-9 PM
- Growth Rate: As per TSP
- Analysis to include:
 - LOS
 - v/c
 - Queuing
 - Crash
 - Mitigation evaluation, including signal warrants, turn pockets, etc
 - Site Access geometry at Highway 99
 - Change of use at all access points
 - Sight Distance at all access points
 - Turn lane evaluation at all site access points
- Proposed intersections to be studied:
 - Hwy 99 at Site Access
 - Hwy 99 at Tolman Creek
 - Hwy 99 at Hwy 66/Ashland St
 - Hwy 99 at Crowson
 - Tolman Creek at Mistletoe
 - Tolman Creek at Hwy 66/Ashland St
 - Ashland St at 1-5 Southbound
 - Ashland St at 1-5 Northbound



Oregon

Tina Kotek, Governor

Oregon Department of Transportation
Region 3, District 8
100 Antelope Road
White City, OR 97503
(541) 774-6316
FAX (541) 774-6397

FILE CODE:

TECHNICAL MEMORANDUM

TO: Micah Horowitz
Region 3 Development Review Planner

FROM: Wei (Michael) Wang, P.E. & M.S.
Region 3 Access Management Coordinator 

DATE: March 20, 2024

SUBJECT: Review of Corman Mill Scoping of Work (Dated 03/06/2024)

Page	Paragraph	Comment
Page 3	Internal Trips	The scoping letter mentioned 33% internal trip reduction seems high. ODOT staff would like to see the calculations and assumptions to get the 33% internal trip reduction before supporting it.
Page 4	Table 1 & 2	Based on my calculation (ITE -822): For 32,000 SQFT will generate 76 AM peak hour trips and 211 PM peak hour trips. Please double check this.
Page 5	Trip Distribution	The scoping states the trip distribution follows existing traffic pattern based on recent traffic counts. ODOT recommend the analysis should request MPO model in conjunction with the City of Ashland transportation System Plan and the Comprehensive Plan to estimate traffic distribution assumption.
General	General	The TIA should evaluate the change of use for all private existing approach locations on OR 99. Intersection sight distance evaluation and left/right turn lane evaluation will be needed in the TIA as well.
General	General	Raw traffic volumes will not be accepted for use in traffic analysis. All traffic volumes shall be seasonally adjusted to represent the 30th Highest Hour Volumes (30HV).
General	General	The intersection of Mistletoe and Siskiyou would probably be appropriate to evaluate for left turn lanes and also to address how the geometry and layout of Mistletoe play into the overall site plan.
General	General	Based on our observation, there is not enough sight distance for turning movement from OR 99 to Mistletoe Road and from Mistletoe to OR 99. Please double check this.
General	General	It doesn't sound like an AM analysis is going to be done for the TIA? Seems like we would want that for at least the SB freeway ramp at 66 intersection (and the traffic counts preferably done when school is in session there).

If you have any questions regarding my comments, please call me at (541) 315-5208 or Wei.Wang@odot.oregon.gov

Croman-Mill

CRASH DATA SUMMARY

6051 Croman Mills

I 5 SB Ramps											
YEAR	PDO	INJURY	FATAL	HEAD	REAR	SIDE	TURN	OTHER	PED	BIKE	TOTAL
2018											0
2019											0
2020		1			1						1
2021	2				1			1			2
2022											0

TOTALS: 2 1 0 0 2 0 0 1 0 0 0 3

CHECK
OK
OK
OK
OK
OK
OK

I-5 NB Ramps											
YEAR	PDO	INJURY	FATAL	HEAD	REAR	SIDE	TURN	OTHER	PED	BIKE	TOTAL
2018											0
2019											0
2020	1				1						1
2021		1					1				1
2022		2			1			1			2

TOTALS: 1 3 0 0 2 0 1 1 0 0 0 4

CHECK
OK
OK
OK
OK
OK
OK

Ashland @ Siskiyou Blvd											
YEAR	PDO	INJURY	FATAL	HEAD	REAR	SIDE	TURN	OTHER	PED	BIKE	TOTAL
2018	1				1						1
2019		2			1				1		2
2020		2			1		1				2
2021		1							1		1
2022		2					1	1			2

TOTALS: 1 7 0 0 3 0 2 1 1 2 0 8

CHECK
OK
OK
OK
OK
OK
OK

Ashland St @ Tolman Creek											
YEAR	PDO	INJURY	FATAL	HEAD	REAR	SIDE	TURN	OTHER	PED	BIKE	TOTAL
2018	2						2				2
2019	2	3			1		3	1			5
2020	1	4					2	1	2		5
2021	2	1					3				3
2022		2			1			1			2

TOTALS: 7 10 0 0 2 0 10 3 2 0 0 17

CHECK
OK
OK
OK
OK
OK
OK

Tolman Creek @ Siskiyou											
YEAR	PDO	INJURY	FATAL	HEAD	REAR	SIDE	TURN	OTHER	PED	BIKE	TOTAL
2018		2						2			2
2019	1							1			1
2020	2							2			2
2021	2	2					2	2			4
2022		1					1				1

TOTALS: 5 5 0 0 0 0 3 7 0 0 0 10

CHECK
OK
OK
OK
OK
OK
OK

P.M. PEAK HOUR	Number of Years, n	ADT	AVG. ANNUAL MILES (MILLIONS)	AVG. YEARLY CRASHES	CRASH RATE/ MILLION MILES
1654	5	16540	6037100.000	600000.0	0.10

REAR	E-W / E-W	N-S / N-S
SIDE		
TURN		
OTHER	N-S	
BIKE		

P.M. PEAK HOUR	Number of Years, n	ADT	AVG. ANNUAL MILES (MILLIONS)	AVG. YEARLY CRASHES	CRASH RATE/ MILLION MILES
1417	5	14170	5172050.000	800000.0	0.15

REAR	E-W / E-W	W-E / W-E
TURN	W-N / E-W	
SIDE		
OTHER	S-E	

P.M. PEAK HOUR	Number of Years, n	ADT	AVG. ANNUAL MILES (MILLIONS)	AVG. YEARLY CRASHES	CRASH RATE/ MILLION MILES
1129	5	11290	4120850.000	1600000.0	0.39

REAR	3 E-W / E-W	
TURN	2 SE-NW / NW-E	
PED	E-NW / SE-NW	NW-SE / W-E
OTHER	E-W	

P.M. PEAK HOUR	Number of Years, n	ADT	AVG. ANNUAL MILES (MILLIONS)	AVG. YEARLY CRASHES	CRASH RATE/ MILLION MILES
1486	5	14860	5423900.000	3400000.0	0.63

REAR	W-E / W-E	E-W / E-W			
TURN	E-S / E-W	S-E / S-N	W-S / N-S	S-W / N-W	2 E-W / W-N
	E-S / W-E	S-N / N-E	W-E / E-S	W-N / E-W	
PED	E-S / W-E	E-S / UNKNOWN			
BIKE					
OTHER	S-N / E-W	W-E / N-S	N-S / W-S		
SIDE					

P.M. PEAK HOUR	Number of Years, n	ADT	AVG. ANNUAL MILES (MILLIONS)	AVG. YEARLY CRASHES	CRASH RATE/ MILLION MILES
630	5	6300	2299500.000	2000000.0	0.87

REAR					
TURN	N-NW / NW-SE	N-SE / NW-N	NW-N / SE-NW		
PED					
BIKE					
OTHER	3 NW-N	SE-NW / N-S	N-S / NW-SE	SE-NW / S-N	SE-NW / N-S

		# Crashes	6051 C	MEV	Crash Rate	Critical Crash Rate
1 I 5 SB Ramps	Signal	3	16540	30.19	0.10	0.49 under
2 I-5 NB Ramps	Signal	4	14170	25.86	0.15	0.51 under
3 Ashland @ Siskiyou Blvd	Signal	8	11290	20.60	0.39	0.53 under
4 Ashland St @ Tolman Creek	Signal	17	14860	27.12	0.63	0.50 over
5 Tolman Creek @ Siskiyou	Stop	10	6300	11.50	0.87	1.37 under
Total		42		115.27		
Weighted Average						
Signal		32		104	0.30837578	
Stop		10		11	0.86975429	

CITY OF ASHLAND, JACKSON COUNTY

ASHLAND ST at NB ENFR ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

1 - 3 of 3 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	INT-TYPE	SPCL USE																			
INVEST	E	A	U	I	C	O	DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	A	S										
RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED						
UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE
02793	N	N	N	N	N	N	12/23/2022	16	ASHLAND ST	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											
CITY							FR		NB ENFR ASHLAND ST	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000	00	
N							1P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	36	M	OR-Y		026	038	29	
N							42 11 7.23	-122 39 54.51	002100100S00														OR>25						
																02	NONE 0	STOP									011	00	
																	PRVTE	E -W									000	00	
																	PSNGR CAR		01	DRVR	INJC	56	F	OR-Y		000	000	00	
																							OR<25						
00303	N	N	N	N	N	N	02/10/2020	14	ASHLAND ST	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											
CITY							MO		NB ENFR ASHLAND ST	W		TRF SIGNAL	N	DRY	REAR		N/A	W -E									000	00	
N							3P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	
N							42 11 7.23	-122 39 54.51	002100100S00														UNK						
																02	NONE 9	STOP									011	00	
																	N/A	W -E									000	00	
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00	
																							UNK						
01770	N	N	N	N	N	N	09/11/2021	11	ASHLAND ST	INTER	CROSS	N	N	CLR	0-1 L-TURN	01	NONE 0	TURN-L										04,08,02	
CITY							SA		NB ENFR ASHLAND ST	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	W -N									000	00	
N							2P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	72	F	OR-Y		020,004,028	000	04,08,02	
N							42 11 7.23	-122 39 54.52	0021AB100S00														OR<25						
																02	NONE 0	STRGHT									000	00	
																	PRVTE	E -W									000	00	
																	PSNGR CAR		01	DRVR	INJB	68	F	OR-Y		000	000	00	
																							OR<25						

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF ASHLAND, JACKSON COUNTY

ASHLAND ST at NB ENFR ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
ASHLAND ST at NB ENFR ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2022														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR 2022 TOTAL	0	1	0	1	0	1	0	1	0	1	0	1	0	0
YEAR: 2021														
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR 2021 TOTAL	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR: 2020														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2020 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
FINAL TOTAL	0	2	1	3	0	3	0	3	0	3	0	3	0	0

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CITY OF ASHLAND, JACKSON COUNTY

ASHLAND ST at NB EXT0 ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
ASHLAND ST at NB EXT0 ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF - ROAD
YEAR: 2022														
NON-COLLISION	0	1	0	1	0	1	1	1	0	1	0	1	0	1
YEAR 2022 TOTAL	0	1	0	1	0	1	1	1	0	1	0	1	0	1
FINAL TOTAL	0	1	0	1	0	1	1	1	0	1	0	1	0	1

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CITY OF ASHLAND, JACKSON COUNTY

ASHLAND ST at SB ENFR ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
ASHLAND ST at SB ENFR ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF - ROAD
YEAR: 2021														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2021 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
FINAL TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0

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CITY OF ASHLAND, JACKSON COUNTY

ASHLAND ST at SB EXT0 ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

1 - 2 of 2 Crash records shown.

SER#	S	P	D	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	MOVE	A	S	PED	ERROR	ACT	EVENT	CAUSE				
INVEST	E	A	U	I	C	O	DAY	DIST	FIRST STREET		(MEDIAN)		RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS						
RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-																
UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC			
02167	N	N	N	N	N	N	11/07/2020	11	ASHLAND ST	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT							004	29		
STATE							SA		SB EXT0 ASHLAND ST	N		TRF SIGNAL	N	WET	REAR		PRVTE	N -S						000	00			
N							4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y	026	000	29	
N							42 11 7.25	-122 40 2.27	0001AE100S00															OR<25				
																02	NONE 0	STOP							012 004	00		
																	PRVTE	N -S						000	000	00		
																	PSNGR CAR		01	DRVR	INJC	51	F	OR-Y	000	000	00	
																								OR<25				
00228	N	Y	N	N	N	N	02/11/2021	14	ASHLAND ST	INTER	4-LEG	N	Y	CLR	FIX OBJ	01	NONE 9	STRGHT						040,058,045	27			
STATE							TH		SB EXT0 ASHLAND ST	W		TRF SIGNAL	N	DRY	FIX		N/A	N -S						000	00			
N							12A			05	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK	000	000	00	
N							42 11 7.25	-122 40 2.86	002100100S00															UNK				

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CITY OF ASHLAND, JACKSON COUNTY

ASHLAND ST at SB EXT0 ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
ASHLAND ST at SB EXT0 ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF - ROAD
YEAR: 2021														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	1	0	1
YEAR 2021 TOTAL	0	0	1	1	0	0	0	1	0	0	1	1	0	1
YEAR: 2020														
REAR-END	0	1	0	1	0	1	0	0	1	1	0	1	0	0
YEAR 2020 TOTAL	0	1	0	1	0	1	0	0	1	1	0	1	0	0
FINAL TOTAL	0	1	1	2	0	1	0	1	1	1	1	2	0	1

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CITY OF ASHLAND, JACKSON COUNTY

ASHLAND ST at SISKIYOU BLVD, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

CITY OF ASHLAND, JACKSON COUNTY

ASHLAND ST at SISKIYOU BLVD, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

06/18/2024

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

ASHLAND ST at SISKIYOU BLVD, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2022														
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	1	0	0	1	1	0	1
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR 2022 TOTAL	0	2	0	2	0	3	0	2	0	1	1	2	0	1
YEAR: 2021														
PEDESTRIAN	0	1	0	1	0	1	0	1	0	0	1	1	0	0
REAR-END	0	1	0	1	0	2	0	1	0	0	1	1	0	0
YEAR 2021 TOTAL	0	2	0	2	0	3	0	2	0	0	2	2	0	0
YEAR: 2020														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2020 TOTAL	0	2	0	2	0	2	0	2	0	1	1	2	0	0
YEAR: 2019														
PEDESTRIAN	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2019 TOTAL	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR: 2018														
REAR-END	0	0	1	1	0	0	0	0	1	1	0	1	0	0
YEAR 2018 TOTAL	0	0	1	1	0	0	0	0	1	1	0	1	0	0
FINAL TOTAL	0	7	1	8	0	9	0	7	1	3	5	8	0	1

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CITY OF ASHLAND, JACKSON COUNTY

TOLMAN CREEK RD at MISTLETOE MILL RD, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
TOLMAN CREEK RD at MISTLETOE MILL RD, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF - ROAD
FINAL TOTAL														

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CITY OF ASHLAND, JACKSON COUNTY

TOLMAN CREEK RD at ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

CITY OF ASHLAND, JACKSON COUNTY

TOLMAN CREEK RD at ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	SPCL USE																	
INVEST	E	A	U	I	C	O	DAY	DIST	FIRST STREET	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE	A	S										
RD DPT	E	L	G	N	H	R	TIME	FROM	SECOND STREET	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED						
UNLOC?	D	C	S	V	L	K	LAT	LONG	LRS	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT	EVENT	CAUSE
02500	N	N	N	N	N	N	10/31/2019	14	ASHLAND ST	CROSS	N	N	CLR	0-1 L-TURN	01	NONE	TURN-L											
CITY							TH		TOLMAN CREEK RD		TRF SIGNAL	N	DRY	TURN		PRVTE	E -S									000		00
N							4P			03	0	N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	27	M	OR-Y		004,028	000		02,08
N							42 11 7.28	-122 40 17.43	002100100S00													OR<25						
																02	NONE	STRGHT								000		00
																PRVTE	W -E		01	DRVR	INJB	35	M	OR-Y		000	000	00
																PSNGR CAR						OR<25						
																02	NONE	STRGHT								000		00
																PRVTE	W -E		02	PSNG	INJC	35	F			000	000	00
																PSNGR CAR												
02343	N	N	N	N			10/13/2019	14	ASHLAND ST	CROSS	N	N	CLR	ANGL-OTH	01	NONE	9	STRGHT										04
CITY							SU		TOLMAN CREEK RD		TRF SIGNAL	N	DRY	ANGL		N/A	S -N									000		00
N							11A			02	0	N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							42 11 7.29	-122 40 17.45	002100100S00														UNK					
																02	NONE	STRGHT								000		00
																N/A	E -W		01	DRVR	NONE	00	Unk	UNK		000	000	00
																PSNGR CAR							UNK					
00349	N	N	N	N	N	N	02/15/2020	14	ASHLAND ST	CROSS	N	N	CLD	ANGL-OTH	01	NONE	0	STRGHT										04,02
CITY							SA		TOLMAN CREEK RD		TRF SIGNAL	N	DRY	ANGL		PRVTE	W -E									000		00
N							5P			03	0	N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	26	M	OTH-Y		020,028	000		04,02
N							42 11 7.29	-122 40 17.45	002100100S00													N-RES						
																02	NONE	STRGHT								000		00
																PRVTE	N -S		01	DRVR	INJC	55	F	OR-Y		000	000	00
																PSNGR CAR						OR<25						
02270	N	N	N	N	N	N	11/21/2020	14	ASHLAND ST	3-LEG	N	N	CLR	0-1 L-TURN	01	NONE	9	STRGHT										02
UNK							SA		TOLMAN CREEK RD		TRF SIGNAL	N	DRY	TURN		N/A	S -N									000		00
N							12P			04	0	N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							42 11 7.29	-122 40 17.45	002100100S00														UNK					
																02	NONE	TURN-L								000		00
																N/A	N -E		01	DRVR	NONE	00	Unk	UNK		000	000	00
																PSNGR CAR							UNK					
01383	N	N	N	N	N	N	07/23/2021	14	ASHLAND ST	CROSS	N	N	CLR	0-1 L-TURN	01	NONE	0	STRGHT										04,08,02
CITY							FR		TOLMAN CREEK RD		TRF SIGNAL	N	DRY	TURN		PRVTE	W -E									000		00
N							2P			03	0	N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	84	M	OR-Y		000	000		00
N							42 11 7.29	-122 40 17.45	002100100S00														OR<25					

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CITY OF ASHLAND, JACKSON COUNTY

TOLMAN CREEK RD at ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

CITY OF ASHLAND, JACKSON COUNTY

TOLMAN CREEK RD at ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

CITY OF ASHLAND, JACKSON COUNTY

TOLMAN CREEK RD at ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

06/18/2024

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TOLMAN CREEK RD at ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2022														
ANGLE	0	1	0	1	0	2	0	1	0	1	0	1	0	0
REAR-END	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2022 TOTAL	0	2	0	2	0	3	0	2	0	1	1	2	0	0
YEAR: 2021														
TURNING MOVEMENTS	0	1	2	3	0	6	0	3	0	3	0	3	0	0
YEAR 2021 TOTAL	0	1	2	3	0	6	0	3	0	3	0	3	0	0
YEAR: 2020														
ANGLE	0	1	0	1	0	1	0	1	0	0	1	1	0	0
PEDESTRIAN	0	2	0	2	0	3	0	2	0	0	2	2	0	0
TURNING MOVEMENTS	0	1	1	2	0	1	0	2	0	2	0	2	0	0
YEAR 2020 TOTAL	0	4	1	5	0	5	0	5	0	2	3	5	0	0
YEAR: 2019														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	1	0	1	0	2	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	2	1	3	0	4	1	2	1	3	0	3	0	0
YEAR 2019 TOTAL	0	3	2	5	0	6	1	4	1	5	0	5	0	0

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
TOLMAN CREEK RD at ASHLAND ST, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

COLLISION TYPE	FATAL CRASHES	NON - FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF - ROAD
YEAR: 2018														
TURNING MOVEMENTS	0	0	2	2	0	0	0	2	0	1	1	2	0	0
YEAR 2018 TOTAL	0	0	2	2	0	0	0	2	0	1	1	2	0	0
FINAL TOTAL	0	10	7	17	0	20	1	16	1	12	5	17	0	0

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CITY OF ASHLAND, JACKSON COUNTY

TOLMAN CREEK RD at SISKIYOU BLVD, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

CITY OF ASHLAND, JACKSON COUNTY

TOLMAN CREEK RD at SISKIYOU BLVD, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

6 - 10 of 10 Crash records shown.

SER#	P	R	J	S	W	DATE	CLASS	CITY STREET	RD CHAR	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	MOVE	A	S	PED	ERROR	ACT	EVENT	CAUSE
INVEST	E	A	U	I	C	O DAY	DIST	FIRST STREET		(MEDIAN)					TRLR QTY								
RD DPT	E	L	G	N	H	R TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS		
UNLOC?	D	C	S	V	L	K LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V# TYPE	TO	P#	TYPE	SVRTY	E	X	RES	LOC
															02 NONE N/A PSNGR CAR	STRGHT NW-SE		01	DRVR	NONE	00	Unk	UNK
01363	N	N	N	N	N	N 07/19/2021	16	SISKIYOU BLVD	INTER	CROSS	N	N	CLR	ANGL-OTH	01 NONE 0	STRGHT						015 000	
CITY						MO		TOLMAN CREEK RD	CN		STOP SIGN	N	DRY	ANGL	PRVTE	SE-NW						000	00
N						6P			02	0		N	DAY	INJ	PSNGR CAR		01	DRVR	NONE	22	F	EXP	021,028
N						42 10 31.1	-122 40 17.41	006300100S00														OR<25	000
															02 NONE PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	INJB	38	F	OR-Y	000
																						OR<25	015 000
01628	N	N	N	N	Y	N 08/23/2021	16	SISKIYOU BLVD	INTER	CROSS	N	N	FOG	ANGL-OTH	01 NONE 0	STRGHT							03,02
CITY						MO		TOLMAN CREEK RD	CN		STOP SIGN	N	DRY	ANGL	PRVTE	SE-NW						000	00
N						2P			02	0		N	DAY	INJ	PSNGR CAR		01	DRVR	INJB	60	M	OR-Y	021,028
N						42 10 31.1	-122 40 17.41	006300100S00														OR<25	000
															02 NONE PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	INJB	76	F	OTH-Y	000
																						OR<25	015 000
00145	N	N	N	N		01/07/2021	16	SISKIYOU BLVD	INTER	CROSS	N	N	CLR	ANGL-OTH	01 NONE 9	TURN-L							02
NONE						TH		TOLMAN CREEK RD	CN		STOP SIGN	N	DRY	TURN	N/A	N -SE						000	00
N						10A			03	1		N	DAY	PDO	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK	000
N						42 10 31.1	-122 40 17.41	006300100S00														UNK	000
															02 NONE N/A PSNGR CAR	TURN-L NW-N	01	DRVR	NONE	00	Unk	UNK	000
																						UNK	000
01072	N	N	N	N	N	N 06/12/2021	16	SISKIYOU BLVD	INTER	CROSS	N	N	CLR	0-1 L-TURN	01 NONE 9	TURN-L							04,02
CITY						SA		TOLMAN CREEK RD	CN		STOP SIGN	N	DRY	TURN	N/A	NW-N						000	00
N						2P			02	0		N	DAY	PDO	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK	000
N						42 10 31.09	-122 40 17.41	006300100S00														UNK	000
															02 NONE N/A PSNGR CAR	STRGHT SE-NW	01	DRVR	NONE	00	Unk	UNK	000
																						UNK	000

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF ASHLAND, JACKSON COUNTY

TOLMAN CREEK RD at SISKIYOU BLVD, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

06/18/2024

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

TOLMAN CREEK RD at SISKIYOU BLVD, City of Ashland, Jackson County, 01/01/2018 to 12/31/2022

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2022														
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2022 TOTAL	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR: 2021														
ANGLE	0	2	0	2	0	3	0	2	0	2	0	2	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	0	2	0	2	0	2	0	0
YEAR 2021 TOTAL	0	2	2	4	0	3	0	4	0	4	0	4	0	0
YEAR: 2020														
ANGLE	0	0	2	2	0	0	0	2	0	2	0	2	0	0
YEAR 2020 TOTAL	0	0	2	2	0	0	0	2	0	2	0	2	0	0
YEAR: 2019														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	0	1	1	0	1	0	1
YEAR 2019 TOTAL	0	0	1	1	0	0	0	0	1	1	0	1	0	1
YEAR: 2018														
FIXED / OTHER OBJECT	0	2	0	2	0	3	0	1	1	2	0	2	0	2
YEAR 2018 TOTAL	0	2	0	2	0	3	0	1	1	2	0	2	0	2
FINAL TOTAL	0	5	5	10	0	7	0	8	2	9	1	10	0	3

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

Croman-Mill

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:		Organization:	
Project Location:		Performed By:	
Scenario Description:	All Phases	Date:	
Analysis Year:		Checked By:	
Analysis Period:	AM Street Peak Hour	Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				33	29	4
Retail				23	14	9
Restaurant				76	42	34
Cinema/Entertainment				0		
Residential				280	69	211
Hotel				0	0	0
All Other Land Uses ²				83	63	20
				495	217	278

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	2	0	0	0
Retail	1		1	0	1	0
Restaurant	4	1		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	2	8	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	495	217	278
Internal Capture Percentage	9%	11%	8%
External Vehicle-Trips ⁵	449	194	255
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	21%	75%
Retail	29%	33%
Restaurant	26%	18%
Cinema/Entertainment	N/A	N/A
Residential	3%	5%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	0
Analysis Period:	AM Street Peak Hour

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	29	29	1.00	4	4
Retail	1.00	14	14	1.00	9	9
Restaurant	1.00	42	42	1.00	34	34
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	69	69	1.00	211	211
Hotel	1.00	0	0	1.00	0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	3	0	0	0
Retail	3		1	0	1	0
Restaurant	11	5		0	1	1
Cinema/Entertainment	0	0	0		0	0
Residential	4	2	42	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		4	10	0	0	0
Retail	1		21	0	1	0
Restaurant	4	1		0	3	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	2	8	0		0
Hotel	1	1	3	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	6	23	29	23	0	0
Retail	4	10	14	10	0	0
Restaurant	11	31	42	31	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	2	67	69	67	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	63	63	63	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	3	1	4	1	0	0
Retail	3	6	9	6	0	0
Restaurant	6	28	34	28	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	11	200	211	200	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	20	20	20	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

²Person-Trips

³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Crowman Mills			Organization:	Sandow Engineering
Project Location:				Performed By:	
Scenario Description:	All Phases			Date:	
Analysis Year:				Checked By:	
Analysis Period:	PM Street Peak Hour			Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				35	6	29
Retail				60	36	24
Restaurant				72	44	28
Cinema/Entertainment				0		
Residential				358	222	136
Hotel				0		
All Other Land Uses ²				89	28	61
				614	336	278

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	1	0	1	0
Retail	0		7	0	6	0
Restaurant	1	11		0	5	0
Cinema/Entertainment	0	0	0		0	0
Residential	3	4	6	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	614	336	278
Internal Capture Percentage	16%	14%	17%
External Vehicle-Trips ⁵	518	288	230
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	67%	17%
Retail	50%	54%
Restaurant	32%	61%
Cinema/Entertainment	N/A	N/A
Residential	5%	10%
Hotel	N/A	N/A

¹ Land Use Codes (LUCs) from <i>Trip Generation Manual</i> , published by the Institute of Transportation Engineers.
² Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³ Enter trips assuming no transit or non-motorized trips (as assumed in ITE <i>Trip Generation Manual</i>).
⁴ Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be
⁵ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.
⁶ Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Crowman Mills
Analysis Period:	PM Street Peak Hour

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	6	6	1.00	29	29
Retail	1.00	36	36	1.00	24	24
Restaurant	1.00	44	44	1.00	28	28
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	222	222	1.00	136	136
Hotel	1.00	0	0	1.00	0	0

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		6	1	0	1	0
Retail	0		7	1	6	1
Restaurant	1	11		2	5	2
Cinema/Entertainment	0	0	0		0	0
Residential	5	57	29	0		4
Hotel	0	0	0	0	0	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	1	0	9	0
Retail	2		13	0	102	0
Restaurant	2	18		0	36	0
Cinema/Entertainment	0	1	1		9	0
Residential	3	4	6	0		0
Hotel	0	1	2	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	4	2	6	2	0	0
Retail	18	18	36	18	0	0
Restaurant	14	30	44	30	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	12	210	222	210	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	28	28	28	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	5	24	29	24	0	0
Retail	13	11	24	11	0	0
Restaurant	17	11	28	11	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	13	123	136	123	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	61	61	61	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

²Person-Trips

³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

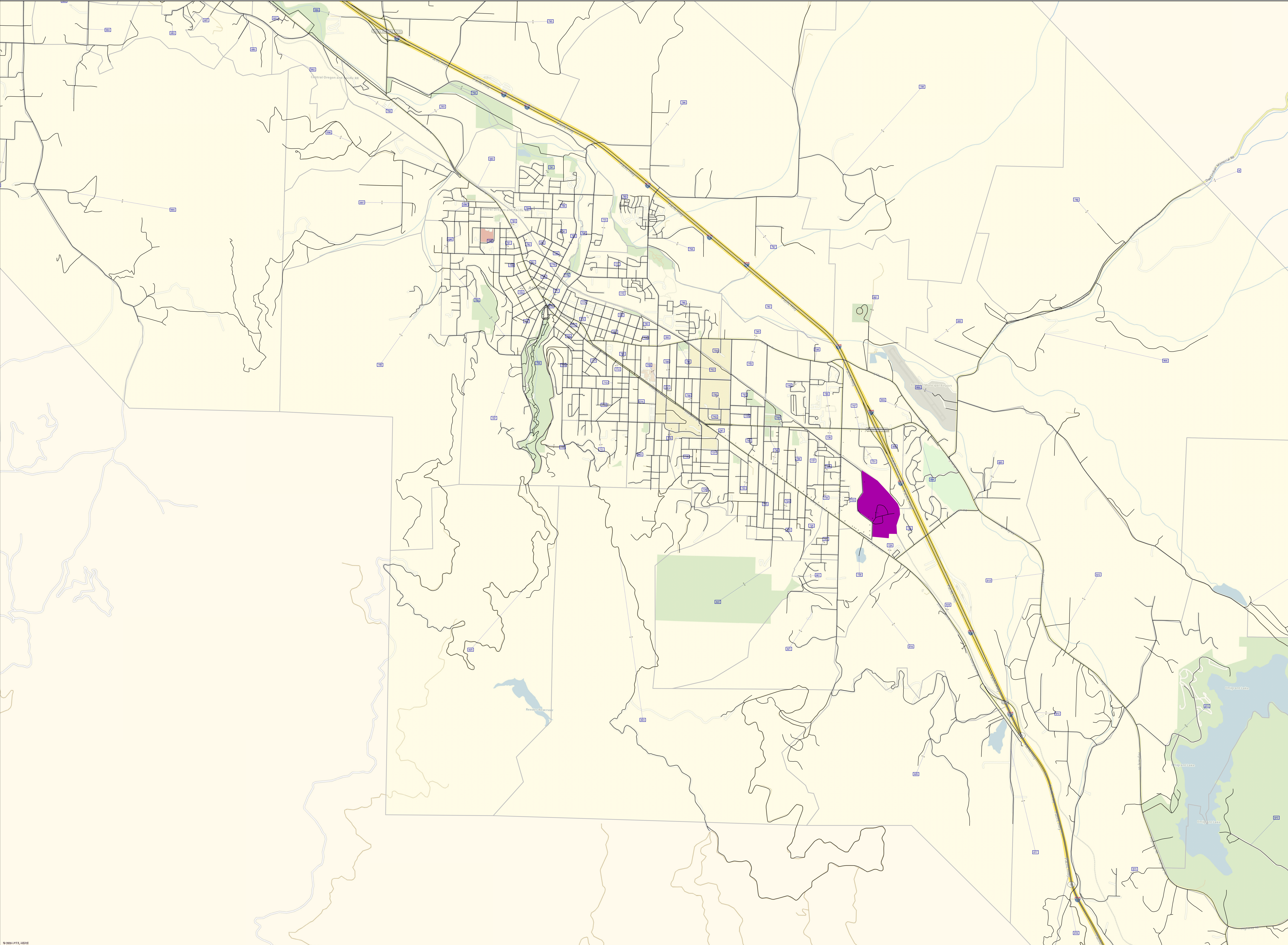
*Indicates computation that has been rounded to the nearest whole number.

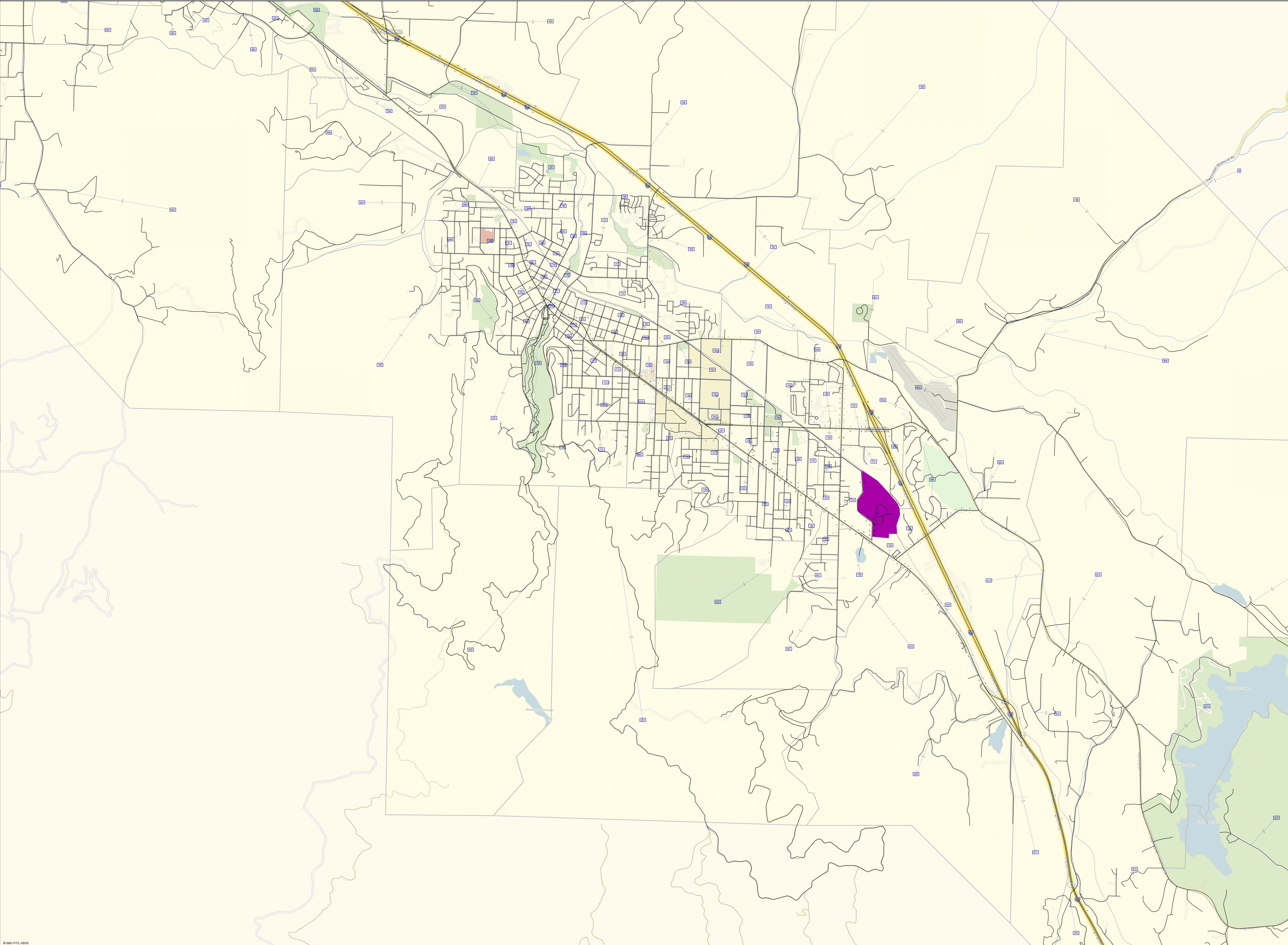
Table 7.1a Adjusted Internal Trip Capture Rates for Trip Origins within a Multi-Use Development

Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Office	0.0%	0.0%
	To Retail	28.0%	20.0%
	To Restaurant	63.0%	4.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	1.0%	2.0%
	To Hotel	0.0%	0.0%
From RETAIL	To Office	29.0%	2.0%
	To Retail	0.0%	0.0%
	To Restaurant	13.0%	29.0%
	To Cinema/Entertainment	0.0%	4.0%
	To Residential	14.0%	26.0%
	To Hotel	0.0%	5.0%
From RESTAURANT	To Office	31.0%	3.0%
	To Retail	14.0%	41.0%
	To Restaurant	0.0%	0.0%
	To Cinema/Entertainment	0.0%	8.0%
	To Residential	4.0%	18.0%
	To Hotel	3.0%	7.0%
From CINEMA/ENTERTAINMENT	To Office	0.0%	2.0%
	To Retail	0.0%	21.0%
	To Restaurant	0.0%	31.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	8.0%
	To Hotel	0.0%	2.0%
From RESIDENTIAL	To Office	2.0%	4.0%
	To Retail	1.0%	42.0%
	To Restaurant	20.0%	21.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	0.0%
	To Hotel	0.0%	3.0%
From HOTEL	To Office	75.0%	0.0%
	To Retail	14.0%	16.0%
	To Restaurant	9.0%	68.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	2.0%
	To Hotel	0.0%	0.0%

Table 7.2a Adjusted Internal Trip Capture Rates for Trip Destinations within a Multi-Use Development

Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Office	0.0%	0.0%
	From Retail	4.0%	31.0%
	From Restaurant	14.0%	30.0%
	From Cinema/Entertainment	0.0%	6.0%
	From Residential	3.0%	57.0%
	From Hotel	3.0%	0.0%
To RETAIL	From Office	32.0%	8.0%
	From Retail	0.0%	0.0%
	From Restaurant	8.0%	50.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	17.0%	10.0%
	From Hotel	4.0%	2.0%
To RESTAURANT	From Office	23.0%	2.0%
	From Retail	50.0%	29.0%
	From Restaurant	0.0%	0.0%
	From Cinema/Entertainment	0.0%	3.0%
	From Residential	20.0%	14.0%
	From Hotel	6.0%	5.0%
To CINEMA/ENTERTAINMENT	From Office	0.0%	1.0%
	From Retail	0.0%	26.0%
	From Restaurant	0.0%	32.0%
	From Cinema/Entertainment	0.0%	0.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To RESIDENTIAL	From Office	0.0%	4.0%
	From Retail	2.0%	46.0%
	From Restaurant	5.0%	16.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To HOTEL	From Office	0.0%	0.0%
	From Retail	0.0%	17.0%
	From Restaurant	4.0%	71.0%
	From Cinema/Entertainment	0.0%	1.0%
	From Residential	0.0%	12.0%
	From Hotel	0.0%	0.0%





Croman-Mill

Intersection: 1: Tolman Creek @ Ashland										City: Ashland													
Counter: Sandow Engineering										Date: Wednesday, May 1, 2024													
Total of All Vehicles																							
Time Period		Southbound				Westbound				Northbound				Eastbound				15	Hourly Volume	Pedestrians			
		Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Right	Thru	Left	Approach Total	Minute Volume		SB	WB	NB	EB
6:00	6:15	2	4	6	12	4	19	15	38	12	4	0	16	4	16	1	21	87	0	0	0	0	
6:15	6:30	0	0	5	5	4	18	11	33	20	1	3	24	2	33	2	37	99	0	0	0	0	
6:30	6:45	3	4	5	12	4	24	12	40	22	6	1	29	2	36	0	38	119	0	0	0	0	
6:45	7:00	6	10	8	24	8	55	15	78	16	4	3	23	3	29	4	36	161	0	1	1	0	
7:00	7:15	2	4	3	9	6	38	18	62	19	2	4	25	0	40	3	43	139	0	0	0	0	
7:15	7:30	8	6	10	24	7	33	16	56	22	4	2	28	4	48	2	54	162	1	0	1	0	
7:30	7:45	2	7	10	19	8	70	17	95	44	4	3	51	3	68	3	74	239	0	1	3	1	
7:45	8:00	4	10	14	28	11	77	28	116	35	13	13	61	7	65	2	74	279	0	1	1	1	
8:00	8:15	5	19	11	35	17	108	35	160	47	15	14	76	8	66	2	76	347	1027	2	0	1	1
8:15	8:30	4	18	20	42	35	183	43	261	33	27	11	71	4	95	7	106	480	1345	1	0	1	1
8:30	8:45	6	20	33	59	22	112	25	159	28	17	5	50	5	95	11	111	379	1485	0	0	0	0
8:45	9:00	14	12	16	42	9	84	54	147	26	14	10	50	8	67	9	84	323	1529	1	2	1	0
Count Period Total		56	114	141		135	821	289		324	111	69		50	658	46		2814		5	5	9	4
PM Peak Hour Count Summary																							
Peak Volumes		Southbound				Westbound				Northbound				Eastbound				1529		Pedestrians			
		Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
		29	69	80	178	83	487	157	727	134	73	40	247	25	323	29	377			4	2	3	2
PHF		0.52	0.86	0.61	0.75	0.59	0.67	0.73	0.70	0.71	0.68	0.71	0.81	0.78	0.85	0.66	0.85	0.80					
Trucks		0	0	1		1	7	6		3	0	0		0	7	0							
% Trucks		0%	0%	1%		1%	1%	4%		2%	0%	0%		0%	2%	0%							

Seasonally Adjusted Peak Hour

933	556		Eastbound	%	Ped	2
				7.69%	L 	29
				85.68%	T 	323
	377			6.63%	R 	25

1	%	Ped	2

Adjustment Factor
1.000

SAF

363			
178	↓	↑	185
Southbound			
16.29%	38.76%	44.94%	%
R	T	L	PED
29	69	80	4
1: Tolman Creek @ Ashland			
3	40	73	134
Ped	L	T	R
%	16.2%	29.6%	54.3%
Northbound			
251	↓	↑	247
498			

83	↑	R	11.42%	Westbound	%	Ped	2

487	←	T	66.99%	727	←→	1264

1529

Pedestrians and Cars

Trucks																		
Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
6:00 AM			1														1	
6:15 AM							2										3	
6:30 AM							1								2		3	
6:45 AM							1		1						1		3	
7:00 AM							3		1			1		3		1	9	
7:15 AM	1																1	
7:30 AM							2		2		1			2			9	
7:45 AM	1						2		2					1	1		8	
8:00 AM			1		1		3										27	
8:15 AM						2		1	2								5	
8:30 AM						3		2						4			27	
8:45 AM						2			1					3			9	
Total	2	0	2		1	17	9		11	1	1		0	16	2		27	
Peak Hour	0	0	1	0	1	7	6	0	3	0	0	0	0	7	0	0	44	

Time Period	Southbound			Westbound				Northbound				Eastbound			SB	WB	NB	EB	
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru					Left
6:00 AM																0	0	0	0
6:15 AM																0	0	0	0
6:30 AM																0	0	0	0
6:45 AM																0	0	0	0
7:00 AM																0	0	0	0
7:15 AM																0	0	1	0
7:30 AM										1				1		0	0	1	1
7:45 AM										1						0	0	0	0
8:00 AM																0	0	0	0
8:15 AM																0	0	0	1
8:30 AM																0	0	0	0
8:45 AM																0	0	0	0
Total	0	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0

[illegible]

Intersection: 2: I5 SB Ramp @ Ashland				City: Ashland																				
Counter: Sandow Engineering				Date: Thursday, May 2, 2024																				
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	
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:00	7:15	55	0	17	72	0	20	4	24	0	0	0	0	4	69	0	73	169	169	0	0			
7:15	7:30	65	0	33	98	0	16	6	22	0	0	0	0	5	67	0	72	192	361	0	0			
7:30	7:45	90	0	36	126	1	31	6	38	0	0	0	0	3	134	0	137	301	662	0	0			
7:45	8:00	110	0	44	154	1	28	4	33	0	0	0	0	5	91	0	96	283	945	0	1			
8:00	8:15	179	0	42	221	0	45	1	46	0	0	0	0	8	132	0	140	407	1183	0	0			
8:15	8:30	212	1	33	246	0	50	5	55	0	0	0	0	7	118	0	125	426	1417	0	0			
8:30	8:45	123	2	64	189	0	36	3	39	0	0	0	0	12	168	0	180	408	1524	0	0			
8:45	9:00	104	0	43	147	0	53	13	66	0	0	0	0	16	118	0	134	347	1588	0	0			
Count Period Total		938	3	312		2	279	42		0	0	0		60	897	0		2533		0	1	0	3	
PM Peak Hour Count Summary																								
Peak Volumes		Southbound				Westbound				Northbound				Eastbound				Approach			Pedestrians			
		Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach				SB	WB	NB	EB
PHF		0.73	0.38	0.71	0.82	0.00	0.87	0.42	0.78	0.00	0.00	0.00	0.00	0.67	0.80	0.00	0.80	0.93		0	0	0	2	
Trucks		13	1	16		0	6	7		0	0	0		0	10	0								
% Trucks		2%	33%	9%		0%	3%	32%		0%	0%	0%		0%	2%	0%								

Seasonally Adjusted Peak Hour

51%	802	Eastbound	%	Ped	2
1381	←→		0.00%	L →	0
36%	579		92.57%	T →	536
			7.43%	R →	43

SAF Adjustment Factor 1.000

51%		803		0%	
803		↓		↑	
Southbound					
76.96%		0.37%		22.67%	
R	T	L	PED		
618	3	182	0		
2: IS SB Ramp @ Ashland					
0		0		0	
Ped	L	T	R		
%	#DIV/0!	#DIV/0!	#DIV/0!		
Northbound					
68		↓		↑	
4%		68		0%	

0	↑	R	0.00%	Westbound	206	13%
184	←	T	89.32%		←→	924
22	↓	L	10.68%			
0	Ped	%			718	45%

1588

Pedestrians and Cars

Pedestrians and Cars

Peak Hour	0	605	2	166	0	1	0	178	15	0	0	0	0	0	0	43	526	0	0	1535	505

Time 2:

Total	22	1	25	0	0	9	14	0	0	0	0	1	24	0	0	53	25
Peak Hour	13	1	16	0	0	6	7	0	0	0	0	0	10	0	0	53	25

...

[illegible]

Time Period

[illegible]

Intersection: 3: 15 NB Ramps @ Ashland				City: Ashland																						
Counter: Sandow Engineering				Date: Wednesday, May 1, 2024																						
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			
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0			
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0			
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0			
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:00	7:15	0	0	0	0	21	23	0	44	2	0	5	7	0	37	48	85	136	136	0	0	0	0			
7:15	7:30	0	0	0	0	35	23	0	58	1	0	2	3	0	49	59	108	169	305	0	0	0	2			
7:30	7:45	0	0	0	0	55	35	0	90	4	0	4	8	0	71	89	160	258	563	0	0	0	0			
7:45	8:00	0	0	0	0	40	31	0	71	5	0	2	7	0	90	66	156	234	797	0	0	0	2			
8:00	8:15	0	0	0	0	43	44	0	87	9	0	4	13	0	63	98	161	261	922	0	2	0	0			
8:15	8:30	0	0	0	0	47	49	0	96	8	0	8	16	0	62	90	152	264	1017	0	0	0	0			
8:30	8:45	0	0	0	0	69	39	0	108	5	0	4	9	0	94	106	200	317	1076	0	0	0	0			
8:45	9:00	0	0	0	0	48	58	0	106	7	0	8	15	0	92	77	169	290	1132	0	0	0	0			
Count Period Total		0	0	0		358	302	0		41	0	37		0	558	633		1929		0	2	0	4			
PM Peak Hour Count Summary																										
Peak Volumes	Southbound				Approach	Westbound			Approach	Northbound				Approach	Eastbound				Approach	1132	0.89	Pedestrians				
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right	Thru		Left	SB	WB	NB				EB				
	0	0	0	0		207	190	0		397	29	0	24		53	0	311	371				682	0	0	0	2
	0.00	0.00	0.00	0.00		0.75	0.82	0.00		0.92	0.81	0.00	0.75		0.83	0.00	0.83	0.88				0.85				
PHF	0	0	0			9	10	0			11	0	3			0	19	6								
Trucks	0	0	0			9	10	0			11	0	3			0	19	6								
% Trucks	0%	0%	0%			4%	5%	0%			38%	0%	13%			0%	6%	2%								

Seasonally Adjusted Peak Hour

19%	214	Eastbound	%	Ped	2	3: 15 NB Ramps @ Ashland	207	↑	R	52.14%	Westbound	397	35%
896	←→		54.40%	L	371		190	←	T	47.86%		737	
60%	682		45.60%	T	311		0	↓	L	0.00%		340	30%
			0.00%	R	0		0		Ped	%			
Adjustment Factor 1.000													
SAF													

0%		578		51%	
0	↓		↑		578
Southbound					
#DIV/0!	#DIV/0!	#DIV/0!	%		
R	T	L	PED		
0	0	0	0		
3: 15 NB Ramps @ Ashland					
0	24	0	29		
Ped	L	T	R		
%	45.3%	0.0%	54.7%		
Northbound					
0	↓		↑		53
0%		53		5%	

1132

Pedestrians and Cars

Pedestrians and Cars

Trucks																		
Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
6:00 AM																	0	
6:15 AM																	0	
6:30 AM																	0	
6:45 AM																	0	
7:00 AM						1	1				1			3	3		9	
7:15 AM						1	2							2			5	
7:30 AM						3	3				1			9	2		18	
7:45 AM						2	3			2				4	2		13	
8:00 AM						2				3		2		3			10	
8:15 AM						2	2			2		1		5	1		13	
8:30 AM							3			2				7	1		13	
8:45 AM						5	5			4				4	4		22	
Total	0	0	0		16	19	0		13	0	5		0	37	13		58	
Peak Hour	0	0	0	0	9	10	0	0	11	0	3	0	0	19	6	0	23	

Bikes

[illegible]

Pedestrians

[illegible]

Intersection: 4: Tolman Creek @ Mistletoe				City: Ashland																			
Counter: Sandow Engineering				Date: Wednesday, May 1, 2024																			
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
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:00	7:15	0	15	7	22	0	0	0	0	1	24	0	25	0	0	3	3	50	50	1			
7:15	7:30	1	15	6	22	0	0	0	0	0	40	1	41	0	0	4	4	67	117	0			
7:30	7:45	1	20	3	24	0	0	0	0	0	43	0	43	1	0	2	3	70	187	1			
7:45	8:00	1	38	5	44	0	0	3	3	1	59	1	61	5	0	6	11	119	306	2			
8:00	8:15	5	48	3	56	0	0	1	1	0	80	0	80	4	0	5	9	146	402	1			
8:15	8:30	5	38	11	54	0	0	2	2	0	58	3	61	0	1	4	5	122	457	3			
8:30	8:45	2	44	7	53	0	0	3	3	1	46	1	48	2	0	10	12	116	503	0			
8:45	9:00	3	35	3	41	0	0	2	2	0	50	0	50	0	0	3	3	96	480	1			
Count Period Total		18	253	45		0	0	11		3	400	6		12	1	37		786		9			
PM Peak Hour Count Summary																							
Peak Volumes	Southbound				Approach 204	Westbound			Approach 8	Northbound			Approach 239	Eastbound			Approach 29	480		Pedestrians			
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right		Thru	Left	SB				WB	NB	EB	
	15	165	24	0.00		0.00	0.67	0.25		0.73	0.33	0.38		0.25	0.55	1				0	1	0	
PHF	0.75	0.86	0.55	0.91		0.00	0.00	0.67	0.67	0.25	0.73	0.33	0.75	0.38	0.25	0.55	0.60	0.82					
Trucks	0	3	0			0	0	0		1	4	1		0	0	0							
% Trucks	0%	2%	0%			0%	0%	0%		100%	2%	25%		0%	0%	0%							

Seasonally Adjusted Peak Hour

4%	19	Eastbound
6%	29	

%	Ped	
75.86%	L	22
3.45%	T	1
20.69%	R	6

43%		460		53%	
204		↓	↑	256	
Southbound					
7.35%		80.88%		11.76%	
R		T		L	
15		165		24	
				PED	
				1	
4: Tolman Creek @ Mistletoe					
1		4		234	
Ped		L ←		T ↑	
				R →	
%		1.7%		97.9%	
				0.4%	
Northbound					
179		↓	↑	239	
37%		418		50%	

0	↑	R	0.00%
0	←	T	0.00%
8	↓	L	100.00%
0		Ped	%

8	Westbound	2%
34		
26		5%

SAF Adjustment Factor 1.000

480

Pedestrians and Cars

Pedestrians and Cars

Trucks																		
Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
6:00 AM																	0	
6:15 AM																	0	
6:30 AM																	0	
6:45 AM																	0	
7:00 AM			3														3	
7:15 AM										1							1	
7:30 AM			5											1			6	
7:45 AM			1							1				1			13	
8:00 AM										1							1	
8:15 AM		1								2							3	
8:30 AM		2							1		1						4	
8:45 AM																	1	
Total	0	12	0		0	0	0		1	6	1		2	0	0			
Peak Hour	0	3	0	0	0	0	0	0	1	4	1	0	0	0	0	0	9	

Trucks

Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
6:00 AM																	0	
6:15 AM																	0	
6:30 AM																	0	
6:45 AM																	0	
7:00 AM			3														0	
7:15 AM										1							3	
7:30 AM			5														1	
7:45 AM			1							1				1			6	
8:00 AM														1			3	
8:15 AM			1							1							1	
8:30 AM			2							2							3	
8:45 AM									1		1						4	
Total	0	12	0		0	0	0		1	6	1		2	0	0		1	
Peak Hour	0	3	0	0	0	0	0	0	1	4	1	0	0	0	0	0	9	

Bikes

[illegible]

Pedestrians

[illegible]

Intersection: 5: Tolman Creek @ Siskiyou				City: Ashland																					
Counter: Sandow Engineering				Date: Thursday, May 2, 2024																					
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		
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0		
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:00	7:15	8	2	4	14	2	6	1	9	1	5	1	7	1	7	12	20	50	50	0	0	0	1		
7:15	7:30	1	2	3	6	2	7	0	9	3	14	2	19	1	10	14	25	59	109	0	1	0	1		
7:30	7:45	8	6	4	18	3	10	0	13	1	10	3	14	2	9	28	39	84	193	0	1	1	0		
7:45	8:00	13	4	5	22	14	20	1	35	2	17	5	24	2	7	41	50	131	324	0	2	1	0		
8:00	8:15	29	13	11	53	15	20	0	35	1	20	9	30	0	11	39	50	168	442	1	2	3	0		
8:15	8:30	29	7	12	48	12	22	3	37	1	4	13	18	8	14	26	48	151	534	2	0	2	1		
8:30	8:45	23	7	9	39	5	9	0	14	0	7	5	12	12	18	30	60	125	575	0	1	1	1		
8:45	9:00	26	4	3	33	8	26	4	38	1	12	5	18	9	17	20	46	135	579	0	3	2	3		
Count Period Total		137	45	51		61	120	9		10	89	43		35	93	210		903		3	10	10	7		
PM Peak Hour Count Summary																									
Peak Volumes	Southbound				Approach	Westbound			Approach	Northbound				Approach	Eastbound				Approach	579	0.86	Pedestrians			
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right	Thru		Left										
	107	31	35	173	40	77	7	124		3	43	32	78		29	60	115	204				0.85	3	6	8
	0.92	0.60	0.73	0.82	0.67	0.74	0.44	0.82		0.75	0.54	0.62	0.65		0.60	0.83	0.74	0.85							
PHF																									
Trucks	6	3	2			0	2	1			0	1	0		0	2	2								
% Trucks	6%	10%	6%			0%	3%	14%			0%	2%	0%		0%	3%	2%								

Seasonally Adjusted Peak Hour

37%	233
35%	220

Eastbound	%	Ped	5
	56.37%	L	124
	29.41%	T	65
	14.22%	R	31

30%		400		34%			
187		↓		↑		214	
Southbound							
61.85%		17.92%		20.23%		%	
R	←	T	↓	L	↑	PED	→
115		33		38		3	
5: Tolman Creek @ Siskiyou							
8		35		46		3	
Ped		L ←		T ↑		R →	
%		41.0%		55.1%		3.8%	
Northbound							
72		↓		↑		84	
12%		156		13%			

43	↑	R	32.26%
83	←	T	62.10%
8	↓	L	5.65%
6	Ped	%	

Westbound	134	21%
	106	17%

SAF Adjustment Factor 1.079

625

Pedestrians and Cars

Pedestrians and Cars

Trucks																	15 Minute Volume	Hourly Volume
Time Period	Southbound				Westbound				Northbound				Eastbound					
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
6:00 AM																		
6:15 AM																		
6:30 AM																		
6:45 AM																		
7:00 AM											1							
7:15 AM											4							
7:30 AM																		
7:45 AM		1											1		1			
8:00 AM	1																	
8:15 AM	3					1								1	1			
8:30 AM		3	2							1					1			
8:45 AM	2					1	1											
Total	7	3	2		0	3	1		0	6	1		1	2	3			
Peak Hour	6	3	2	0	0	2	1	0	0	1	0	0	0	2	2	0		

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
6:00 AM																0	0	0	0
6:15 AM																0	0	0	0
6:30 AM																0	0	0	0
6:45 AM																0	0	0	0
7:00 AM																0	0	0	0
7:15 AM																0	0	0	0
7:30 AM																0	0	0	0
7:45 AM																0	0	0	0
8:00 AM																0	0	0	0
8:15 AM															1	0	0	0	1
8:30 AM																0	0	0	0
8:45 AM							3									0	3	0	0
Total	0	0	0		0	3	0		0	0	0	0	0	1	0				
Peak Hour	0	0	0	0	0	3	0	0	0	0	0	0	0	1	0	0	3	0	1

Pedestrians

[illegible]

Intersection: 6: Mistletoe @ Siskiyou					City: Ashland																			
Counter: Sandow Engineering					Date: Thursday, May 2, 2024																			
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	
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:00	7:15	2	0	0	2	0	8	0	8	0	0	0	0	0	8	5	13	23	23	0	0	0	0	
7:15	7:30	0	0	0	0	1	8	0	9	0	0	0	0	0	10	1	11	20	43	0	0	0	1	
7:30	7:45	0	0	0	0	0	13	0	13	0	0	0	0	0	14	1	15	28	71	0	1	0	0	
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	71	0	0	0	0	
8:00	8:15	2	0	0	2	0	34	0	34	0	0	0	0	0	16	2	18	54	102	0	0	0	0	
8:15	8:30	2	0	0	2	0	34	0	34	0	0	0	0	0	18	7	25	61	143	0	0	0	1	
8:30	8:45	3	0	2	5	0	15	0	15	0	0	0	0	0	18	7	25	45	160	0	1	0	0	
8:45	9:00	4	0	1	5	1	30	0	31	0	0	0	0	0	13	5	18	54	214	0	2	0	0	
Count Period Total		13	0	3		2	142	0		0	0	0		0	97	28		285		0	4	0	2	
PM Peak Hour Count Summary																								
Peak Volumes	Southbound				Approach 14	Westbound			Approach 114	Northbound				Approach 0	Eastbound			Approach 86	214	0.88	Pedestrians			
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right	Thru		Left	SB	WB				NB	EB		
	11	0	3	1		113	0	0		0	0	0	65		21	0	3				0	1		
	0.69	0.00	0.38	0.25		0.83	0.00	0.00		0.00	0.00	0.00	0.90		0.75									
PHF				0.70				0.84									0.86							
Trucks	0	0	0			0	2	0		0	0	0			0	2	0							
% Trucks	0%	0%	0%			0%	2%	0%		0%	0%	0%			0%	3%	0%							

Seasonally Adjusted Peak Hour

58%	126	Eastbound	%	Ped	1	6: Mistletoe @ Siskiyou	1	↑	R	0.88%	Westbound	116	53%	
214	←→		24.42%	L	21		115	←	T	99.12%		←→	186	
40%	88		75.58%	T	66		0	↓	L	0.00%		69	32%	
			0.00%	R	0		3		Ped	%				
0														
Ped														
%														
#DIV/0!														
#DIV/0!														
#DIV/0!														
Northbound														
0														
0%														
0														
0%														

SAF

Adjustment Factor
1.020

218

SAF Adjustment Factor 1.020

218

Pedestrians and Cars

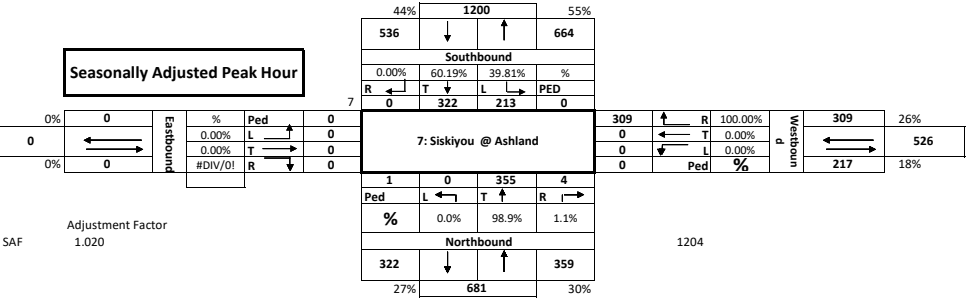
Peak Hour	0	11	0	3	0	1	1	109	0	0	0	0	0	0	0	0	0	63	21	0	208	66

Peak Hour	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0	0	4	0

Peak Hour	0	0	0	0	0	2	0	0	0	0	0	0	0	1	0	0	2	0	1

7:45 AM			0			0			0	0		0		0	0	0	0	0

Intersection: 7: Siskiyou @ Ashland										City: Ashland													
Counter: Sandow Engineering										Date: Thursday, May 2, 2024													
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
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:00	7:15	0	21	17	38	36	0	0	36	1	20	0	21	0	0	0	0	95	95	0	0	0	
7:15	7:30	0	28	19	47	40	0	0	40	1	41	0	42	0	0	0	0	129	224	0	0	1	
7:30	7:45	0	35	21	56	34	0	0	34	2	45	0	47	0	0	0	0	137	361	0	0	1	
7:45	8:00	0	35	51	86	57	0	0	57	2	79	0	81	0	0	0	0	224	585	0	0	1	
8:00	8:15	0	45	40	85	57	0	0	57	1	73	0	74	0	0	0	0	216	706	0	1	0	
8:15	8:30	0	88	53	141	104	0	0	104	0	141	0	141	0	0	0	0	386	963	0	0	2	
8:30	8:45	0	76	72	148	65	0	0	65	1	61	0	62	0	0	0	0	275	1101	0	0	0	
8:45	9:00	0	107	44	151	77	0	0	77	2	73	0	75	0	0	0	0	303	1180	0	0	1	
Count Period Total		0	435	317		470	0	0		10	533	0		0	0	0		1765		0	1	6	0
PM Peak Hour Count Summary																							
Peak Volumes	Southbound				Approach 525	Westbound			Approach 303	Northbound			Approach 352	Eastbound			Approach 0	1180		Pedestrians			
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right		Thru	Left	SB				WB	NB	EB	
	0.00	0.74	0.73	0.73		0.00	0.00	0.73		0.50	0.62	0.00		0.62	0.00	0.00				0.00	0.00	0	0
PHF	0	0	0	0		5	0	0		0	7	0		0	0	0							
Trucks	0	7	5			5	0	0		0	7	0		0	0	0							
% Trucks	0%	2%	2%			2%	0%	0%		0%	2%	0%		0%	0%	0%							



Pedestrians and Cars

Pedestrians and Cars

[illegible]

Trucks

Peak Hour	0	7	5	0	5	0	0	0	0	7	0	0	0	0	0	0	24	12

Bikes

[illegible]

Pedestrians

[illegible]

Global Peak Hour

Intersections								
	1: Tolman Creek @ Ashland	2: I5 SB Ramp @ Ashland	3: I5 NB Ramps Ashland	4: Tolman Creek @ Mistletoe	5: Tolman Creek @ Siskiyou	6: Mistletoe @ Siskiyou	7: Siskiyou @ Ashland	
Time Period	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Total
6:00 AM 7:00 AM	466	-	-	-	-	-	-	466
6:15 AM 7:15 AM	518	169	136	50	50	23	95	1041
6:30 AM 7:30 AM	581	361	305	117	109	43	224	1740
6:45 AM 7:45 AM	701	662	563	187	193	71	361	2738
7:00 AM 8:00 AM	819	945	797	306	324	71	585	3847
7:15 AM 8:15 AM	1,027	1,183	922	402	442	102	706	4784
7:30 AM 8:30 AM	1,345	1,417	1,017	457	534	143	963	5876
7:45 AM 8:45 AM	1,485	1,524	1,076	503	575	160	1,101	6424
8:00 AM 9:00 AM	1,529	1,588	1,132	480	579	214	1,180	6702
	1529	1588	1132	503	579	214	1180	6702

Peak Hour: 8:00 AM
8:15 AM
8:30 AM
8:45 AM

Intersection: 1: Tolman Creek @ Ashland										City: Ashland													
Counter: Sandow Engineering										Date: Wednesday, May 1, 2024													
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
15:00	15:15	9	27	22	58	9	107	49	165	48	21	19	88	10	141	20	171	482		1	2	0	0
15:15	15:30	10	31	16	57	9	107	40	156	39	43	12	94	4	108	28	140	447		1	1	1	3
15:30	15:45	9	18	17	44	13	94	62	169	33	19	14	66	7	142	17	166	445		0	0	0	1
15:45	16:00	8	29	22	59	13	93	27	133	29	24	10	63	20	126	22	168	423	1797	0	1	1	0
16:00	16:15	16	22	14	52	13	107	48	168	40	18	12	70	7	112	18	137	427	1742	2	1	1	2
16:15	16:30	9	23	29	61	11	93	33	137	36	17	32	85	5	102	16	123	406	1701	1	0	1	3
16:30	16:45	14	21	11	46	13	113	37	163	47	13	12	72	10	112	11	133	414	1670	1	0	0	0
16:45	17:00	10	30	19	59	16	80	50	146	35	20	8	63	4	96	24	124	392	1639	1	1	1	1
17:00	17:15	8	26	27	61	13	123	31	167	30	21	10	61	9	113	19	141	430	1642	3	0	3	0
17:15	17:30	10	26	11	47	15	99	55	169	33	27	19	79	9	96	17	122	417	1653	2	2	2	4
17:30	17:45	19	28	15	62	11	92	52	155	40	21	13	74	3	127	16	146	437	1676	0	0	0	0
17:45	18:00	11	15	13	39	10	84	34	128	34	18	14	66	7	96	11	114	347	1631	1	0	1	0
Count Period Total		133	296	216		146	1192	518		444	262	175		95	1371	219		5067		13	8	11	14
PM Peak Hour Count Summary																							
Peak Volumes		Southbound				Westbound				Northbound				Eastbound				1797	1797	Pedestrians			
		Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach			SB	WB	NB	EB
		36	105	77	218	44	401	178	623	149	107	55	311	41	517	87	645			2	4	2	4
PHF		0.90	0.85	0.88	0.92	0.85	0.94	0.72	0.92	0.78	0.62	0.72	0.83	0.51	0.91	0.78	0.94	0.93					
Trucks		0	2	2		0	4	0		1	1	0		0	4	0							
% Trucks		0%	2%	3%		0%	1%	0%		1%	1%	0%		0%	1%	0%							

Seasonally Adjusted Peak Hour

1137	492	Eastbound	%	Ped	4
	←→		13.49%	L →	87
	645		80.16%	T →	517
			6.36%	R ↓	41

456			
218	↓	↑	238
Southbound			
16.51%	48.17%	35.32%	%
R ←	T ↓	L →	PED
36	105	77	2
1: Tolman Creek @ Ashland			
2	55	107	149
Ped	L ←	T ↑	R →
%	17.7%	34.4%	47.9%
Northbound			
324	↓	↑	311
635			

44	↑	R	7.06%	Westbound	623
401	←	T	64.37%		←→
178	↓	L	28.57%		1366
4		Ped	%		743

SAF Adjustment Factor
1.000

Pedestrians and Cars

Time Period	

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							
3:00 PM		9	26	22		1	9	105	49		47	21	19		10	139	20	476					
3:15 PM		10	31	16		1	9	107	40		1	39	43	12		3	108	28	447				
3:30 PM		9	17	17			13	93	62			33	18	14			7	140	17	440			
3:45 PM			8	29	20		1	13	92	27		1	29	24	10		20	126	22	420	1783		
4:00 PM		2	16	22	14		1	13	106	48		1	40	18	12		2	7	112	18	426	1733	
4:15 PM		1	9	23	29			11	91	33		1	36	17	32		2	5	102	16	404	1690	
4:30 PM			14	21	11			13	112	36			46	13	12			10	112	11	411	1661	
4:45 PM		1	10	30	19		1	16	80	49			1	35	20	8		1	4	96	24	391	1632
5:00 PM		3	8	26	27			13	123	39		2	30	21	10			9	113	18	429	1635	
5:15 PM		2	10	26	11		1	15	99	55		2	32	27	19		4	9	96	17	416	1647	
5:30 PM			19	28	15			11	92	52			30	21	13			3	126	16	436	1672	
5:45 PM		1	11	15	13			10	82	34		1	34	18	13			7	96	11	344	1625	
Total	10	133	294	214		6	146	1182	515		10	441	261	174		12	95	1366	219				
Peak Hour	0	36	103	75	0	3	44	397	178		0	2	148	106	55	0	3	41	513	87	0	1783	5206

Time P

Time Period	Southbound			Westbound			Northbound			Eastbound			15 Minute Volume	Hourly Volume	
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left			
3:00 PM		1			2			1			2		6		
3:15 PM											0		0		
3:30 PM		1			1			1			2		5		
3:45 PM			2		1								3	14	
4:00 PM					1								1	9	
4:15 PM					2								2	11	
4:30 PM					1	1		1					3	9	
4:45 PM						1							1	7	
5:00 PM						1							1	7	
5:15 PM								1					1	6	
5:30 PM											1		1	4	
5:45 PM					2				1				3	6	
Total	0	2	2		0	10	3	3	1	1	0	5			
Peak Hour	0	2	2	0	0	4	0	0	1	1	0	0	0	14	34

Time

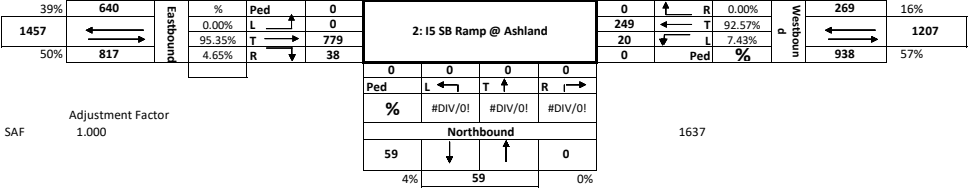
Time Period	Southbound				Westbound				Northbound				Eastbound				SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left					
3:00 PM		1				1											1	1	0	0
3:15 PM		1															1	0	0	0
3:30 PM																	0	0	0	1
3:45 PM														1			0	0	0	0
4:00 PM																	0	0	0	0
4:15 PM																	0	0	0	1
4:30 PM														1			1	0	0	0
4:45 PM		1															0	0	0	0
5:00 PM											1						0	0	1	0
5:15 PM						1											0	1	0	0
5:30 PM																	0	0	0	0
5:45 PM																	0	0	0	0
Total	0	3	0			0	2	0		0	1	0		0	2	0				
Peak Hour	0	2	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	1	0	1

Time Period

[illegible]

Intersection: 2: I5 SB Ramp @ Ashland										City: Ashland														
Counter: Sandow Engineering										Date: Thursday, May 2, 2024														
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	
15:00	15:15	116	0	34	150	0	68	2	70	0	0	0	0	5	207	0	212	432	1	1	0	0		
15:15	15:30	95	1	31	127	0	67	7	74	0	0	0	0	7	179	0	186	387	0	0	0	0		
15:30	15:45	87	0	44	131	0	50	3	53	0	0	0	0	13	220	0	233	417	0	0	0	0		
15:45	16:00	93	0	50	143	0	64	8	72	0	0	0	0	13	173	0	186	401	1637	0	0	0	0	
16:00	16:15	108	0	30	138	0	42	2	44	0	0	0	0	16	148	0	164	346	1551	0	0	0	0	
16:15	16:30	128	0	39	167	0	57	1	58	0	0	0	0	13	159	0	172	397	1561	0	0	0	0	
16:30	16:45	138	0	37	175	0	53	8	61	0	0	0	0	14	185	0	199	435	1579	0	0	0	1	
16:45	17:00	113	0	34	147	0	47	2	49	0	0	0	0	16	169	0	185	381	1559	0	1	0	2	
17:00	17:15	141	0	55	196	0	81	17	98	0	0	0	0	19	166	0	185	479	1692	0	0	0	0	
17:15	17:30	137	0	38	175	0	62	8	70	0	0	0	0	6	194	0	200	445	1740	0	0	0	0	
17:30	17:45	114	0	50	164	0	52	6	58	0	0	0	0	11	186	0	197	419	1724	0	0	0	2	
17:45	18:00	100	0	48	148	0	59	3	62	0	0	0	0	9	153	0	162	372	1715	0	0	0	0	
Count Period Total		1370	1	490		0	702	67		0	0	0		142	2139	0		4911		1	2	0	5	
PM Peak Hour Count Summary																								
Peak Volumes	Southbound				Approach 551	Westbound			Approach 269	Northbound			Approach 0	Eastbound			Approach 0	1637	0.95	Pedestrians				
	Right 391	Thru 1	Left 159	Right 0		Thru 249	Left 20	Right 0		Thru 0	Left 0	Right 38		Thru 779	Left 0	Approach 817				SB	WB	NB	EB	
	0.84	0.25	0.80	0.00		0.92	0.63	0.91		0.00	0.00	0.00		0.73	0.89	0.00				0.88	0	0	0	0
	6	0	11	0		4	4	0		0	0	3		13	0									
Trucks	2%	0%	7%		0%	2%	20%		0%	0%	0%		8%	2%	0%									

Seasonally Adjusted Peak Hour



Pedestrians and Cars

Pedestrians and Cars

[illegible]

Time 2:

Time Period	Southbound				Westbound				Northbound				Eastbound				Volume	Delay
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
3:00 PM	2		2			2	1							4			11	
3:15 PM	2		1			2	1							2			8	
3:30 PM	1		1				1						1				11	
3:45 PM	1		7				1						2				11	41
4:00 PM	2		1														3	33
4:15 PM	1		1														3	28
4:30 PM			2											1			4	21
4:45 PM	1		1			1											3	13
5:00 PM	3					1								1			5	15
5:15 PM	1		1										1	1			5	17
5:30 PM							1						1				1	14
5:45 PM	1		1			2											4	15
Total	15	0	18		0	8	5		0	0	0		5	18	0			
Peak Hour	6	0	11	0	0	4	4	0	0	0	0	0	3	13	0	0	41	102

Figure 1

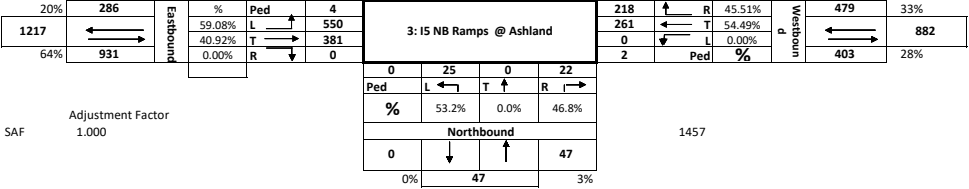
Time Period	Southbound			Westbound			Northbound			Eastbound			SB	WB	NB	EB
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left				
3:00 PM													0	0	0	0
3:15 PM													0	0	0	0
3:30 PM													0	0	0	0
3:45 PM													0	0	0	0
4:00 PM													0	0	0	0
4:15 PM													0	0	0	0
4:30 PM												1	0	0	0	1
4:45 PM												1	0	0	0	1
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
Total	0	0	0	0	0	0	0	0	0	0	0	2	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1

Time Period

[illegible]

Intersection: 3: I5 NB Ramps @ Ashland										City: Ashland														
Counter: Sandow Engineering										Date: Wednesday, May 1, 2024														
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	
15:00	15:15	0	0	0	0	64	71	0	135	5	0	7	12	0	93	141	234	381		0	0	0	0	
15:15	15:30	0	0	0	0	58	75	0	133	5	0	5	10	0	85	123	208	351		0	0	0	0	
15:30	15:45	0	0	0	0	53	48	0	101	8	0	7	15	0	106	163	269	385		0	0	0	0	
15:45	16:00	0	0	0	0	43	67	0	110	4	0	6	10	0	97	123	220	340	1457	0	2	0	4	
16:00	16:15	0	0	0	0	53	44	0	97	12	0	6	18	0	71	125	196	311	1387	0	0	0	2	
16:15	16:30	0	0	0	0	50	49	0	99	8	0	8	16	0	96	105	201	316	1352	0	0	0	0	
16:30	16:45	0	0	0	0	67	60	0	127	9	0	9	18	0	83	118	201	346	1313	0	0	1	0	
16:45	17:00	0	0	0	0	37	42	0	79	6	0	5	11	0	79	121	200	290	1263	0	1	0	1	
17:00	17:15	0	0	0	0	47	79	0	126	10	0	8	18	0	91	108	199	343	1295	0	0	0	1	
17:15	17:30	0	0	0	0	42	52	0	94	5	0	4	9	0	91	124	215	318	1297	0	0	0	0	
17:30	17:45	0	0	0	0	46	49	0	95	6	0	6	12	0	76	127	203	310	1261	0	0	0	2	
17:45	18:00	0	0	0	0	41	44	0	85	9	0	8	17	0	115	79	194	296	1267	0	0	0	0	
Count Period Total		0	0	0		601	680	0		87	0	79		0	1083	1457		3987		0	3	1	10	
PM Peak Hour Count Summary																								
Peak Volumes	Southbound				Approach 0	Westbound			Approach 479	Northbound			Approach 47	Eastbound			Approach 931	1457		Pedestrians				
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right		Thru	Left	SB				WB	NB	EB		
	0	0	0	218		261	0	22		0	25	0		381	550	931				0	2	0	4	
	0.00	0.00	0.00	0.85		0.87	0.00	0.69		0.00	0.89	0.00		0.90	0.84	0.87				0.00	0.90	0.00	0.00	
PHF					0.00				0.89				0.78											
Trucks	0	0	0			14	7	0		0	0	1			0	13	12							
% Trucks	0%	0%	0%			6%	3%	0%		0%	0%	4%			0%	3%	2%							

Seasonally Adjusted Peak Hour



Pedestrians and Cars

Pedestrians and Cars

Trucks																		
Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
3:00 PM					1	3								3	2		9	
3:15 PM					7	2					1			2	3		15	
3:30 PM					3	1								1	7		12	
3:45 PM					3	1								7			11	
4:00 PM					2	1								1			4	
4:15 PM					5						1						7	
4:30 PM					2	1								2		3	8	
4:45 PM					3	1										1	5	
5:00 PM						1											1	
5:15 PM									1					2			4	
5:30 PM					1												1	
5:45 PM					4						2			2	1		9	
Total	0	0	0		31	12	0		1	0	4		0	21	17			
Peak Hour	0	0	0	0	14	7	0	0	0	0	1	0	0	13	12	0	47	

Bikes

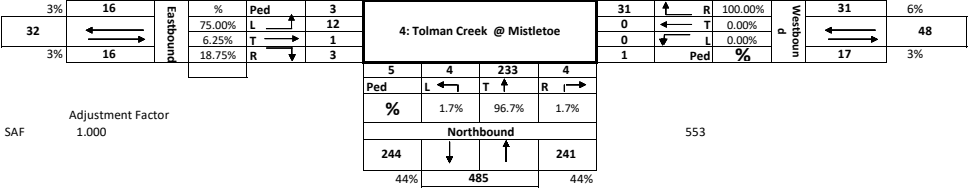
Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
3:00 PM																0	0	0	0
3:15 PM																0	0	0	0
3:30 PM																0	0	0	0
3:45 PM						1								1		0	1	0	1
4:00 PM														1		0	0	0	1
4:15 PM																0	0	0	0
4:30 PM											1					0	0	1	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
Total	0	0	0		0	1	0		0	0	1		0	2	0				
Peak Hour	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1

Pedestrians

[illegible]

Intersection: 4: Tolman Creek @ Mistletoe										City: Ashland															
Counter: Sandow Engineering										Date: Wednesday, May 1, 2024															
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		
15:00	15:15	4	57	3	64	3	0	0	3	2	53	2	57	1	1	3	5	129		0	0	0	0		
15:15	15:30	3	64	2	69	6	0	0	6	0	56	0	56	0	0	3	3	134		1	0	1	0		
15:30	15:45	3	58	4	65	10	0	0	10	0	65	0	65	0	0	1	1	141		0	0	3	1		
15:45	16:00	2	62	3	67	12	0	0	12	2	59	2	63	2	0	5	7	149	553	1	0	1	1		
16:00	16:15	6	57	4	67	4	0	1	5	1	60	0	61	2	0	2	4	137	561	1	0	1	0		
16:15	16:30	1	63	8	72	10	0	0	10	2	37	0	39	1	0	5	6	127	554	0	1	0	1		
16:30	16:45	3	58	5	66	5	1	1	7	2	59	0	61	2	0	0	2	136	549	0	1	0	1		
16:45	17:00	2	62	2	66	4	0	2	6	1	41	1	43	1	0	1	2	117	517	0	0	1	1		
17:00	17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	380	0	0	0	0		
17:15	17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	253	0	0	0	0		
17:30	17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	117	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	0	0	0	0	0		
Count Period Total		24	481	31		54	1	4		10	430	5		9	1	20		1070		3	2	7	5		
PM Peak Hour Count Summary																									
Peak Volumes	Southbound				Approach 265	Westbound			Approach 31	Northbound			Approach 241	Eastbound			Approach 16	553	0.93	Pedestrians					
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right		Thru	Left	SB				WB	NB	EB			
	12	241	12	31		0	0	4		233	4	3		1	12	2				1	5	3			
	0.75	0.94	0.75	0.96		0.65	0.00	0.00		0.65	0.50	0.90		0.50	0.93	0.38				0.25	0.60				
	PHF																								
Trucks	0	6	0			0	0	0		0	3	2		1	0	0									
% Trucks	0%	2%	0%			0%	0%	0%		0%	1%	50%		33%	0%	0%									

Seasonally Adjusted Peak Hour



Pedestrians and Cars

Pedestrians and Cars

Trucks																		
Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
3:00 PM		2								1		1					4	
3:15 PM		1															1	
3:30 PM		3								1							4	
3:45 PM										1		1		1			3	12
4:00 PM																	0	8
4:15 PM																	0	7
4:30 PM		1								1							2	5
4:45 PM																	0	2
5:00 PM																	0	2
5:15 PM																	0	2
5:30 PM																	0	0
5:45 PM																	0	0
Total	0	7	0		0	0	0		0	4	2		1	0	0			
Peak Hour	0	6	0	0	0	0	0	0	0	3	2	0	1	0	0	0	12	27

Bikes

Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
3:00 PM																0	0	0	0
3:15 PM		1								1						1	0	1	0
3:30 PM										1				1		0	0	1	1
3:45 PM		1								1				1		0	0	1	1
4:00 PM									1							0	0	1	0
4:15 PM																0	0	0	0
4:30 PM						1								1		0	1	0	1
4:45 PM														1		0	0	1	1
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
Total	0	2	0		0	1	0		1	3	1		4	0	0				
Peak Hour	0	2	0	0	0	0	0	0	0	3	0	0	2	0	0	2	0	3	2

Pedestrians

[illegible]

Intersection: 5: Tolman Creek @ Siskiyou										City: Ashland													
Counter: Sandow Engineering										Date: Thursday, May 2, 2024													
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
15:00	15:15	28	5	13	46	7	29	5	41	0	8	5	13	8	20	25	53	153	1	0	0	0	
15:15	15:30	35	14	6	55	8	17	0	25	1	12	9	22	8	29	28	65	167	0	0	0	0	
15:30	15:45	26	11	9	46	9	34	0	43	0	12	10	22	10	14	19	43	154	2	0	2	1	
15:45	16:00	41	10	11	62	7	25	1	33	1	8	4	13	9	33	30	72	180	0	2	2	2	
16:00	16:15	26	6	4	36	10	20	1	31	0	8	3	11	3	27	24	54	132	633	1	1	0	1
16:15	16:30	8	10	9	27	3	15	0	18	3	12	9	24	5	24	25	54	123	589	1	0	1	1
16:30	16:45	25	13	9	47	4	23	2	29	2	11	8	21	21	25	10	56	153	588	1	2	0	0
16:45	17:00	26	10	10	46	7	6	2	15	1	10	4	15	11	23	24	58	134	542	0	2	0	1
17:00	17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	410	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	287	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	134	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	0	0	0	0	0
Count Period Total		215	79	71		55	169	11		8	81	52		75	195	185		1196		6	7	5	6
PM Peak Hour Count Summary																							
Peak Volumes	Southbound				Approach 209 <th colspan="3">Westbound</th> <th rowspan="5">Approach 142<th colspan="3">Northbound</th><th rowspan="5">Approach 70<th colspan="3">Eastbound</th><th rowspan="5">Approach 233<th rowspan="5">654<th rowspan="5">0.91<th colspan="4">Pedestrians</th></th></th></th></th></th>	Westbound			Approach 142 <th colspan="3">Northbound</th> <th rowspan="5">Approach 70<th colspan="3">Eastbound</th><th rowspan="5">Approach 233<th rowspan="5">654<th rowspan="5">0.91<th colspan="4">Pedestrians</th></th></th></th></th>	Northbound			Approach 70 <th colspan="3">Eastbound</th> <th rowspan="5">Approach 233<th rowspan="5">654<th rowspan="5">0.91<th colspan="4">Pedestrians</th></th></th></th>	Eastbound			Approach 233 <th rowspan="5">654<th rowspan="5">0.91<th colspan="4">Pedestrians</th></th></th>	654 <th rowspan="5">0.91<th colspan="4">Pedestrians</th></th>	0.91 <th colspan="4">Pedestrians</th>	Pedestrians			
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right		Thru	Left	SB				WB	NB	EB	
	130	40	39	31		105	6	2		40	28	35		96	102	4				3	5	5	
	0.79	0.71	0.75	0.84		0.86	0.77	0.30		0.50	0.83	0.70		0.88	0.73	0.85							
	PHF																						
Trucks	1	2	0			1	3	0		0	4	0		0	2	3							
% Trucks	1%	5%	0%			3%	3%	0%		0%	10%	0%		0%	2%	3%							

Seasonally Adjusted Peak Hour

40%	284	Eastbound	%	Ped	5	5: Tolman Creek @ Siskiyou	33		Westbound	153	22%
535			43.78%	L	110		113			21.83%	
			41.20%	T	104		6			73.94%	
			15.02%	R	38		3			4.23%	
36%	251						Ped	%		148	21%
					5	30	43	2			

SAF

706

5: Tolman Creek @ Siskiyou

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			
3:00 PM	1	28	4	13			7	29	5				7	5			8	20	24		150	
3:15 PM		35	13	6			8	15				1	12	9			8	29	26		162	
3:30 PM	1	25	10	9			9	34			2		11	10		1	10	13	19		150	
3:45 PM		41	10	11			2	6	24	1	2	1	6	4		2	9	32	30		175	637
4:00 PM	1	26	6	4		1	10	20	1				8	3		1	3	27	24		132	619
4:15 PM	1	8	10	9			3	14			1	2	12	9		1	5	23	25		120	577
4:30 PM		25	12	9		1	4	21	1			2	11	8			21	25	10		149	576
4:45 PM		26	10	10		2	7	6	2			1	10	4			11	22	24		133	534
5:00 PM																					0	402
5:15 PM																					0	282
5:30 PM																					0	133
5:45 PM																					0	0
Total	4	214	75	71		6	54	163	10		5	7	77	52		5	75	191	182			
Peak Hour	2	129	37	39	0	2	30	102	6	0	4	2	36	28	0	3	35	94	99	0	637	1833

Trucks

Time Period	Southbound					Westbound					Northbound					Eastbound					15 Minute Volume	Hourly Volume
	Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			Right	Thru	Left				
3:00 PM			1										1						1		3	
3:15 PM			1					2											2		5	
3:30 PM													1								3	
3:45 PM	1					1	1						2					1			5	16
4:00 PM																					0	13
4:15 PM								1										1			3	11
4:30 PM								2													2	10
4:45 PM																		1			1	6
5:00 PM																					0	6
5:15 PM																					0	3
5:30 PM																					0	1
5:45 PM																					0	0
Total	1	2	0			1	6	0			1	4	0			0	4	3				
Peak Hour	1	2	0	0		1	3	0	0		0	4	0	0		0	2	3	0		16	40

Bikes

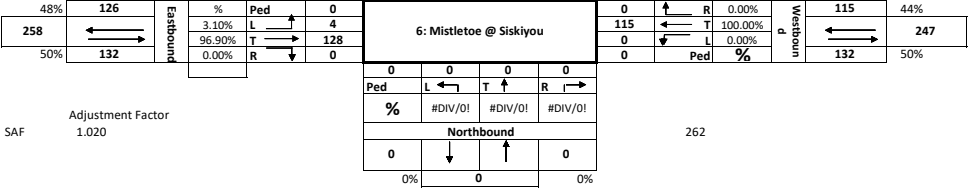
Time Period	Southbound					Westbound					Northbound					Eastbound					SB	WB	NB	EB
	Right	Thru	Left			Right	Thru	Left			Right	Thru	Left			Right	Thru	Left						
3:00 PM																					0	0	0	0
3:15 PM																					0	0	0	0
3:30 PM		1																			1	0	0	0
3:45 PM																					0	0	0	0
4:00 PM																					0	0	0	0
4:15 PM																					0	0	0	0
4:30 PM		1						1											1		1	1	0	0
4:45 PM																			0		0	0	1	0
5:00 PM																			0		0	0	0	0
5:15 PM																			0		0	0	0	0
5:30 PM																			0		0	0	0	0
5:45 PM																			0		0	0	0	0
Total	0	2	0			0	0	1			0	0	0			0	0	1			0	0	0	0
Peak Hour	0	1	0	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					
3:00 PM			0				0				0	0			0		0	0	0	0
3:15 PM		0	0				0				0	0			0		0	0	0	0
3:30 PM		0	0				0				0	0			0		0	0	0	0
3:45 PM			0		0		0				0	0			0		0	0	0	0
4:00 PM			0				0				0	0			0		0	0	0	0
4:15 PM			0				0		0		0	0			0		0	0	0	0
4:30 PM			0				0				0	0			0		0	0	0	0
4:45 PM			0				0			0	0	0		0	0		0	0	0	0
5:00 PM			0				0				0	0			0		0	0	0	0
5:15 PM			0				0				0	0			0		0	0	0	0
5:30 PM			0				0				0	0			0		0	0	0	0
5:45 PM			0				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	0	0	0		0	0	0	0

Intersection: 6: Mistletoe @ Siskiyou										City: Ashland															
Counter: Sandow Engineering										Date: Thursday, May 2, 2024															
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		
15:00	15:15	4	0	3	7	0	36	0	36	0	0	0	0	0	33	1	34	77		0	0	0	0		
15:15	15:30	0	0	1	1	0	17	0	17	0	0	0	0	0	32	2	34	52		0	0	0	1		
15:30	15:45	5	0	0	5	0	34	0	34	0	0	0	0	0	25	0	25	64		0	0	0	0		
15:45	16:00	2	0	0	2	0	26	0	26	0	0	0	0	0	35	1	36	64	257	0	0	0	0		
16:00	16:15	7	0	0	7	0	21	0	21	0	0	0	0	0	27	1	28	56	236	0	0	0	0		
16:15	16:30	4	0	0	4	0	17	0	17	0	0	0	0	0	29	0	29	50	234	0	0	0	0		
16:30	16:45	3	0	1	4	0	29	0	29	0	0	0	0	0	27	6	33	66	236	0	1	0	0		
16:45	17:00	1	0	0	1	1	35	0	36	0	0	0	0	0	34	3	37	74	246	0	0	0	0		
17:00	17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	0	0	0	0		
17:15	17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	140	0	0	0	0		
17:30	17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	74	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	0	0	0	0	0		
Count Period Total		26	0	5		1	215	0		0	0	0		0	242	14		503		0	1	0	1		
PM Peak Hour Count Summary																									
Peak Volumes	Southbound				Approach 15 <th colspan="3">Westbound</th> <th rowspan="5">Approach 113</th> <th colspan="4">Northbound</th> <th rowspan="5">Approach 0</th> <th colspan="3">Eastbound</th> <th rowspan="5">Approach 129</th> <th rowspan="5">257</th> <th rowspan="5"></th> <th rowspan="5">0.83</th> <th colspan="4">Pedestrians</th>	Westbound			Approach 113	Northbound				Approach 0	Eastbound			Approach 129	257		0.83	Pedestrians			
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right	Thru		Left	SB	WB					NB	EB		
	11	0	4	0		113	0	0		0	0	0	125		4	0	0					0	0		
	0.55	0.00	0.33	0.00		0.78	0.00	0.00		0.00	0.00	0.00	0.89		0.50										
	0.90																								
PHF					0.54				0.78					0.00				0.90							
Trucks	0	0	0			0	5	0		0	0	0			0	3	0								
% Trucks	0%	0%	0%			0%	4%	0%		0%	0%	0%			0%	2%	0%								

Seasonally Adjusted Peak Hour



Pedestrians and Cars

Pedestrians and Cars

Peak Hour	0	11	0	4	0	0	0	108	0	0	0	0	0	0	0	0	0	122	4	0	249	707

Time Pe

Peak Hour	0	0	0	0	0	5	0	0	0	0	0	0	0	3	0	0	8	20

Time P

[illegible]

Time Period

[illegible]

Intersection: 7: Siskiyou @ Ashland										City: Ashland													
Counter: Sandow Engineering										Date: Thursday, May 2, 2024													
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
15:00	15:15	0	90	81	171	103	0	0	103	0	146	0	146	0	0	0	0	420		0	0	1	0
15:15	15:30	0	92	104	196	115	0	0	115	0	134	0	134	0	0	0	0	445		0	0	0	0
15:30	15:45	0	106	72	178	79	0	0	79	5	113	0	118	0	0	0	0	375		0	1	1	0
15:45	16:00	3	104	61	168	97	0	0	97	3	95	0	98	0	0	0	0	363	1603	0	0	1	0
16:00	16:15	0	95	96	191	81	0	0	81	2	84	0	86	0	0	0	0	358	1541	0	0	0	0
16:15	16:30	0	76	83	159	78	0	0	78	4	87	0	91	0	0	0	0	328	1424	0	0	0	0
16:30	16:45	1	105	81	187	77	0	0	77	0	71	0	71	0	0	0	0	335	1384	0	0	1	0
16:45	17:00	0	83	72	155	82	0	0	82	2	83	0	85	0	0	0	0	322	1343	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	985	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	657	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	322	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	0	0	0	0	0
Count Period Total		4	751	650		712	0	0		16	813	0		0	0	0		2946		0	1	4	0
PM Peak Hour Count Summary																							
Peak Volumes	Southbound				Approach	Westbound			Approach	Northbound			Approach	Eastbound			Approach	15 Minute Volume	Hourly Volume	Pedestrians			
	Right	Thru	Left	Right		Thru	Left	Right		Thru	Left	Right		Thru	Left	SB				WB	NB	EB	
	3	392	318	713	394	0	0	394	8	488	0	496	0	0	0	0	1			2	0		
	0.25	0.92	0.76	0.91	0.86	0.00	0.00	0.86	0.40	0.84	0.00	0.85	0.00	0.00	0.00	0.90							
PHF																							
Trucks	0	7	0			7	0	0		0	4	0			0	0	0						
% Trucks	0%	2%	0%			2%	0%	0%		0%	1%	0%			0%	0%	0%						

Seasonally Adjusted Peak Hour

3

0%

3

0%

0

Eastbound

%	Ped	
0.00%	L	0
0.00%	T	0
#DIV/0!	R	0

7

44%	1627		55%
727	↓	↑	900
Southbound			
0.42%	54.98%	44.60%	%
R	T	L	PED
3	400	324	0
7: Siskiyou @ Ashland			
2	0	498	8
Ped	L	T	R
%	0.0%	98.4%	1.6%
Northbound			
400	↓	↑	506
24%	906		31%

402	↑	R	100.00%
0	←	T	0.00%
0	↓	L	0.00%
1	Ped	%	

Westbound

402	25%
←	734
333	20%

Adjustment Factor

1.020

SAF

1635

Pedestrians and Cars

Trucks																		
Time Period	Southbound				Westbound				Northbound				Eastbound				15 Minute Volume	Hourly Volume
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left			
3:00 PM		1			2												3	
3:15 PM		2			2						1						5	
3:30 PM		1									3						4	
3:45 PM		3			3												6	18
4:00 PM		1									3						4	19
4:15 PM											2						2	16
4:30 PM		1			1												2	14
4:45 PM		1									2						3	11
5:00 PM																	0	7
5:15 PM																	0	5
5:30 PM																	0	3
5:45 PM																	0	0
Total	0	10	0		8	0	0		0	11	0		0	0	0			
Peak Hour	0	7	0	0	7	0	0	0	0	4	0	0	0	0	0	0	18	53

Bikes																			
Time Period	Southbound				Westbound				Northbound				Eastbound			SB	WB	NB	EB
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left				
3:00 PM										1						0	0	1	0
3:15 PM																0	0	0	0
3:30 PM										1						0	0	1	0
3:45 PM																0	0	0	0
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
Total	0	0	0		0	0	0		0	2	0		0	0	0				
Peak Hour	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	0

[illegible]

Global Peak Hour

Intersections								
	1: Tolman Creek @ Ashland	2: I5 SB Ramp @ Ashland	3: I5 NB Ramps @ Ashland	4: Tolman Creek @ Mistletoe	5: Tolman Creek @ Siskiyou	6: Mistletoe @ Siskiyou	7: Siskiyou @ Ashland	
Time Period	Volume	Volume	Volume	Volume	Volume	Volume	Volume	Total
3:00 PM 4:00 PM	1,797	1,637	1,457	553	654	257	1,603	7958
3:15 PM 4:15 PM	1,742	1,551	1,387	561	633	236	1,541	7651
3:30 PM 4:30 PM	1,701	1,561	1,352	554	589	234	1,424	7415
3:45 PM 4:45 PM	1,670	1,579	1,313	549	588	236	1,384	7319
4:00 PM 5:00 PM	1,639	1,559	1,263	517	542	246	1,343	7109
4:15 PM 5:15 PM	1,642	1,692	1,295	380	410	190	985	6594
4:30 PM 5:30 PM	1,653	1,740	1,297	253	287	140	657	6027
4:45 PM 5:45 PM	1,676	1,724	1,261	117	134	74	322	5308
5:00 PM 6:00 PM	1,631	1,715	1,267	-	-	-	-	4613
	1797	1740	1457	561	654	257	1603	7958

Peak Hour 3:00 PM
3:15 PM
3:30 PM
3:45 PM

STATE OF OREGON

TECHNICAL MEMORANDUM

Department of Transportation
Transportation Development Division
Mill Creek Office Park
555 13th Street NE Suite 2
Salem, Oregon 97301-4178
(503) 986-4112 FAX (503) 986-4174

File Code: Request_171

Date: April 26, 2024

TO: Kelly Sandow, P.E., Firm Principal
SandowEngineering

FROM: Jin Ren, P.E., Sr. Travel Demand Modeler/Analyst
Zohora Sultana, P.E., Sr. Travel Demand Modeler/Analyst
Oregon DOT Planning Analysis Unit

SUBJECT: Modeling Results for SOABM_Model_V2 Travel Demand Model:
Proposed Development (Zone 729 and 732) in City of Ashland
(Internal Request: Request_171_Ashland_TAZ732_729_TIS)

A model request was submitted by SandowEngineering to utilize the Southern Oregon Activity-Based models to conduct base and future year scenario PM peak hour traffic forecasts: SOABM_V2_0_00_BAS_01_2017 and SOABM_0_00_V2_RTP_01_2045 Models*.

The purpose of the project is: “1) determining growth rates within the study area and 2) have a model run that distributes the development specific trips on the system.” (Excerpts from the model request form)

** Note that travel models provide only generalized travel forecasts because they are based on generalized land use patterns and transportation networks. Since models do not represent individual land uses, driveways or neighborhood-scale streets, the forecasts produced are not sensitive to these specific land use and transportation characteristics.*

It is inappropriate to use raw model outputs as the basis for transportation and land use decisions that require consideration of detailed transportation and land use characteristics. Therefore, post-processing of model outputs to account for the influence of specific transportation and land use characteristics is mandatory. Methods used for post-processing must conform to specifications provided within the ODOT Analysis Procedures Manual (http://www.oregon.gov/ODOT/TD/TP/TAPM.shtml#Analysis_Procedures_Manual).

Brief Description

The site encompasses the entirety of TAZ 732 and a portion of TAZ 729. The TAZ map is attached in Fig. 1 below (provided by Sandow Engineering).

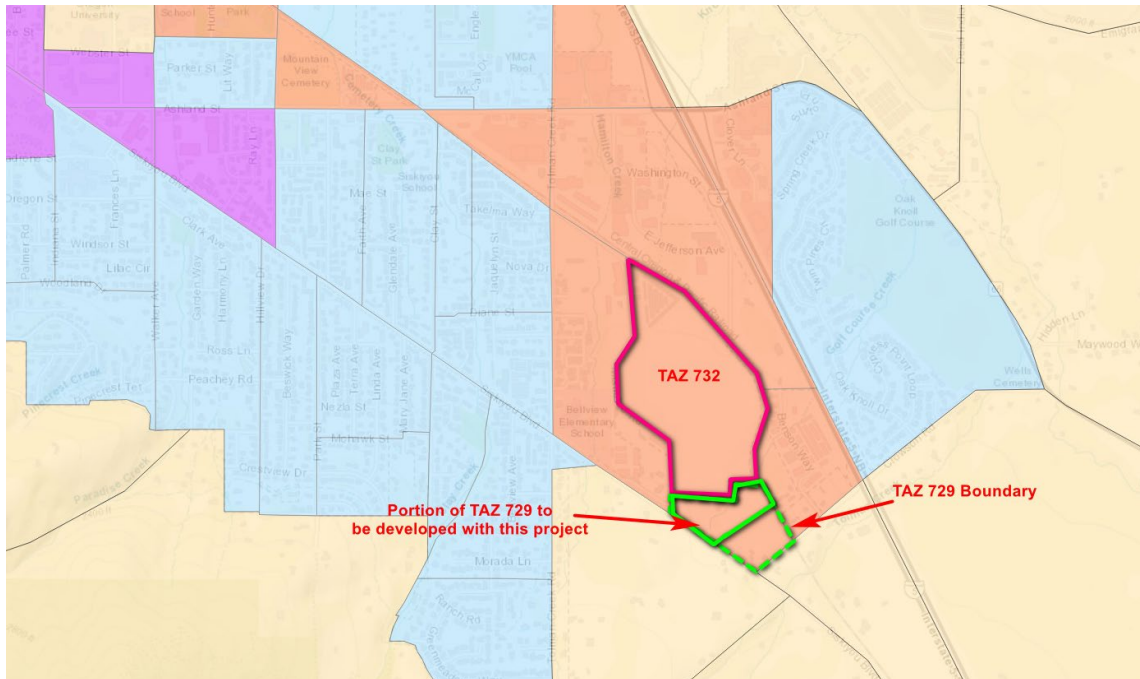


Fig.1: TAZ 729 and TAZ 732 in the City of Ashland area

As shown in the Table 1 below, the site will include 500 homes with a mix of single family and multi-family, some commercial office/retail/hotel and some light industrial spaces, totaled up to 320 employees (not including Hotel employment). It's important to note that in the future year 2045 RTP scenario modeling, there are already 480 employees forecast in the development area. Therefore, there is no need to add the 320 employees in the future year project development modeling.

Table 1: Proposed Land Use Development within Project Area

Single Family Detached	125	Dwelling Units
Single Family Attached	125	Dwelling Units
Multi-Family	250	Dwelling Units
General Office	60	employees
Retail	20	employees
Manufacturing	240	employees
Hotel	220	Rooms

See Fig. 2 map (Provided by Sandow Engineering) below, primary access will be from Siskiyou Highway with most of the development oriented towards that access and secondary access will be from Mistletoe Road to Tollman.



Fig. 2: Primary and Secondary Accesses to/from the Project Site

Project boundaries are: I-5 at Exit 14, I-5 at Exit 11, Siskiyou Highway (Highway 99) at Ashland Street (Highway 66), Highway 66 at Crowson Road as shown in Fig. 3 (provided by Sandow Engineering) below:

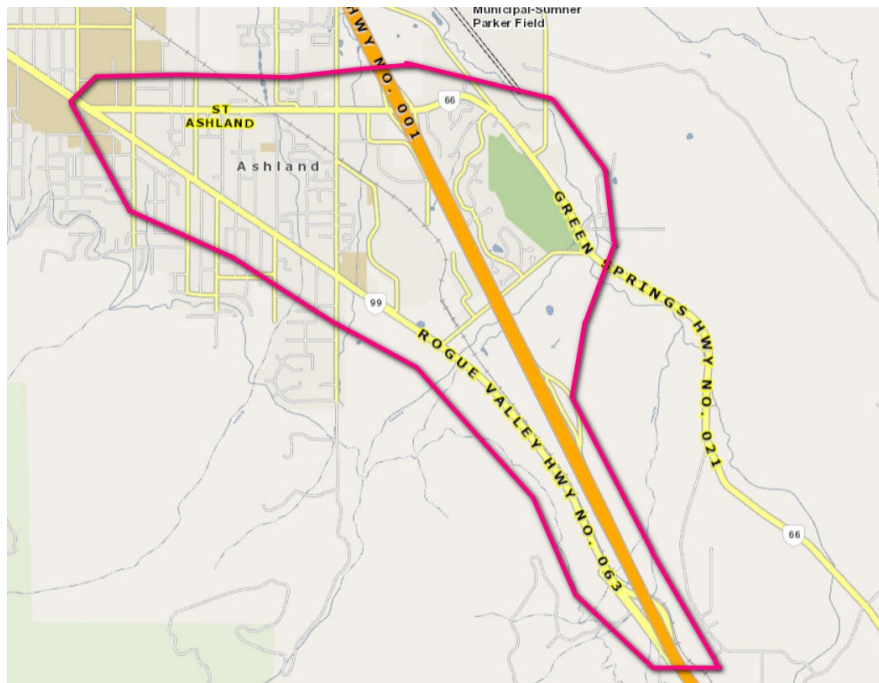


Fig. 3: Development Project Study Area Boundary Map

Model Description

Model: SOABM_V2_0_00_BAS_01_2017
SOABM_0_00_V2_RTP_01_2045
SOABM_V2_RTP_Rqst171_TAZ732_2045

Network: 2017 base year SOABM_V2 roadway network
2045 future year SOABM_0_00_V2_RTP network
2045 future year SOABM_0_00_V2_RTP network

Land-Use: 2017 base year SOABM_V2 land uses
2045 future year SOABM_0_00_V2_ land uses
2045 future year SOABM_0_00_V2_ Ashland_TAZ732_ land uses

Changes to the Network

There was no network scenario change for this request as the model accesses to/from the project site is in line with the project major access plan.

Changes to Land Use

The proposed land use changes as shown in Table 1, such as: 250 single-family and 250 multi-family dwelling units are converted to the synthetic general population households and persons by using the PopulationSim, and 220 hotel rooms were converted to synthetic visitors in terms of households and persons. These proposed changes are incorporated into the 2045 RTP scenario SOABM_v2 model run to forecast both daily and PM peak hour auto traffic volumes. Thereafter, the PM peak hour link volumes were plotted in PDF, along with the project specific volume distribution to the network.

Requested Output

- PDFs with PM Peak hour numeric values only as shown:
 1. BaseYear2017SOABM_v2_PMPKHr_Vol_AshlandArea.pdf
 2. BaseYear2017SOABM_v2_PMPKHr_Vol_Select_TAZ_732.pdf
 3. RTP_2045_SOABM_v2_PMPKHr_Vol_AshlandArea.pdf
 4. RTP_2045_SOABM_v2_PMPKHr_Vol_Select_TAZ_732.pdf
 5. RTP_2045_SOABM_v2_PMPKHr_Vol_withProjectAshland.pdf
 6. RTP_2045_SOABM_v2_PMPKHr_Vol_withProject_TAZ732.pdf
- Following Figures 4-9 depict the study area traffic volume forecasts corresponding to the above sequences.

If there are any questions or comments, please contact Jin Ren at 503-986-4120.

CC: Chris Melson, P.E., Manager ODOT Transportation Planning Analysis Unit
Ryan MacLaren, RVMPO Planning Program Director
Ian Horlacher, ODOT Region 3 Coordinator
Dejan Dudich, P.E., ODOT TPAU Sr. Transportation Analyst

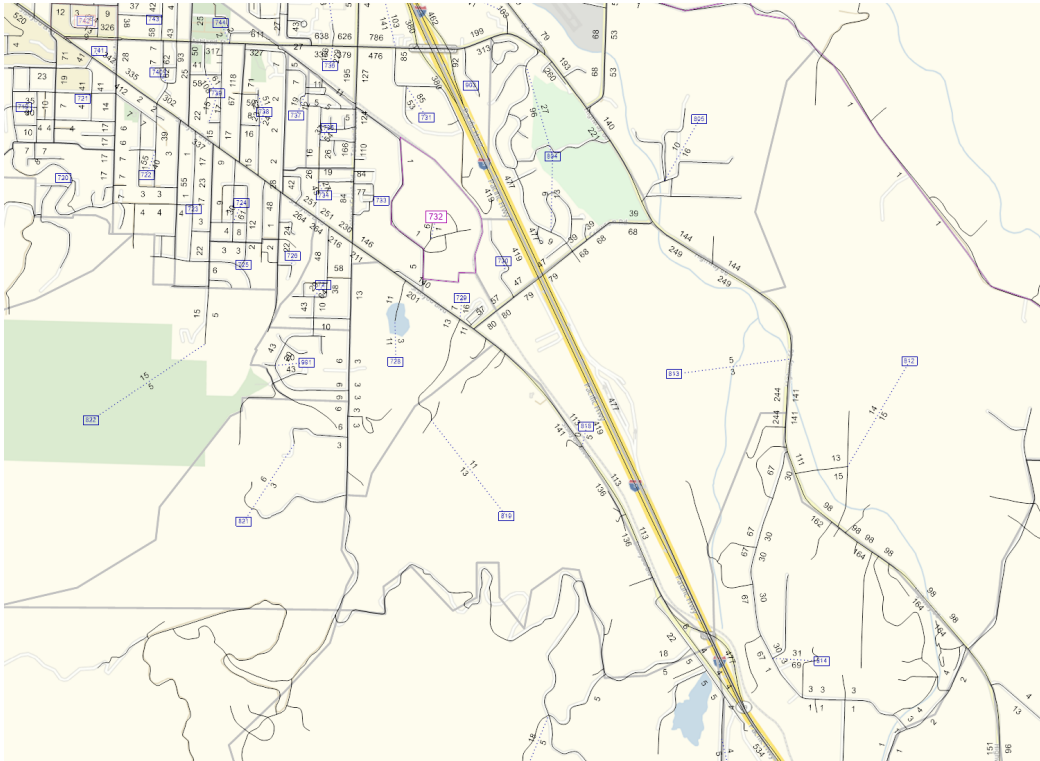


Fig. 4: Base Year 2017 SOABM_v2 PM Peak Hour Auto Volume Forecasts

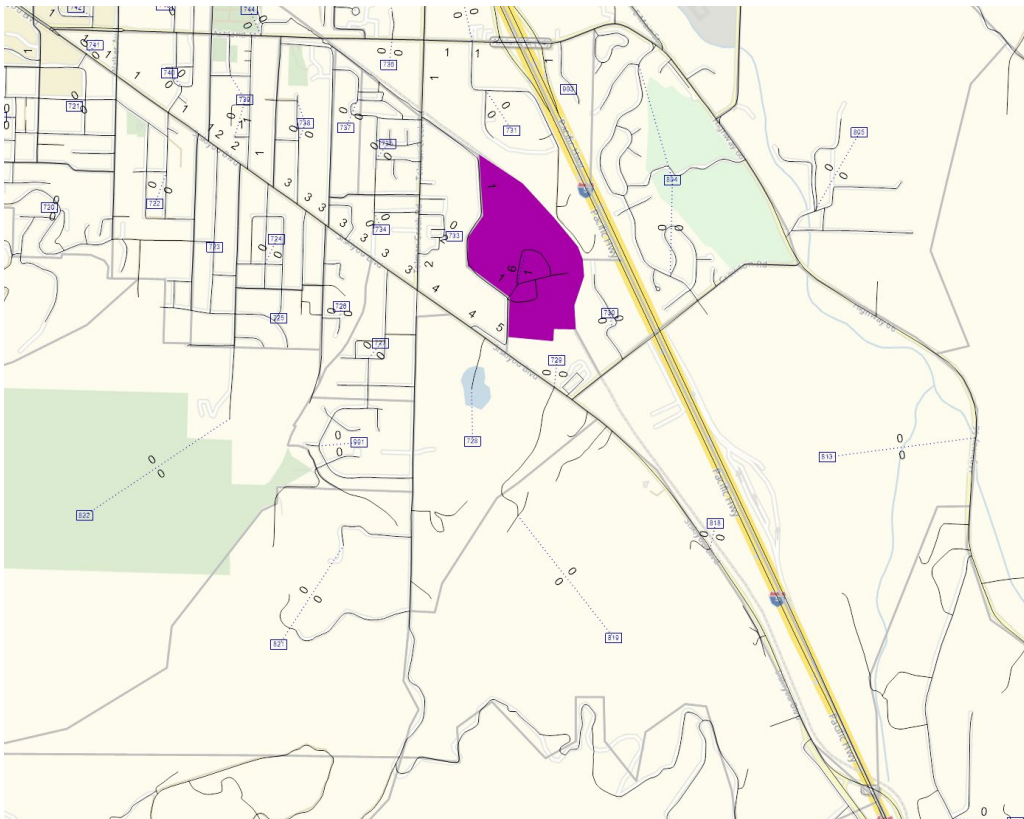


Fig. 5: Base Year 2017 SOABM_v2 PM Peak Hour Select TAZ-732 Vol.

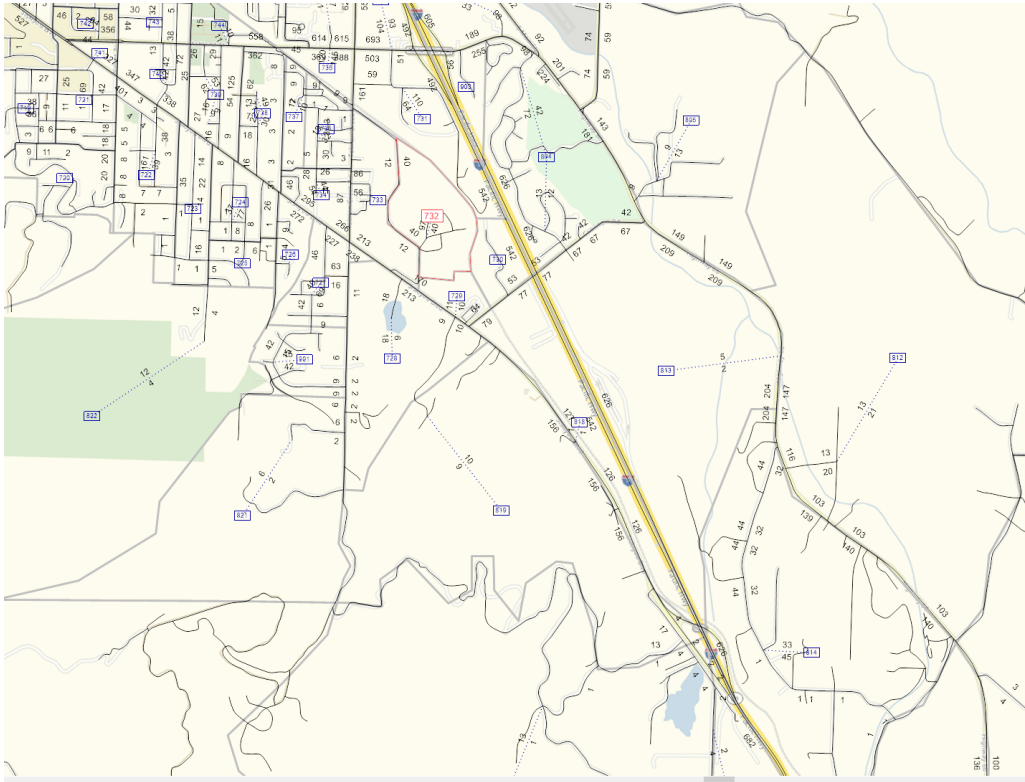


Fig. 6: RTP 2045 Scenario SOABM_v2 PM Peak Hour Auto Volume Forecasts

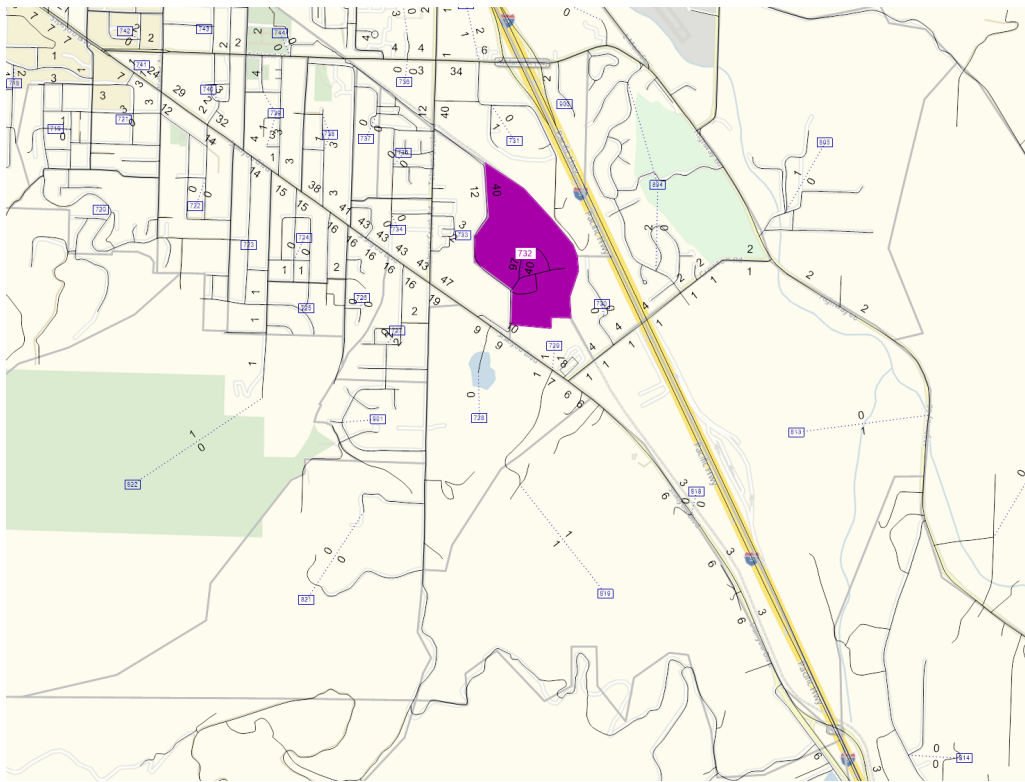


Fig. 7: RTP 2045 Scenario SOABM_v2 PM Peak Hour Select TAZ-732 Vol.

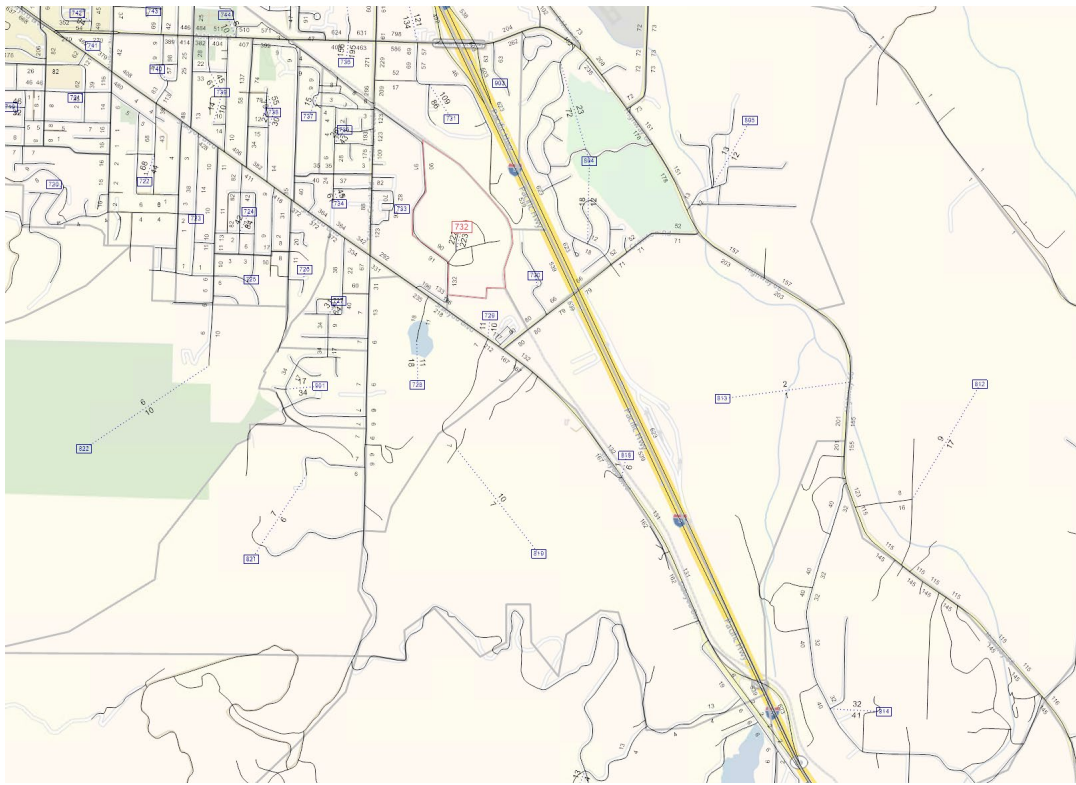


Fig. 8: 2045 Project Scenario SOABM_v2 PM Peak Hour Auto Volume Forecasts

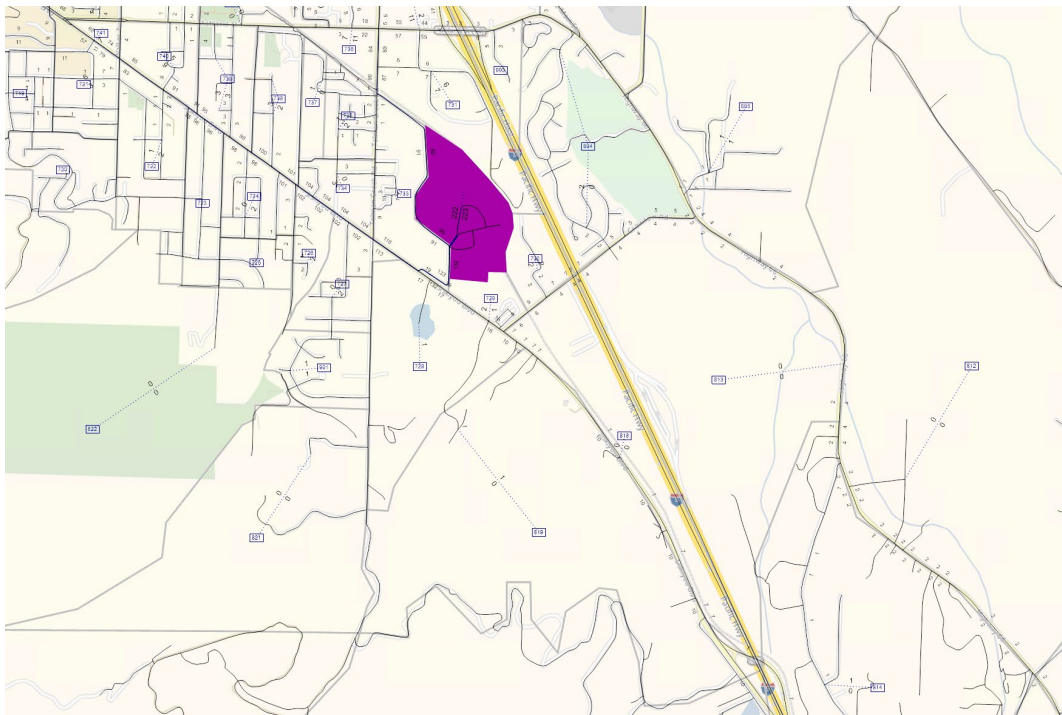
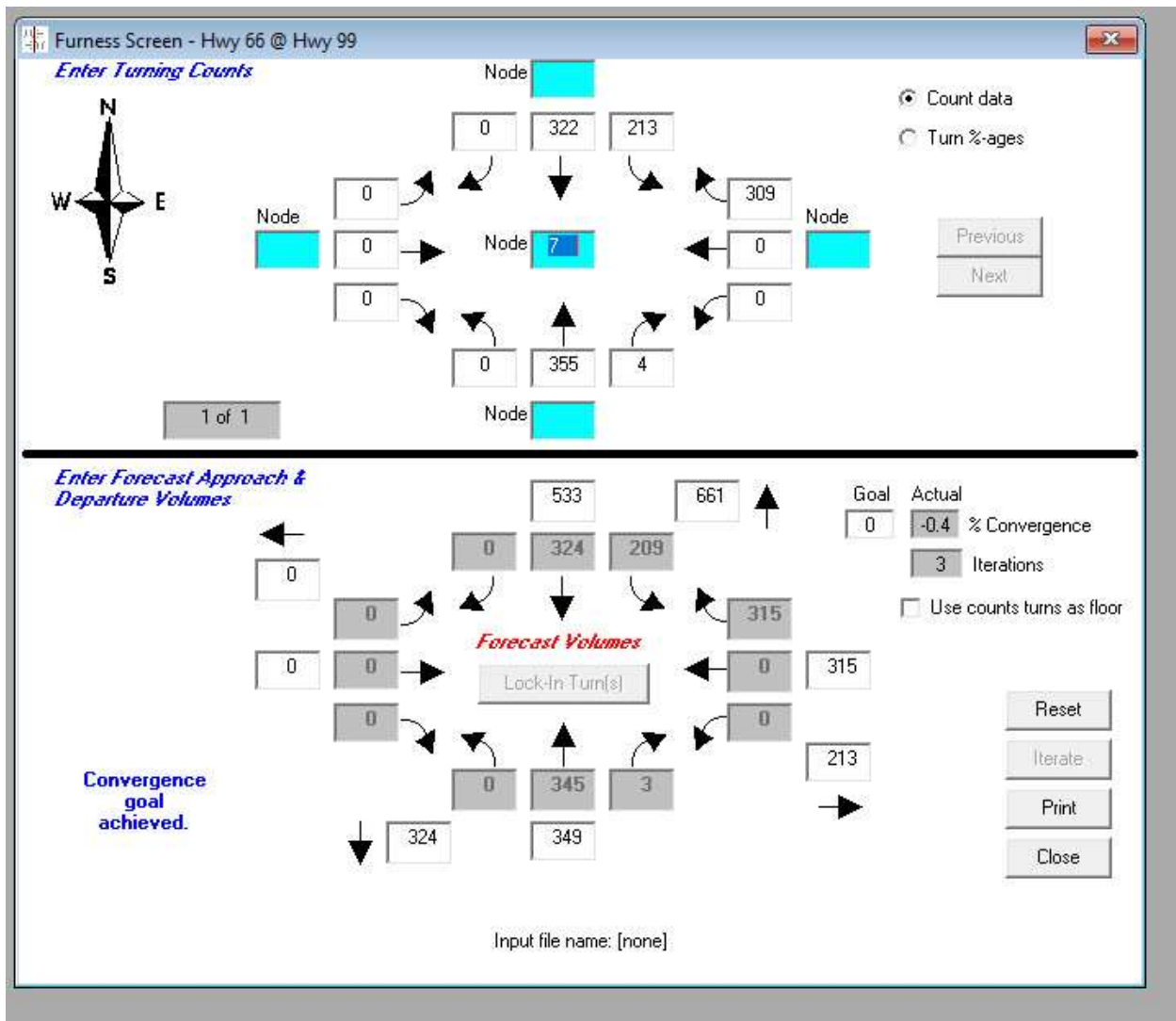


Fig. 9: 2045 Project Scenario SOABM_v2 PM Peak Hour Select TAZ-732 Vol.

														2030					2035					AM			
Intersection	Direction	2017 Volumes	2017 Site Volumes	2045 Ashland Area	2045 Vol Select TAZ	Base Volumes (TAZ trips removed)		Annual Growth Rate	Base Adjusted To:			Total Growth	Trafic Count PM Peak Hour	Volume Difference	Difference Method	growth method	Percent Difference	selected	Volume Difference	Difference Method	growth method	Percent Difference	selected	Existing Counts			
						2017	2045 Ashland Area		2024	2030	2035													2024	2030	2035	2045
Hwy 66 @ Hwy 99	NL in	581	0	561	7	581	554	0.00	574	568	564	0.96	727	-6	721	720	0%	720	-11	716	714	0%	714	536	531	526	517
	NL out	724	1	724	23	723	701	0.00	718	713	709	0.98	900	-5	895	894	0%	894	-9	891	889	0%	889	664	660	656	649
	EL in	323	0	364	0	323	364	0.00	333	342	349	1.09	402	9	411	413	1%	413	16	418	422	1%	422	309	317	324	338
	EL out	249	0	225	0	249	225	0.00	243	238	234	0.93	333	-5	328	326	1%	326	-9	324	320	1%	320	217	213	209	201
	SL in	448	1	423	23	447	400	0.00	435	425	417	0.92	506	-10	496	495	0%	495	-18	488	485	1%	485	359	351	344	331
	SL out	379	0	399	7	379	392	0.00	382	385	387	1.03	400	3	403	403	0%	403	5	405	405	0%	405	322	324	326	330
Tolman Creek @ Ashland	NL in	54	0	62	2	54	60	0.00	56	57	58	1.08	218	1	219	223	2%	223	2	220	228	3%	228	178	182	186	193
	NL out	48	0	55	1	48	54	0.00	50	51	52	1.09	238	1	239	244	2%	244	2	240	250	4%	250	185	190	194	202
	EL in	786	0	693	7	786	686	0.00	761	740	722	0.90	623	-21	602	606	1%	606	-39	584	592	1%	592	727	707	691	658
	EL out	476	1	503	34	475	469	0.00	474	472	471	0.99	743	-1	742	741	0%	741	-2	741	739	0%	739	537	536	534	532
	SL in	127	1	202	39	126	163	0.01	135	143	150	1.21	311	8	319	331	4%	331	15	326	347	6%	347	247	263	275	301
	SL out	195	0	172	12	195	160	-0.01	186	179	173	0.86	324	-8	317	312	2%	312	-14	310	301	3%	301	251	241	233	217
	WL in	379	0	388	3	379	385	0.00	381	382	383	1.01	645	1	646	647	0%	647	2	647	649	0%	649	377	378	379	381
	WL out	626	0	615	4	626	611	0.00	622	619	616	0.98	492	-3	489	489	0%	489	-6	486	487	0%	487	556	553	551	546
I5 Ramps @ Ashland	NL in	784	0	780	6	784	774	0.00	782	779	778	0.99	551	-2	549	549	0%	549	-4	547	548	0%	548		0	0	0
	NL out	400	0	499	30	400	469	0.01	417	432	444	1.12	768	15	783	796	2%	796	27	795	820	3%	820		0	0	0
	EL in	251	0	220	0	251	220	0.00	243	237	231	0.90	479	-7	472	466	1%	466	-12	467	456	2%	456		0	0	0
	EL out	371	0	289	2	371	287	-0.01	350	332	317	0.82	403	-18	385	383	0%	383	-33	370	367	1%	367		0	0	0
	SL in	14	0	20	0	14	20	0.02	16	17	18	1.29	47	1	48	51	6%	51	2	49	55	10%	49		0	0	0
	SL out	39	0	50	0	39	50	0.01	42	44	46	1.20	59	2	61	63	2%	63	4	63	66	3%	66		0	0	0
	WL in	440	1	485	6	439	479	0.00	449	458	465	1.07	817	9	826	833	1%	833	16	833	846	2%	846		0	0	0
	WL out	679	0	668	32	679	636	0.00	668	659	651	0.95	640	-9	631	631	0%	631	-17	623	624	0%	624		0	0	0
Tolman Creek @ Mistletoe	NL in	195	0	181	12	195	169	0.00	189	183	178	0.90	265	-6	259	257	1%	257	-10	255	251	1%	251	204	198	193	184
	NL out	127	1	161	40	126	121	0.00	125	124	123	0.97	276	-1	275	274	0%	274	-2	274	272	1%	272	256	254	252	248
	EL in	1	1	40	40	0	0	0.00	0	0	0	0.00	31	0	31	31	0%	31	0	31	31	0%	31	8	8	8	8
	EL out	0	0	12	12	0	0	0.00	0	0	0	0.00	17	0	17	17	0%	17	0	17	17	0%	17	26	26	26	26
	SL in	124	0	120	0	124	120	0.00	123	122	121	0.98	241	-1	240	239	0%	239	-2	239	238	1%	238	239	237	236	233
	SL out	187	0	162	0	187	162	0.00	181	175	171	0.90	244	-5	239	237	1%	237	-10	234	231	1%	231	179	174	170	161
	WL in	5	0	1	0	5	1	-0.03	4	3	2	0.25	16	-1	15	13	14%	15	-2	14	11	32%	14	29	24	20	12
	WL out	11	0	9	0	11	9	-0.01	11	10	10	0.86	16	0	16	15	1%	15	-1	15	15	2%	15	19	18	18	16
Tolman Creek @ Hwy 99	NL in	233	0	201	3	233	198	-0.01	224	217	211	0.88	226	-8	219	219	0%	219	-14	212	213	0%	213	187	181	176	166
	NL out	121	2	94	2	119	92	-0.01	112	106	102	0.82	187	-6	181	178	2%	178	-11	176	170	4%	170	214	204	195	178
	EL in	146	4	213	47	142	166	0.01	148	153	157	1.12	153	5	158	159	0%	159	9	162	163	0%	163	134	139	143	151
	EL out	211	0	238	19	211	219	0.00	213	215	216	1.03	148	2	150	149	0%	149	3	151	150	1%	150	106	107	108	109
	SL in	30	0	26	2	30	24	-0.01	29	27	26	0.84	76	-1	75	73	3%	73	-2	74	70	5%	70	84	80	77	71
	SL out	64	0	69	0	64	69	0.00	65	66	67	1.06	87	1	88	88	0%	88	2	89	90	1%	90	72	73	74	76
	WL in	216	3	227	16	213	211	0.00	213	212	212	0.99	251	0	251	250	0%	250	-1	250	250	0%	250	220	220	219	218
	WL out	230	0	266	43	230	223	0.00	228	227	226	0.98	284	-2	283	282	0%	282	-3	281	281	0%	281	233	231	230	228
Misletoe @ Hwy 99	NL in	5	5	57	57	0	0	0.00	0	0	0	0.00	15	0	15	15	0%	15	0	15	15	0%	15	14	14	14	14
	NL out	0	0	29	29	0	0	0.00	0	0	0	0.00	4	0	4	4	0%	4	0	4	4	0%	4	22	22	22	22
	EL in	140	0	170	10	140	160	0.01	145	149	153	1.10	115	4	119	119	1%	119	8	123	121	1%	121	116	120	123	128
	EL out	201	0	213	9	201	204	0.00	202	202	203	1.01	132	1	133	132	0%	132	1	133	133	0%	133	69	69	69	70
	WL in	211	0	238	19	211	219	0.00	213	215	216	1.03	132	2	134	133	0%	133	3	135	134	1%	134	88	89	89	91
	WL out	146	4	213	47	142	166	0.01	148	153	157	1.12	126	5	131	131	0%	131	9	135	134	1%	134				

2030 AM



Furness Screen - I5 Nb Ramps @ Ashland

Enter Turning Counts

N

W

E

S

Node

371

347

0

Node

0

0

0

Node

207

190

0

24

0

29

Node

Count data

Turn %-ages

Previous

Next

7 of 7

Enter Forecast Approach & Departure Volumes

200

386

712

0

0

26

0

0

58

0

0

0

0

598

211

173

0

385

358

Forecast Volumes

Lock-In Turn(s)

Goal

Actual

0

0.1

% Convergence

4

Iterations

☐ Use counts turns as floor

Reset

Iterate

Print

Close

Convergence goal achieved.

Input file name: [none]

Furness Screen - 15 Sb Ramp @ Ashland

Enter Turning Counts

Compass rose: N, S, E, W

6 of 6

Count data (selected)
Turn %-ages

Previous
Next

Enter Forecast Approach & Departure Volumes

Forecast Volumes

Lock-In Turn(s)

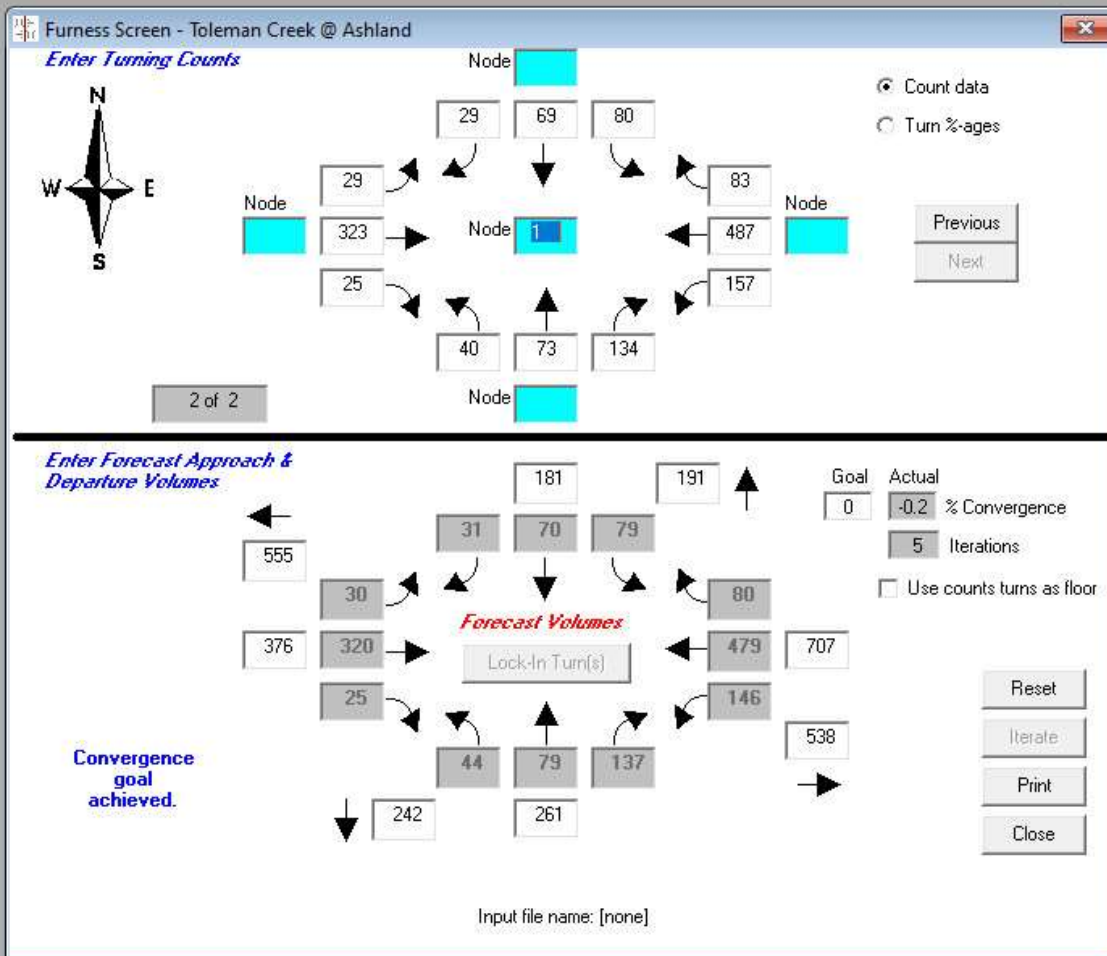
Convergence goal achieved.

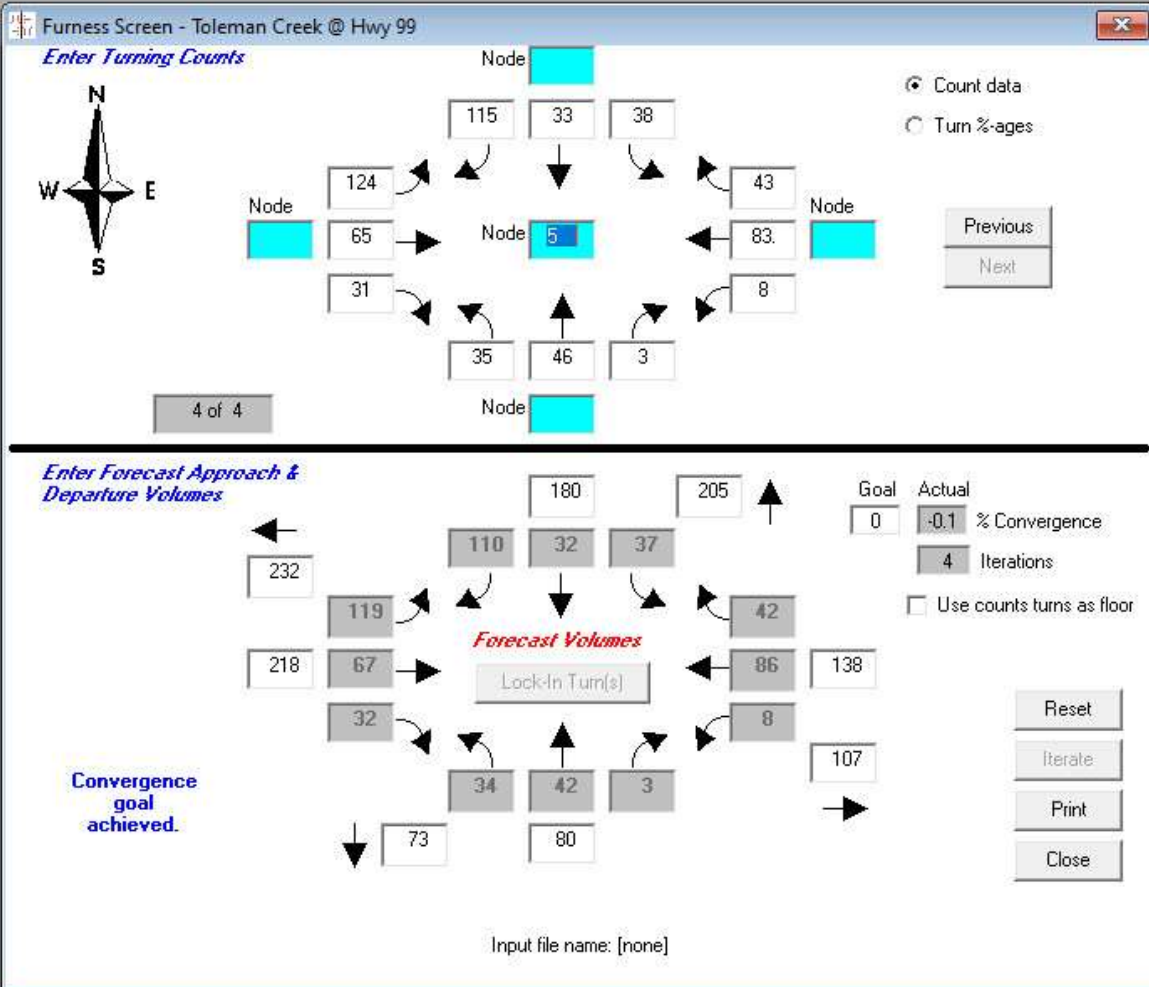
Goal: 0
Actual: -0.3 % Convergence
Iterations: 4

Use counts turns as floor (unchecked)

Reset
Iterate
Print
Close

Input file name: [none]





Enter Tuning Counts

Node

15

165

24

22

1

6

Node

4

0

0

8

Node

4

234

1

Count data

Turn %-ages

Previous

Next

3 of 3

Enter Forecast Approach & Departure Volumes

198

253

14

160

24

18

0

4

Forecast Volumes

Lock-In Turn(s)

0

0

8

3

234

1

173

239

Goal

Actual

0

0.3

% Convergence

9

Iterations

Use counts turns as floor

Convergence goal achieved.

Reset

Iterate

Print

Close

Input file name: [none]

2035 AM

Enter Turning Counts

Node

0

322

213

Node

0

0

0

Node

7

0

355

4

Node

309

0

0

Count data

Turn %ages

Previous

Next

1 of 7

Enter Forecast Approach & Departure Volumes

527

657

0

326

201

0

0

0

0

322

0

0

334

7

326

342

322

209

Forecast Volumes

Lock-In Turn(s)

Goal

Actual

0

-0.4

% Convergence

50

Iterations

Use counts turns as floor

Reset

Iterate

Print

Close

Convergence goal achieved.

Input file name: [none]

Node

618

3

182

Node

0

536

43

Node

2

Node

0

192

22

Node

0

0

0

Count data

Turn %ages

Previous

Next

6 of 7

Enter Forecast Approach & Departure Volumes

803

0

630

3

169

0

585

534

51

76

0

0

0

168

21

189

704

0

Forecast Volumes

Lock-In Turn(s)

Convergence goal achieved.

Goal

Actual

% Convergence

Iterations

Use counts turns as floor

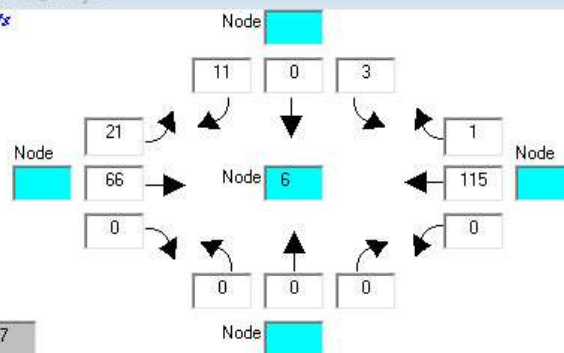
Reset

Iterate

Print

Close

Input file name: [none]



5 of 7

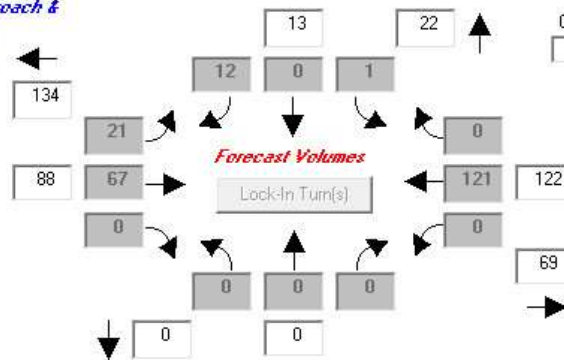
☒ Count data

☐ Turn %-ages

[Previous](#)

Next

Convergence goal achieved.



Goal	Actual	
0	0.4	% Convergence
	77	Iterations

☐ Use counts turns as floor

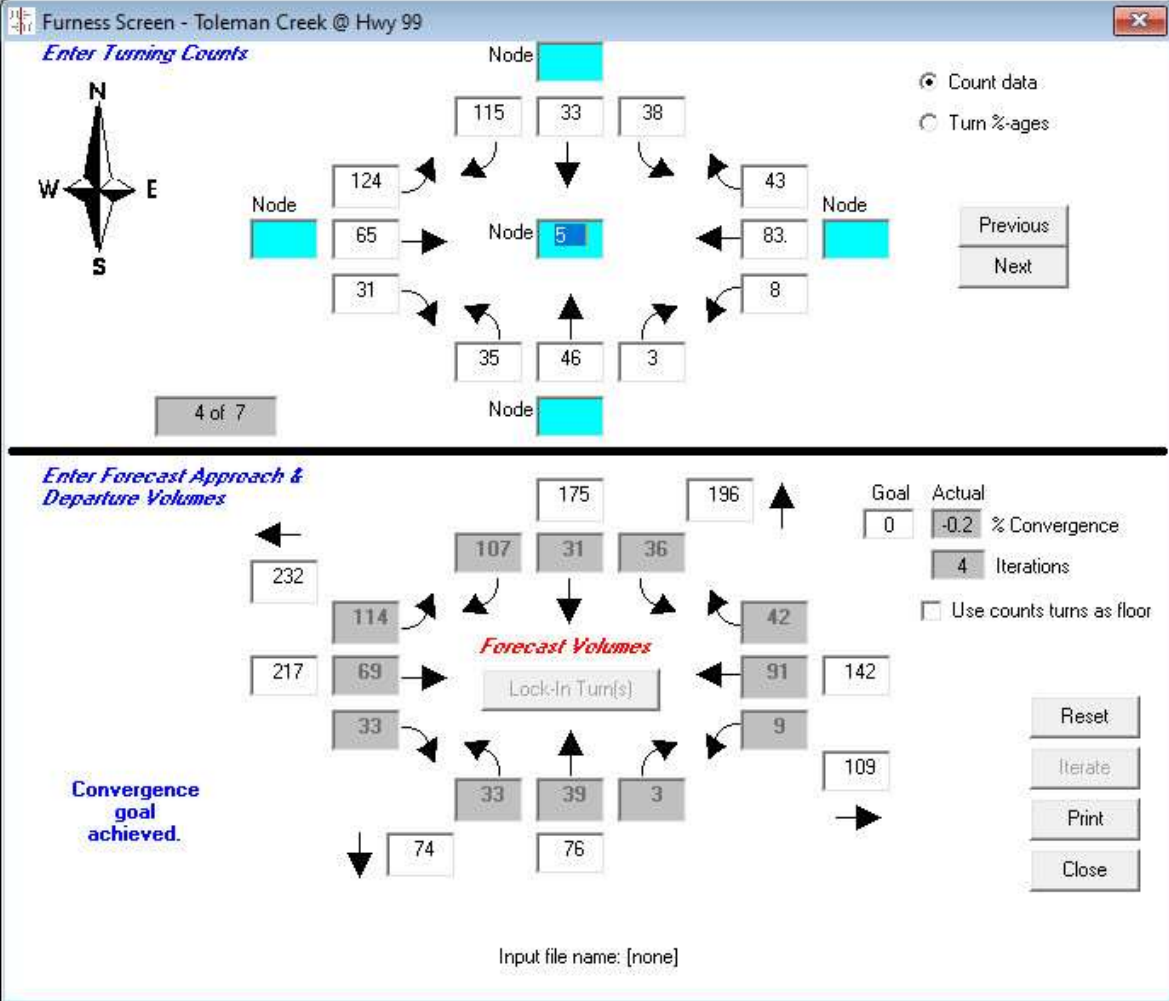
Reset

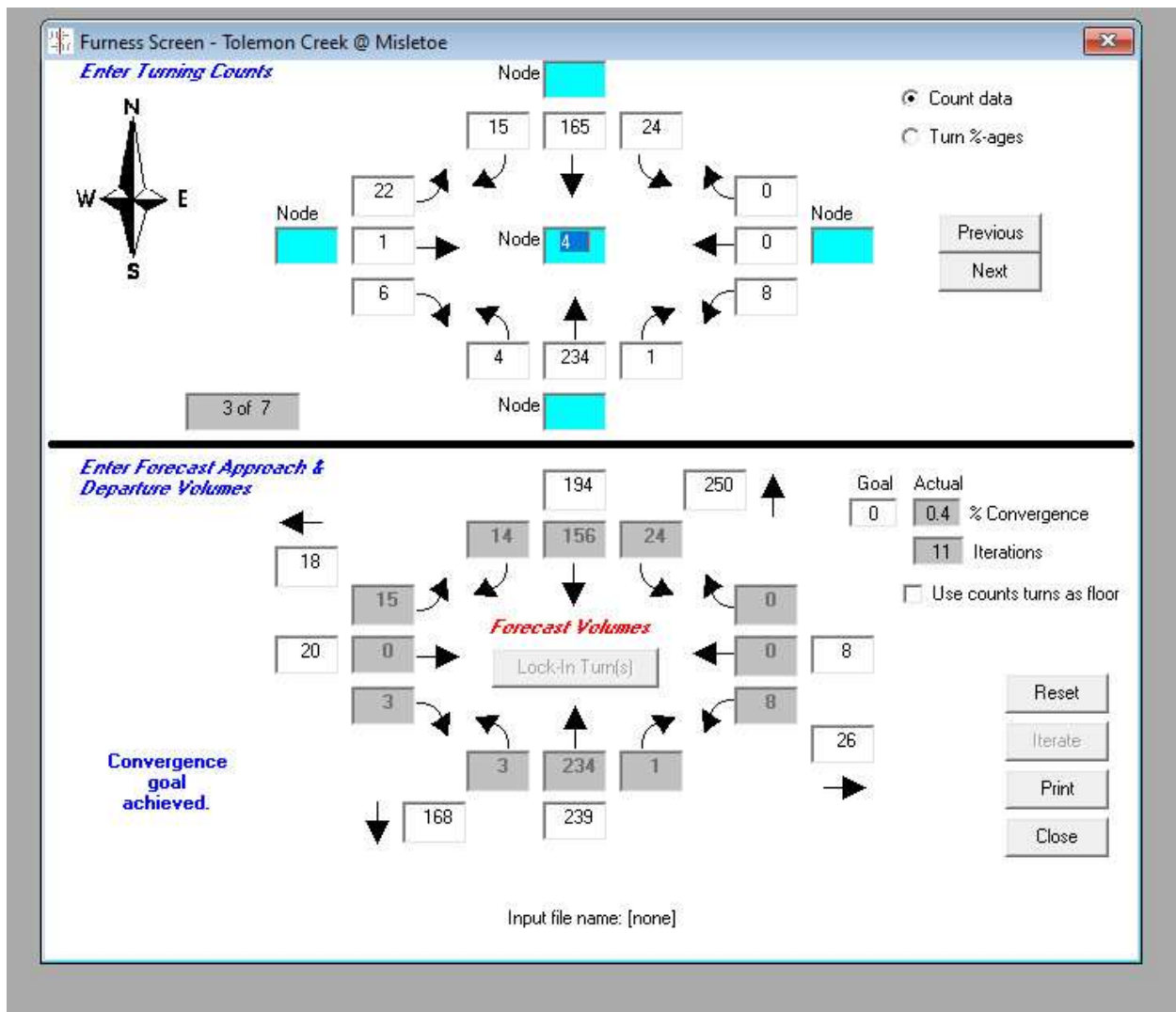
Iterate:

Print

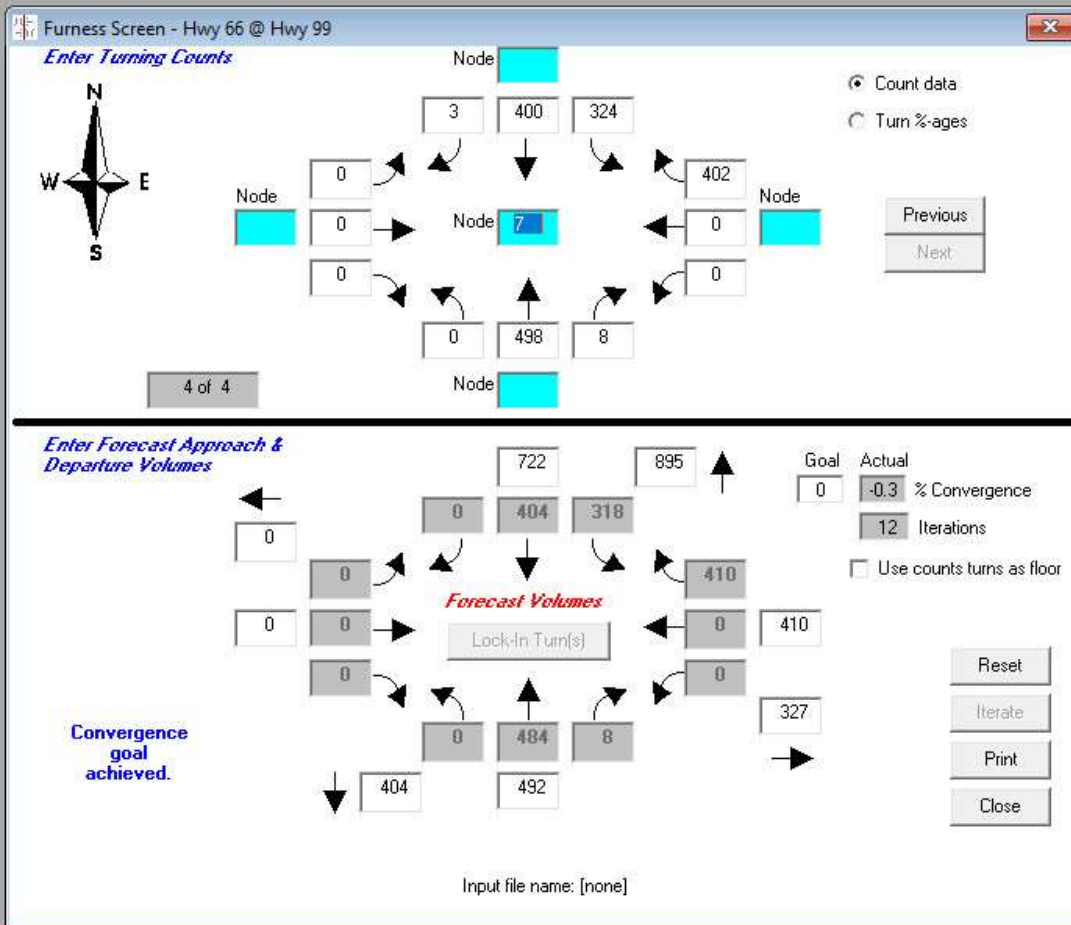
Close

Input file name: [none]





2030 PM



Node

0

0

0

Node

550

388

0

Node

218

261

0

Node

25

0

22

Node

0

0

0

2 of 3

Count data

Turn %-ages

Previous

Next

Enter Forecast Approach & Departure Volumes

266

567

932

0

0

26

0

0

51

24

0

239

466

389

795

227

Forecast Volumes

Lock-In Turn(s)

Convergence goal achieved.

Goal

Actual

% Convergence

Iterations

Use counts turns as floor

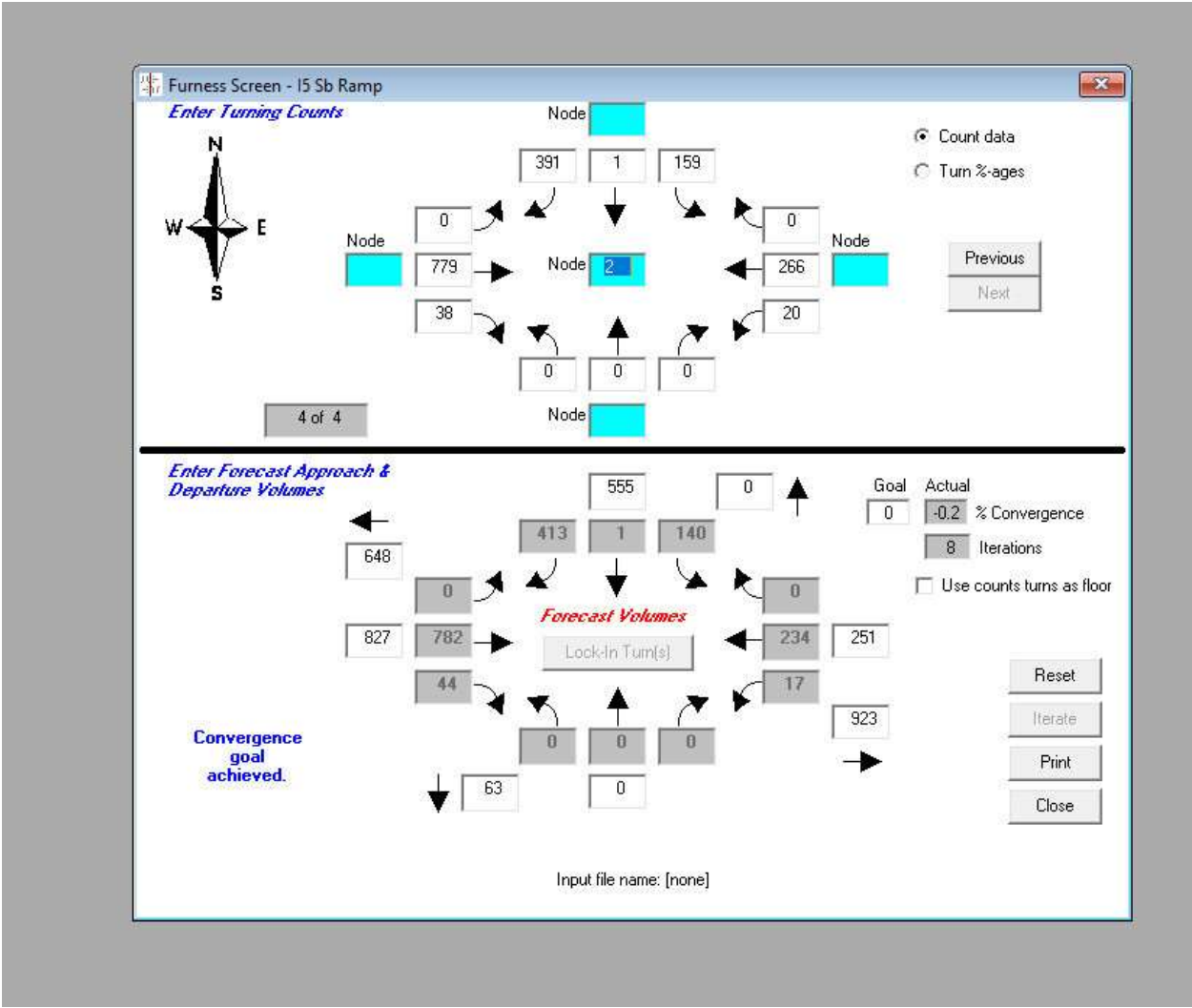
Reset

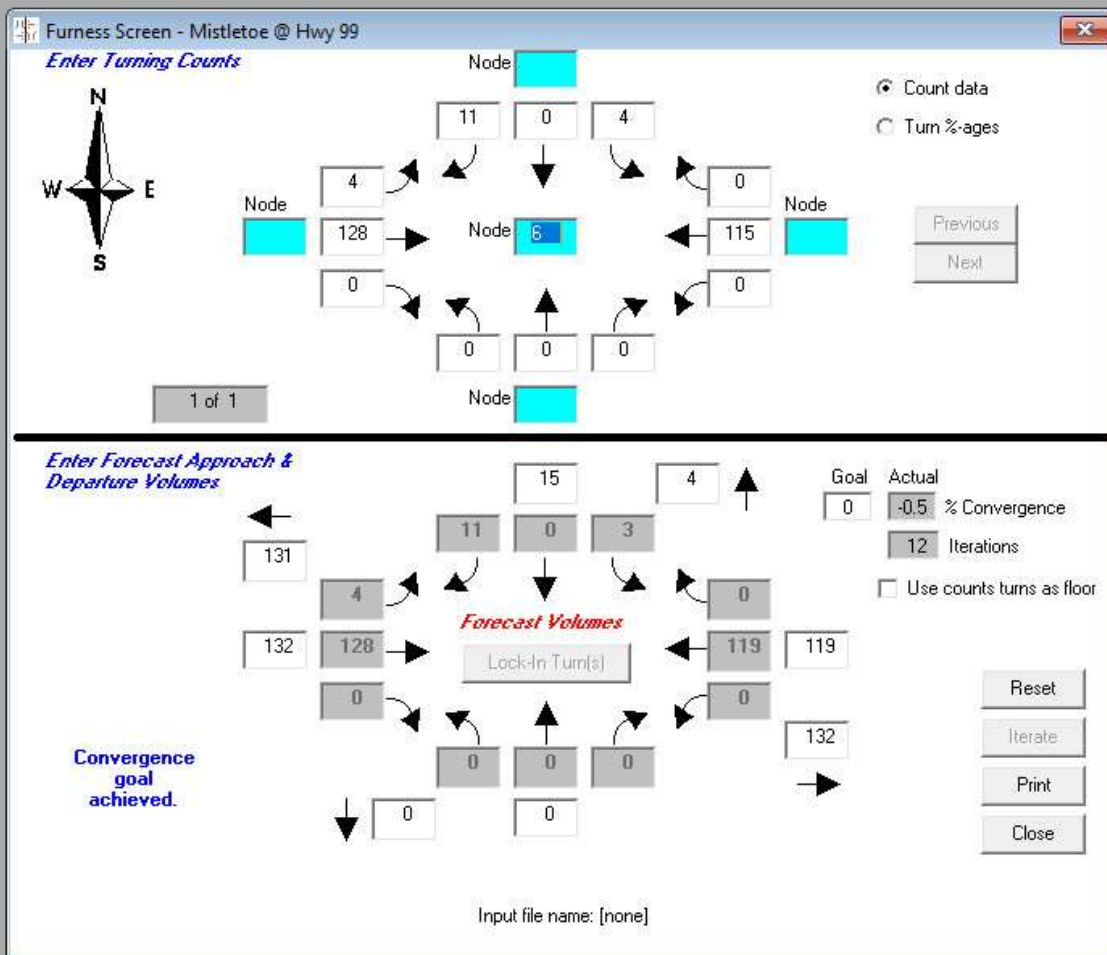
Iterate

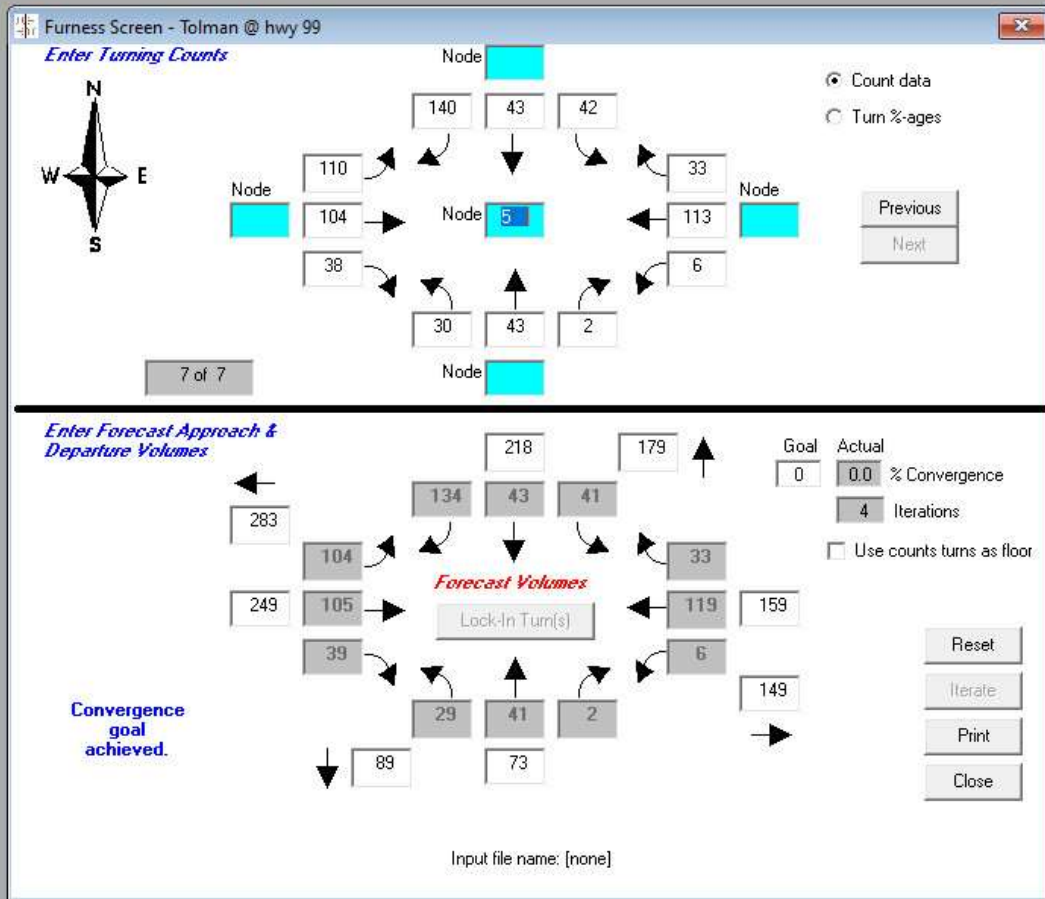
Print

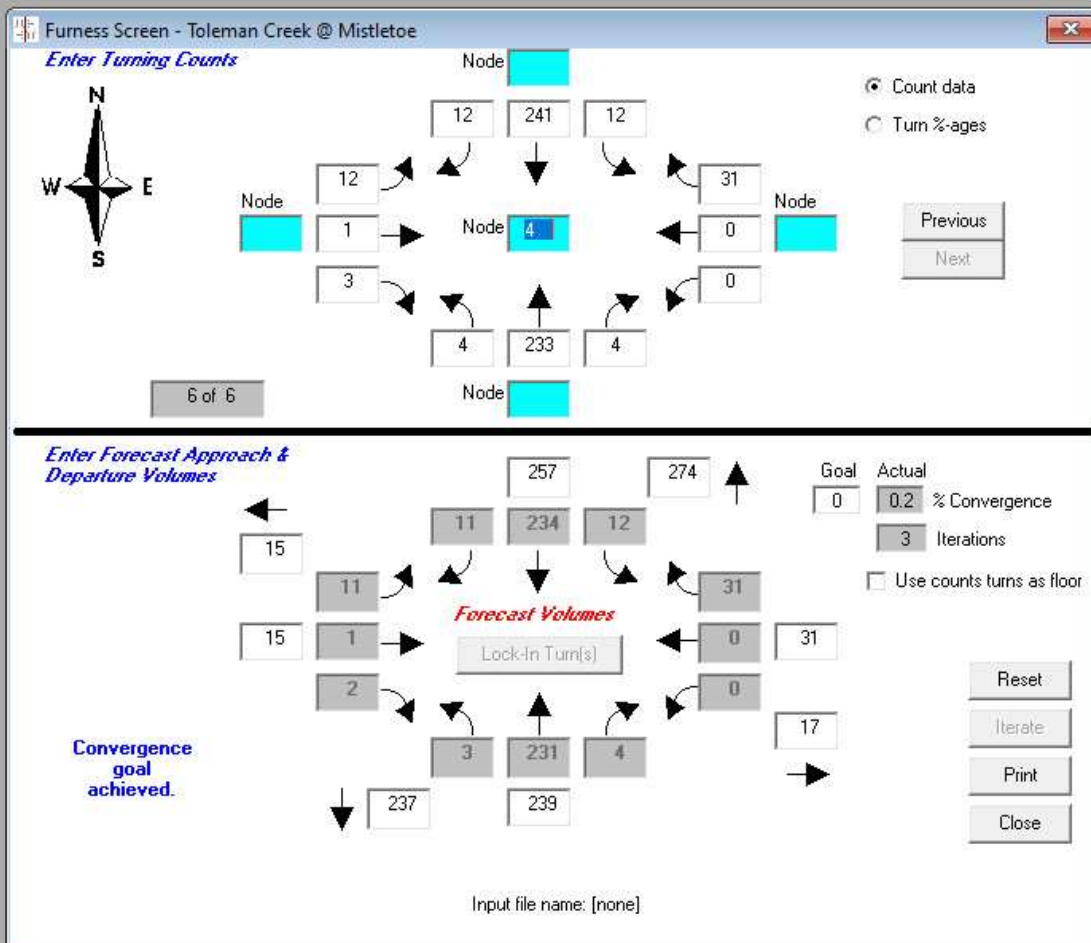
Close

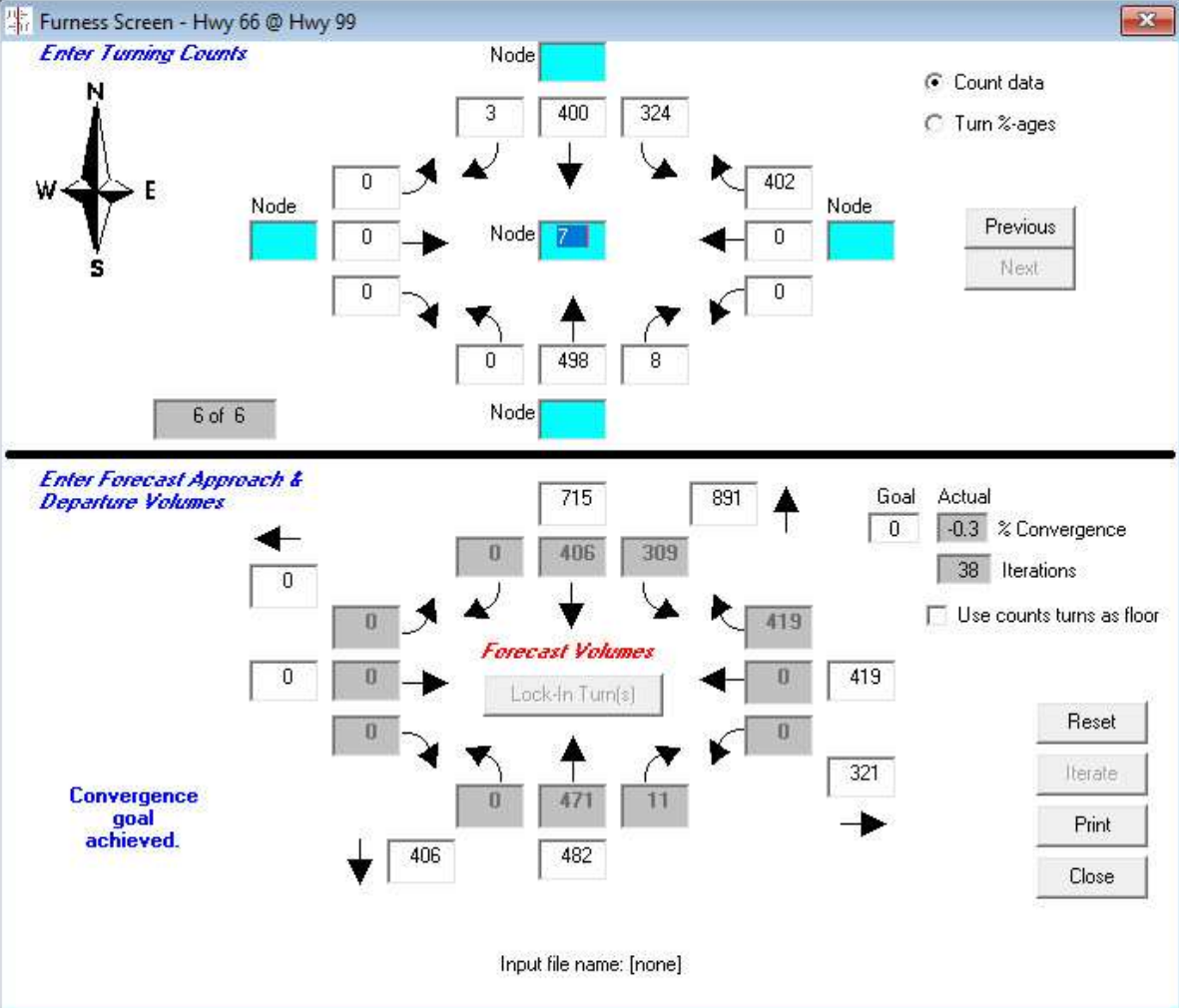
Input file name: [none]



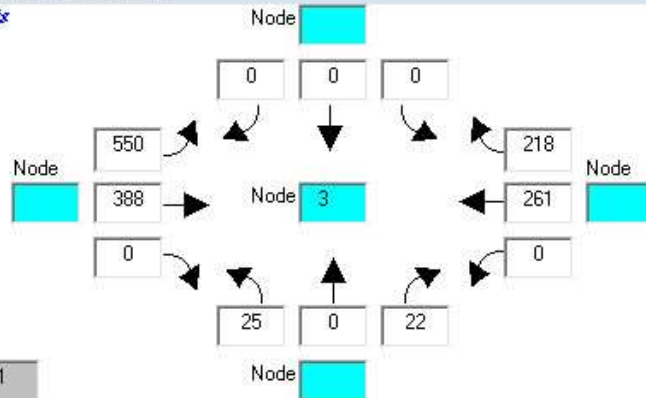








Enter Turning Counts

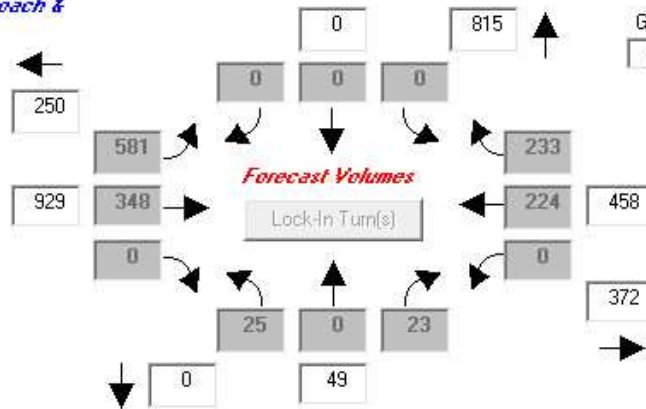


- ☒ Count data
- ☐ Turn %ages

Previous
Next

1 of 1

Enter Forecast Approach & Departure Volumes



Goal Actual
0 0.3 % Convergence
5 Iterations
☐ Use counts turns as floor

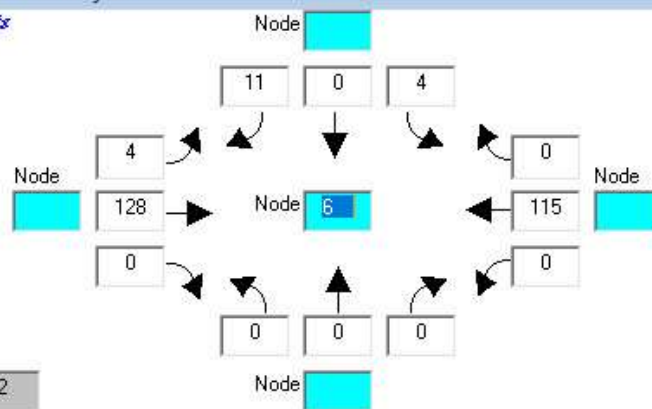
Reset
Iterate
Print
Close

Convergence
goal
achieved.

Input file name: [none]



Enter Turning Counts



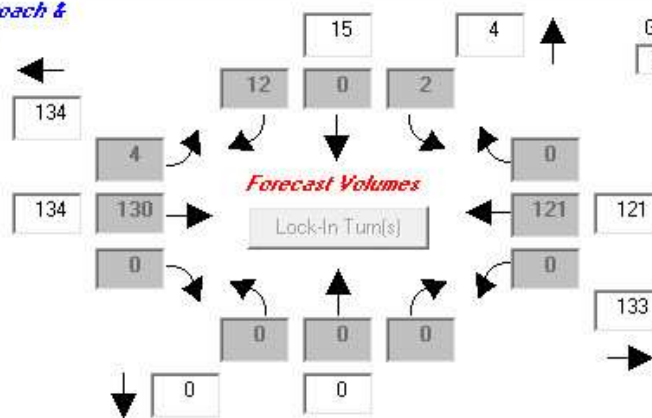
- ☒ Count data
- ☐ Turn %-ages

Previous

Next

2 of 2

Enter Forecast Approach & Departure Volumes



Goal Actual

0 0.2 % Convergence

61 Iterations

☐ Use counts turns as floor

Reset

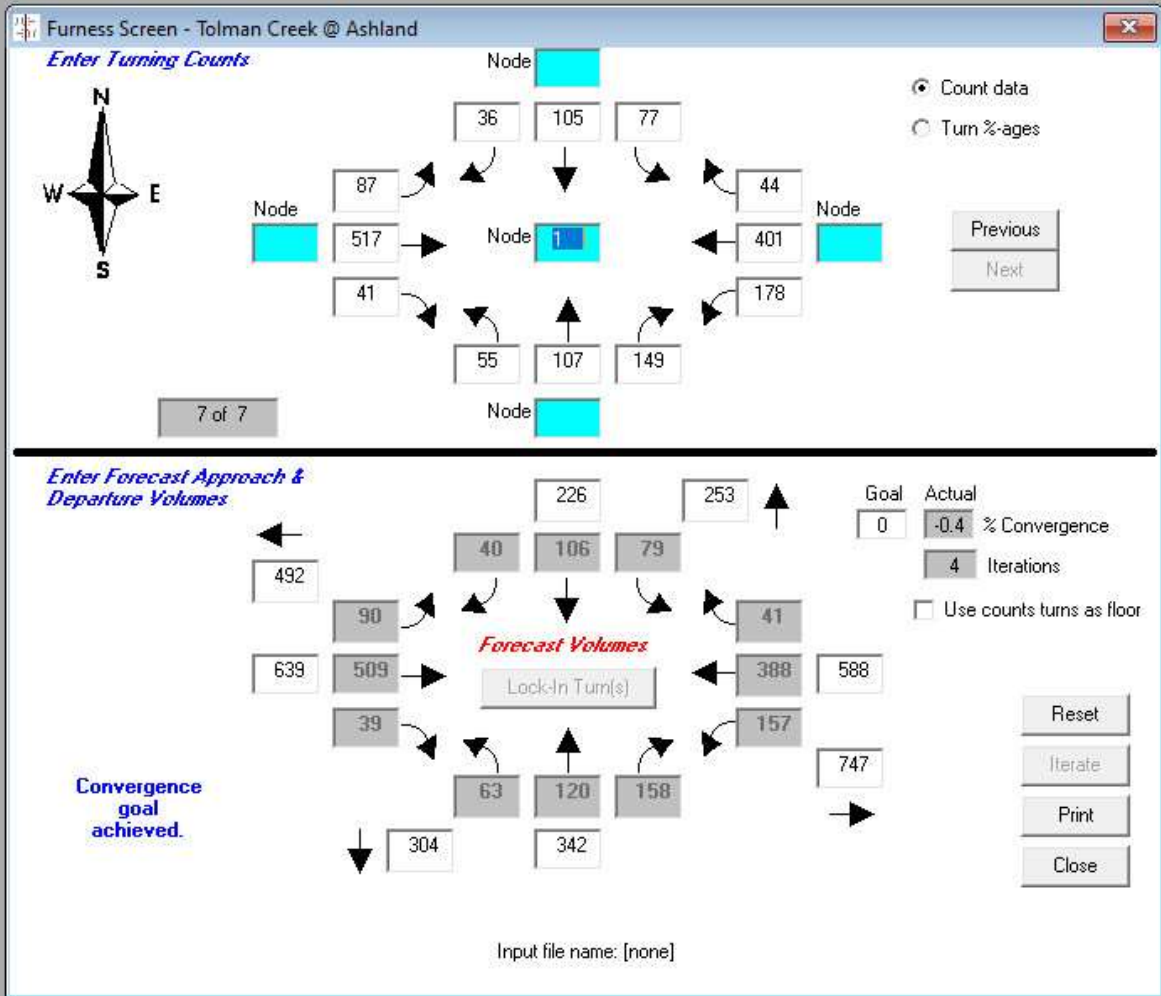
Iterate

Print

Close

Convergence
goal
achieved.

Input file name: [none]



Furness Screen - Toleman Creek @ Hwy 99

Enter Turning Counts

Count data
Turn %-ages

Previous
Next

9 of 9

Enter Forecast Approach & Departure Volumes

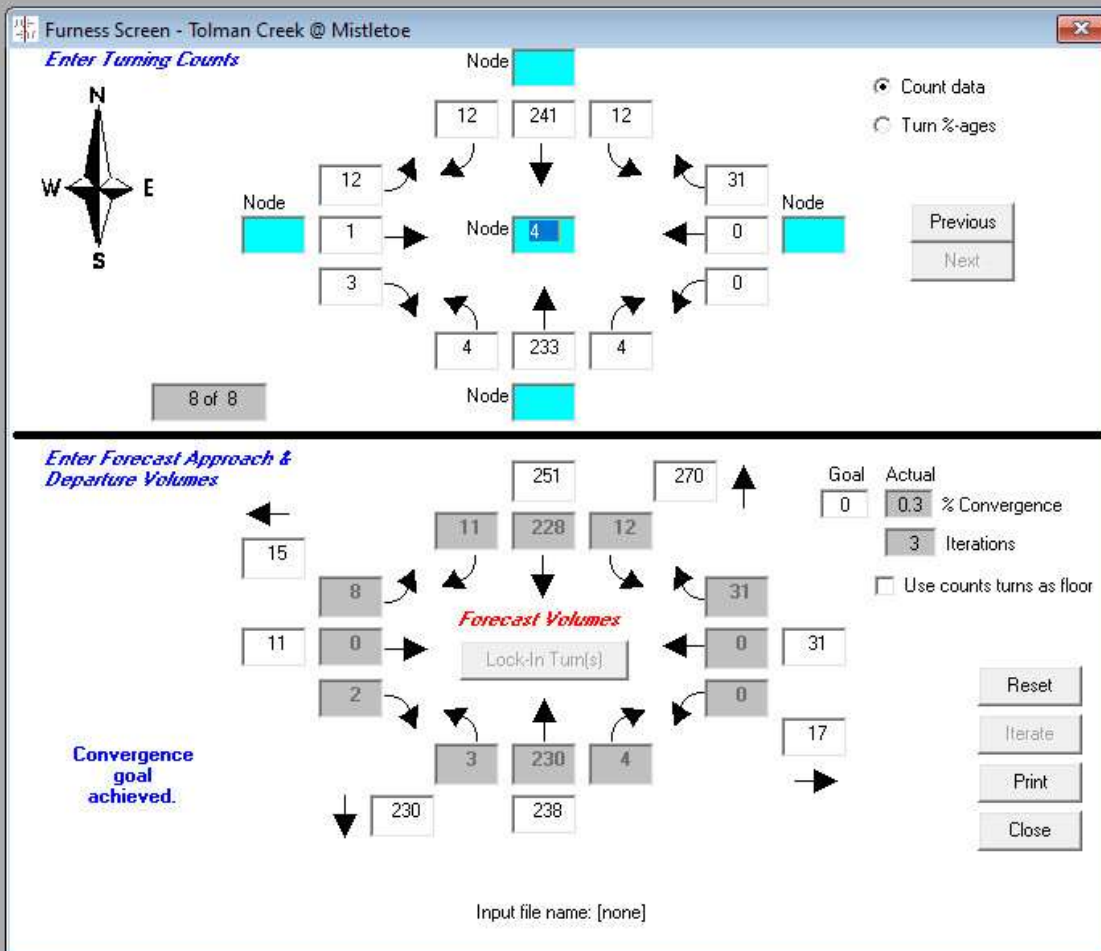
Goal Actual
0 0.1 % Convergence
4 Iterations

☐ Use counts turns as floor

Reset
Iterate
Print
Close

Convergence goal achieved.

Input file name: [none]



Croman-Mill

2024 Background					los		F
Phase	Adj flow	Sat Flow					
				1,2	0.000		
				5,6	0.161		
3 WBL	24	1251	0.019				Cycle Length 48
4 EBT	576	1723	0.334				Lost Time/phase 4
							# phases 4
6 SBLT	199	1239	0.161				Total Lost Time 16
				3,4	0.353		
8 WBT	206	1706	0.121	7,8	0.121	0.353	Critical v/c 0.77
Critical Pairs				0.514			

2030 Background					los		F
Phase	Adj flow	Sat Flow					
				1,2	0.000		
				5,6	0.154		
3 WBL	23	1251	0.018				Cycle Length 49
4 EBT	577	1723	0.335				Lost Time/phase 4
							# phases 4
6 SBLT	191	1239	0.154				Total Lost Time 16
				3,4	0.353		
8 WBT	192	1709	0.112	7,8	0.112	0.353	Critical v/c 0.75
Critical Pairs				0.507			

2030 Build					los		F
Phase	Adj flow	Sat Flow					
				1,2	0.000		
				5,6	0.154		
3 WBL	23	1251	0.018				Cycle Length 58
4 EBT	668	1723	0.388				Lost Time/phase 4
							# phases 4
6 SBLT	191	1239	0.154				Total Lost Time 16
				3,4	0.406		
8 WBT	198	1709	0.116	7,8	0.116	0.406	Critical v/c 0.77
Critical Pairs				0.560			

2035 background					los		F
Phase	Adj flow	Sat Flow					
				1,2	0.000		
				5,6	0.149		
3 WBL	23	1251	0.018				Cycle Length 48
4 EBT	577	1723	0.335				Lost Time/phase 4
							# phases 4
6 SBLT	185	1239	0.149				Total Lost Time 16
				3,4	0.353		
8 WBT	181	1709	0.106	7,8	0.106	0.353	Critical v/c 0.75
Critical Pairs				0.503			

2035 Build					los		F
Phase	Adj flow	Sat Flow					
				1,2	0.000		
				5,6	0.149		
3 WBL	23	1251	0.018				Cycle Length 58
4 EBT	668	1723	0.388				Lost Time/phase 4
							# phases 4
6 SBLT	185	1239	0.149				Total Lost Time 16
				3,4	0.406		
8 WBT	186	1709	0.109	7,8	0.109	0.406	Critical v/c 0.77
Critical Pairs				0.555			

2035 Build						los		B
Phase		Adj flow	Sat Flow					
2 NBLT	33	1667	0.020	1,2 5,6	0.020 0.000			
4 EBT	361	1668	0.216				Cycle Length	49
							Lost Time/phase	4
							# phases	4
							Total Lost Time	16
7 EBL	527	1641	0.321	3,4 7,8	0.216 0.431	0.020		
8 WBT	185	1682	0.110			0.431	Critical v/c	0.67
				Critical Pairs	0.451			

2024 Background					los		C	
Phase	Adj flow	Sat Flow						
1 SBL	100	1654	0.060	1,20.226 5,60.103 3,40.252 7,80.237				
2 NBT	259	1567	0.165					
3 WBL	196	1615	0.121					
4 EBT	214	1637	0.131					
5 NBL	50	1667	0.030					
6 SBT	122	1662	0.073		0.226			
7 EBL	36	1667	0.022					
8 WBT	356	1650	0.216		0.252	Critical	v/c	0.66
				Critical Pairs	0.478			

2030 Background				los	C
Phase	Adj flow	Sat Flow			
1 SBL	99	1654	0.060	1,2 0.232 5,6 0.110 0.232	Cycle Length 55 Lost Time/phase 4 # phases 4 Total Lost Time 16
2 NBT	270	1571	0.172		
3 WBL	182	1615	0.113		
4 EBT	212	1637	0.130		
5 NBL	55	1667	0.033		
6 SBT	127	1658	0.077		
7 EBL	38	1667	0.023		
8 WBT	349	1650	0.212	3,4 0.242 7,8 0.234 0.242	Critical v/c 0.67
Critical Pairs			0.474		

2030 Build					los		C	
Phase	Adj flow	Sat Flow						
1 SBL	99	1654	0.060	1,2	0.304			
2 NBT	378	1547	0.244	5,6	0.127			
3 WBL	239	1615	0.148					
4 EBT	225	1637	0.137					
5 NBL	68	1667	0.041					
6 SBT	143	1668	0.086			0.304		
7 EBL	38	1667	0.023	3,4	0.285			
8 WBT	349	1650	0.212	7,8	0.234	0.285	Critical	v/c
				Critical Pairs	0.590			

2035 Background							Ios	C
Phase	Adj flow	Sat Flow						
1 SBL	99	1654	0.060	1,2	0.238			
2 NBT	280	1574	0.178	5,6	0.114			
3 WBL	170	1615	0.105				Cycle Length	54
4 EBT	211	1637	0.129				Lost Time/phase	4
5 NBL	60	1667	0.036				# phases	4
6 SBT	130	1656	0.079			0.238	Total Lost Time	16
7 EBL	40	1667	0.024	3,4	0.234			
8 WBT	342	1650	0.207	7,8	0.231	0.234	Critical v/c	0.67
				Critical Pairs	0.472			

2035 Build						los	C
Phase	Adj flow	Sat Flow					
1 SBL	99	1654	0.060	1,2	0.311		
2 NBT	389	1550	0.251	5,6	0.131		
3 WBL	226	1615	0.140				
4 EBT	224	1637	0.137				
5 NBL	72	1667	0.043				
6 SBT	146	1666	0.088				
7 EBL	40	1667	0.024	3,4	0.277		
8 WBT	342	1650	0.207	7,8	0.231		
					0.311		
					0.277	Critical	v/c
				Critical Pairs	0.588		

2024 Background					los		E
Phase	Adj flow	Sat Flow					
				1,20.000			
				5,60.101			
3 WBL	21	1407	0.015				Cycle Length60
4 EBT	820	1723	0.476				Lost Time/phase4
							# phases4
6 SBLT	168	1667	0.101		0.101		Total Lost Time16
				3,40.491			
8 WBT	280	1723	0.163	7,80.163	0.491	Critical	v/c0.81
Critical Pairs				0.592			

2030 Background					los		E
Phase	Adj flow	Sat Flow					
				1,20.000			
				5,60.089			
3 WBL	18	1407	0.013				Cycle Length59
4 EBT	833	1723	0.483				Lost Time/phase4
							# phases4
6 SBLT	148	1667	0.089		0.089		Total Lost Time16
				3,40.496			
8 WBT	261	1723	0.151	7,80.151	0.496	Critical	v/c0.80
Critical Pairs				0.585			

2030 Build					los		F
Phase	Adj flow	Sat Flow					
				1,20.000			
				5,60.089			
3 WBL	18	1407	0.013				Cycle Length71
4 EBT	913	1723	0.530				Lost Time/phase4
							# phases4
6 SBLT	148	1667	0.089		0.089		Total Lost Time16
				3,40.543			
8 WBT	265	1723	0.154	7,80.154	0.543	Critical	v/c0.82
Critical Pairs				0.631			

2035 background					los		E
Phase	Adj flow	Sat Flow					
				1,20.000			
				5,60.082			
3 WBL	16	1407	0.011				Cycle Length60
4 EBT	842	1723	0.489				Lost Time/phase4
							# phases4
6 SBLT	137	1667	0.082		0.082		Total Lost Time16
				3,40.500			
8 WBT	246	1723	0.143	7,80.143	0.500	Critical	v/c0.79
Critical Pairs				0.582			

2035 Build					los		F
Phase	Adj flow	Sat Flow					
				1,20.000			
				5,60.082			
3 WBL	16	1407	0.011				Cycle Length70
4 EBT	922	1723	0.535				Lost Time/phase4
							# phases4
6 SBLT	137	1667	0.082		0.082		Total Lost Time16
				3,40.546			
8 WBT	251	1723	0.146	7,80.146	0.546	Critical	v/c0.81
Critical Pairs				0.629			

2024 Background					los		B
Phase	Adj flow	Sat Flow					
2 NBLT	26	1667	0.016	1,2 5,6	0.016 0.000		
4 EBT	408	1709	0.239			Cycle Length	51
						Lost Time/phase	4
						# phases	4
						Total Lost Time	16
7 EBL	579	1641	0.353	3,4	0.239		
8 WBT	275	1709	0.161	7,8	0.514	0.514	Critical v/c 0.77
Critical Pairs				0.529			

2030 Background					los		B
Phase	Adj flow	Sat Flow					
2 NBLT	27	1667	0.016	1,2 5,6	0.016 0.000		
4 EBT	383	1709	0.224			Cycle Length	51
						Lost Time/phase	4
						# phases	4
						Total Lost Time	16
7 EBL	597	1641	0.364	3,4	0.224		
8 WBT	252	1709	0.147	7,8	0.511	0.511	Critical v/c 0.77
Critical Pairs				0.527			

2030 Build					los		B
Phase	Adj flow	Sat Flow					
2 NBLT	27	1667	0.016	1,2 5,6	0.016 0.000		
4 EBT	395	1709	0.231			Cycle Length	55
						Lost Time/phase	4
						# phases	4
						Total Lost Time	16
7 EBL	665	1641	0.405	3,4	0.231		
8 WBT	256	1709	0.150	7,8	0.555	0.555	Critical v/c 0.81
Critical Pairs				0.571			

2035 background					los		B
Phase	Adj flow	Sat Flow					
2 NBLT	26	1667	0.016	1,2 5,6	0.016 0.000		
4 EBT	366	1709	0.214			Cycle Length	51
						Lost Time/phase	4
						# phases	4
						Total Lost Time	16
7 EBL	612	1641	0.373	3,4	0.214		
8 WBT	236	1709	0.138	7,8	0.511	0.511	Critical v/c 0.77
Critical Pairs				0.527			

2035 Build					los		B
Phase	Adj flow	Sat Flow					
2 NBLT	26	1667	0.016	1,2 5,6	0.016 0.000		
4 EBT	378	1709	0.221			Cycle Length	53
						Lost Time/phase	4
						# phases	4
						Total Lost Time	16
7 EBL	680	1641	0.414	3,4	0.221		
8 WBT	240	1709	0.140	7,8	0.555	0.555	Critical v/c 0.82
Critical Pairs				0.570			

2024 Background					los		C
Phase	Adj flow	Sat Flow					
1 SBL	83	1628	0.051	1,2	0.226		Cycle Length Lost Time/phase # phases Total Lost Time
2 NBT	275	1572	0.175	5,6	0.128		
3 WBL	191	1667	0.115				
4 EBT	296	1650	0.179				
5 NBL	59	1667	0.035			0.226	
6 SBT	152	1647	0.092				
7 EBL	94	1667	0.056	3,4	0.294		
8 WBT	236	1650	0.143	7,8	0.199		
Critical Pairs				0.520	0.294	Critical	v/c
							0.73

2030 Background					los		C
Phase	Adj flow	Sat Flow					
1 SBL	83	1628	0.051	1,2	0.235		Cycle Length Lost Time/phase # phases Total Lost Time
2 NBT	289	1574	0.184	5,6	0.132		
3 WBL	180	1667	0.108				
4 EBT	293	1650	0.178				
5 NBL	63	1667	0.038			0.235	
6 SBT	155	1644	0.094				
7 EBL	95	1667	0.057	3,4	0.286		
8 WBT	232	1650	0.141	7,8	0.198		
Critical Pairs				0.520	0.286	Critical	v/c
							0.75

2030 Build					los		C
Phase	Adj flow	Sat Flow					
1 SBL	83	1628	0.051	1,2	0.291		Cycle Length Lost Time/phase # phases Total Lost Time
2 NBT	373	1551	0.240	5,6	0.149		
3 WBL	246	1667	0.148				
4 EBT	309	1650	0.187				
5 NBL	73	1667	0.044			0.291	
6 SBT	174	1653	0.105				
7 EBL	95	1667	0.057	3,4	0.335		
8 WBT	232	1650	0.141	7,8	0.198		
Critical Pairs				0.626	0.335	Critical	v/c
							0.82

2035 Background					los		C
Phase	Adj flow	Sat Flow					
1 SBL	82	1628	0.050	1,2	0.240		Cycle Length Lost Time/phase # phases Total Lost Time
2 NBT	299	1575	0.190	5,6	0.136		
3 WBL	169	1667	0.101				
4 EBT	290	1650	0.176				
5 NBL	68	1667	0.041			0.240	
6 SBT	157	1642	0.096				
7 EBL	97	1667	0.058	3,4	0.277		
8 WBT	227	1650	0.138	7,8	0.196		
Critical Pairs				0.517	0.277	Critical	v/c
							0.75

2035 Build					los		C
Phase	Adj flow	Sat Flow					
1 SBL	82	1628	0.050	1,2	0.298		Cycle Length Lost Time/phase # phases Total Lost Time
2 NBT	384	1553	0.247	5,6	0.153		
3 WBL	235	1667	0.141				
4 EBT	306	1650	0.185				
5 NBL	77	1667	0.046			0.298	
6 SBT	176	1650	0.107				
7 EBL	97	1667	0.058	3,4	0.326		
8 WBT	227	1650	0.138	7,8	0.196		
Critical Pairs				0.624	0.326	Critical	v/c
							0.83

HCM Signalized Intersection Capacity Analysis

11: Ashland St & I-5 SB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	536	43	22	192	0	0	0	0	182	3	618
Future Volume (vph)	0	536	43	22	192	0	0	0	0	182	3	618
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0						4.9	4.9
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1716	1488	1259	1699						1525	1458
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1716	1488	1259	1699						1525	1458
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	576	46	24	206	0	0	0	0	196	3	665
RTOR Reduction (vph)	0	0	25	0	0	0	0	0	0	0	0	498
Lane Group Flow (vph)	0	576	21	24	206	0	0	0	0	0	199	167
Heavy Vehicles (%)	0%	2%	0%	32%	3%	0%	0%	0%	0%	9%	33%	2%
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		4		3	8						6	
Permitted Phases			4							6		6
Actuated Green, G (s)		21.0	21.0	1.2	26.7						11.6	11.6
Effective Green, g (s)		21.5	21.5	1.7	27.2						12.1	12.1
Actuated g/C Ratio		0.45	0.45	0.04	0.56						0.25	0.25
Clearance Time (s)		4.5	4.5	4.5	4.5						5.4	5.4
Vehicle Extension (s)		4.0	4.0	2.5	4.0						2.5	2.5
Lane Grp Cap (vph)		765	663	44	958						382	366
v/s Ratio Prot		c0.34		c0.02	0.12							
v/s Ratio Perm			0.01								0.13	0.11
v/c Ratio		0.75	0.03	0.55	0.22						0.52	0.46
Uniform Delay, d1		11.1	7.5	22.9	5.2						15.6	15.3
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		4.5	0.0	10.5	0.2						1.0	0.7
Delay (s)		15.6	7.5	33.3	5.4						16.5	15.9
Level of Service		B	A	C	A						B	B
Approach Delay (s)		15.0			8.3			0.0			16.1	
Approach LOS		B			A			A			B	
Intersection Summary												
HCM 2000 Control Delay			14.6			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			48.2			Sum of lost time (s)				12.9		
Intersection Capacity Utilization			59.9%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

11: Ashland St & I-5 SB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	536	43	22	192	0	0	0	0	182	3	618
Future Volume (veh/h)	0	536	43	22	192	0	0	0	0	182	3	618
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1723	1750	1313	1709	0				1627	1300	1723
Adj Flow Rate, veh/h	0	576	46	24	206	0				196	3	665
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	32	3	0				9	33	2
Cap, veh/h	0	694	598	40	872	0				393	6	470
Arrive On Green	0.00	0.40	0.40	0.03	0.51	0.00				0.31	0.32	0.32
Sat Flow, veh/h	0	1723	1483	1251	1709	0				1220	19	1460
Grp Volume(v), veh/h	0	576	46	24	206	0				199	0	665
Grp Sat Flow(s),veh/h/ln	0	1723	1483	1251	1709	0				1239	0	1460
Q Serve(g_s), s	0.0	15.9	1.0	1.0	3.6	0.0				6.9	0.0	17.1
Cycle Q Clear(g_c), s	0.0	15.9	1.0	1.0	3.6	0.0				6.9	0.0	17.1
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	694	598	40	872	0				399	0	470
V/C Ratio(X)	0.00	0.83	0.08	0.60	0.24	0.00				0.50	0.00	1.41
Avail Cap(c_a), veh/h	0	844	726	212	1255	0				399	0	470
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.2	9.8	25.4	7.2	0.0				14.8	0.0	18.0
Incr Delay (d2), s/veh	0.0	6.5	0.1	10.4	0.2	0.0				0.7	0.0	198.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.2	0.3	0.4	1.0	0.0				1.6	0.0	30.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	20.7	9.8	35.7	7.4	0.0				15.5	0.0	216.8
LnGrp LOS	A	C	A	D	A	A				B	A	F
Approach Vol, veh/h		622			230						864	
Approach Delay, s/veh		19.9			10.4						170.4	
Approach LOS		B			B						F	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.7	25.4		22.0		31.1				
Change Period (Y+Rc), s			4.5	4.5		5.4		4.5				
Max Green Setting (Gmax), s			8.5	25.5		16.6		38.5				
Max Q Clear Time (g_c+I1), s			3.0	17.9		19.1		5.6				
Green Ext Time (p_c), s			0.0	3.0		0.0		1.7				
Intersection Summary												
HCM 6th Ctrl Delay			94.4									
HCM 6th LOS			F									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM Signalized Intersection Capacity Analysis

14: Ashland St & I-5 NB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	371	347	0	0	190	207	24	0	29	0	0	0
Future Volume (vph)	371	347	0	0	190	207	24	0	29	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1630	1651			1667	1430		1471	1078			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1630	1651			1667	1430		1471	1078			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	417	390	0	0	213	233	27	0	33	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	164	0	0	30	0	0	0
Lane Group Flow (vph)	417	390	0	0	213	69	0	27	3	0	0	0
Heavy Vehicles (%)	2%	6%	0%	0%	5%	4%	13%	0%	38%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases						8	2		2			
Actuated Green, G (s)	15.7	33.5			13.3	13.3		3.3	3.3			
Effective Green, g (s)	16.2	34.0			13.8	13.8		4.7	4.7			
Actuated g/C Ratio	0.35	0.73			0.30	0.30		0.10	0.10			
Clearance Time (s)	4.5	4.5			4.5	4.5		5.4	5.4			
Vehicle Extension (s)	2.5	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	565	1202			492	422		148	108			
v/s Ratio Prot	c0.26	0.24			c0.13							
v/s Ratio Perm						0.05		0.02	0.00			
v/c Ratio	0.74	0.32			0.43	0.16		0.18	0.03			
Uniform Delay, d1	13.4	2.3			13.3	12.2		19.2	18.9			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	4.7	0.2			0.8	0.2		0.4	0.1			
Delay (s)	18.1	2.5			14.1	12.4		19.7	19.0			
Level of Service	B	A			B	B		B	B			
Approach Delay (s)		10.6			13.2			19.3			0.0	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			11.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			46.7				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			59.9%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

14: Ashland St & I-5 NB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	371	347	0	0	190	207	24	0	29	0	0	0
Future Volume (veh/h)	371	347	0	0	190	207	24	0	29	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1723	1668	0	0	1682	1695	1573	1750	1231			
Adj Flow Rate, veh/h	417	390	0	0	213	233	27	0	33			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	2	6	0	0	5	4	13	0	38			
Cap, veh/h	531	1155	0	0	451	386	180	0	113			
Arrive On Green	0.32	0.69	0.00	0.00	0.27	0.27	0.07	0.00	0.11			
Sat Flow, veh/h	1641	1668	0	0	1682	1437	1667	0	1043			
Grp Volume(v), veh/h	417	390	0	0	213	233	27	0	33			
Grp Sat Flow(s),veh/h/ln	1641	1668	0	0	1682	1437	1667	0	1043			
Q Serve(g_s), s	9.2	3.8	0.0	0.0	4.2	5.7	0.6	0.0	1.2			
Cycle Q Clear(g_c), s	9.2	3.8	0.0	0.0	4.2	5.7	0.6	0.0	1.2			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	531	1155	0	0	451	386	180	0	113			
V/C Ratio(X)	0.78	0.34	0.00	0.00	0.47	0.60	0.15	0.00	0.29			
Avail Cap(c_a), veh/h	943	1751	0	0	630	539	417	0	261			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.3	2.5	0.0	0.0	12.3	12.8	16.8	0.0	16.4			
Incr Delay (d2), s/veh	1.9	0.2	0.0	0.0	1.1	2.2	0.3	0.0	1.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.8	0.2	0.0	0.0	1.4	1.6	0.2	0.0	0.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	2.7	0.0	0.0	13.4	15.0	17.1	0.0	17.5			
LnGrp LOS	B	A	A	A	B	B	B	A	B			
Approach Vol, veh/h	807			446			60					
Approach Delay, s/veh	8.7			14.2			17.3					
Approach LOS	A			B			B					
Timer - Assigned Phs	2			4			7			8		
Phs Duration (G+Y+Rc), s	8.3			31.7			17.0			14.7		
Change Period (Y+Rc), s	* 5.4			4.5			4.5			4.5		
Max Green Setting (Gmax), s	* 8.6			41.5			22.5			14.5		
Max Q Clear Time (g_c+I1), s	3.2			5.8			11.2			7.7		
Green Ext Time (p_c), s	0.1			6.9			1.4			2.6		

Intersection Summary

HCM 6th Ctrl Delay 10.9

HCM 6th LOS B

Notes

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

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

HCM Signalized Intersection Capacity Analysis

19: Tolman Creek Rd & Ashland St

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	323	25	157	487	83	40	73	134	80	69	29
Future Volume (vph)	29	323	25	157	487	83	40	73	134	80	69	29
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.90		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3229		1599	3220		1662	1559		1646	1673	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1662	3229		1599	3220		1662	1559		1646	1673	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	36	404	31	196	609	104	50	91	168	100	86	36
RTOR Reduction (vph)	0	9	0	0	19	0	0	111	0	0	24	0
Lane Group Flow (vph)	36	426	0	196	694	0	50	148	0	100	98	0
Heavy Vehicles (%)	0%	2%	0%	4%	1%	1%	0%	0%	2%	1%	0%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.7	15.5		9.1	21.9		4.2	9.6		6.1	11.5	
Effective Green, g (s)	3.2	16.0		9.6	22.4		4.2	9.6		6.1	11.5	
Actuated g/C Ratio	0.06	0.28		0.17	0.39		0.07	0.17		0.11	0.20	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	92	901		267	1258		121	261		175	335	
v/s Ratio Prot	0.02	0.13		c0.12	c0.22		0.03	c0.10		c0.06	0.06	
v/s Ratio Perm												
v/c Ratio	0.39	0.47		0.73	0.55		0.41	0.57		0.57	0.29	
Uniform Delay, d1	26.1	17.1		22.6	13.6		25.4	21.9		24.4	19.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	0.5		9.5	0.6		1.7	2.3		3.7	0.4	
Delay (s)	28.1	17.7		32.1	14.2		27.0	24.2		28.0	19.8	
Level of Service	C	B		C	B		C	C		C	B	
Approach Delay (s)		18.5			18.1			24.7			23.5	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			19.9			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			57.3			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			52.1%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

19: Tolman Creek Rd & Ashland St

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	323	25	157	487	83	40	73	134	80	69	29
Future Volume (veh/h)	29	323	25	157	487	83	40	73	134	80	69	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1750	1723	1750	1695	1736	1736	1750	1750	1723	1736	1750	1750
Adj Flow Rate, veh/h	36	404	31	196	609	104	50	91	168	100	86	36
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	2	0	4	1	1	0	0	2	1	0	0
Cap, veh/h	71	702	54	257	972	166	68	111	204	126	277	116
Arrive On Green	0.04	0.23	0.22	0.16	0.34	0.33	0.04	0.20	0.20	0.08	0.24	0.24
Sat Flow, veh/h	1667	3081	235	1615	2819	480	1667	551	1016	1654	1171	490
Grp Volume(v), veh/h	36	214	221	196	356	357	50	0	259	100	0	122
Grp Sat Flow(s),veh/h/ln	1667	1637	1680	1615	1650	1650	1667	0	1567	1654	0	1662
Q Serve(g_s), s	1.0	5.5	5.6	5.5	8.6	8.6	1.4	0.0	7.5	2.8	0.0	2.9
Cycle Q Clear(g_c), s	1.0	5.5	5.6	5.5	8.6	8.6	1.4	0.0	7.5	2.8	0.0	2.9
Prop In Lane	1.00		0.14	1.00		0.29	1.00		0.65	1.00		0.30
Lane Grp Cap(c), veh/h	71	373	383	257	569	569	68	0	315	126	0	392
V/C Ratio(X)	0.51	0.57	0.58	0.76	0.63	0.63	0.74	0.00	0.82	0.80	0.00	0.31
Avail Cap(c_a), veh/h	315	516	529	339	569	569	315	0	329	313	0	392
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.3	16.3	16.4	19.2	13.0	13.1	22.6	0.0	18.2	21.6	0.0	15.0
Incr Delay (d2), s/veh	4.2	2.0	2.0	6.2	2.5	2.5	11.0	0.0	14.5	8.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.0	2.0	2.2	2.9	2.9	0.7	0.0	3.7	1.3	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.5	18.3	18.3	25.3	15.5	15.7	33.6	0.0	32.7	29.8	0.0	15.3
LnGrp LOS	C	B	B	C	B	B	C	A	C	C	A	B
Approach Vol, veh/h	471		909				309		222			
Approach Delay, s/veh	18.9		17.7				32.8		21.9			
Approach LOS	B		B				C		C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	13.6	11.6	14.9	5.9	15.2	6.0	20.4				
Change Period (Y+Rc), s	4.0	4.0	4.5	4.5	4.0	4.0	4.5	4.5				
Max Green Setting (Gmax), s	9.0	10.0	9.5	14.5	9.0	10.0	8.5	15.5				
Max Q Clear Time (g_c+I1), s	4.8	9.5	7.5	7.6	3.4	4.9	3.0	10.6				
Green Ext Time (p_c), s	0.1	0.1	0.1	2.8	0.0	0.2	0.0	3.2				
Intersection Summary												
HCM 6th Ctrl Delay	20.9											
HCM 6th LOS	C											
Notes												

HCM Signalized Intersection Capacity Analysis

43: Siskiyou Blvd & Ashland St

06/27/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗↘	↖↗		↗↘	↖
Traffic Volume (vph)	0	309	355	4	213	322
Future Volume (vph)	0	309	355	4	213	322
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	1.00		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2567	3255		3162	1716
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2567	3255		3162	1716
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	0	407	467	5	280	424
RTOR Reduction (vph)	0	334	1	0	0	0
Lane Group Flow (vph)	0	73	471	0	280	424
Heavy Vehicles (%)	0%	2%	2%	0%	2%	2%
Turn Type		Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases		8				
Actuated Green, G (s)		6.2	10.3		6.1	20.4
Effective Green, g (s)		6.2	10.3		6.1	20.4
Actuated g/C Ratio		0.18	0.30		0.18	0.59
Clearance Time (s)		4.0	4.0		4.0	4.0
Vehicle Extension (s)		2.5	4.0		2.5	4.0
Lane Grp Cap (vph)		459	968		557	1011
v/s Ratio Prot			0.14		0.09	c0.25
v/s Ratio Perm		c0.03				
v/c Ratio		0.16	0.49		0.50	0.42
Uniform Delay, d1		12.0	10.0		12.9	3.9
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	0.5		0.5	0.4
Delay (s)		12.1	10.5		13.4	4.3
Level of Service		B	B		B	A
Approach Delay (s)	12.1		10.5			7.9
Approach LOS	B		B			A
Intersection Summary						
HCM 2000 Control Delay			9.8		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.42			
Actuated Cycle Length (s)			34.6		Sum of lost time (s)	12.0
Intersection Capacity Utilization			29.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Edition methodology does not support Non-NEMA phasing.

Intersection

Int Delay, s/veh 1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	1	6	8	0	0	4	234	1	24	165	15
Future Vol, veh/h	22	1	6	8	0	0	4	234	1	24	165	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	25	2	100	0	2	0
Mvmt Flow	27	1	7	10	0	0	5	285	1	29	201	18

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	564	564	210	568	573	286	219	0	0	286	0	0
Stage 1	268	268	-	296	296	-	-	-	-	-	-	-
Stage 2	296	296	-	272	277	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.35	-	-	4.1	-	-
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	3.3	2.425	-	-	2.2	-	-
Pot Cap-1 Maneuver	439	438	835	437	432	758	1225	-	-	1288	-	-
Stage 1	742	691	-	717	672	-	-	-	-	-	-	-
Stage 2	717	672	-	738	685	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	428	424	835	422	419	758	1225	-	-	1288	-	-
Mov Cap-2 Maneuver	428	424	-	422	419	-	-	-	-	-	-	-
Stage 1	738	673	-	713	669	-	-	-	-	-	-	-
Stage 2	713	669	-	711	667	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.2		13.7		0.1		0.9	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1225	-	-	476	422	1288	-	-
HCM Lane V/C Ratio	0.004	-	-	0.074	0.023	0.023	-	-
HCM Control Delay (s)	8	0	-	13.2	13.7	7.9	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0.1	-	-

Intersection

Int Delay, s/veh 8.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	124	65	31	8	83	43	35	46	3	38	33	115
Future Vol, veh/h	124	65	31	8	83	43	35	46	3	38	33	115
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	3	0	14	3	0	0	2	0	6	10	6
Mvmt Flow	144	76	36	9	97	50	41	53	3	44	38	134

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	147	0	0	112	0	0	608	547	94	550	540	122
Stage 1	-	-	-	-	-	-	382	382	-	140	140	-
Stage 2	-	-	-	-	-	-	226	165	-	410	400	-
Critical Hdwy	4.12	-	-	4.24	-	-	7.1	6.52	6.2	7.16	6.6	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.16	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.16	5.6	-
Follow-up Hdwy	2.218	-	-	2.326	-	-	3.5	4.018	3.3	3.554	4.09	3.354
Pot Cap-1 Maneuver	1435	-	-	1406	-	-	411	445	968	440	438	918
Stage 1	-	-	-	-	-	-	645	613	-	854	766	-
Stage 2	-	-	-	-	-	-	781	762	-	611	588	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1435	-	-	1406	-	-	297	395	968	359	389	918
Mov Cap-2 Maneuver	-	-	-	-	-	-	297	395	-	359	389	-
Stage 1	-	-	-	-	-	-	576	547	-	763	761	-
Stage 2	-	-	-	-	-	-	629	757	-	490	525	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	4.4			0.5			19			14.6		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	354	1435	-	-	1406	-	-	589
HCM Lane V/C Ratio	0.276	0.1	-	-	0.007	-	-	0.367
HCM Control Delay (s)	19	7.8	0	-	7.6	0	-	14.6
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.1	0.3	-	-	0	-	-	1.7

Intersection

Int Delay, s/veh 1.3

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations 

Traffic Vol, veh/h 21 66 115 1 3 11

Future Vol, veh/h 21 66 115 1 3 11

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 88 88 88 88 88 88

Heavy Vehicles, % 0 3 2 0 0 0

Mvmt Flow 24 75 131 1 3 13

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 132 0 - 0 255 132

Stage 1 - - - - 132 -

Stage 2 - - - - 123 -

Critical Hdwy 4.1 - - - 6.4 6.2

Critical Hdwy Stg 1 - - - - 5.4 -

Critical Hdwy Stg 2 - - - - 5.4 -

Follow-up Hdwy 2.2 - - - 3.5 3.3

Pot Cap-1 Maneuver 1466 - - - 738 923

Stage 1 - - - - 899 -

Stage 2 - - - - 907 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 1466 - - - 725 923

Mov Cap-2 Maneuver - - - - 725 -

Stage 1 - - - - 884 -

Stage 2 - - - - 907 -

Approach EB WB SB

HCM Control Delay, s 1.8 0 9.2

HCM LOS A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h) 1466 - - - 872

HCM Lane V/C Ratio 0.016 - - - 0.018

HCM Control Delay (s) 7.5 0 - - 9.2

HCM Lane LOS A A - - A

HCM 95th %tile Q(veh) 0.1 - - - 0.1

HCM Signalized Intersection Capacity Analysis

11: Ashland St & I-5 SB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	537	47	21	179	0	0	0	0	175	3	625
Future Volume (vph)	0	537	47	21	179	0	0	0	0	175	3	625
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0						4.9	4.9
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1716	1488	1259	1699						1525	1458
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1716	1488	1259	1699						1525	1458
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	577	51	23	192	0	0	0	0	188	3	672
RTOR Reduction (vph)	0	0	28	0	0	0	0	0	0	0	0	503
Lane Group Flow (vph)	0	577	23	23	192	0	0	0	0	0	191	169
Heavy Vehicles (%)	0%	2%	0%	32%	3%	0%	0%	0%	0%	9%	33%	2%
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		4		3	8						6	
Permitted Phases			4							6		6
Actuated Green, G (s)		21.3	21.3	1.2	27.0						11.7	11.7
Effective Green, g (s)		21.8	21.8	1.7	27.5						12.2	12.2
Actuated g/C Ratio		0.45	0.45	0.03	0.57						0.25	0.25
Clearance Time (s)		4.5	4.5	4.5	4.5						5.4	5.4
Vehicle Extension (s)		4.0	4.0	2.5	4.0						2.5	2.5
Lane Grp Cap (vph)		769	667	44	961						382	366
v/s Ratio Prot		c0.34		c0.02	0.11							
v/s Ratio Perm			0.02								0.13	0.12
v/c Ratio		0.75	0.03	0.52	0.20						0.50	0.46
Uniform Delay, d1		11.1	7.5	23.1	5.2						15.6	15.4
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		4.4	0.0	8.3	0.1						0.8	0.7
Delay (s)		15.5	7.5	31.3	5.3						16.3	16.1
Level of Service		B	A	C	A						B	B
Approach Delay (s)		14.9			8.1			0.0			16.1	
Approach LOS		B			A			A			B	
Intersection Summary												
HCM 2000 Control Delay			14.7			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			48.6			Sum of lost time (s)			12.9			
Intersection Capacity Utilization			59.7%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

11: Ashland St & I-5 SB Ramps

06/27/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	537	47	21	179	0	0	0	0	175	3	625
Future Volume (veh/h)	0	537	47	21	179	0	0	0	0	175	3	625
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1723	1750	1313	1709	0				1627	1300	1723
Adj Flow Rate, veh/h	0	577	51	23	192	0				188	3	672
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	32	3	0				9	33	2
Cap, veh/h	0	683	588	39	857	0				407	7	488
Arrive On Green	0.00	0.40	0.40	0.03	0.50	0.00				0.33	0.33	0.33
Sat Flow, veh/h	0	1723	1483	1251	1709	0				1219	19	1460
Grp Volume(v), veh/h	0	577	51	23	192	0				191	0	672
Grp Sat Flow(s),veh/h/ln	0	1723	1483	1251	1709	0				1239	0	1460
Q Serve(g_s), s	0.0	16.5	1.2	1.0	3.4	0.0				6.6	0.0	18.1
Cycle Q Clear(g_c), s	0.0	16.5	1.2	1.0	3.4	0.0				6.6	0.0	18.1
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	683	588	39	857	0				414	0	488
V/C Ratio(X)	0.00	0.84	0.09	0.60	0.22	0.00				0.46	0.00	1.38
Avail Cap(c_a), veh/h	0	795	685	208	1199	0				414	0	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.8	10.2	25.9	7.6	0.0				14.4	0.0	18.0
Incr Delay (d2), s/veh	0.0	8.0	0.1	10.5	0.2	0.0				0.6	0.0	182.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.7	0.3	0.4	1.0	0.0				1.5	0.0	29.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	22.8	10.3	36.4	7.8	0.0				15.0	0.0	200.3
LnGrp LOS	A	C	B	D	A	A				B	A	F
Approach Vol, veh/h		628			215						863	
Approach Delay, s/veh		21.8			10.8						159.3	
Approach LOS		C			B						F	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.7	25.5		23.0		31.2				
Change Period (Y+Rc), s			4.5	4.5		5.4		4.5				
Max Green Setting (Gmax), s			8.5	24.5		17.6		37.5				
Max Q Clear Time (g_c+I1), s			3.0	18.5		20.1		5.4				
Green Ext Time (p_c), s			0.0	2.5		0.0		1.6				
Intersection Summary												
HCM 6th Ctrl Delay			89.9									
HCM 6th LOS			F									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM Signalized Intersection Capacity Analysis

14: Ashland St & I-5 NB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	386	326	0	0	174	211	26	0	31	0	0	0
Future Volume (vph)	386	326	0	0	174	211	26	0	31	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1630	1651			1667	1430		1471	1078			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1630	1651			1667	1430		1471	1078			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	434	366	0	0	196	237	29	0	35	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	169	0	0	31	0	0	0
Lane Group Flow (vph)	434	366	0	0	196	68	0	29	4	0	0	0
Heavy Vehicles (%)	2%	6%	0%	0%	5%	4%	13%	0%	38%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases						8	2		2			
Actuated Green, G (s)	16.2	33.6			12.9	12.9		3.4	3.4			
Effective Green, g (s)	16.7	34.1			13.4	13.4		4.8	4.8			
Actuated g/C Ratio	0.36	0.73			0.29	0.29		0.10	0.10			
Clearance Time (s)	4.5	4.5			4.5	4.5		5.4	5.4			
Vehicle Extension (s)	2.5	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	580	1200			476	408		150	110			
v/s Ratio Prot	c0.27	0.22			c0.12							
v/s Ratio Perm						0.05		0.02	0.00			
v/c Ratio	0.75	0.30			0.41	0.17		0.19	0.03			
Uniform Delay, d1	13.3	2.2			13.6	12.6		19.3	19.0			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	5.0	0.2			0.8	0.3		0.5	0.1			
Delay (s)	18.2	2.4			14.4	12.8		19.7	19.0			
Level of Service	B	A			B	B		B	B			
Approach Delay (s)		11.0			13.5			19.4			0.0	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			12.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			46.9				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			59.7%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

14: Ashland St & I-5 NB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	386	326	0	0	174	211	26	0	31	0	0	0
Future Volume (veh/h)	386	326	0	0	174	211	26	0	31	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1723	1668	0	0	1682	1695	1573	1750	1231			
Adj Flow Rate, veh/h	434	366	0	0	196	237	29	0	35			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	2	6	0	0	5	4	13	0	38			
Cap, veh/h	549	1155	0	0	436	373	184	0	115			
Arrive On Green	0.33	0.69	0.00	0.00	0.26	0.26	0.08	0.00	0.11			
Sat Flow, veh/h	1641	1668	0	0	1682	1437	1667	0	1043			
Grp Volume(v), veh/h	434	366	0	0	196	237	29	0	35			
Grp Sat Flow(s),veh/h/ln	1641	1668	0	0	1682	1437	1667	0	1043			
Q Serve(g_s), s	9.7	3.5	0.0	0.0	4.0	5.9	0.7	0.0	1.3			
Cycle Q Clear(g_c), s	9.7	3.5	0.0	0.0	4.0	5.9	0.7	0.0	1.3			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	549	1155	0	0	436	373	184	0	115			
V/C Ratio(X)	0.79	0.32	0.00	0.00	0.45	0.64	0.16	0.00	0.30			
Avail Cap(c_a), veh/h	970	1726	0	0	580	495	410	0	257			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.2	2.5	0.0	0.0	12.6	13.3	17.0	0.0	16.6			
Incr Delay (d2), s/veh	1.9	0.2	0.0	0.0	1.0	2.6	0.3	0.0	1.1			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.9	0.2	0.0	0.0	1.3	1.8	0.2	0.0	0.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	2.7	0.0	0.0	13.6	15.9	17.3	0.0	17.7			
LnGrp LOS	B	A	A	A	B	B	B	A	B			
Approach Vol, veh/h	800			433			64					
Approach Delay, s/veh	8.9			14.9			17.5					
Approach LOS	A			B			B					
Timer - Assigned Phs	2			4			7			8		
Phs Duration (G+Y+Rc), s	8.5			32.1			17.6			14.5		
Change Period (Y+Rc), s	* 5.4			4.5			4.5			4.5		
Max Green Setting (Gmax), s	* 8.6			41.5			23.5			13.5		
Max Q Clear Time (g_c+I1), s	3.3			5.5			11.7			7.9		
Green Ext Time (p_c), s	0.1			6.4			1.5			2.1		
Intersection Summary												
HCM 6th Ctrl Delay	11.3											
HCM 6th LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

19: Tolman Creek Rd & Ashland St

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	320	25	146	479	80	44	79	137	79	70	31
Future Volume (vph)	30	320	25	146	479	80	44	79	137	79	70	31
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.91		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3229		1599	3221		1662	1564		1646	1669	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1662	3229		1599	3221		1662	1564		1646	1669	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	38	400	31	182	599	100	55	99	171	99	88	39
RTOR Reduction (vph)	0	9	0	0	19	0	0	103	0	0	26	0
Lane Group Flow (vph)	38	422	0	183	680	0	55	167	0	99	101	0
Heavy Vehicles (%)	0%	2%	0%	4%	1%	1%	0%	0%	2%	1%	0%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.6	14.6		6.7	18.7		4.0	10.5		5.8	12.3	
Effective Green, g (s)	3.1	15.1		7.2	19.2		4.0	10.5		5.8	12.3	
Actuated g/C Ratio	0.06	0.28		0.13	0.35		0.07	0.19		0.11	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	94	893		210	1132		121	300		174	375	
v/s Ratio Prot	0.02	0.13		c0.11	c0.21		0.03	c0.11		c0.06	0.06	
v/s Ratio Perm												
v/c Ratio	0.40	0.47		0.87	0.60		0.45	0.56		0.57	0.27	
Uniform Delay, d1	24.9	16.4		23.2	14.5		24.3	20.0		23.2	17.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	0.5		30.1	1.0		2.0	1.8		3.4	0.3	
Delay (s)	26.9	17.0		53.3	15.6		26.2	21.8		26.6	17.7	
Level of Service	C	B		D	B		C	C		C	B	
Approach Delay (s)		17.8			23.4			22.5			21.6	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			21.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			54.6			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			52.2%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary 19: Tolman Creek Rd & Ashland St

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	30	320	25	146	479	80	44	79	137	79	70	31
Future Volume (veh/h)	30	320	25	146	479	80	44	79	137	79	70	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1750	1723	1750	1695	1736	1736	1750	1750	1723	1736	1750	1750
Adj Flow Rate, veh/h	38	400	31	182	599	100	55	99	171	99	88	39
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	2	0	4	1	1	0	0	2	1	0	0
Cap, veh/h	73	690	53	242	934	156	73	121	209	124	277	123
Arrive On Green	0.04	0.22	0.21	0.15	0.33	0.32	0.04	0.21	0.21	0.08	0.24	0.24
Sat Flow, veh/h	1667	3079	238	1615	2830	471	1667	576	995	1654	1149	509
Grp Volume(v), veh/h	38	212	219	182	349	350	55	0	270	99	0	127
Grp Sat Flow(s),veh/h/ln	1667	1637	1680	1615	1650	1652	1667	0	1571	1654	0	1658
Q Serve(g_s), s	1.0	5.4	5.5	5.1	8.4	8.5	1.5	0.0	7.7	2.8	0.0	3.0
Cycle Q Clear(g_c), s	1.0	5.4	5.5	5.1	8.4	8.5	1.5	0.0	7.7	2.8	0.0	3.0
Prop In Lane	1.00		0.14	1.00		0.29	1.00		0.63	1.00		0.31
Lane Grp Cap(c), veh/h	73	367	376	242	544	545	73	0	329	124	0	400
V/C Ratio(X)	0.52	0.58	0.58	0.75	0.64	0.64	0.76	0.00	0.82	0.80	0.00	0.32
Avail Cap(c_a), veh/h	320	489	502	344	544	545	320	0	369	317	0	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	16.2	16.3	19.1	13.3	13.4	22.2	0.0	17.7	21.3	0.0	14.6
Incr Delay (d2), s/veh	4.2	2.0	2.0	4.5	2.9	3.0	11.2	0.0	12.0	8.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.9	2.0	1.9	2.9	3.0	0.8	0.0	3.6	1.3	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	18.3	18.3	23.6	16.2	16.4	33.3	0.0	29.6	29.7	0.0	15.0
LnGrp LOS	C	B	B	C	B	B	C	A	C	C	A	B
Approach Vol, veh/h	469		881				325		226			
Approach Delay, s/veh	18.9		17.8				30.3		21.4			
Approach LOS	B		B				C		C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	13.8	11.0	14.5	6.0	15.3	6.1	19.5				
Change Period (Y+Rc), s	4.0	4.0	4.5	4.5	4.0	4.0	4.5	4.5				
Max Green Setting (Gmax), s	9.0	11.0	9.5	13.5	9.0	11.0	8.5	14.5				
Max Q Clear Time (g_c+I1), s	4.8	9.7	7.1	7.5	3.5	5.0	3.0	10.5				
Green Ext Time (p_c), s	0.1	0.2	0.1	2.5	0.1	0.2	0.0	2.6				
Intersection Summary												
HCM 6th Ctrl Delay	20.6											
HCM 6th LOS	C											
Notes												

HCM Signalized Intersection Capacity Analysis

43: Siskiyou Blvd & Ashland St

06/27/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↔↔		↔↔	↔
Traffic Volume (vph)	0	315	345	3	209	324
Future Volume (vph)	0	315	345	3	209	324
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	1.00		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2567	3256		3162	1716
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2567	3256		3162	1716
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	0	414	454	4	275	426
RTOR Reduction (vph)	0	340	1	0	0	0
Lane Group Flow (vph)	0	74	457	0	275	426
Heavy Vehicles (%)	0%	2%	2%	0%	2%	2%
Turn Type		Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases		8				
Actuated Green, G (s)		6.2	10.3		6.1	20.4
Effective Green, g (s)		6.2	10.3		6.1	20.4
Actuated g/C Ratio		0.18	0.30		0.18	0.59
Clearance Time (s)		4.0	4.0		4.0	4.0
Vehicle Extension (s)		2.5	4.0		2.5	4.0
Lane Grp Cap (vph)		459	969		557	1011
v/s Ratio Prot			0.14		0.09	c0.25
v/s Ratio Perm		c0.03				
v/c Ratio		0.16	0.47		0.49	0.42
Uniform Delay, d1		12.0	9.9		12.9	3.9
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	0.5		0.5	0.4
Delay (s)		12.1	10.4		13.4	4.3
Level of Service		B	B		B	A
Approach Delay (s)	12.1		10.4			7.8
Approach LOS	B		B			A
Intersection Summary						
HCM 2000 Control Delay			9.7		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.42			
Actuated Cycle Length (s)			34.6		Sum of lost time (s)	12.0
Intersection Capacity Utilization			29.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Edition methodology does not support Non-NEMA phasing.

HCM Signalized Intersection Capacity Analysis

49: Siskiyou Blvd/Lithia Way & E main

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm						
Protected Phases		4						2				
Permitted Phases						8						
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		0.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.00										
Actuated Cycle Length (s)		28.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		19.2%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Edition methodology does not support Non-NEMA phasing.

Intersection

Intersection Delay, s/veh 0

Intersection LOS -

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Number of Lanes	0	0	0	0	1	2

Approach SB

Opposing Approach

Opposing Lanes 0

Conflicting Approach Left

Conflicting Lanes Left 0

Conflicting Approach Right

Conflicting Lanes Right 0

HCM Control Delay 0

HCM LOS -

Lane	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	0%	0%
Vol Thru, %	100%	100%	100%
Vol Right, %	0%	0%	0%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0
LT Vol	0	0	0
Through Vol	0	0	0
RT Vol	0	0	0
Lane Flow Rate	0	0	0
Geometry Grp	0	0	0
Degree of Util (X)	0	0	0
Departure Headway (Hd)	0	0	0
Convergence, Y/N	Yes	Yes	Yes
Cap	0	0	0
Service Time	0	0	0
HCM Lane V/C Ratio	0	0	0
HCM Control Delay	5	5	5
HCM Lane LOS	N	N	N
HCM 95th-tile Q	0	0	0

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	0	4	8	0	0	3	234	1	24	160	14
Future Vol, veh/h	18	0	4	8	0	0	3	234	1	24	160	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	25	2	100	0	2	0
Mvmt Flow	22	0	5	10	0	0	4	285	1	29	195	17
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	556	556	204	558	564	286	212	0	0	286	0	0
Stage 1	262	262	-	294	294	-	-	-	-	-	-	-
Stage 2	294	294	-	264	270	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.35	-	-	4.1	-	-
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	3.3	2.425	-	-	2.2	-	-
Pot Cap-1 Maneuver	445	442	842	443	438	758	1233	-	-	1288	-	-
Stage 1	747	695	-	719	673	-	-	-	-	-	-	-
Stage 2	719	673	-	746	690	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	435	429	842	431	425	758	1233	-	-	1288	-	-
Mov Cap-2 Maneuver	435	429	-	431	425	-	-	-	-	-	-	-
Stage 1	744	677	-	716	670	-	-	-	-	-	-	-
Stage 2	716	670	-	722	672	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13		13.5		0.1		1					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1233	-	-	477	431	1288	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.056	0.023	0.023	-	-				
HCM Control Delay (s)	7.9	0	-	13	13.5	7.9	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0.1	-	-				

HCM 6th TWSC
59: Siskiyou Blvd & Tolman Creek Rd

06/27/2024

Intersection												
Int Delay, s/veh	8.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	119	67	32	8	86	42	34	42	3	37	32	110
Future Vol, veh/h	119	67	32	8	86	42	34	42	3	37	32	110
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	3	0	14	3	0	0	2	0	6	10	6
Mvmt Flow	138	78	37	9	100	49	40	49	3	43	37	128

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	149	0	0	115	0	0	598	540	97	542	534	125
Stage 1	-	-	-	-	-	-	373	373	-	143	143	-
Stage 2	-	-	-	-	-	-	225	167	-	399	391	-
Critical Hdwy	4.12	-	-	4.24	-	-	7.1	6.52	6.2	7.16	6.6	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.16	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.16	5.6	-
Follow-up Hdwy	2.218	-	-	2.326	-	-	3.5	4.018	3.3	3.554	4.09	3.354
Pot Cap-1 Maneuver	1432	-	-	1403	-	-	417	449	965	445	441	915
Stage 1	-	-	-	-	-	-	652	618	-	850	763	-
Stage 2	-	-	-	-	-	-	782	760	-	619	593	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1432	-	-	1403	-	-	305	400	965	369	393	915
Mov Cap-2 Maneuver	-	-	-	-	-	-	305	400	-	369	393	-
Stage 1	-	-	-	-	-	-	585	554	-	762	758	-
Stage 2	-	-	-	-	-	-	635	755	-	504	532	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	4.2			0.4			18.4			14.3		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	360	1432	-	-	1403	-	-	593
HCM Lane V/C Ratio	0.255	0.097	-	-	0.007	-	-	0.351
HCM Control Delay (s)	18.4	7.8	0	-	7.6	0	-	14.3
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1	0.3	-	-	0	-	-	1.6

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	67	118	0	1	12
Future Vol, veh/h	21	67	118	0	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	24	76	134	0	1	14

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	134	0	0 258 134
Stage 1	-	-	- 134 -
Stage 2	-	-	- 124 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1463	-	- 735 920
Stage 1	-	-	- 897 -
Stage 2	-	-	- 907 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1463	-	- 723 920
Mov Cap-2 Maneuver	-	-	- 723 -
Stage 1	-	-	- 882 -
Stage 2	-	-	- 907 -

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1463	-	-	-	901
HCM Lane V/C Ratio	0.016	-	-	-	0.016
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM Signalized Intersection Capacity Analysis

68: 3rd St & E main

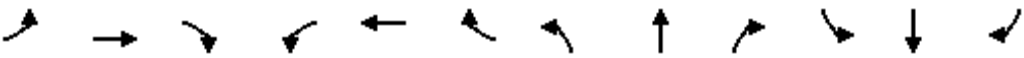
06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type											Perm	
Protected Phases	4			8						6		
Permitted Phases				8						6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)	0.0			0.0			0.0			0.0		
Approach LOS	A			A			A			A		
Intersection Summary												
HCM 2000 Control Delay	0.0			HCM 2000 Level of Service			A					
HCM 2000 Volume to Capacity ratio	0.00											
Actuated Cycle Length (s)	29.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	0.0%			ICU Level of Service			A					
Analysis Period (min)	15											
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

68: 3rd St & E main

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↩			↩					↩	↩↩	
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1723	1723	1723	1723	0				1723	1723	0
Adj Flow Rate, veh/h	0	0	0	0	0	0				0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	0
Cap, veh/h	0	9999	0	0	9999	0				9999	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00	0.00
Sat Flow, veh/h	0	-68908	0	0	-68908	0				1641	3359	0
Grp Volume(v), veh/h	0	0	0	0	0	0				0	0	0
Grp Sat Flow(s),veh/h/ln	0	1723	0	0	1723	0				1641	1637	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	49326268416	0	49326268416	0		469774093719904256				0	0	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00	0.00
Avail Cap(c_a), veh/h	13071460335616	0	13071460335616	0		119792323698575863808				0	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A				A	A	A
Approach Vol, veh/h		0			0						0	
Approach Delay, s/veh		0.0			0.0						0.0	
Approach LOS												
Timer - Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				0.0		0.0		0.0				
Change Period (Y+Rc), s				4.0		4.0		4.0				
Max Green Setting (Gmax), s				26.5		25.5		26.5				
Max Q Clear Time (g_c+I1), s				0.0		0.0		0.0				
Green Ext Time (p_c), s				0.0		0.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			0.0									
HCM 6th LOS			A									

HCM 6th TWSC
1: Siskiyou Blvd & Site Access

08/16/2024

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	68	118	41	24	128
Future Vol, veh/h	77	68	118	41	24	128
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	88	77	134	47	27	145

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	181	0	0 411 158
Stage 1	-	-	- - 158 -
Stage 2	-	-	- - 253 -
Critical Hdwy	4.1	-	- - 6.4 6.2
Critical Hdwy Stg 1	-	-	- - 5.4 -
Critical Hdwy Stg 2	-	-	- - 5.4 -
Follow-up Hdwy	2.2	-	- - 3.5 3.3
Pot Cap-1 Maneuver	1407	-	- - 601 893
Stage 1	-	-	- - 875 -
Stage 2	-	-	- - 794 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1407	-	- - 562 893
Mov Cap-2 Maneuver	-	-	- - 562 -
Stage 1	-	-	- - 818 -
Stage 2	-	-	- - 794 -

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1407	-	-	-	562	893
HCM Lane V/C Ratio	0.062	-	-	-	0.049	0.163
HCM Control Delay (s)	7.7	0	-	-	11.7	9.8
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.6

HCM Signalized Intersection Capacity Analysis

11: Ashland St & I-5 SB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	621	47	21	184	0	0	0	0	175	3	665
Future Volume (vph)	0	621	47	21	184	0	0	0	0	175	3	665
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0						4.9	4.9
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1716	1488	1259	1699						1525	1458
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1716	1488	1259	1699						1525	1458
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	668	51	23	198	0	0	0	0	188	3	715
RTOR Reduction (vph)	0	0	26	0	0	0	0	0	0	0	0	539
Lane Group Flow (vph)	0	668	25	23	198	0	0	0	0	0	191	176
Heavy Vehicles (%)	0%	2%	0%	32%	3%	0%	0%	0%	0%	9%	33%	2%
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		4		3	8						6	
Permitted Phases			4							6		6
Actuated Green, G (s)		27.7	27.7	2.3	34.5						13.8	13.8
Effective Green, g (s)		28.2	28.2	2.8	35.0						14.3	14.3
Actuated g/C Ratio		0.48	0.48	0.05	0.60						0.25	0.25
Clearance Time (s)		4.5	4.5	4.5	4.5						5.4	5.4
Vehicle Extension (s)		4.0	4.0	2.5	4.0						2.5	2.5
Lane Grp Cap (vph)		831	720	60	1021						374	358
v/s Ratio Prot		c0.39		c0.02	0.12							
v/s Ratio Perm			0.02								0.13	0.12
v/c Ratio		0.80	0.03	0.38	0.19						0.51	0.49
Uniform Delay, d1		12.7	7.9	26.9	5.2						18.9	18.8
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		6.0	0.0	3.0	0.1						0.9	0.8
Delay (s)		18.7	7.9	29.8	5.4						19.8	19.6
Level of Service		B	A	C	A						B	B
Approach Delay (s)		17.9			7.9			0.0			19.6	
Approach LOS		B			A			A			B	
Intersection Summary												
HCM 2000 Control Delay			17.6			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			58.2			Sum of lost time (s)			12.9			
Intersection Capacity Utilization			62.6%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

11: Ashland St & I-5 SB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	621	47	21	184	0	0	0	0	175	3	665
Future Volume (veh/h)	0	621	47	21	184	0	0	0	0	175	3	665
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1723	1750	1313	1709	0				1627	1300	1723
Adj Flow Rate, veh/h	0	668	51	23	198	0				188	3	715
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	32	3	0				9	33	2
Cap, veh/h	0	775	668	35	919	0				402	6	481
Arrive On Green	0.00	0.45	0.45	0.03	0.54	0.00				0.32	0.33	0.33
Sat Flow, veh/h	0	1723	1483	1251	1709	0				1219	19	1460
Grp Volume(v), veh/h	0	668	51	23	198	0				191	0	715
Grp Sat Flow(s),veh/h/ln	0	1723	1483	1251	1709	0				1239	0	1460
Q Serve(g_s), s	0.0	23.4	1.3	1.2	4.1	0.0				8.3	0.0	22.1
Cycle Q Clear(g_c), s	0.0	23.4	1.3	1.2	4.1	0.0				8.3	0.0	22.1
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	775	668	35	919	0				408	0	481
V/C Ratio(X)	0.00	0.86	0.08	0.65	0.22	0.00				0.47	0.00	1.49
Avail Cap(c_a), veh/h	0	924	796	168	1248	0				408	0	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.6	10.5	32.3	8.1	0.0				18.1	0.0	22.5
Incr Delay (d2), s/veh	0.0	7.9	0.1	14.0	0.2	0.0				0.6	0.0	230.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	0.4	0.5	1.3	0.0				2.1	0.0	37.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.5	10.6	46.3	8.3	0.0				18.7	0.0	252.5
LnGrp LOS	A	C	B	D	A	A				B	A	F
Approach Vol, veh/h		719			221						906	
Approach Delay, s/veh		23.5			12.2						203.2	
Approach LOS		C			B						F	
Timer - Assigned Phs			3	4		6			8			
Phs Duration (G+Y+Rc), s			5.9	34.2		27.0			40.1			
Change Period (Y+Rc), s			4.5	4.5		5.4			4.5			
Max Green Setting (Gmax), s			8.5	35.5		21.6			48.5			
Max Q Clear Time (g_c+I1), s			3.2	25.4		24.1			6.1			
Green Ext Time (p_c), s			0.0	4.3		0.0			1.7			
Intersection Summary												
HCM 6th Ctrl Delay			110.3									
HCM 6th LOS			F									

Notes

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

HCM Signalized Intersection Capacity Analysis

14: Ashland St & I-5 NB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	457	339	0	0	177	211	28	0	31	0	0	0
Future Volume (vph)	457	339	0	0	177	211	28	0	31	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1630	1651			1667	1430		1471	1078			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1630	1651			1667	1430		1471	1078			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	513	381	0	0	199	237	31	0	35	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	175	0	0	32	0	0	0
Lane Group Flow (vph)	513	381	0	0	199	62	0	31	3	0	0	0
Heavy Vehicles (%)	2%	6%	0%	0%	5%	4%	13%	0%	38%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases						8	2		2			
Actuated Green, G (s)	18.6	35.3			12.2	12.2		3.4	3.4			
Effective Green, g (s)	19.1	35.8			12.7	12.7		4.8	4.8			
Actuated g/C Ratio	0.39	0.74			0.26	0.26		0.10	0.10			
Clearance Time (s)	4.5	4.5			4.5	4.5		5.4	5.4			
Vehicle Extension (s)	2.5	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	640	1216			435	373		145	106			
v/s Ratio Prot	c0.31	0.23			c0.12							
v/s Ratio Perm						0.04		0.02	0.00			
v/c Ratio	0.80	0.31			0.46	0.17		0.21	0.03			
Uniform Delay, d1	13.1	2.2			15.1	13.9		20.2	19.8			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	7.0	0.2			1.0	0.3		0.5	0.1			
Delay (s)	20.0	2.4			16.1	14.1		20.7	19.9			
Level of Service	C	A			B	B		C	B			
Approach Delay (s)		12.5			15.0			20.3			0.0	
Approach LOS		B			B			C			A	
Intersection Summary												
HCM 2000 Control Delay			13.7				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			48.6				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			62.6%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

14: Ashland St & I-5 NB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	457	339	0	0	177	211	28	0	31	0	0	0
Future Volume (veh/h)	457	339	0	0	177	211	28	0	31	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1723	1668	0	0	1682	1695	1573	1750	1231			
Adj Flow Rate, veh/h	513	381	0	0	199	237	31	0	35			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	2	6	0	0	5	4	13	0	38			
Cap, veh/h	622	1184	0	0	403	344	179	0	112			
Arrive On Green	0.38	0.71	0.00	0.00	0.24	0.24	0.08	0.00	0.11			
Sat Flow, veh/h	1641	1668	0	0	1682	1437	1667	0	1043			
Grp Volume(v), veh/h	513	381	0	0	199	237	31	0	35			
Grp Sat Flow(s),veh/h/ln	1641	1668	0	0	1682	1437	1667	0	1043			
Q Serve(g_s), s	12.4	3.8	0.0	0.0	4.5	6.6	0.8	0.0	1.4			
Cycle Q Clear(g_c), s	12.4	3.8	0.0	0.0	4.5	6.6	0.8	0.0	1.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	622	1184	0	0	403	344	179	0	112			
V/C Ratio(X)	0.83	0.32	0.00	0.00	0.49	0.69	0.17	0.00	0.31			
Avail Cap(c_a), veh/h	974	1599	0	0	461	393	380	0	238			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.3	2.4	0.0	0.0	14.4	15.2	18.4	0.0	18.1			
Incr Delay (d2), s/veh	2.7	0.2	0.0	0.0	1.3	5.0	0.3	0.0	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.8	0.3	0.0	0.0	1.5	2.2	0.3	0.0	0.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.0	2.6	0.0	0.0	15.7	20.2	18.8	0.0	19.2			
LnGrp LOS	B	A	A	A	B	C	B	A	B			
Approach Vol, veh/h	894			436			66					
Approach Delay, s/veh	9.7			18.1			19.0					
Approach LOS	A			B			B					
Timer - Assigned Phs	2			4			7			8		
Phs Duration (G+Y+Rc), s	8.7			35.1			20.6			14.5		
Change Period (Y+Rc), s	* 5.4			4.5			4.5			4.5		
Max Green Setting (Gmax), s	* 8.6			41.5			25.5			11.5		
Max Q Clear Time (g_c+I1), s	3.4			5.8			14.4			8.6		
Green Ext Time (p_c), s	0.1			6.7			1.8			1.2		
Intersection Summary												
HCM 6th Ctrl Delay	12.8											
HCM 6th LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

19: Tolman Creek Rd & Ashland St

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	320	44	191	479	80	54	82	221	79	83	31
Future Volume (vph)	30	320	44	191	479	80	54	82	221	79	83	31
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.89		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3208		1599	3221		1662	1536		1646	1678	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1662	3208		1599	3221		1662	1536		1646	1678	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	38	400	55	239	599	100	68	102	276	99	104	39
RTOR Reduction (vph)	0	17	0	0	18	0	0	163	0	0	22	0
Lane Group Flow (vph)	38	438	0	239	681	0	68	216	0	99	121	0
Heavy Vehicles (%)	0%	2%	0%	4%	1%	1%	0%	0%	2%	1%	0%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.8	13.8		10.7	21.7		4.5	11.2		6.1	12.8	
Effective Green, g (s)	3.3	14.3		11.2	22.2		4.5	11.2		6.1	12.8	
Actuated g/C Ratio	0.06	0.24		0.19	0.38		0.08	0.19		0.10	0.22	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	93	780		304	1216		127	292		170	365	
v/s Ratio Prot	0.02	0.14		c0.15	c0.21		0.04	c0.14		c0.06	0.07	
v/s Ratio Perm												
v/c Ratio	0.41	0.56		0.79	0.56		0.54	0.74		0.58	0.33	
Uniform Delay, d1	26.8	19.5		22.7	14.4		26.1	22.4		25.1	19.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	1.1		12.1	0.7		3.3	9.2		4.2	0.4	
Delay (s)	28.9	20.6		34.8	15.1		29.5	31.6		29.3	19.8	
Level of Service	C	C		C	B		C	C		C	B	
Approach Delay (s)		21.3			20.1			31.3			23.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			23.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			58.8			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			60.1%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

19: Tolman Creek Rd & Ashland St

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	320	44	191	479	80	54	82	221	79	83	31
Future Volume (veh/h)	30	320	44	191	479	80	54	82	221	79	83	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1750	1723	1750	1695	1736	1736	1750	1750	1723	1736	1750	1750
Adj Flow Rate, veh/h	38	400	55	239	599	100	68	102	276	99	104	39
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	2	0	4	1	1	0	0	2	1	0	0
Cap, veh/h	70	582	79	302	979	163	84	96	260	125	310	116
Arrive On Green	0.04	0.20	0.19	0.19	0.35	0.34	0.05	0.23	0.23	0.08	0.26	0.26
Sat Flow, veh/h	1667	2893	395	1615	2830	471	1667	417	1129	1654	1213	455
Grp Volume(v), veh/h	38	225	230	239	349	350	68	0	378	99	0	143
Grp Sat Flow(s),veh/h/ln	1667	1637	1652	1615	1650	1652	1667	0	1547	1654	0	1668
Q Serve(g_s), s	1.2	6.7	6.7	7.4	9.1	9.2	2.1	0.0	12.0	3.1	0.0	3.6
Cycle Q Clear(g_c), s	1.2	6.7	6.7	7.4	9.1	9.2	2.1	0.0	12.0	3.1	0.0	3.6
Prop In Lane	1.00		0.24	1.00		0.29	1.00		0.73	1.00		0.27
Lane Grp Cap(c), veh/h	70	329	332	302	571	572	84	0	356	125	0	426
V/C Ratio(X)	0.54	0.68	0.69	0.79	0.61	0.61	0.81	0.00	1.06	0.79	0.00	0.34
Avail Cap(c_a), veh/h	287	345	348	371	571	572	287	0	356	285	0	426
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	19.3	19.4	20.2	14.1	14.2	24.6	0.0	20.1	23.7	0.0	15.8
Incr Delay (d2), s/veh	4.8	5.9	6.2	8.4	2.2	2.3	13.1	0.0	65.4	8.2	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.8	2.8	3.1	3.2	3.2	1.1	0.0	10.4	1.4	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	25.2	25.6	28.6	16.4	16.5	37.6	0.0	85.5	31.9	0.0	16.2
LnGrp LOS	C	C	C	C	B	B	D	A	F	C	A	B
Approach Vol, veh/h	493				938				446			
Approach Delay, s/veh	25.7				19.6				78.2			
Approach LOS	C				B				E			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	16.0	13.8	14.5	6.6	17.3	6.2	22.1				
Change Period (Y+Rc), s	4.0	4.0	4.5	4.5	4.0	4.0	4.5	4.5				
Max Green Setting (Gmax), s	9.0	12.0	11.5	10.5	9.0	12.0	8.5	13.5				
Max Q Clear Time (g_c+I1), s	5.1	14.0	9.4	8.7	4.1	5.6	3.2	11.2				
Green Ext Time (p_c), s	0.1	0.0	0.2	0.8	0.1	0.2	0.0	1.6				
Intersection Summary												
HCM 6th Ctrl Delay	33.7											
HCM 6th LOS	C											
Notes												

HCM Signalized Intersection Capacity Analysis

43: Siskiyou Blvd & Ashland St

08/16/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↔↔		↔↔	↔
Traffic Volume (vph)	0	315	410	3	209	346
Future Volume (vph)	0	315	410	3	209	346
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	1.00		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2567	3257		3162	1716
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2567	3257		3162	1716
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	0	414	539	4	275	455
RTOR Reduction (vph)	0	340	1	0	0	0
Lane Group Flow (vph)	0	74	542	0	275	455
Heavy Vehicles (%)	0%	2%	2%	0%	2%	2%
Turn Type		Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases		8				
Actuated Green, G (s)		6.2	10.3		6.1	20.4
Effective Green, g (s)		6.2	10.3		6.1	20.4
Actuated g/C Ratio		0.18	0.30		0.18	0.59
Clearance Time (s)		4.0	4.0		4.0	4.0
Vehicle Extension (s)		2.5	4.0		2.5	4.0
Lane Grp Cap (vph)		459	969		557	1011
v/s Ratio Prot			0.17		0.09	c0.27
v/s Ratio Perm		c0.03				
v/c Ratio		0.16	0.56		0.49	0.45
Uniform Delay, d1		12.0	10.2		12.9	4.0
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	0.9		0.5	0.4
Delay (s)		12.1	11.1		13.4	4.4
Level of Service		B	B		B	A
Approach Delay (s)	12.1		11.1			7.8
Approach LOS	B		B			A
Intersection Summary						
HCM 2000 Control Delay			9.9		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.45			
Actuated Cycle Length (s)			34.6		Sum of lost time (s)	12.0
Intersection Capacity Utilization			31.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Edition methodology does not support Non-NEMA phasing.

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	18	0	4	12	0	97	3	234	3	101	160	14
Future Vol, veh/h	18	0	4	12	0	97	3	234	3	101	160	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	25	2	100	0	2	0
Mvmt Flow	22	0	5	15	0	118	4	285	4	123	195	17

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	804	747	204	747	753	287	212	0	0	289	0	0
Stage 1	450	450	-	295	295	-	-	-	-	-	-	-
Stage 2	354	297	-	452	458	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.35	-	-	4.1	-	-
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	3.3	2.425	-	-	2.2	-	-
Pot Cap-1 Maneuver	304	344	842	332	341	757	1233	-	-	1284	-	-
Stage 1	592	575	-	718	673	-	-	-	-	-	-	-
Stage 2	667	671	-	591	570	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	234	305	842	301	302	757	1233	-	-	1284	-	-
Mov Cap-2 Maneuver	234	305	-	301	302	-	-	-	-	-	-	-
Stage 1	590	512	-	715	670	-	-	-	-	-	-	-
Stage 2	561	668	-	524	508	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	19.9		12		0.1		3	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1233	-	-	269 649	1284	-	-
HCM Lane V/C Ratio	0.003	-	-	0.1 0.205	0.096	-	-
HCM Control Delay (s)	7.9	0	-	19.9 12	8.1	0	-
HCM Lane LOS	A	A	-	C B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3 0.8	0.3	-	-

HCM 6th TWSC
59: Siskiyou Blvd & Tolman Creek Rd

08/16/2024

Intersection												
Int Delay, s/veh	9.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	119	127	32	12	206	46	34	42	8	49	32	110
Future Vol, veh/h	119	127	32	12	206	46	34	42	8	49	32	110
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	3	0	14	3	0	0	2	0	6	10	6
Mvmt Flow	138	148	37	14	240	53	40	49	9	57	37	128
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	293	0	0	185	0	0	820	764	167	767	756	267
Stage 1	-	-	-	-	-	-	443	443	-	295	295	-
Stage 2	-	-	-	-	-	-	377	321	-	472	461	-
Critical Hdwy	4.12	-	-	4.24	-	-	7.1	6.52	6.2	7.16	6.6	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.16	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.16	5.6	-
Follow-up Hdwy	2.218	-	-	2.326	-	-	3.5	4.018	3.3	3.554	4.09	3.354
Pot Cap-1 Maneuver	1269	-	-	1321	-	-	296	334	882	314	328	762
Stage 1	-	-	-	-	-	-	598	576	-	705	655	-
Stage 2	-	-	-	-	-	-	649	652	-	565	552	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1269	-	-	1321	-	-	200	290	882	244	284	762
Mov Cap-2 Maneuver	-	-	-	-	-	-	200	290	-	244	284	-
Stage 1	-	-	-	-	-	-	525	506	-	619	646	-
Stage 2	-	-	-	-	-	-	502	644	-	443	485	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.5			0.4			27.1			23		
HCM LOS							D			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	259	1269	-	-	1321	-	-	417				
HCM Lane V/C Ratio	0.377	0.109	-	-	0.011	-	-	0.533				
HCM Control Delay (s)	27.1	8.2	0	-	7.8	0	-	23				
HCM Lane LOS	D	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	1.7	0.4	-	-	0	-	-	3				

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	144	246	0	1	12
Future Vol, veh/h	21	144	246	0	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	24	164	280	0	1	14

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	280	0	0 492 280
Stage 1	-	-	- 280 -
Stage 2	-	-	- 212 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1294	-	- 540 764
Stage 1	-	-	- 772 -
Stage 2	-	-	- 828 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1294	-	- 529 764
Mov Cap-2 Maneuver	-	-	- 529 -
Stage 1	-	-	- 757 -
Stage 2	-	-	- 828 -

Approach	EB	WB	SB
HCM Control Delay, s	1	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1294	-	-	-	739
HCM Lane V/C Ratio	0.018	-	-	-	0.02
HCM Control Delay (s)	7.8	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM Signalized Intersection Capacity Analysis

11: Ashland St & I-5 SB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	537	51	21	168	0	0	0	0	169	3	630
Future Volume (vph)	0	537	51	21	168	0	0	0	0	169	3	630
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0						4.9	4.9
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1716	1488	1259	1699						1525	1458
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1716	1488	1259	1699						1525	1458
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	577	55	23	181	0	0	0	0	182	3	677
RTOR Reduction (vph)	0	0	30	0	0	0	0	0	0	0	0	508
Lane Group Flow (vph)	0	577	25	23	181	0	0	0	0	0	185	169
Heavy Vehicles (%)	0%	2%	0%	32%	3%	0%	0%	0%	0%	9%	33%	2%
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		4		3	8						6	
Permitted Phases			4							6		6
Actuated Green, G (s)		21.2	21.2	1.2	26.9						11.6	11.6
Effective Green, g (s)		21.7	21.7	1.7	27.4						12.1	12.1
Actuated g/C Ratio		0.45	0.45	0.04	0.57						0.25	0.25
Clearance Time (s)		4.5	4.5	4.5	4.5						5.4	5.4
Vehicle Extension (s)		4.0	4.0	2.5	4.0						2.5	2.5
Lane Grp Cap (vph)		769	667	44	961						381	364
v/s Ratio Prot		c0.34		c0.02	0.11							
v/s Ratio Perm			0.02								0.12	0.12
v/c Ratio		0.75	0.04	0.52	0.19						0.49	0.46
Uniform Delay, d1		11.1	7.5	23.0	5.1						15.5	15.4
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		4.4	0.0	8.3	0.1						0.7	0.7
Delay (s)		15.5	7.5	31.2	5.2						16.2	16.1
Level of Service		B	A	C	A						B	B
Approach Delay (s)		14.8			8.2			0.0			16.1	
Approach LOS		B			A			A			B	
Intersection Summary												
HCM 2000 Control Delay			14.7			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			48.4			Sum of lost time (s)			12.9			
Intersection Capacity Utilization			59.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

11: Ashland St & I-5 SB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	537	51	21	168	0	0	0	0	169	3	630
Future Volume (veh/h)	0	537	51	21	168	0	0	0	0	169	3	630
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1723	1750	1313	1709	0				1627	1300	1723
Adj Flow Rate, veh/h	0	577	55	23	181	0				182	3	677
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	32	3	0				9	33	2
Cap, veh/h	0	684	588	39	857	0				407	7	488
Arrive On Green	0.00	0.40	0.40	0.03	0.50	0.00				0.32	0.33	0.33
Sat Flow, veh/h	0	1723	1483	1251	1709	0				1219	20	1460
Grp Volume(v), veh/h	0	577	55	23	181	0				185	0	677
Grp Sat Flow(s),veh/h/ln	0	1723	1483	1251	1709	0				1239	0	1460
Q Serve(g_s), s	0.0	16.5	1.3	1.0	3.2	0.0				6.4	0.0	18.1
Cycle Q Clear(g_c), s	0.0	16.5	1.3	1.0	3.2	0.0				6.4	0.0	18.1
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	684	588	39	857	0				414	0	488
V/C Ratio(X)	0.00	0.84	0.09	0.60	0.21	0.00				0.45	0.00	1.39
Avail Cap(c_a), veh/h	0	795	685	208	1199	0				414	0	488
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.8	10.2	25.9	7.5	0.0				14.3	0.0	18.0
Incr Delay (d2), s/veh	0.0	7.9	0.1	10.5	0.2	0.0				0.6	0.0	186.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.7	0.4	0.4	0.9	0.0				1.5	0.0	30.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	22.8	10.3	36.4	7.7	0.0				14.9	0.0	204.8
LnGrp LOS	A	C	B	D	A	A				B	A	F
Approach Vol, veh/h		632			204						862	
Approach Delay, s/veh		21.7			10.9						164.1	
Approach LOS		C			B						F	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.7	25.5		23.0		31.2				
Change Period (Y+Rc), s			4.5	4.5		5.4		4.5				
Max Green Setting (Gmax), s			8.5	24.5		17.6		37.5				
Max Q Clear Time (g_c+I1), s			3.0	18.5		20.1		5.2				
Green Ext Time (p_c), s			0.0	2.5		0.0		1.5				
Intersection Summary												
HCM 6th Ctrl Delay			92.7									
HCM 6th LOS			F									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM Signalized Intersection Capacity Analysis

14: Ashland St & I-5 NB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	398	308	0	0	162	217	27	0	34	0	0	0
Future Volume (vph)	398	308	0	0	162	217	27	0	34	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1630	1651			1667	1430		1471	1078			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1630	1651			1667	1430		1471	1078			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	447	346	0	0	182	244	30	0	38	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	175	0	0	34	0	0	0
Lane Group Flow (vph)	447	346	0	0	182	69	0	30	4	0	0	0
Heavy Vehicles (%)	2%	6%	0%	0%	5%	4%	13%	0%	38%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases						8	2		2			
Actuated Green, G (s)	16.5	33.8			12.8	12.8		3.4	3.4			
Effective Green, g (s)	17.0	34.3			13.3	13.3		4.8	4.8			
Actuated g/C Ratio	0.36	0.73			0.28	0.28		0.10	0.10			
Clearance Time (s)	4.5	4.5			4.5	4.5		5.4	5.4			
Vehicle Extension (s)	2.5	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	588	1202			470	403		149	109			
v/s Ratio Prot	c0.27	0.21			c0.11							
v/s Ratio Perm						0.05		0.02	0.00			
v/c Ratio	0.76	0.29			0.39	0.17		0.20	0.04			
Uniform Delay, d1	13.3	2.2			13.6	12.7		19.4	19.1			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	5.5	0.2			0.7	0.3		0.5	0.1			
Delay (s)	18.8	2.4			14.3	13.0		19.9	19.2			
Level of Service	B	A			B	B		B	B			
Approach Delay (s)		11.6			13.6			19.5			0.0	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			12.7				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			47.1				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			59.4%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

14: Ashland St & I-5 NB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	398	308	0	0	162	217	27	0	34	0	0	0
Future Volume (veh/h)	398	308	0	0	162	217	27	0	34	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1723	1668	0	0	1682	1695	1573	1750	1231			
Adj Flow Rate, veh/h	447	346	0	0	182	244	30	0	38			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	2	6	0	0	5	4	13	0	38			
Cap, veh/h	559	1160	0	0	435	371	187	0	117			
Arrive On Green	0.34	0.70	0.00	0.00	0.26	0.26	0.08	0.00	0.11			
Sat Flow, veh/h	1641	1668	0	0	1682	1437	1667	0	1043			
Grp Volume(v), veh/h	447	346	0	0	182	244	30	0	38			
Grp Sat Flow(s),veh/h/ln	1641	1668	0	0	1682	1437	1667	0	1043			
Q Serve(g_s), s	10.3	3.3	0.0	0.0	3.7	6.3	0.7	0.0	1.4			
Cycle Q Clear(g_c), s	10.3	3.3	0.0	0.0	3.7	6.3	0.7	0.0	1.4			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	559	1160	0	0	435	371	187	0	117			
V/C Ratio(X)	0.80	0.30	0.00	0.00	0.42	0.66	0.16	0.00	0.32			
Avail Cap(c_a), veh/h	947	1685	0	0	566	484	401	0	251			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.4	2.4	0.0	0.0	12.8	13.8	17.3	0.0	17.0			
Incr Delay (d2), s/veh	2.0	0.2	0.0	0.0	0.9	2.9	0.3	0.0	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	3.1	0.2	0.0	0.0	1.2	1.9	0.2	0.0	0.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.4	2.6	0.0	0.0	13.7	16.6	17.6	0.0	18.2			
LnGrp LOS	B	A	A	A	B	B	B	A	B			
Approach Vol, veh/h	793			426			68					
Approach Delay, s/veh	9.3			15.4			17.9					
Approach LOS	A			B			B					
Timer - Assigned Phs	2			4			7			8		
Phs Duration (G+Y+Rc), s	8.7			32.9			18.2			14.7		
Change Period (Y+Rc), s	* 5.4			4.5			4.5			4.5		
Max Green Setting (Gmax), s	* 8.6			41.5			23.5			13.5		
Max Q Clear Time (g_c+I1), s	3.4			5.3			12.3			8.3		
Green Ext Time (p_c), s	0.1			6.0			1.5			1.9		
Intersection Summary												
HCM 6th Ctrl Delay	11.8											
HCM 6th LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

19: Tolman Creek Rd & Ashland St

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	318	25	136	472	77	48	85	139	79	71	33
Future Volume (vph)	32	318	25	136	472	77	48	85	139	79	71	33
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.91		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3229		1599	3223		1662	1567		1646	1667	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1662	3229		1599	3223		1662	1567		1646	1667	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	40	398	31	170	590	96	60	106	174	99	89	41
RTOR Reduction (vph)	0	9	0	0	19	0	0	97	0	0	26	0
Lane Group Flow (vph)	40	420	0	170	667	0	60	183	0	99	104	0
Heavy Vehicles (%)	0%	2%	0%	4%	1%	1%	0%	0%	2%	1%	0%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.6	14.8		6.1	18.3		4.1	10.7		5.8	12.4	
Effective Green, g (s)	3.1	15.3		6.6	18.8		4.1	10.7		5.8	12.4	
Actuated g/C Ratio	0.06	0.28		0.12	0.35		0.08	0.20		0.11	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	94	908		193	1113		125	308		175	379	
v/s Ratio Prot	0.02	0.13		c0.11	c0.21		0.04	c0.12		c0.06	0.06	
v/s Ratio Perm												
v/c Ratio	0.43	0.46		0.88	0.60		0.48	0.59		0.57	0.27	
Uniform Delay, d1	24.8	16.2		23.5	14.7		24.1	19.9		23.1	17.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	0.5		33.9	1.0		2.1	2.6		3.4	0.3	
Delay (s)	27.0	16.7		57.5	15.7		26.2	22.4		26.5	17.6	
Level of Service	C	B		E	B		C	C		C	B	
Approach Delay (s)		17.5			24.0			23.1			21.4	
Approach LOS		B			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			21.9			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			54.4			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			52.4%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

19: Tolman Creek Rd & Ashland St

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	318	25	136	472	77	48	85	139	79	71	33
Future Volume (veh/h)	32	318	25	136	472	77	48	85	139	79	71	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1750	1723	1750	1695	1736	1736	1750	1750	1723	1736	1750	1750
Adj Flow Rate, veh/h	40	398	31	170	590	96	60	106	174	99	89	41
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	2	0	4	1	1	0	0	2	1	0	0
Cap, veh/h	76	702	54	227	919	149	77	128	210	124	276	127
Arrive On Green	0.05	0.23	0.22	0.14	0.32	0.31	0.05	0.21	0.21	0.08	0.24	0.24
Sat Flow, veh/h	1667	3078	239	1615	2842	461	1667	596	978	1654	1134	522
Grp Volume(v), veh/h	40	211	218	170	342	344	60	0	280	99	0	130
Grp Sat Flow(s),veh/h/ln	1667	1637	1680	1615	1650	1653	1667	0	1574	1654	0	1656
Q Serve(g_s), s	1.1	5.4	5.4	4.7	8.3	8.4	1.7	0.0	8.0	2.8	0.0	3.0
Cycle Q Clear(g_c), s	1.1	5.4	5.4	4.7	8.3	8.4	1.7	0.0	8.0	2.8	0.0	3.0
Prop In Lane	1.00		0.14	1.00		0.28	1.00		0.62	1.00		0.32
Lane Grp Cap(c), veh/h	76	373	383	227	533	535	77	0	338	124	0	404
V/C Ratio(X)	0.53	0.56	0.57	0.75	0.64	0.64	0.78	0.00	0.83	0.80	0.00	0.32
Avail Cap(c_a), veh/h	320	524	537	310	533	535	320	0	369	317	0	404
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	16.0	16.1	19.4	13.5	13.6	22.1	0.0	17.6	21.3	0.0	14.5
Incr Delay (d2), s/veh	4.2	1.9	1.9	5.5	3.0	3.0	11.7	0.0	13.0	8.3	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.9	1.9	1.9	2.9	2.9	0.9	0.0	3.8	1.3	0.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	17.9	18.0	24.8	16.5	16.6	33.9	0.0	30.6	29.7	0.0	14.9
LnGrp LOS	C	B	B	C	B	B	C	A	C	C	A	B
Approach Vol, veh/h	469		856				340		229			
Approach Delay, s/veh	18.7		18.2				31.2		21.3			
Approach LOS	B		B				C		C			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	14.1	10.6	14.7	6.2	15.4	6.1	19.2				
Change Period (Y+Rc), s	4.0	4.0	4.5	4.5	4.0	4.0	4.5	4.5				
Max Green Setting (Gmax), s	9.0	11.0	8.5	14.5	9.0	11.0	8.5	14.5				
Max Q Clear Time (g_c+I1), s	4.8	10.0	6.7	7.4	3.7	5.0	3.1	10.4				
Green Ext Time (p_c), s	0.1	0.1	0.1	2.8	0.1	0.2	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay	21.0											
HCM 6th LOS	C											
Notes												

HCM Signalized Intersection Capacity Analysis

43: Siskiyou Blvd & Ashland St

06/27/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↔↔		↔↔	↔
Traffic Volume (vph)	0	322	334	7	201	326
Future Volume (vph)	0	322	334	7	201	326
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	1.00		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2567	3251		3162	1716
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2567	3251		3162	1716
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	0	424	439	9	264	429
RTOR Reduction (vph)	0	348	4	0	0	0
Lane Group Flow (vph)	0	76	444	0	264	429
Heavy Vehicles (%)	0%	2%	2%	0%	2%	2%
Turn Type		Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases		8				
Actuated Green, G (s)		6.2	10.3		6.0	20.3
Effective Green, g (s)		6.2	10.3		6.0	20.3
Actuated g/C Ratio		0.18	0.30		0.17	0.59
Clearance Time (s)		4.0	4.0		4.0	4.0
Vehicle Extension (s)		2.5	4.0		2.5	4.0
Lane Grp Cap (vph)		461	970		549	1009
v/s Ratio Prot			0.14		0.08	c0.25
v/s Ratio Perm		c0.03				
v/c Ratio		0.17	0.46		0.48	0.43
Uniform Delay, d1		12.0	9.8		12.8	3.9
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	0.5		0.5	0.4
Delay (s)		12.1	10.3		13.3	4.3
Level of Service		B	B		B	A
Approach Delay (s)	12.1		10.3			7.7
Approach LOS	B		B			A

Intersection Summary

HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	34.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support Non-NEMA phasing.

HCM Signalized Intersection Capacity Analysis

49: Siskiyou Blvd/Lithia Way & E main

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type						Perm						
Protected Phases		4						2				
Permitted Phases						8						
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		0.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.00										
Actuated Cycle Length (s)		28.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		19.2%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM 6th Edition methodology does not support Non-NEMA phasing.

Intersection

Intersection Delay, s/veh 0

Intersection LOS -

Movement WBL WBR NBT NBR SBL SBTLane Configurations 

Traffic Vol, veh/h 0 0 0 0 0 0

Future Vol, veh/h 0 0 0 0 0 0

Peak Hour Factor 0.92 0.92 0.92 0.92 0.92 0.92

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 0 0 0 0 0 0

Number of Lanes 0 0 0 0 1 2

Approach SB

Opposing Approach

Opposing Lanes 0

Conflicting Approach Left

Conflicting Lanes Left 0

Conflicting Approach Right

Conflicting Lanes Right 0

HCM Control Delay 0

HCM LOS -

Lane SBLn1 SBLn2 SBLn3

Vol Left, % 0% 0% 0%

Vol Thru, % 100% 100% 100%

Vol Right, % 0% 0% 0%

Sign Control Stop Stop Stop

Traffic Vol by Lane 0 0 0

LT Vol 0 0 0

Through Vol 0 0 0

RT Vol 0 0 0

Lane Flow Rate 0 0 0

Geometry Grp 0 0 0

Degree of Util (X) 0 0 0

Departure Headway (Hd) 0 0 0

Convergence, Y/N Yes Yes Yes

Cap 0 0 0

Service Time 0 0 0

HCM Lane V/C Ratio 0 0 0

HCM Control Delay 5 5 5

HCM Lane LOS N N N

HCM 95th-tile Q 0 0 0

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	0	3	8	0	0	3	234	1	24	156	14
Future Vol, veh/h	15	0	3	8	0	0	3	234	1	24	156	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	25	2	100	0	2	0
Mvmt Flow	18	0	4	10	0	0	4	285	1	29	190	17

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	551	551	199	553	559	286	207	0	0	286	0	0
Stage 1	257	257	-	294	294	-	-	-	-	-	-	-
Stage 2	294	294	-	259	265	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.35	-	-	4.1	-	-
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	3.3	2.425	-	-	2.2	-	-
Pot Cap-1 Maneuver	448	445	847	447	440	758	1238	-	-	1288	-	-
Stage 1	752	699	-	719	673	-	-	-	-	-	-	-
Stage 2	719	673	-	750	693	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	438	432	847	435	427	758	1238	-	-	1288	-	-
Mov Cap-2 Maneuver	438	432	-	435	427	-	-	-	-	-	-	-
Stage 1	749	681	-	716	670	-	-	-	-	-	-	-
Stage 2	716	670	-	727	675	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.9		13.5		0.1		1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1238	-	-	476	435	1288	-
HCM Lane V/C Ratio	0.003	-	-	0.046	0.022	0.023	-
HCM Control Delay (s)	7.9	0	-	12.9	13.5	7.9	0
HCM Lane LOS	A	A	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-

HCM 6th TWSC
59: Siskiyou Blvd & Tolman Creek Rd

06/27/2024

Intersection												
Int Delay, s/veh	7.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	114	69	33	9	91	42	33	39	3	36	31	107
Future Vol, veh/h	114	69	33	9	91	42	33	39	3	36	31	107
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	3	0	14	3	0	0	2	0	6	10	6
Mvmt Flow	133	80	38	10	106	49	38	45	3	42	36	124
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	155	0	0	118	0	0	596	540	99	540	535	131
Stage 1	-	-	-	-	-	-	365	365	-	151	151	-
Stage 2	-	-	-	-	-	-	231	175	-	389	384	-
Critical Hdwy	4.12	-	-	4.24	-	-	7.1	6.52	6.2	7.16	6.6	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.16	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.16	5.6	-
Follow-up Hdwy	2.218	-	-	2.326	-	-	3.5	4.018	3.3	3.554	4.09	3.354
Pot Cap-1 Maneuver	1425	-	-	1399	-	-	418	449	962	446	440	908
Stage 1	-	-	-	-	-	-	658	623	-	842	757	-
Stage 2	-	-	-	-	-	-	776	754	-	627	598	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1425	-	-	1399	-	-	308	401	962	373	393	908
Mov Cap-2 Maneuver	-	-	-	-	-	-	308	401	-	373	393	-
Stage 1	-	-	-	-	-	-	592	561	-	758	751	-
Stage 2	-	-	-	-	-	-	632	748	-	517	538	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	4.1			0.5			18.1			14.2		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	361	1425	-	-	1399	-	-	593				
HCM Lane V/C Ratio	0.242	0.093	-	-	0.007	-	-	0.341				
HCM Control Delay (s)	18.1	7.8	0	-	7.6	0	-	14.2				
HCM Lane LOS	C	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.9	0.3	-	-	0	-	-	1.5				

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	67	121	0	1	12
Future Vol, veh/h	21	67	121	0	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	24	76	138	0	1	14

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	138	0	0 262 138
Stage 1	-	-	- 138 -
Stage 2	-	-	- 124 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1458	-	- 731 916
Stage 1	-	-	- 894 -
Stage 2	-	-	- 907 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1458	-	- 719 916
Mov Cap-2 Maneuver	-	-	- 719 -
Stage 1	-	-	- 879 -
Stage 2	-	-	- 907 -

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1458	-	-	-	897
HCM Lane V/C Ratio	0.016	-	-	-	0.016
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM Signalized Intersection Capacity Analysis

68: 3rd St & E main

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											 	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type											Perm	
Protected Phases	4			8						6		
Permitted Phases				8						6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)	0.0			0.0			0.0			0.0		
Approach LOS	A			A			A			A		
Intersection Summary												
HCM 2000 Control Delay	0.0			HCM 2000 Level of Service			A					
HCM 2000 Volume to Capacity ratio	0.00											
Actuated Cycle Length (s)	29.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	0.0%			ICU Level of Service			A					
Analysis Period (min)	15											
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

68: 3rd St & E main

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	0	1723	1723	1723	1723	0				1723	1723	0
Adj Flow Rate, veh/h	0	0	0	0	0	0				0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	0
Cap, veh/h	0	9999	0	0	9999	0				9999	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00	0.00
Sat Flow, veh/h	0	-68908	0	0	-68908	0				1641	3359	0
Grp Volume(v), veh/h	0	0	0	0	0	0				0	0	0
Grp Sat Flow(s),veh/h/ln	0	1723	0	0	1723	0				1641	1637	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	49326268416	0	49326268416	0		469774093719904256				0		0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00	0.00
Avail Cap(c_a), veh/h	13071460335616	0	13071460335616	0		119792323698675863808				0		0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A				A	A	A
Approach Vol, veh/h	0			0			0					
Approach Delay, s/veh	0.0			0.0			0.0					
Approach LOS												
Timer - Assigned Phs	4			6			8					
Phs Duration (G+Y+Rc), s	0.0			0.0			0.0					
Change Period (Y+Rc), s	4.0			4.0			4.0					
Max Green Setting (Gmax), s	26.5			25.5			26.5					
Max Q Clear Time (g_c+I1), s	0.0			0.0			0.0					
Green Ext Time (p_c), s	0.0			0.0			0.0					
Intersection Summary												
HCM 6th Ctrl Delay	0.0											
HCM 6th LOS	A											

HCM 6th TWSC
1: Siskiyou Blvd & Site Access

08/16/2024

Intersection

Int Delay, s/veh 4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	68	121	41	24	128
Future Vol, veh/h	77	68	121	41	24	128
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	88	77	138	47	27	145

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	185	0	0 415 162
Stage 1	-	-	- - 162 -
Stage 2	-	-	- - 253 -
Critical Hdwy	4.1	-	- - 6.4 6.2
Critical Hdwy Stg 1	-	-	- - 5.4 -
Critical Hdwy Stg 2	-	-	- - 5.4 -
Follow-up Hdwy	2.2	-	- - 3.5 3.3
Pot Cap-1 Maneuver	1402	-	- - 598 888
Stage 1	-	-	- - 872 -
Stage 2	-	-	- - 794 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1402	-	- - 559 888
Mov Cap-2 Maneuver	-	-	- - 559 -
Stage 1	-	-	- - 814 -
Stage 2	-	-	- - 794 -

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1402	-	-	-	559	888
HCM Lane V/C Ratio	0.062	-	-	-	0.049	0.164
HCM Control Delay (s)	7.7	0	-	-	11.8	9.8
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.6

HCM Signalized Intersection Capacity Analysis

11: Ashland St & I-5 SB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	621	51	21	173	0	0	0	0	169	3	670
Future Volume (vph)	0	621	51	21	173	0	0	0	0	169	3	670
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0						4.9	4.9
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1716	1488	1259	1699						1525	1458
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1716	1488	1259	1699						1525	1458
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	668	55	23	186	0	0	0	0	182	3	720
RTOR Reduction (vph)	0	0	28	0	0	0	0	0	0	0	0	545
Lane Group Flow (vph)	0	668	27	23	186	0	0	0	0	0	185	175
Heavy Vehicles (%)	0%	2%	0%	32%	3%	0%	0%	0%	0%	9%	33%	2%
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		4		3	8						6	
Permitted Phases			4							6		6
Actuated Green, G (s)		27.7	27.7	2.3	34.5						13.6	13.6
Effective Green, g (s)		28.2	28.2	2.8	35.0						14.1	14.1
Actuated g/C Ratio		0.49	0.49	0.05	0.60						0.24	0.24
Clearance Time (s)		4.5	4.5	4.5	4.5						5.4	5.4
Vehicle Extension (s)		4.0	4.0	2.5	4.0						2.5	2.5
Lane Grp Cap (vph)		834	723	60	1025						370	354
v/s Ratio Prot		c0.39		c0.02	0.11							
v/s Ratio Perm			0.02								0.12	0.12
v/c Ratio		0.80	0.04	0.38	0.18						0.50	0.49
Uniform Delay, d1		12.5	7.8	26.8	5.1						18.9	18.9
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		5.9	0.0	3.0	0.1						0.8	0.8
Delay (s)		18.4	7.8	29.7	5.2						19.7	19.7
Level of Service		B	A	C	A						B	B
Approach Delay (s)		17.6			7.9			0.0			19.7	
Approach LOS		B			A			A			B	
Intersection Summary												
HCM 2000 Control Delay			17.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			58.0			Sum of lost time (s)			12.9			
Intersection Capacity Utilization			62.3%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

11: Ashland St & I-5 SB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	621	51	21	173	0	0	0	0	169	3	670
Future Volume (veh/h)	0	621	51	21	173	0	0	0	0	169	3	670
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1723	1750	1313	1709	0				1627	1300	1723
Adj Flow Rate, veh/h	0	668	55	23	186	0				182	3	720
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93				0.93	0.93	0.93
Percent Heavy Veh, %	0	2	0	32	3	0				9	33	2
Cap, veh/h	0	776	668	35	920	0				401	7	481
Arrive On Green	0.00	0.45	0.45	0.03	0.54	0.00				0.32	0.33	0.33
Sat Flow, veh/h	0	1723	1483	1251	1709	0				1219	20	1460
Grp Volume(v), veh/h	0	668	55	23	186	0				185	0	720
Grp Sat Flow(s),veh/h/ln	0	1723	1483	1251	1709	0				1239	0	1460
Q Serve(g_s), s	0.0	23.4	1.4	1.2	3.8	0.0				8.0	0.0	22.1
Cycle Q Clear(g_c), s	0.0	23.4	1.4	1.2	3.8	0.0				8.0	0.0	22.1
Prop In Lane	0.00		1.00	1.00		0.00				0.98		1.00
Lane Grp Cap(c), veh/h	0	776	668	35	920	0				408	0	481
V/C Ratio(X)	0.00	0.86	0.08	0.65	0.20	0.00				0.45	0.00	1.50
Avail Cap(c_a), veh/h	0	924	796	168	1248	0				408	0	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.6	10.5	32.3	8.0	0.0				18.0	0.0	22.5
Incr Delay (d2), s/veh	0.0	7.9	0.1	14.0	0.2	0.0				0.6	0.0	234.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.5	0.4	0.5	1.2	0.0				2.0	0.0	37.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	24.4	10.6	46.3	8.2	0.0				18.5	0.0	257.2
LnGrp LOS	A	C	B	D	A	A				B	A	F
Approach Vol, veh/h	723		209				905					
Approach Delay, s/veh	23.4		12.4				208.4					
Approach LOS	C		B				F					
Timer - Assigned Phs	3		4		6		8					
Phs Duration (G+Y+Rc), s	5.9		34.2		27.0		40.1					
Change Period (Y+Rc), s	4.5		4.5		5.4		4.5					
Max Green Setting (Gmax), s	8.5		35.5		21.6		48.5					
Max Q Clear Time (g_c+I1), s	3.2		25.4		24.1		5.8					
Green Ext Time (p_c), s	0.0		4.4		0.0		1.6					
Intersection Summary												
HCM 6th Ctrl Delay	113.3											
HCM 6th LOS	F											

HCM Signalized Intersection Capacity Analysis

14: Ashland St & I-5 NB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	469	321	0	0	165	217	29	0	34	0	0	0
Future Volume (vph)	469	321	0	0	165	217	29	0	34	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1630	1651			1667	1430		1471	1078			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1630	1651			1667	1430		1471	1078			
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	527	361	0	0	185	244	33	0	38	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	183	0	0	34	0	0	0
Lane Group Flow (vph)	527	361	0	0	185	61	0	33	4	0	0	0
Heavy Vehicles (%)	2%	6%	0%	0%	5%	4%	13%	0%	38%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases						8	2		2			
Actuated Green, G (s)	19.0	35.2			11.7	11.7		3.5	3.5			
Effective Green, g (s)	19.5	35.7			12.2	12.2		4.9	4.9			
Actuated g/C Ratio	0.40	0.73			0.25	0.25		0.10	0.10			
Clearance Time (s)	4.5	4.5			4.5	4.5		5.4	5.4			
Vehicle Extension (s)	2.5	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	654	1212			418	358		148	108			
v/s Ratio Prot	c0.32	0.22			c0.11							
v/s Ratio Perm						0.04		0.02	0.00			
v/c Ratio	0.81	0.30			0.44	0.17		0.22	0.04			
Uniform Delay, d1	12.9	2.2			15.3	14.2		20.1	19.7			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	7.0	0.2			1.0	0.3		0.6	0.1			
Delay (s)	19.9	2.4			16.4	14.6		20.7	19.8			
Level of Service	B	A			B	B		C	B			
Approach Delay (s)		12.8			15.3			20.2			0.0	
Approach LOS		B			B			C			A	
Intersection Summary												
HCM 2000 Control Delay			13.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			48.6				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			62.3%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

14: Ashland St & I-5 NB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	469	321	0	0	165	217	29	0	34	0	0	0
Future Volume (veh/h)	469	321	0	0	165	217	29	0	34	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1723	1668	0	0	1682	1695	1573	1750	1231			
Adj Flow Rate, veh/h	527	361	0	0	185	244	33	0	38			
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89			
Percent Heavy Veh, %	2	6	0	0	5	4	13	0	38			
Cap, veh/h	635	1186	0	0	395	337	183	0	115			
Arrive On Green	0.39	0.71	0.00	0.00	0.23	0.23	0.08	0.00	0.11			
Sat Flow, veh/h	1641	1668	0	0	1682	1437	1667	0	1043			
Grp Volume(v), veh/h	527	361	0	0	185	244	33	0	38			
Grp Sat Flow(s),veh/h/ln	1641	1668	0	0	1682	1437	1667	0	1043			
Q Serve(g_s), s	13.0	3.6	0.0	0.0	4.2	7.0	0.8	0.0	1.5			
Cycle Q Clear(g_c), s	13.0	3.6	0.0	0.0	4.2	7.0	0.8	0.0	1.5			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	635	1186	0	0	395	337	183	0	115			
V/C Ratio(X)	0.83	0.30	0.00	0.00	0.47	0.72	0.18	0.00	0.33			
Avail Cap(c_a), veh/h	991	1567	0	0	414	353	373	0	233			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.4	2.4	0.0	0.0	14.7	15.8	18.7	0.0	18.4			
Incr Delay (d2), s/veh	2.9	0.2	0.0	0.0	1.2	7.5	0.3	0.0	1.2			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	4.0	0.3	0.0	0.0	1.5	2.6	0.3	0.0	0.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	2.6	0.0	0.0	15.9	23.3	19.1	0.0	19.6			
LnGrp LOS	B	A	A	A	B	C	B	A	B			
Approach Vol, veh/h	888			429			71					
Approach Delay, s/veh	10.1			20.1			19.4					
Approach LOS	B			C			B					
Timer - Assigned Phs	2			4			7			8		
Phs Duration (G+Y+Rc), s	8.9			35.8			21.3			14.5		
Change Period (Y+Rc), s	* 5.4			4.5			4.5			4.5		
Max Green Setting (Gmax), s	* 8.6			41.5			26.5			10.5		
Max Q Clear Time (g_c+I1), s	3.5			5.6			15.0			9.0		
Green Ext Time (p_c), s	0.1			6.3			1.9			0.6		
Intersection Summary												
HCM 6th Ctrl Delay	13.7											
HCM 6th LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

19: Tolman Creek Rd & Ashland St

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (vph)	32	318	44	181	472	77	58	88	223	79	84	33
Future Volume (vph)	32	318	44	181	472	77	58	88	223	79	84	33
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.89		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3208		1599	3223		1662	1540		1646	1676	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1662	3208		1599	3223		1662	1540		1646	1676	
Peak-hour factor, PHF	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Adj. Flow (vph)	40	398	55	226	590	96	72	110	279	99	105	41
RTOR Reduction (vph)	0	15	0	0	17	0	0	144	0	0	21	0
Lane Group Flow (vph)	40	438	0	226	669	0	73	245	0	99	125	0
Heavy Vehicles (%)	0%	2%	0%	4%	1%	1%	0%	0%	2%	1%	0%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.8	14.6		11.2	23.0		4.6	13.1		6.2	14.7	
Effective Green, g (s)	3.3	15.1		11.7	23.5		4.6	13.1		6.2	14.7	
Actuated g/C Ratio	0.05	0.24		0.19	0.38		0.07	0.21		0.10	0.24	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	88	780		301	1219		123	324		164	396	
v/s Ratio Prot	0.02	0.14		c0.14	c0.21		0.04	c0.16		c0.06	0.07	
v/s Ratio Perm												
v/c Ratio	0.45	0.56		0.75	0.55		0.59	0.75		0.60	0.31	
Uniform Delay, d1	28.5	20.6		23.8	15.1		27.8	23.0		26.8	19.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	1.1		9.6	0.6		6.3	9.2		5.2	0.3	
Delay (s)	31.2	21.7		33.4	15.8		34.1	32.2		32.0	19.9	
Level of Service	C	C		C	B		C	C		C	B	
Approach Delay (s)		22.5			20.2			32.5			24.8	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			23.9			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			62.1			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			60.0%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

19: Tolman Creek Rd & Ashland St

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	32	318	44	181	472	77	58	88	223	79	84	33
Future Volume (veh/h)	32	318	44	181	472	77	58	88	223	79	84	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1750	1723	1750	1695	1736	1736	1750	1750	1723	1736	1750	1750
Adj Flow Rate, veh/h	40	398	55	226	590	96	72	110	279	99	105	41
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Percent Heavy Veh, %	0	2	0	4	1	1	0	0	2	1	0	0
Cap, veh/h	70	559	77	287	935	152	89	117	298	125	347	136
Arrive On Green	0.04	0.19	0.18	0.18	0.33	0.32	0.05	0.27	0.27	0.08	0.29	0.29
Sat Flow, veh/h	1667	2891	397	1615	2842	461	1667	438	1112	1654	1198	468
Grp Volume(v), veh/h	40	224	229	226	342	344	72	0	389	99	0	146
Grp Sat Flow(s),veh/h/ln	1667	1637	1651	1615	1650	1653	1667	0	1550	1654	0	1666
Q Serve(g_s), s	1.3	7.2	7.3	7.5	9.8	9.9	2.4	0.0	13.7	3.3	0.0	3.8
Cycle Q Clear(g_c), s	1.3	7.2	7.3	7.5	9.8	9.9	2.4	0.0	13.7	3.3	0.0	3.8
Prop In Lane	1.00		0.24	1.00		0.28	1.00		0.72	1.00		0.28
Lane Grp Cap(c), veh/h	70	317	319	287	543	544	89	0	415	125	0	483
V/C Ratio(X)	0.57	0.71	0.72	0.79	0.63	0.63	0.81	0.00	0.94	0.79	0.00	0.30
Avail Cap(c_a), veh/h	268	351	354	375	543	544	268	0	415	266	0	483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	21.1	21.2	22.0	15.9	16.0	26.2	0.0	20.0	25.5	0.0	15.5
Incr Delay (d2), s/veh	5.3	6.6	6.9	7.2	2.7	2.8	11.8	0.0	28.7	8.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.0	3.1	3.1	3.6	3.6	1.2	0.0	7.8	1.5	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	27.7	28.1	29.3	18.6	18.7	38.0	0.0	48.7	33.6	0.0	15.7
LnGrp LOS	C	C	C	C	B	B	D	A	D	C	A	B
Approach Vol, veh/h	493			912			461			245		
Approach Delay, s/veh	28.2			21.3			47.1			22.9		
Approach LOS	C			C			D			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	19.0	13.9	14.8	7.0	20.2	6.4	22.4				
Change Period (Y+Rc), s	4.0	4.0	4.5	4.5	4.0	4.0	4.5	4.5				
Max Green Setting (Gmax), s	9.0	15.0	12.5	11.5	9.0	15.0	8.5	15.5				
Max Q Clear Time (g_c+l1), s	5.3	15.7	9.5	9.3	4.4	5.8	3.3	11.9				
Green Ext Time (p_c), s	0.1	0.0	0.2	1.1	0.1	0.3	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay	28.7											
HCM 6th LOS	C											

HCM Signalized Intersection Capacity Analysis

43: Siskiyou Blvd & Ashland St

08/16/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↔↔		↔↔	↔
Traffic Volume (vph)	0	322	399	7	201	348
Future Volume (vph)	0	322	399	7	201	348
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	1.00		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2567	3253		3162	1716
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2567	3253		3162	1716
Peak-hour factor, PHF	0.76	0.76	0.76	0.76	0.76	0.76
Adj. Flow (vph)	0	424	525	9	264	458
RTOR Reduction (vph)	0	348	3	0	0	0
Lane Group Flow (vph)	0	76	531	0	264	458
Heavy Vehicles (%)	0%	2%	2%	0%	2%	2%
Turn Type		Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases		8				
Actuated Green, G (s)		6.2	10.3		6.0	20.3
Effective Green, g (s)		6.2	10.3		6.0	20.3
Actuated g/C Ratio		0.18	0.30		0.17	0.59
Clearance Time (s)		4.0	4.0		4.0	4.0
Vehicle Extension (s)		2.5	4.0		2.5	4.0
Lane Grp Cap (vph)		461	971		549	1009
v/s Ratio Prot			0.16		0.08	c0.27
v/s Ratio Perm		c0.03				
v/c Ratio		0.17	0.55		0.48	0.45
Uniform Delay, d1		12.0	10.1		12.8	4.0
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	0.8		0.5	0.4
Delay (s)		12.1	10.9		13.3	4.4
Level of Service		B	B		B	A
Approach Delay (s)	12.1		10.9			7.7
Approach LOS	B		B			A

Intersection Summary

HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	34.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	31.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Edition methodology does not support Non-NEMA phasing.

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	15	0	3	12	0	97	3	234	3	101	156	14
Future Vol, veh/h	15	0	3	12	0	97	3	234	3	101	156	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0	25	2	100	0	2	0
Mvmt Flow	18	0	4	15	0	118	4	285	4	123	190	17

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	799	742	199	742	748	287	207	0	0	289	0	0
Stage 1	445	445	-	295	295	-	-	-	-	-	-	-
Stage 2	354	297	-	447	453	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.35	-	-	4.1	-	-
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	3.3	2.425	-	-	2.2	-	-
Pot Cap-1 Maneuver	306	346	847	334	343	757	1238	-	-	1284	-	-
Stage 1	596	578	-	718	673	-	-	-	-	-	-	-
Stage 2	667	671	-	595	573	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	236	307	847	304	305	757	1238	-	-	1284	-	-
Mov Cap-2 Maneuver	236	307	-	304	305	-	-	-	-	-	-	-
Stage 1	594	516	-	715	670	-	-	-	-	-	-	-
Stage 2	561	668	-	528	511	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	19.6		12		0.1		3	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1238	-	-	268 650	1284	-	-
HCM Lane V/C Ratio	0.003	-	-	0.082 0.205	0.096	-	-
HCM Control Delay (s)	7.9	0	-	19.6 12	8.1	0	-
HCM Lane LOS	A	A	-	C B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3 0.8	0.3	-	-

Intersection												
Int Delay, s/veh	9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	114	129	33	13	211	46	33	39	8	48	31	107
Future Vol, veh/h	114	129	33	13	211	46	33	39	8	48	31	107
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	3	0	14	3	0	0	2	0	6	10	6
Mvmt Flow	133	150	38	15	245	53	38	45	9	56	36	124
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	298	0	0	188	0	0	817	763	169	764	756	272
Stage 1	-	-	-	-	-	-	435	435	-	302	302	-
Stage 2	-	-	-	-	-	-	382	328	-	462	454	-
Critical Hdwy	4.12	-	-	4.24	-	-	7.1	6.52	6.2	7.16	6.6	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.52	-	6.16	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.52	-	6.16	5.6	-
Follow-up Hdwy	2.218	-	-	2.326	-	-	3.5	4.018	3.3	3.554	4.09	3.354
Pot Cap-1 Maneuver	1263	-	-	1317	-	-	298	334	880	316	328	757
Stage 1	-	-	-	-	-	-	604	580	-	699	650	-
Stage 2	-	-	-	-	-	-	645	647	-	572	556	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1263	-	-	1317	-	-	203	291	880	248	285	757
Mov Cap-2 Maneuver	-	-	-	-	-	-	203	291	-	248	285	-
Stage 1	-	-	-	-	-	-	533	512	-	617	641	-
Stage 2	-	-	-	-	-	-	502	638	-	455	490	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.4			0.4			26.1			22.4		
HCM LOS							D			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	262	1263	-	-	1317	-	-	419				
HCM Lane V/C Ratio	0.355	0.105	-	-	0.011	-	-	0.516				
HCM Control Delay (s)	26.1	8.2	0	-	7.8	0	-	22.4				
HCM Lane LOS	D	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	1.5	0.4	-	-	0	-	-	2.9				

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	166	249	0	1	12
Future Vol, veh/h	21	166	249	0	1	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	0	3	2	0	0	0
Mvmt Flow	24	189	283	0	1	14

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	283	0	0 520 283
Stage 1	-	-	- 283 -
Stage 2	-	-	- 237 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1291	-	- 520 761
Stage 1	-	-	- 770 -
Stage 2	-	-	- 807 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1291	-	- 509 761
Mov Cap-2 Maneuver	-	-	- 509 -
Stage 1	-	-	- 754 -
Stage 2	-	-	- 807 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1291	-	-	-	733
HCM Lane V/C Ratio	0.018	-	-	-	0.02
HCM Control Delay (s)	7.8	0	-	-	10
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM Signalized Intersection Capacity Analysis

11: Ashland St & I-5 SB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	779	38	20	266	0	0	0	0	159	1	391
Future Volume (vph)	0	779	38	20	266	0	0	0	0	159	1	391
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0						4.9	4.9
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1716	1377	1385	1716						1559	1458
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1716	1377	1385	1716						1559	1458
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	820	40	21	280	0	0	0	0	167	1	412
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	0	0	0	336
Lane Group Flow (vph)	0	820	22	21	280	0	0	0	0	0	168	76
Heavy Vehicles (%)	0%	2%	8%	20%	2%	0%	0%	0%	0%	7%	0%	2%
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		4		3	8						6	
Permitted Phases			4							6		6
Actuated Green, G (s)		33.0	33.0	2.4	39.9						10.6	10.6
Effective Green, g (s)		33.5	33.5	2.9	40.4						11.1	11.1
Actuated g/C Ratio		0.55	0.55	0.05	0.67						0.18	0.18
Clearance Time (s)		4.5	4.5	4.5	4.5						5.4	5.4
Vehicle Extension (s)		4.0	4.0	2.5	4.0						2.5	2.5
Lane Grp Cap (vph)		951	763	66	1147						286	267
v/s Ratio Prot		c0.48		0.02	c0.16							
v/s Ratio Perm			0.02								0.11	0.05
v/c Ratio		0.86	0.03	0.32	0.24						0.59	0.28
Uniform Delay, d1		11.5	6.1	27.8	4.0						22.6	21.2
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		8.4	0.0	2.0	0.2						2.5	0.4
Delay (s)		19.9	6.1	29.8	4.1						25.1	21.7
Level of Service		B	A	C	A						C	C
Approach Delay (s)		19.2			5.9			0.0			22.7	
Approach LOS		B			A			A			C	
Intersection Summary												
HCM 2000 Control Delay			18.1			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			60.4			Sum of lost time (s)				12.9		
Intersection Capacity Utilization			68.2%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

11: Ashland St & I-5 SB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	779	38	20	266	0	0	0	0	159	1	391
Future Volume (veh/h)	0	779	38	20	266	0	0	0	0	159	1	391
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1723	1641	1477	1723	0				1654	1750	1723
Adj Flow Rate, veh/h	0	820	40	21	280	0				167	1	412
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	8	20	2	0				7	0	2
Cap, veh/h	0	948	765	39	1107	0				353	2	311
Arrive On Green	0.00	0.55	0.55	0.03	0.64	0.00				0.20	0.21	0.21
Sat Flow, veh/h	0	1723	1391	1407	1723	0				1657	10	1460
Grp Volume(v), veh/h	0	820	40	21	280	0				168	0	412
Grp Sat Flow(s),veh/h/ln	0	1723	1391	1407	1723	0				1667	0	1460
Q Serve(g_s), s	0.0	25.2	0.8	0.9	4.3	0.0				5.5	0.0	13.1
Cycle Q Clear(g_c), s	0.0	25.2	0.8	0.9	4.3	0.0				5.5	0.0	13.1
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	948	765	39	1107	0				355	0	311
V/C Ratio(X)	0.00	0.87	0.05	0.54	0.25	0.00				0.47	0.00	1.33
Avail Cap(c_a), veh/h	0	1119	903	206	1483	0				355	0	311
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.9	6.4	29.5	4.7	0.0				21.5	0.0	24.2
Incr Delay (d2), s/veh	0.0	6.9	0.0	8.3	0.2	0.0				0.7	0.0	167.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.0	0.2	0.4	1.0	0.0				1.9	0.0	18.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.8	6.5	37.9	4.9	0.0				22.2	0.0	191.9
LnGrp LOS	A	B	A	D	A	A				C	A	F
Approach Vol, veh/h		860			301						580	
Approach Delay, s/veh		18.2			7.2						142.7	
Approach LOS		B			A						F	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.7	37.9		18.0		43.6				
Change Period (Y+Rc), s			4.5	4.5		5.4		4.5				
Max Green Setting (Gmax), s			8.5	39.5		12.6		52.5				
Max Q Clear Time (g_c+I1), s			2.9	27.2		15.1		6.3				
Green Ext Time (p_c), s			0.0	6.2		0.0		2.6				
Intersection Summary												
HCM 6th Ctrl Delay			57.8									
HCM 6th LOS			E									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM Signalized Intersection Capacity Analysis

14: Ashland St & I-5 NB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	550	388	0	0	261	218	25	0	22	0	0	0
Future Volume (vph)	550	388	0	0	261	218	25	0	22	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1630	1699			1699	1403		1599	1488			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1630	1699			1699	1403		1599	1488			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	579	408	0	0	275	229	26	0	23	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	171	0	0	21	0	0	0
Lane Group Flow (vph)	579	408	0	0	275	58	0	26	2	0	0	0
Heavy Vehicles (%)	2%	3%	0%	0%	3%	6%	4%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases						8	2		2			
Actuated Green, G (s)	20.8	37.8			12.5	12.5		3.4	3.4			
Effective Green, g (s)	21.3	38.3			13.0	13.0		4.8	4.8			
Actuated g/C Ratio	0.42	0.75			0.25	0.25		0.09	0.09			
Clearance Time (s)	4.5	4.5			4.5	4.5		5.4	5.4			
Vehicle Extension (s)	2.5	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	679	1273			432	356		150	139			
v/s Ratio Prot	c0.36	0.24			c0.16							
v/s Ratio Perm						0.04		0.02	0.00			
v/c Ratio	0.85	0.32			0.64	0.16		0.17	0.02			
Uniform Delay, d1	13.5	2.1			16.9	14.8		21.3	21.0			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	10.0	0.2			3.4	0.3		0.4	0.0			
Delay (s)	23.5	2.3			20.4	15.1		21.7	21.0			
Level of Service	C	A			C	B		C	C			
Approach Delay (s)		14.7			18.0			21.4			0.0	
Approach LOS		B			B			C			A	
Intersection Summary												
HCM 2000 Control Delay			16.0				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			51.1				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			68.2%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

14: Ashland St & I-5 NB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	550	388	0	0	261	218	25	0	22	0	0	0
Future Volume (veh/h)	550	388	0	0	261	218	25	0	22	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1723	1709	0	0	1709	1668	1695	1750	1750			
Adj Flow Rate, veh/h	579	408	0	0	275	229	26	0	23			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	3	0	0	3	6	4	0	0			
Cap, veh/h	673	1261	0	0	412	341	151	0	134			
Arrive On Green	0.41	0.74	0.00	0.00	0.24	0.24	0.06	0.00	0.09			
Sat Flow, veh/h	1641	1709	0	0	1709	1414	1667	0	1483			
Grp Volume(v), veh/h	579	408	0	0	275	229	26	0	23			
Grp Sat Flow(s),veh/h/ln	1641	1709	0	0	1709	1414	1667	0	1483			
Q Serve(g_s), s	15.0	3.8	0.0	0.0	6.8	6.8	0.7	0.0	0.7			
Cycle Q Clear(g_c), s	15.0	3.8	0.0	0.0	6.8	6.8	0.7	0.0	0.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	673	1261	0	0	412	341	151	0	134			
V/C Ratio(X)	0.86	0.32	0.00	0.00	0.67	0.67	0.17	0.00	0.17			
Avail Cap(c_a), veh/h	881	1557	0	0	492	407	344	0	306			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.5	2.1	0.0	0.0	16.0	16.0	20.2	0.0	19.6			
Incr Delay (d2), s/veh	6.3	0.2	0.0	0.0	3.3	4.1	0.4	0.0	0.4			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.2	0.2	0.0	0.0	2.6	2.2	0.2	0.0	0.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	2.3	0.0	0.0	19.3	20.1	20.6	0.0	20.0			
LnGrp LOS	B	A	A	A	B	C	C	A	B			
Approach Vol, veh/h	987				504				49			
Approach Delay, s/veh	12.0				19.7				20.3			
Approach LOS	B				B				C			
Timer - Assigned Phs	2			4			7			8		
Phs Duration (G+Y+Rc), s	8.2			38.3			23.1			15.2		
Change Period (Y+Rc), s	* 5.4			4.5			4.5			4.5		
Max Green Setting (Gmax), s	* 8.2			41.9			24.5			12.9		
Max Q Clear Time (g_c+I1), s	2.7			5.8			17.0			8.8		
Green Ext Time (p_c), s	0.1			7.3			1.7			1.9		
Intersection Summary												
HCM 6th Ctrl Delay	14.8											
HCM 6th LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

19: Tolman Creek Rd & Ashland St

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	517	41	178	401	44	55	107	149	77	105	36
Future Volume (vph)	87	517	41	178	401	44	55	107	149	77	105	36
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.91		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3258		1662	3247		1662	1581		1614	1658	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1662	3258		1662	3247		1662	1581		1614	1658	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	94	556	44	191	431	47	59	115	160	83	113	39
RTOR Reduction (vph)	0	9	0	0	12	0	0	86	0	0	21	0
Lane Group Flow (vph)	94	591	0	191	466	0	59	189	0	83	131	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	1%	3%	2%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.3	14.8		8.5	19.0		4.1	10.0		4.4	10.3	
Effective Green, g (s)	4.8	15.3		9.0	19.5		4.1	10.0		4.4	10.3	
Actuated g/C Ratio	0.09	0.28		0.16	0.36		0.07	0.18		0.08	0.19	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	145	911		273	1157		124	289		129	312	
v/s Ratio Prot	0.06	c0.18		c0.11	0.14		0.04	c0.12		c0.05	0.08	
v/s Ratio Perm												
v/c Ratio	0.65	0.65		0.70	0.40		0.48	0.65		0.64	0.42	
Uniform Delay, d1	24.1	17.3		21.6	13.2		24.3	20.7		24.4	19.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.5	1.8		7.0	0.3		2.1	4.7		9.3	0.7	
Delay (s)	32.6	19.1		28.6	13.5		26.4	25.4		33.7	20.2	
Level of Service	C	B		C	B		C	C		C	C	
Approach Delay (s)		21.0			17.8			25.6			25.0	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			21.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			54.7			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			61.6%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary 19: Tolman Creek Rd & Ashland St

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	517	41	178	401	44	55	107	149	77	105	36
Future Volume (veh/h)	87	517	41	178	401	44	55	107	149	77	105	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1750	1736	1750	1750	1736	1750	1750	1736	1736	1709	1723	1750
Adj Flow Rate, veh/h	94	556	44	191	431	47	59	115	160	83	113	39
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	0	0	1	0	0	1	1	3	2	0
Cap, veh/h	134	774	61	251	961	104	75	140	194	102	282	97
Arrive On Green	0.08	0.25	0.24	0.15	0.32	0.31	0.04	0.21	0.21	0.06	0.23	0.23
Sat Flow, veh/h	1667	3097	245	1667	3002	326	1667	657	914	1628	1224	422
Grp Volume(v), veh/h	94	296	304	191	236	242	59	0	275	83	0	152
Grp Sat Flow(s),veh/h/ln	1667	1650	1692	1667	1650	1678	1667	0	1572	1628	0	1647
Q Serve(g_s), s	2.7	8.1	8.1	5.4	5.6	5.7	1.7	0.0	8.3	2.5	0.0	3.9
Cycle Q Clear(g_c), s	2.7	8.1	8.1	5.4	5.6	5.7	1.7	0.0	8.3	2.5	0.0	3.9
Prop In Lane	1.00		0.14	1.00		0.19	1.00		0.58	1.00		0.26
Lane Grp Cap(c), veh/h	134	412	423	251	528	537	75	0	334	102	0	380
V/C Ratio(X)	0.70	0.72	0.72	0.76	0.45	0.45	0.79	0.00	0.82	0.81	0.00	0.40
Avail Cap(c_a), veh/h	304	451	462	304	528	537	304	0	398	296	0	417
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.1	16.9	17.0	20.1	13.3	13.4	23.4	0.0	18.6	22.9	0.0	16.1
Incr Delay (d2), s/veh	4.9	5.6	5.5	7.9	0.8	0.8	12.6	0.0	10.6	10.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.2	3.3	2.4	1.8	1.9	0.9	0.0	3.7	1.2	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	22.5	22.5	28.1	14.2	14.2	36.0	0.0	29.2	33.6	0.0	16.6
LnGrp LOS	C	C	C	C	B	B	D	A	C	C	A	B
Approach Vol, veh/h	694			669			334			235		
Approach Delay, s/veh	23.1			18.2			30.4			22.6		
Approach LOS	C			B			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	14.5	11.5	16.3	6.2	15.4	8.0	19.8				
Change Period (Y+Rc), s	4.0	4.0	4.5	4.5	4.0	4.0	4.5	4.5				
Max Green Setting (Gmax), s	9.0	12.5	8.5	13.0	9.0	12.5	8.5	13.0				
Max Q Clear Time (g_c+I1), s	4.5	10.3	7.4	10.1	3.7	5.9	4.7	7.7				
Green Ext Time (p_c), s	0.1	0.3	0.1	1.7	0.1	0.3	0.1	2.4				
Intersection Summary												
HCM 6th Ctrl Delay	22.6											
HCM 6th LOS	C											
Notes												

HCM Signalized Intersection Capacity Analysis

43: Siskiyou Blvd & Ashland St

06/27/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗↘	↖↗		↗↘	↖
Traffic Volume (vph)	0	402	498	8	324	403
Future Volume (vph)	0	402	498	8	324	403
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	1.00		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2567	3285		3225	1716
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2567	3285		3225	1716
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	447	553	9	360	448
RTOR Reduction (vph)	0	373	3	0	0	0
Lane Group Flow (vph)	0	74	559	0	360	448
Heavy Vehicles (%)	0%	2%	1%	0%	0%	2%
Turn Type		Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases		8				
Actuated Green, G (s)		6.0	10.0		8.1	22.1
Effective Green, g (s)		6.0	10.0		8.1	22.1
Actuated g/C Ratio		0.17	0.28		0.22	0.61
Clearance Time (s)		4.0	4.0		4.0	4.0
Vehicle Extension (s)		2.5	4.0		2.5	4.0
Lane Grp Cap (vph)		426	909		723	1050
v/s Ratio Prot			c0.17		0.11	c0.26
v/s Ratio Perm		c0.03				
v/c Ratio		0.17	0.62		0.50	0.43
Uniform Delay, d1		12.9	11.4		12.2	3.7
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	1.4		0.4	0.4
Delay (s)		13.1	12.8		12.6	4.1
Level of Service		B	B		B	A
Approach Delay (s)	13.1		12.8			7.9
Approach LOS	B		B			A
Intersection Summary						
HCM 2000 Control Delay			10.7		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.47			
Actuated Cycle Length (s)			36.1		Sum of lost time (s)	12.0
Intersection Capacity Utilization			37.2%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Edition methodology does not support Non-NEMA phasing.

Intersection

Int Delay, s/veh 1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	12	1	3	0	0	31	4	233	4	12	241	12
Future Vol, veh/h	12	1	3	0	0	31	4	233	4	12	241	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	33	0	0	0	0	1	50	0	2	0
Mvmt Flow	13	1	3	0	0	33	4	251	4	13	259	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	570	555	266	555	559	253	272	0	0	255	0	0
Stage 1	292	292	-	261	261	-	-	-	-	-	-	-
Stage 2	278	263	-	294	298	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.53	7.1	6.5	6.2	4.1	-	-	4.1	-	-
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	3.597	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	435	443	703	445	440	791	1303	-	-	1322	-	-
Stage 1	720	675	-	748	696	-	-	-	-	-	-	-
Stage 2	733	694	-	719	671	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	412	436	703	437	433	791	1303	-	-	1322	-	-
Mov Cap-2 Maneuver	412	436	-	437	433	-	-	-	-	-	-	-
Stage 1	717	667	-	745	693	-	-	-	-	-	-	-
Stage 2	699	691	-	706	663	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	13.4			9.8			0.1			0.4		
HCM LOS	B			A								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1303	-	-	448	791	1322	-
HCM Lane V/C Ratio	0.003	-	-	0.038	0.042	0.01	-
HCM Control Delay (s)	7.8	0	-	13.4	9.8	7.8	0
HCM Lane LOS	A	A	-	B	A	A	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

HCM 6th TWSC
59: Siskiyou Blvd & Tolman Creek Rd

06/27/2024

Intersection												
Int Delay, s/veh	8.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	110	104	38	6	113	33	30	43	2	42	43	140
Future Vol, veh/h	110	104	38	6	113	33	30	43	2	42	43	140
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	2	0	0	3	3	0	10	0	0	5	1
Mvmt Flow	121	114	42	7	124	36	33	47	2	46	47	154
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	160	0	0	156	0	0	634	551	135	558	554	142
Stage 1	-	-	-	-	-	-	377	377	-	156	156	-
Stage 2	-	-	-	-	-	-	257	174	-	402	398	-
Critical Hdwy	4.13	-	-	4.1	-	-	7.1	6.6	6.2	7.1	6.55	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.6	-	6.1	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.6	-	6.1	5.55	-
Follow-up Hdwy	2.227	-	-	2.2	-	-	3.5	4.09	3.3	3.5	4.045	3.309
Pot Cap-1 Maneuver	1413	-	-	1436	-	-	395	431	919	443	436	908
Stage 1	-	-	-	-	-	-	649	602	-	851	763	-
Stage 2	-	-	-	-	-	-	752	740	-	629	598	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1413	-	-	1436	-	-	276	388	919	371	393	908
Mov Cap-2 Maneuver	-	-	-	-	-	-	276	388	-	371	393	-
Stage 1	-	-	-	-	-	-	588	545	-	771	759	-
Stage 2	-	-	-	-	-	-	583	736	-	519	542	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.4			0.3			19.1			15.2		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	338	1413	-	-	1436	-	-	597				
HCM Lane V/C Ratio	0.244	0.086	-	-	0.005	-	-	0.414				
HCM Control Delay (s)	19.1	7.8	0	-	7.5	0	-	15.2				
HCM Lane LOS	C	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.9	0.3	-	-	0	-	-	2				

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	128	115	0	4	11
Future Vol, veh/h	4	128	115	0	4	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	2	4	0	0	0
Mvmt Flow	5	154	139	0	5	13

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	139	0	0 303 139
Stage 1	-	-	- 139 -
Stage 2	-	-	- 164 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1457	-	- 693 915
Stage 1	-	-	- 893 -
Stage 2	-	-	- 870 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1457	-	- 690 915
Mov Cap-2 Maneuver	-	-	- 690 -
Stage 1	-	-	- 889 -
Stage 2	-	-	- 870 -

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1457	-	-	-	842
HCM Lane V/C Ratio	0.003	-	-	-	0.021
HCM Control Delay (s)	7.5	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Signalized Intersection Capacity Analysis

11: Ashland St & I-5 SB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	791	44	17	248	0	0	0	0	140	1	413
Future Volume (vph)	0	791	44	17	248	0	0	0	0	140	1	413
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0						4.9	4.9
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1716	1377	1385	1716						1559	1458
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1716	1377	1385	1716						1559	1458
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	833	46	18	261	0	0	0	0	147	1	435
RTOR Reduction (vph)	0	0	20	0	0	0	0	0	0	0	0	356
Lane Group Flow (vph)	0	833	26	18	261	0	0	0	0	0	148	79
Heavy Vehicles (%)	0%	2%	8%	20%	2%	0%	0%	0%	0%	7%	0%	2%
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		4		3	8						6	
Permitted Phases			4							6		6
Actuated Green, G (s)		33.5	33.5	1.1	39.1						10.2	10.2
Effective Green, g (s)		34.0	34.0	1.6	39.6						10.7	10.7
Actuated g/C Ratio		0.57	0.57	0.03	0.67						0.18	0.18
Clearance Time (s)		4.5	4.5	4.5	4.5						5.4	5.4
Vehicle Extension (s)		4.0	4.0	2.5	4.0						2.5	2.5
Lane Grp Cap (vph)		985	790	37	1147						281	263
v/s Ratio Prot		c0.49		c0.01	0.15							
v/s Ratio Perm			0.02								0.09	0.05
v/c Ratio		0.85	0.03	0.49	0.23						0.53	0.30
Uniform Delay, d1		10.4	5.5	28.4	3.8						22.0	21.0
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		7.1	0.0	7.2	0.1						1.4	0.5
Delay (s)		17.5	5.5	35.5	4.0						23.3	21.5
Level of Service		B	A	D	A						C	C
Approach Delay (s)		16.9			6.0			0.0			21.9	
Approach LOS		B			A			A			C	
Intersection Summary												
HCM 2000 Control Delay			16.8			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.76									
Actuated Cycle Length (s)			59.2			Sum of lost time (s)				12.9		
Intersection Capacity Utilization			67.8%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

11: Ashland St & I-5 SB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	791	44	17	248	0	0	0	0	140	1	413
Future Volume (veh/h)	0	791	44	17	248	0	0	0	0	140	1	413
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1723	1641	1477	1723	0				1654	1750	1723
Adj Flow Rate, veh/h	0	833	46	18	261	0				147	1	435
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	8	20	2	0				7	0	2
Cap, veh/h	0	976	788	35	1127	0				341	2	301
Arrive On Green	0.00	0.57	0.57	0.02	0.65	0.00				0.20	0.21	0.21
Sat Flow, veh/h	0	1723	1391	1407	1723	0				1656	11	1460
Grp Volume(v), veh/h	0	833	46	18	261	0				148	0	435
Grp Sat Flow(s),veh/h/ln	0	1723	1391	1407	1723	0				1667	0	1460
Q Serve(g_s), s	0.0	25.8	0.9	0.8	3.9	0.0				5.0	0.0	13.1
Cycle Q Clear(g_c), s	0.0	25.8	0.9	0.8	3.9	0.0				5.0	0.0	13.1
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	976	788	35	1127	0				343	0	301
V/C Ratio(X)	0.00	0.85	0.06	0.51	0.23	0.00				0.43	0.00	1.45
Avail Cap(c_a), veh/h	0	1218	983	199	1570	0				343	0	301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	11.6	6.2	30.6	4.5	0.0				22.3	0.0	25.3
Incr Delay (d2), s/veh	0.0	5.6	0.0	8.3	0.1	0.0				0.6	0.0	219.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.8	0.2	0.3	1.0	0.0				1.8	0.0	22.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	17.2	6.2	38.9	4.6	0.0				22.9	0.0	244.5
LnGrp LOS	A	B	A	D	A	A				C	A	F
Approach Vol, veh/h		879			279						583	
Approach Delay, s/veh		16.6			6.8						188.2	
Approach LOS		B			A						F	
Timer - Assigned Phs			3	4		6			8			
Phs Duration (G+Y+Rc), s			5.6	40.1		18.0			45.6			
Change Period (Y+Rc), s			4.5	4.5		5.4			4.5			
Max Green Setting (Gmax), s			8.5	44.5		12.6			57.5			
Max Q Clear Time (g_c+I1), s			2.8	27.8		15.1			5.9			
Green Ext Time (p_c), s			0.0	7.7		0.0			2.4			
Intersection Summary												
HCM 6th Ctrl Delay			72.5									
HCM 6th LOS			E									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM Signalized Intersection Capacity Analysis

14: Ashland St & I-5 NB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	567	364	0	0	239	227	26	0	24	0	0	0
Future Volume (vph)	567	364	0	0	239	227	26	0	24	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1630	1699			1699	1403		1599	1488			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1630	1699			1699	1403		1599	1488			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	597	383	0	0	252	239	27	0	25	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	180	0	0	23	0	0	0
Lane Group Flow (vph)	597	383	0	0	252	59	0	27	2	0	0	0
Heavy Vehicles (%)	2%	3%	0%	0%	3%	6%	4%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases						8	2		2			
Actuated Green, G (s)	21.3	37.9			12.1	12.1		3.4	3.4			
Effective Green, g (s)	21.8	38.4			12.6	12.6		4.8	4.8			
Actuated g/C Ratio	0.43	0.75			0.25	0.25		0.09	0.09			
Clearance Time (s)	4.5	4.5			4.5	4.5		5.4	5.4			
Vehicle Extension (s)	2.5	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	694	1274			418	345		149	139			
v/s Ratio Prot	c0.37	0.23			c0.15							
v/s Ratio Perm						0.04		0.02	0.00			
v/c Ratio	0.86	0.30			0.60	0.17		0.18	0.02			
Uniform Delay, d1	13.3	2.1			17.1	15.2		21.4	21.1			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	10.5	0.2			2.8	0.3		0.4	0.0			
Delay (s)	23.8	2.2			19.9	15.5		21.8	21.1			
Level of Service	C	A			B	B		C	C			
Approach Delay (s)		15.4			17.8			21.5			0.0	
Approach LOS		B			B			C			A	
Intersection Summary												
HCM 2000 Control Delay			16.4				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			51.2				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			67.8%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

14: Ashland St & I-5 NB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	567	364	0	0	239	227	26	0	24	0	0	0
Future Volume (veh/h)	567	364	0	0	239	227	26	0	24	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1723	1709	0	0	1709	1668	1695	1750	1750			
Adj Flow Rate, veh/h	597	383	0	0	252	239	27	0	25			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	3	0	0	3	6	4	0	0			
Cap, veh/h	691	1263	0	0	399	330	154	0	137			
Arrive On Green	0.42	0.74	0.00	0.00	0.23	0.23	0.06	0.00	0.09			
Sat Flow, veh/h	1641	1709	0	0	1709	1414	1667	0	1483			
Grp Volume(v), veh/h	597	383	0	0	252	239	27	0	25			
Grp Sat Flow(s),veh/h/ln	1641	1709	0	0	1709	1414	1667	0	1483			
Q Serve(g_s), s	15.7	3.6	0.0	0.0	6.3	7.4	0.7	0.0	0.7			
Cycle Q Clear(g_c), s	15.7	3.6	0.0	0.0	6.3	7.4	0.7	0.0	0.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	691	1263	0	0	399	330	154	0	137			
V/C Ratio(X)	0.86	0.30	0.00	0.00	0.63	0.72	0.18	0.00	0.18			
Avail Cap(c_a), veh/h	900	1529	0	0	447	370	338	0	300			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.5	2.1	0.0	0.0	16.3	16.8	20.5	0.0	19.9			
Incr Delay (d2), s/veh	6.5	0.2	0.0	0.0	3.0	6.9	0.4	0.0	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.5	0.2	0.0	0.0	2.4	2.6	0.3	0.0	0.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	2.3	0.0	0.0	19.3	23.6	20.9	0.0	20.3			
LnGrp LOS	B	A	A	A	B	C	C	A	C			
Approach Vol, veh/h	980				491				52			
Approach Delay, s/veh	12.5				21.4				20.6			
Approach LOS	B				C				C			
Timer - Assigned Phs	2			4			7		8			
Phs Duration (G+Y+Rc), s	8.4			39.0			24.0		15.1			
Change Period (Y+Rc), s	* 5.4			4.5			4.5		4.5			
Max Green Setting (Gmax), s	* 8.2			41.9			25.5		11.9			
Max Q Clear Time (g_c+I1), s	2.7			5.6			17.7		9.4			
Green Ext Time (p_c), s	0.1			6.8			1.8		1.2			
Intersection Summary												
HCM 6th Ctrl Delay	15.6											
HCM 6th LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

19: Tolman Creek Rd & Ashland St

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	512	40	167	395	42	59	114	154	77	106	38
Future Volume (vph)	88	512	40	167	395	42	59	114	154	77	106	38
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.91		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3259		1662	3248		1662	1583		1614	1656	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1662	3259		1662	3248		1662	1583		1614	1656	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	95	551	43	180	425	45	63	123	166	83	114	41
RTOR Reduction (vph)	0	9	0	0	12	0	0	81	0	0	21	0
Lane Group Flow (vph)	95	585	0	180	458	0	63	208	0	83	134	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	1%	3%	2%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.1	14.2		6.2	16.3		4.0	10.6		4.3	10.9	
Effective Green, g (s)	4.6	14.7		6.7	16.8		4.0	10.6		4.3	10.9	
Actuated g/C Ratio	0.09	0.28		0.13	0.32		0.08	0.20		0.08	0.21	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	146	916		212	1043		127	320		132	345	
v/s Ratio Prot	0.06	c0.18		c0.11	0.14		0.04	c0.13		c0.05	0.08	
v/s Ratio Perm												
v/c Ratio	0.65	0.64		0.85	0.44		0.50	0.65		0.63	0.39	
Uniform Delay, d1	23.1	16.5		22.3	14.0		23.2	19.1		23.2	17.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.9	1.7		25.4	0.4		2.2	4.0		7.9	0.5	
Delay (s)	32.0	18.1		47.7	14.4		25.4	23.1		31.1	18.4	
Level of Service	C	B		D	B		C	C		C	B	
Approach Delay (s)		20.0			23.7			23.5			22.8	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			22.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			52.3			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			61.5%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary 19: Tolman Creek Rd & Ashland St

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	512	40	167	395	42	59	114	154	77	106	38
Future Volume (veh/h)	88	512	40	167	395	42	59	114	154	77	106	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1750	1736	1750	1750	1736	1750	1750	1736	1736	1709	1723	1750
Adj Flow Rate, veh/h	95	551	43	180	425	45	63	123	166	83	114	41
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	0	0	1	0	0	1	1	3	2	0
Cap, veh/h	135	774	60	239	940	99	78	148	199	102	286	103
Arrive On Green	0.08	0.25	0.24	0.14	0.31	0.30	0.05	0.22	0.22	0.06	0.24	0.24
Sat Flow, veh/h	1667	3101	242	1667	3011	317	1667	670	904	1628	1209	435
Grp Volume(v), veh/h	95	293	301	180	232	238	63	0	289	83	0	155
Grp Sat Flow(s),veh/h/ln	1667	1650	1693	1667	1650	1679	1667	0	1574	1628	0	1644
Q Serve(g_s), s	2.7	8.0	8.0	5.1	5.6	5.6	1.9	0.0	8.7	2.5	0.0	3.9
Cycle Q Clear(g_c), s	2.7	8.0	8.0	5.1	5.6	5.6	1.9	0.0	8.7	2.5	0.0	3.9
Prop In Lane	1.00		0.14	1.00		0.19	1.00		0.57	1.00		0.26
Lane Grp Cap(c), veh/h	135	412	423	239	515	524	78	0	347	102	0	389
V/C Ratio(X)	0.70	0.71	0.71	0.75	0.45	0.45	0.81	0.00	0.83	0.81	0.00	0.40
Avail Cap(c_a), veh/h	303	454	466	303	515	524	303	0	395	296	0	412
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.1	16.9	17.0	20.3	13.6	13.7	23.3	0.0	18.4	22.9	0.0	15.9
Incr Delay (d2), s/veh	4.8	5.2	5.2	6.8	0.9	0.9	13.4	0.0	12.3	10.7	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.2	3.3	2.2	1.8	1.9	1.0	0.0	4.0	1.2	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	22.2	22.2	27.1	14.5	14.6	36.7	0.0	30.7	33.6	0.0	16.4
LnGrp LOS	C	C	C	C	B	B	D	A	C	C	A	B
Approach Vol, veh/h	689			650				352			238	
Approach Delay, s/veh	22.8			18.0				31.8			22.4	
Approach LOS	C			B				C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	14.9	11.1	16.3	6.3	15.7	8.0	19.4				
Change Period (Y+Rc), s	4.0	4.0	4.5	4.5	4.0	4.0	4.5	4.5				
Max Green Setting (Gmax), s	9.0	12.4	8.5	13.1	9.0	12.4	8.5	13.1				
Max Q Clear Time (g_c+I1), s	4.5	10.7	7.1	10.0	3.9	5.9	4.7	7.6				
Green Ext Time (p_c), s	0.1	0.2	0.1	1.8	0.1	0.3	0.1	2.5				
Intersection Summary												
HCM 6th Ctrl Delay	22.8											
HCM 6th LOS	C											
Notes												

HCM Signalized Intersection Capacity Analysis

43: Siskiyou Blvd & Ashland St

06/27/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↔↔		↔↔	↔
Traffic Volume (vph)	0	410	484	8	318	404
Future Volume (vph)	0	410	484	8	318	404
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	1.00		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2567	3284		3225	1716
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2567	3284		3225	1716
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	456	538	9	353	449
RTOR Reduction (vph)	0	380	3	0	0	0
Lane Group Flow (vph)	0	76	544	0	353	449
Heavy Vehicles (%)	0%	2%	1%	0%	0%	2%
Turn Type		Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases		8				
Actuated Green, G (s)		6.0	10.0		8.1	22.1
Effective Green, g (s)		6.0	10.0		8.1	22.1
Actuated g/C Ratio		0.17	0.28		0.22	0.61
Clearance Time (s)		4.0	4.0		4.0	4.0
Vehicle Extension (s)		2.5	4.0		2.5	4.0
Lane Grp Cap (vph)		426	909		723	1050
v/s Ratio Prot			c0.17		0.11	c0.26
v/s Ratio Perm		c0.03				
v/c Ratio		0.18	0.60		0.49	0.43
Uniform Delay, d1		12.9	11.3		12.2	3.7
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	1.2		0.4	0.4
Delay (s)		13.1	12.6		12.6	4.1
Level of Service		B	B		B	A
Approach Delay (s)	13.1		12.6			7.8
Approach LOS	B		B			A
Intersection Summary						
HCM 2000 Control Delay			10.6		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.46			
Actuated Cycle Length (s)			36.1		Sum of lost time (s)	12.0
Intersection Capacity Utilization			37.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Edition methodology does not support Non-NEMA phasing.

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	1	3	0	0	31	3	231	4	12	234	11
Future Vol, veh/h	11	1	3	0	0	31	3	231	4	12	234	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	33	0	0	0	0	1	50	0	2	0
Mvmt Flow	12	1	3	0	0	33	3	248	4	13	252	12
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	557	542	258	542	546	250	264	0	0	252	0	0
Stage 1	284	284	-	256	256	-	-	-	-	-	-	-
Stage 2	273	258	-	286	290	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.53	7.1	6.5	6.2	4.1	-	-	4.1	-	-
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	3.597	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	444	450	711	454	448	794	1312	-	-	1325	-	-
Stage 1	727	680	-	753	699	-	-	-	-	-	-	-
Stage 2	737	698	-	726	676	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	420	443	711	446	441	794	1312	-	-	1325	-	-
Mov Cap-2 Maneuver	420	443	-	446	441	-	-	-	-	-	-	-
Stage 1	725	672	-	751	697	-	-	-	-	-	-	-
Stage 2	704	696	-	713	668	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	13.1		9.7			0.1			0.4			
HCM LOS	B		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1312	-	-	459	794	1325	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.035	0.042	0.01	-	-				
HCM Control Delay (s)	7.8	0	-	13.1	9.7	7.7	0	-				
HCM Lane LOS	A	A	-	B	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Intersection												
Int Delay, s/veh	7.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	104	105	39	6	119	33	29	41	2	41	43	134
Future Vol, veh/h	104	105	39	6	119	33	29	41	2	41	43	134
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	2	0	0	3	3	0	10	0	0	5	1
Mvmt Flow	114	115	43	7	131	36	32	45	2	45	47	147
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	167	0	0	158	0	0	625	546	137	551	549	149
Stage 1	-	-	-	-	-	-	365	365	-	163	163	-
Stage 2	-	-	-	-	-	-	260	181	-	388	386	-
Critical Hdwy	4.13	-	-	4.1	-	-	7.1	6.6	6.2	7.1	6.55	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.6	-	6.1	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.6	-	6.1	5.55	-
Follow-up Hdwy	2.227	-	-	2.2	-	-	3.5	4.09	3.3	3.5	4.045	3.309
Pot Cap-1 Maneuver	1405	-	-	1434	-	-	400	434	917	448	439	900
Stage 1	-	-	-	-	-	-	658	609	-	844	758	-
Stage 2	-	-	-	-	-	-	749	735	-	640	605	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1405	-	-	1434	-	-	283	393	917	379	398	900
Mov Cap-2 Maneuver	-	-	-	-	-	-	283	393	-	379	398	-
Stage 1	-	-	-	-	-	-	599	555	-	769	754	-
Stage 2	-	-	-	-	-	-	584	731	-	534	551	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.3			0.3			18.5			15		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	345	1405	-	-	1434	-	-	597				
HCM Lane V/C Ratio	0.229	0.081	-	-	0.005	-	-	0.401				
HCM Control Delay (s)	18.5	7.8	0	-	7.5	0	-	15				
HCM Lane LOS	C	A	A	-	A	A	-	C				
HCM 95th %tile Q(veh)	0.9	0.3	-	-	0	-	-	1.9				

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	128	119	0	3	11
Future Vol, veh/h	4	128	119	0	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	2	4	0	0	0
Mvmt Flow	5	154	143	0	4	13

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	143	0	0 307 143
Stage 1	-	-	- 143 -
Stage 2	-	-	- 164 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1452	-	- 689 910
Stage 1	-	-	- 889 -
Stage 2	-	-	- 870 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1452	-	- 686 910
Mov Cap-2 Maneuver	-	-	- 686 -
Stage 1	-	-	- 885 -
Stage 2	-	-	- 870 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1452	-	-	-	850
HCM Lane V/C Ratio	0.003	-	-	-	0.02
HCM Control Delay (s)	7.5	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th TWSC
1: Siskiyou Blvd & Site Access

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Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	142	131	119	27	22	118
Future Vol, veh/h	142	131	119	27	22	118
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	2	4	0	0	0
Mvmt Flow	171	158	143	33	27	142

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	176	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1412	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1412	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1412	-	-	-	374	890
HCM Lane V/C Ratio	0.121	-	-	-	0.071	0.16
HCM Control Delay (s)	7.9	0	-	-	15.4	9.8
HCM Lane LOS	A	A	-	-	C	A
HCM 95th %tile Q(veh)	0.4	-	-	-	0.2	0.6

HCM Signalized Intersection Capacity Analysis

11: Ashland St & I-5 SB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	867	44	17	252	0	0	0	0	140	1	471
Future Volume (vph)	0	867	44	17	252	0	0	0	0	140	1	471
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0						4.9	4.9
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1716	1377	1385	1716						1559	1458
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1716	1377	1385	1716						1559	1458
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	913	46	18	265	0	0	0	0	147	1	496
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	0	0	0	410
Lane Group Flow (vph)	0	913	28	18	265	0	0	0	0	0	148	86
Heavy Vehicles (%)	0%	2%	8%	20%	2%	0%	0%	0%	0%	7%	0%	2%
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		4		3	8						6	
Permitted Phases			4							6		6
Actuated Green, G (s)		42.2	42.2	2.3	49.0						11.7	11.7
Effective Green, g (s)		42.7	42.7	2.8	49.5						12.2	12.2
Actuated g/C Ratio		0.60	0.60	0.04	0.70						0.17	0.17
Clearance Time (s)		4.5	4.5	4.5	4.5						5.4	5.4
Vehicle Extension (s)		4.0	4.0	2.5	4.0						2.5	2.5
Lane Grp Cap (vph)		1037	832	54	1203						269	251
v/s Ratio Prot		0.53		0.01	0.15							
v/s Ratio Perm			0.02								0.09	0.06
v/c Ratio		0.88	0.03	0.33	0.22						0.55	0.34
Uniform Delay, d1		11.8	5.6	33.0	3.7						26.7	25.7
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		9.1	0.0	2.6	0.1						1.9	0.6
Delay (s)		20.9	5.6	35.6	3.9						28.6	26.3
Level of Service		C	A	D	A						C	C
Approach Delay (s)		20.2			5.9			0.0			26.8	
Approach LOS		C			A			A			C	
Intersection Summary												
HCM 2000 Control Delay			20.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			70.6			Sum of lost time (s)				12.9		
Intersection Capacity Utilization			72.1%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

11: Ashland St & I-5 SB Ramps

08/16/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑						↑	↑
Traffic Volume (veh/h)	0	867	44	17	252	0	0	0	0	140	1	471
Future Volume (veh/h)	0	867	44	17	252	0	0	0	0	140	1	471
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1723	1641	1477	1723	0				1654	1750	1723
Adj Flow Rate, veh/h	0	913	46	18	265	0				147	1	496
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	8	20	2	0				7	0	2
Cap, veh/h	0	1025	827	33	1156	0				351	2	309
Arrive On Green	0.00	0.60	0.60	0.02	0.67	0.00				0.21	0.21	0.21
Sat Flow, veh/h	0	1723	1391	1407	1723	0				1656	11	1460
Grp Volume(v), veh/h	0	913	46	18	265	0				148	0	496
Grp Sat Flow(s),veh/h/ln	0	1723	1391	1407	1723	0				1667	0	1460
Q Serve(g_s), s	0.0	34.7	1.1	1.0	4.5	0.0				5.9	0.0	16.1
Cycle Q Clear(g_c), s	0.0	34.7	1.1	1.0	4.5	0.0				5.9	0.0	16.1
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1025	827	33	1156	0				353	0	309
V/C Ratio(X)	0.00	0.89	0.06	0.55	0.23	0.00				0.42	0.00	1.60
Avail Cap(c_a), veh/h	0	1179	952	167	1474	0				353	0	309
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.3	6.4	36.7	4.9	0.0				26.1	0.0	29.9
Incr Delay (d2), s/veh	0.0	8.4	0.0	10.3	0.1	0.0				0.6	0.0	286.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.0	0.3	0.4	1.3	0.0				2.2	0.0	29.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	21.7	6.5	47.0	5.0	0.0				26.7	0.0	315.9
LnGrp LOS	A	C	A	D	A	A				C	A	F
Approach Vol, veh/h		959			283						644	
Approach Delay, s/veh		20.9			7.7						249.5	
Approach LOS		C			A						F	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.8	49.2		21.0		55.0				
Change Period (Y+Rc), s			4.5	4.5		5.4		4.5				
Max Green Setting (Gmax), s			8.5	51.5		15.6		64.5				
Max Q Clear Time (g_c+I1), s			3.0	36.7		18.1		6.5				
Green Ext Time (p_c), s			0.0	8.0		0.0		2.4				
Intersection Summary												
HCM 6th Ctrl Delay			97.0									
HCM 6th LOS			F									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM Signalized Intersection Capacity Analysis

14: Ashland St & I-5 NB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	632	375	0	0	243	227	26	0	24	0	0	0
Future Volume (vph)	632	375	0	0	243	227	26	0	24	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1630	1699			1699	1403		1599	1488			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1630	1699			1699	1403		1599	1488			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	665	395	0	0	256	239	27	0	25	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	183	0	0	23	0	0	0
Lane Group Flow (vph)	665	395	0	0	256	56	0	27	2	0	0	0
Heavy Vehicles (%)	2%	3%	0%	0%	3%	6%	4%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases						8	2		2			
Actuated Green, G (s)	25.1	42.0			12.4	12.4		3.4	3.4			
Effective Green, g (s)	25.6	42.5			12.9	12.9		4.8	4.8			
Actuated g/C Ratio	0.46	0.77			0.23	0.23		0.09	0.09			
Clearance Time (s)	4.5	4.5			4.5	4.5		5.4	5.4			
Vehicle Extension (s)	2.5	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	754	1305			396	327		138	129			
v/s Ratio Prot	c0.41	0.23			c0.15							
v/s Ratio Perm						0.04		0.02	0.00			
v/c Ratio	0.88	0.30			0.65	0.17		0.20	0.02			
Uniform Delay, d1	13.5	1.9			19.1	16.9		23.5	23.1			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	11.7	0.2			4.0	0.3		0.5	0.0			
Delay (s)	25.2	2.1			23.2	17.3		24.0	23.1			
Level of Service	C	A			C	B		C	C			
Approach Delay (s)		16.6			20.3			23.6			0.0	
Approach LOS		B			C			C			A	
Intersection Summary												
HCM 2000 Control Delay			18.0				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			55.3				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			72.1%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

14: Ashland St & I-5 NB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	632	375	0	0	243	227	26	0	24	0	0	0
Future Volume (veh/h)	632	375	0	0	243	227	26	0	24	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1723	1709	0	0	1709	1668	1695	1750	1750			
Adj Flow Rate, veh/h	665	395	0	0	256	239	27	0	25			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	3	0	0	3	6	4	0	0			
Cap, veh/h	750	1298	0	0	386	319	146	0	130			
Arrive On Green	0.46	0.76	0.00	0.00	0.23	0.23	0.06	0.00	0.09			
Sat Flow, veh/h	1641	1709	0	0	1709	1414	1667	0	1483			
Grp Volume(v), veh/h	665	395	0	0	256	239	27	0	25			
Grp Sat Flow(s),veh/h/ln	1641	1709	0	0	1709	1414	1667	0	1483			
Q Serve(g_s), s	19.4	3.8	0.0	0.0	7.1	8.2	0.8	0.0	0.8			
Cycle Q Clear(g_c), s	19.4	3.8	0.0	0.0	7.1	8.2	0.8	0.0	0.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	750	1298	0	0	386	319	146	0	130			
V/C Ratio(X)	0.89	0.30	0.00	0.00	0.66	0.75	0.19	0.00	0.19			
Avail Cap(c_a), veh/h	940	1534	0	0	424	351	318	0	283			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	13.0	2.0	0.0	0.0	18.4	18.9	22.8	0.0	22.2			
Incr Delay (d2), s/veh	8.2	0.2	0.0	0.0	4.0	8.7	0.4	0.0	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.1	0.3	0.0	0.0	2.9	3.1	0.3	0.0	0.3			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	2.2	0.0	0.0	22.5	27.6	23.3	0.0	22.7			
LnGrp LOS	C	A	A	A	C	C	C	A	C			
Approach Vol, veh/h	1060			495			52					
Approach Delay, s/veh	14.1			24.9			23.0					
Approach LOS	B			C			C					
Timer - Assigned Phs	2			4			7			8		
Phs Duration (G+Y+Rc), s	8.6			43.8			27.9			15.8		
Change Period (Y+Rc), s	* 5.4			4.5			4.5			4.5		
Max Green Setting (Gmax), s	* 8.6			46.5			29.5			12.5		
Max Q Clear Time (g_c+I1), s	2.8			5.8			21.4			10.2		
Green Ext Time (p_c), s	0.1			7.3			2.1			1.1		

Intersection Summary

HCM 6th Ctrl Delay 17.7

HCM 6th LOS B

Notes

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

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

HCM Signalized Intersection Capacity Analysis

19: Tolman Creek Rd & Ashland St

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	88	512	67	229	395	42	68	117	230	77	124	38
Future Volume (vph)	88	512	67	229	395	42	68	117	230	77	124	38
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.90		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3239		1662	3248		1662	1561		1614	1663	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1662	3239		1662	3248		1662	1561		1614	1663	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	95	551	72	246	425	45	73	126	247	83	133	41
RTOR Reduction (vph)	0	13	0	0	10	0	0	98	0	0	15	0
Lane Group Flow (vph)	95	610	0	246	460	0	73	275	0	83	159	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	1%	3%	2%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.4	17.0		12.7	23.3		5.9	15.2		6.1	15.4	
Effective Green, g (s)	6.9	17.5		13.2	23.8		5.9	15.2		6.1	15.4	
Actuated g/C Ratio	0.10	0.26		0.19	0.35		0.09	0.22		0.09	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	168	833		322	1136		144	348		144	376	
v/s Ratio Prot	0.06	c0.19		c0.15	0.14		0.04	c0.18		c0.05	0.10	
v/s Ratio Perm												
v/c Ratio	0.57	0.73		0.76	0.41		0.51	0.79		0.58	0.42	
Uniform Delay, d1	29.1	23.1		25.9	16.7		29.7	24.9		29.7	22.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.5	3.6		9.9	0.3		2.0	11.2		4.5	0.6	
Delay (s)	32.6	26.7		35.8	17.1		31.7	36.1		34.2	23.0	
Level of Service	C	C		D	B		C	D		C	C	
Approach Delay (s)		27.5			23.5			35.4			26.7	
Approach LOS		C			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			27.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			68.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			71.4%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary 19: Tolman Creek Rd & Ashland St

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	512	67	229	395	42	68	117	230	77	124	38
Future Volume (veh/h)	88	512	67	229	395	42	68	117	230	77	124	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1750	1736	1750	1750	1736	1750	1750	1736	1736	1709	1723	1750
Adj Flow Rate, veh/h	95	551	72	246	425	45	73	126	247	83	133	41
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	0	0	1	0	0	1	1	3	2	0
Cap, veh/h	133	711	93	302	1036	109	92	140	275	104	349	108
Arrive On Green	0.08	0.24	0.23	0.18	0.34	0.34	0.05	0.27	0.27	0.06	0.28	0.28
Sat Flow, veh/h	1667	2935	382	1667	3011	317	1667	524	1027	1628	1263	389
Grp Volume(v), veh/h	95	309	314	246	232	238	73	0	373	83	0	174
Grp Sat Flow(s),veh/h/ln	1667	1650	1668	1667	1650	1679	1667	0	1551	1628	0	1653
Q Serve(g_s), s	3.6	11.4	11.5	9.3	7.0	7.1	2.8	0.0	15.1	3.3	0.0	5.6
Cycle Q Clear(g_c), s	3.6	11.4	11.5	9.3	7.0	7.1	2.8	0.0	15.1	3.3	0.0	5.6
Prop In Lane	1.00		0.23	1.00		0.19	1.00		0.66	1.00		0.24
Lane Grp Cap(c), veh/h	133	400	404	302	567	578	92	0	415	104	0	457
V/C Ratio(X)	0.72	0.77	0.78	0.81	0.41	0.41	0.80	0.00	0.90	0.80	0.00	0.38
Avail Cap(c_a), veh/h	255	429	434	357	567	578	230	0	451	224	0	481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.3	23.1	23.2	25.7	16.4	16.4	30.5	0.0	23.1	30.2	0.0	19.1
Incr Delay (d2), s/veh	5.3	8.6	8.8	11.1	0.7	0.7	11.0	0.0	19.1	10.0	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	5.0	5.1	4.3	2.5	2.6	1.4	0.0	7.4	1.5	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	31.7	32.0	36.7	17.0	17.1	41.5	0.0	42.1	40.1	0.0	19.5
LnGrp LOS	C	C	C	D	B	B	D	A	D	D	A	B
Approach Vol, veh/h	718			716			446			257		
Approach Delay, s/veh	32.2			23.8			42.0			26.2		
Approach LOS	C			C			D			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	21.5	15.8	19.8	7.6	22.1	9.2	26.5				
Change Period (Y+Rc), s	4.0	4.0	4.5	4.5	4.0	4.0	4.5	4.5				
Max Green Setting (Gmax), s	9.0	19.0	13.5	16.5	9.0	19.0	9.5	20.5				
Max Q Clear Time (g_c+I1), s	5.3	17.1	11.3	13.5	4.8	7.6	5.6	9.1				
Green Ext Time (p_c), s	0.1	0.4	0.2	1.8	0.1	0.5	0.1	4.4				
Intersection Summary												
HCM 6th Ctrl Delay			30.7									
HCM 6th LOS			C									
Notes												

HCM Signalized Intersection Capacity Analysis

43: Siskiyou Blvd & Ashland St

08/16/2024

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗↘	↖↗		↗↘	↖
Traffic Volume (vph)	0	410	536	8	318	450
Future Volume (vph)	0	410	536	8	318	450
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	1.00		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2567	3285		3225	1716
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2567	3285		3225	1716
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	456	596	9	353	500
RTOR Reduction (vph)	0	380	2	0	0	0
Lane Group Flow (vph)	0	76	603	0	353	500
Heavy Vehicles (%)	0%	2%	1%	0%	0%	2%
Turn Type		Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases		8				
Actuated Green, G (s)		6.0	10.0		8.1	22.1
Effective Green, g (s)		6.0	10.0		8.1	22.1
Actuated g/C Ratio		0.17	0.28		0.22	0.61
Clearance Time (s)		4.0	4.0		4.0	4.0
Vehicle Extension (s)		2.5	4.0		2.5	4.0
Lane Grp Cap (vph)		426	909		723	1050
v/s Ratio Prot			c0.18		0.11	c0.29
v/s Ratio Perm		c0.03				
v/c Ratio		0.18	0.66		0.49	0.48
Uniform Delay, d1		12.9	11.6		12.2	3.8
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	2.0		0.4	0.5
Delay (s)		13.1	13.6		12.6	4.3
Level of Service		B	B		B	A
Approach Delay (s)	13.1		13.6			7.7
Approach LOS	B		B			A
Intersection Summary						
HCM 2000 Control Delay			10.8		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			36.1		Sum of lost time (s)	12.0
Intersection Capacity Utilization			38.6%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Edition methodology does not support Non-NEMA phasing.

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	1	2	5	0	119	3	231	10	119	234	11
Future Vol, veh/h	11	1	2	5	0	119	3	231	10	119	234	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	33	0	0	0	0	1	50	0	2	0
Mvmt Flow	12	1	2	5	0	128	3	248	11	128	252	12

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	838	779	258	776	780	254	264	0	0	259	0	0
Stage 1	514	514	-	260	260	-	-	-	-	-	-	-
Stage 2	324	265	-	516	520	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.53	7.1	6.5	6.2	4.1	-	-	4.1	-	-
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	3.597	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	288	330	711	317	329	790	1312	-	-	1317	-	-
Stage 1	547	539	-	749	697	-	-	-	-	-	-	-
Stage 2	692	693	-	546	535	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	220	291	711	287	291	790	1312	-	-	1317	-	-
Mov Cap-2 Maneuver	220	291	-	287	291	-	-	-	-	-	-	-
Stage 1	545	478	-	747	695	-	-	-	-	-	-	-
Stage 2	578	691	-	481	474	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	20.4		11		0.1		2.6	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1312	-	-	249	738	1317	-
HCM Lane V/C Ratio	0.002	-	-	0.06	0.181	0.097	-
HCM Control Delay (s)	7.8	0	-	20.4	11	8	0
HCM Lane LOS	A	A	-	C	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0.2	0.7	0.3	-

HCM 6th TWSC
59: Siskiyou Blvd & Tolman Creek Rd

08/16/2024

Intersection												
Int Delay, s/veh	10											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	104	233	39	12	225	39	29	41	2	55	43	134
Future Vol, veh/h	104	233	39	12	225	39	29	41	2	55	43	134
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	2	0	0	3	3	0	10	0	0	5	1
Mvmt Flow	114	256	43	13	247	43	32	45	2	60	47	147
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	290	0	0	299	0	0	898	822	278	824	822	269
Stage 1	-	-	-	-	-	-	506	506	-	295	295	-
Stage 2	-	-	-	-	-	-	392	316	-	529	527	-
Critical Hdwy	4.13	-	-	4.1	-	-	7.1	6.6	6.2	7.1	6.55	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.6	-	6.1	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.6	-	6.1	5.55	-
Follow-up Hdwy	2.227	-	-	2.2	-	-	3.5	4.09	3.3	3.5	4.045	3.309
Pot Cap-1 Maneuver	1266	-	-	1274	-	-	262	300	766	294	306	772
Stage 1	-	-	-	-	-	-	552	527	-	718	664	-
Stage 2	-	-	-	-	-	-	637	641	-	537	523	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1266	-	-	1274	-	-	167	264	766	232	269	772
Mov Cap-2 Maneuver	-	-	-	-	-	-	167	264	-	232	269	-
Stage 1	-	-	-	-	-	-	492	470	-	640	656	-
Stage 2	-	-	-	-	-	-	473	633	-	431	466	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.2			0.3			30.8			27.6		
HCM LOS							D			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	217	1266	-	-	1274	-	-	407				
HCM Lane V/C Ratio	0.365	0.09	-	-	0.01	-	-	0.626				
HCM Control Delay (s)	30.8	8.1	0	-	7.9	0	-	27.6				
HCM Lane LOS	D	A	A	-	A	A	-	D				
HCM 95th %tile Q(veh)	1.6	0.3	-	-	0	-	-	4.1				

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	270	237	0	3	11
Future Vol, veh/h	4	270	237	0	3	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	2	4	0	0	0
Mvmt Flow	5	325	286	0	4	13

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	286	0	0 621 286
Stage 1	-	-	- 286 -
Stage 2	-	-	- 335 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1288	-	- 454 758
Stage 1	-	-	- 767 -
Stage 2	-	-	- 729 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1288	-	- 452 758
Mov Cap-2 Maneuver	-	-	- 452 -
Stage 1	-	-	- 763 -
Stage 2	-	-	- 729 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1288	-	-	-	662
HCM Lane V/C Ratio	0.004	-	-	-	0.025
HCM Control Delay (s)	7.8	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM Signalized Intersection Capacity Analysis

11: Ashland St & I-5 SB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	800	48	15	234	0	0	0	0	129	1	423
Future Volume (vph)	0	800	48	15	234	0	0	0	0	129	1	423
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0						4.9	4.9
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1716	1377	1385	1716						1559	1458
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1716	1377	1385	1716						1559	1458
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	842	51	16	246	0	0	0	0	136	1	445
RTOR Reduction (vph)	0	0	21	0	0	0	0	0	0	0	0	367
Lane Group Flow (vph)	0	842	30	16	246	0	0	0	0	0	137	78
Heavy Vehicles (%)	0%	2%	8%	20%	2%	0%	0%	0%	0%	7%	0%	2%
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		4		3	8						6	
Permitted Phases			4							6		6
Actuated Green, G (s)		34.7	34.7	1.1	40.3						10.1	10.1
Effective Green, g (s)		35.2	35.2	1.6	40.8						10.6	10.6
Actuated g/C Ratio		0.58	0.58	0.03	0.68						0.18	0.18
Clearance Time (s)		4.5	4.5	4.5	4.5						5.4	5.4
Vehicle Extension (s)		4.0	4.0	2.5	4.0						2.5	2.5
Lane Grp Cap (vph)		1001	803	36	1161						274	256
v/s Ratio Prot		c0.49		c0.01	0.14							
v/s Ratio Perm			0.02								0.09	0.05
v/c Ratio		0.84	0.04	0.44	0.21						0.50	0.31
Uniform Delay, d1		10.3	5.3	28.9	3.7						22.5	21.6
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		6.8	0.0	6.2	0.1						1.0	0.5
Delay (s)		17.0	5.4	35.2	3.8						23.5	22.1
Level of Service		B	A	D	A						C	C
Approach Delay (s)		16.4			5.7			0.0			22.5	
Approach LOS		B			A			A			C	
Intersection Summary												
HCM 2000 Control Delay			16.8			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			60.3			Sum of lost time (s)				12.9		
Intersection Capacity Utilization			67.6%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

11: Ashland St & I-5 SB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	800	48	15	234	0	0	0	0	129	1	423
Future Volume (veh/h)	0	800	48	15	234	0	0	0	0	129	1	423
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1723	1641	1477	1723	0				1654	1750	1723
Adj Flow Rate, veh/h	0	842	51	16	246	0				136	1	445
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	8	20	2	0				7	0	2
Cap, veh/h	0	971	784	32	1117	0				357	3	315
Arrive On Green	0.00	0.56	0.56	0.02	0.65	0.00				0.21	0.22	0.22
Sat Flow, veh/h	0	1723	1391	1407	1723	0				1655	12	1460
Grp Volume(v), veh/h	0	842	51	16	246	0				137	0	445
Grp Sat Flow(s),veh/h/ln	0	1723	1391	1407	1723	0				1667	0	1460
Q Serve(g_s), s	0.0	27.3	1.1	0.7	3.8	0.0				4.6	0.0	14.1
Cycle Q Clear(g_c), s	0.0	27.3	1.1	0.7	3.8	0.0				4.6	0.0	14.1
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	971	784	32	1117	0				360	0	315
V/C Ratio(X)	0.00	0.87	0.07	0.49	0.22	0.00				0.38	0.00	1.41
Avail Cap(c_a), veh/h	0	1160	936	194	1502	0				360	0	315
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	12.2	6.5	31.6	4.7	0.0				22.1	0.0	25.6
Incr Delay (d2), s/veh	0.0	6.7	0.0	8.3	0.1	0.0				0.5	0.0	203.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.8	0.3	0.3	1.0	0.0				1.7	0.0	22.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	18.9	6.5	39.9	4.9	0.0				22.6	0.0	229.3
LnGrp LOS	A	B	A	D	A	A				C	A	F
Approach Vol, veh/h		893			262						582	
Approach Delay, s/veh		18.2			7.0						180.7	
Approach LOS		B			A						F	
Timer - Assigned Phs			3	4		6			8			
Phs Duration (G+Y+Rc), s			5.5	40.9		19.0			46.4			
Change Period (Y+Rc), s			4.5	4.5		5.4			4.5			
Max Green Setting (Gmax), s			8.5	43.5		13.6			56.5			
Max Q Clear Time (g_c+I1), s			2.7	29.3		16.1			5.8			
Green Ext Time (p_c), s			0.0	7.1		0.0			2.2			
Intersection Summary												
HCM 6th Ctrl Delay			70.9									
HCM 6th LOS			E									
Notes												
User approved pedestrian interval to be less than phase max green.												

HCM Signalized Intersection Capacity Analysis

14: Ashland St & I-5 NB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	581	348	0	0	224	233	25	0	23	0	0	0
Future Volume (vph)	581	348	0	0	224	233	25	0	23	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1630	1699			1699	1403		1599	1488			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1630	1699			1699	1403		1599	1488			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	612	366	0	0	236	245	26	0	24	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	186	0	0	22	0	0	0
Lane Group Flow (vph)	612	366	0	0	236	59	0	26	2	0	0	0
Heavy Vehicles (%)	2%	3%	0%	0%	3%	6%	4%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases						8	2		2			
Actuated Green, G (s)	21.8	38.1			11.8	11.8		3.4	3.4			
Effective Green, g (s)	22.3	38.6			12.3	12.3		4.8	4.8			
Actuated g/C Ratio	0.43	0.75			0.24	0.24		0.09	0.09			
Clearance Time (s)	4.5	4.5			4.5	4.5		5.4	5.4			
Vehicle Extension (s)	2.5	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	707	1275			406	335		149	138			
v/s Ratio Prot	c0.38	0.22			c0.14							
v/s Ratio Perm						0.04		0.02	0.00			
v/c Ratio	0.87	0.29			0.58	0.18		0.17	0.02			
Uniform Delay, d1	13.2	2.0			17.3	15.5		21.5	21.2			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	10.7	0.2			2.5	0.3		0.4	0.0			
Delay (s)	23.9	2.2			19.8	15.9		21.9	21.2			
Level of Service	C	A			B	B		C	C			
Approach Delay (s)		15.8			17.8			21.6			0.0	
Approach LOS		B			B			C			A	
Intersection Summary												
HCM 2000 Control Delay			16.6				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			51.4				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			67.6%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

14: Ashland St & I-5 NB Ramps

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	581	348	0	0	224	233	25	0	23	0	0	0
Future Volume (veh/h)	581	348	0	0	224	233	25	0	23	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1723	1709	0	0	1709	1668	1695	1750	1750			
Adj Flow Rate, veh/h	612	366	0	0	236	245	26	0	24			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	3	0	0	3	6	4	0	0			
Cap, veh/h	706	1270	0	0	393	325	150	0	133			
Arrive On Green	0.43	0.74	0.00	0.00	0.23	0.23	0.06	0.00	0.09			
Sat Flow, veh/h	1641	1709	0	0	1709	1414	1667	0	1483			
Grp Volume(v), veh/h	612	366	0	0	236	245	26	0	24			
Grp Sat Flow(s),veh/h/ln	1641	1709	0	0	1709	1414	1667	0	1483			
Q Serve(g_s), s	16.3	3.4	0.0	0.0	5.9	7.7	0.7	0.0	0.7			
Cycle Q Clear(g_c), s	16.3	3.4	0.0	0.0	5.9	7.7	0.7	0.0	0.7			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	706	1270	0	0	393	325	150	0	133			
V/C Ratio(X)	0.87	0.29	0.00	0.00	0.60	0.75	0.17	0.00	0.18			
Avail Cap(c_a), veh/h	923	1528	0	0	424	351	316	0	281			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.4	2.0	0.0	0.0	16.5	17.2	20.8	0.0	20.2			
Incr Delay (d2), s/veh	6.5	0.2	0.0	0.0	2.6	9.1	0.4	0.0	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.7	0.2	0.0	0.0	2.2	2.9	0.3	0.0	0.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	2.2	0.0	0.0	19.1	26.4	21.2	0.0	20.7			
LnGrp LOS	B	A	A	A	B	C	C	A	C			
Approach Vol, veh/h	978			481			50					
Approach Delay, s/veh	12.7			22.8			21.0					
Approach LOS	B			C			C					
Timer - Assigned Phs	2			4			7			8		
Phs Duration (G+Y+Rc), s	8.3			39.7			24.6			15.0		
Change Period (Y+Rc), s	* 5.4			4.5			4.5			4.5		
Max Green Setting (Gmax), s	* 7.7			42.4			26.5			11.4		
Max Q Clear Time (g_c+I1), s	2.7			5.4			18.3			9.7		
Green Ext Time (p_c), s	0.1			6.5			1.9			0.8		
Intersection Summary												
HCM 6th Ctrl Delay	16.2											
HCM 6th LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

19: Tolman Creek Rd & Ashland St

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	509	39	157	388	41	63	120	158	76	106	40
Future Volume (vph)	90	509	39	157	388	41	63	120	158	76	106	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.91		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3259		1662	3248		1662	1585		1614	1654	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1662	3259		1662	3248		1662	1585		1614	1654	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	97	547	42	169	417	44	68	129	170	82	114	43
RTOR Reduction (vph)	0	9	0	0	12	0	0	80	0	0	23	0
Lane Group Flow (vph)	97	580	0	169	449	0	68	219	0	82	134	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	1%	3%	2%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	4.2	14.2		6.2	16.2		4.1	10.7		4.3	10.9	
Effective Green, g (s)	4.7	14.7		6.7	16.7		4.1	10.7		4.3	10.9	
Actuated g/C Ratio	0.09	0.28		0.13	0.32		0.08	0.20		0.08	0.21	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	149	914		212	1035		130	323		132	344	
v/s Ratio Prot	0.06	c0.18		c0.10	0.14		0.04	c0.14		c0.05	0.08	
v/s Ratio Perm												
v/c Ratio	0.65	0.63		0.80	0.43		0.52	0.68		0.62	0.39	
Uniform Delay, d1	23.1	16.5		22.2	14.1		23.2	19.3		23.3	17.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.8	1.6		18.0	0.4		2.9	5.1		7.6	0.5	
Delay (s)	31.8	18.1		40.1	14.5		26.1	24.4		30.9	18.4	
Level of Service	C	B		D	B		C	C		C	B	
Approach Delay (s)		20.1			21.4			24.7			22.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			21.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			52.4			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			61.3%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

19: Tolman Creek Rd & Ashland St

06/27/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	509	39	157	388	41	63	120	158	76	106	40
Future Volume (veh/h)	90	509	39	157	388	41	63	120	158	76	106	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1750	1736	1750	1750	1736	1750	1750	1736	1736	1709	1723	1750
Adj Flow Rate, veh/h	97	547	42	169	417	44	68	129	170	82	114	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	0	0	1	0	0	1	1	3	2	0
Cap, veh/h	138	775	59	227	913	96	83	154	203	101	284	107
Arrive On Green	0.08	0.25	0.24	0.14	0.30	0.29	0.05	0.23	0.23	0.06	0.24	0.24
Sat Flow, veh/h	1667	3105	238	1667	3013	316	1667	680	896	1628	1192	450
Grp Volume(v), veh/h	97	290	299	169	227	234	68	0	299	82	0	157
Grp Sat Flow(s),veh/h/ln	1667	1650	1694	1667	1650	1679	1667	0	1575	1628	0	1642
Q Serve(g_s), s	2.8	7.9	7.9	4.8	5.5	5.5	2.0	0.0	8.9	2.4	0.0	4.0
Cycle Q Clear(g_c), s	2.8	7.9	7.9	4.8	5.5	5.5	2.0	0.0	8.9	2.4	0.0	4.0
Prop In Lane	1.00		0.14	1.00		0.19	1.00		0.57	1.00		0.27
Lane Grp Cap(c), veh/h	138	412	423	227	500	509	83	0	356	101	0	391
V/C Ratio(X)	0.70	0.70	0.71	0.74	0.45	0.46	0.82	0.00	0.84	0.81	0.00	0.40
Avail Cap(c_a), veh/h	305	457	469	305	500	509	305	0	398	298	0	415
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	16.8	16.8	20.4	13.8	13.9	23.1	0.0	18.1	22.7	0.0	15.8
Incr Delay (d2), s/veh	4.8	5.0	4.9	5.5	0.9	0.9	13.4	0.0	13.0	10.9	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.1	3.2	2.0	1.8	1.9	1.0	0.0	4.2	1.2	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	21.7	21.7	25.9	14.7	14.8	36.5	0.0	31.2	33.7	0.0	16.2
LnGrp LOS	C	C	C	C	B	B	D	A	C	C	A	B
Approach Vol, veh/h	686			630			367			239		
Approach Delay, s/veh	22.4			17.8			32.2			22.2		
Approach LOS	C			B			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	15.1	10.7	16.3	6.4	15.7	8.1	18.9				
Change Period (Y+Rc), s	4.0	4.0	4.5	4.5	4.0	4.0	4.5	4.5				
Max Green Setting (Gmax), s	9.0	12.4	8.5	13.1	9.0	12.4	8.5	13.1				
Max Q Clear Time (g_c+I1), s	4.4	10.9	6.8	9.9	4.0	6.0	4.8	7.5				
Green Ext Time (p_c), s	0.1	0.2	0.1	1.9	0.1	0.3	0.1	2.4				
Intersection Summary												
HCM 6th Ctrl Delay	22.7											
HCM 6th LOS	C											
Notes												

HCM Signalized Intersection Capacity Analysis

43: Siskiyou Blvd & Ashland St

06/27/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↔↔		↔↔	↔
Traffic Volume (vph)	0	419	471	11	309	406
Future Volume (vph)	0	419	471	11	309	406
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	1.00		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2567	3282		3225	1716
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2567	3282		3225	1716
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	466	523	12	343	451
RTOR Reduction (vph)	0	388	4	0	0	0
Lane Group Flow (vph)	0	78	531	0	343	451
Heavy Vehicles (%)	0%	2%	1%	0%	0%	2%
Turn Type		Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases		8				
Actuated Green, G (s)		6.0	10.0		8.0	22.0
Effective Green, g (s)		6.0	10.0		8.0	22.0
Actuated g/C Ratio		0.17	0.28		0.22	0.61
Clearance Time (s)		4.0	4.0		4.0	4.0
Vehicle Extension (s)		2.5	4.0		2.5	4.0
Lane Grp Cap (vph)		427	911		716	1048
v/s Ratio Prot			c0.16		0.11	c0.26
v/s Ratio Perm		c0.03				
v/c Ratio		0.18	0.58		0.48	0.43
Uniform Delay, d1		12.9	11.2		12.2	3.7
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	1.1		0.4	0.4
Delay (s)		13.0	12.3		12.6	4.1
Level of Service		B	B		B	A
Approach Delay (s)	13.0		12.3			7.7
Approach LOS	B		B			A
Intersection Summary						
HCM 2000 Control Delay			10.5		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.46			
Actuated Cycle Length (s)			36.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			37.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Edition methodology does not support Non-NEMA phasing.

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	0	2	0	0	31	3	230	4	12	228	11
Future Vol, veh/h	8	0	2	0	0	31	3	230	4	12	228	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	33	0	0	0	0	1	50	0	2	0
Mvmt Flow	9	0	2	0	0	33	3	247	4	13	245	12

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	549	534	251	533	538	249	257	0	0	251	0	0
Stage 1	277	277	-	255	255	-	-	-	-	-	-	-
Stage 2	272	257	-	278	283	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.53	7.1	6.5	6.2	4.1	-	-	4.1	-	-
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	3.597	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	450	455	718	461	453	795	1320	-	-	1326	-	-
Stage 1	734	685	-	754	700	-	-	-	-	-	-	-
Stage 2	738	699	-	733	681	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	427	449	718	455	447	795	1320	-	-	1326	-	-
Mov Cap-2 Maneuver	427	449	-	455	447	-	-	-	-	-	-	-
Stage 1	732	677	-	752	698	-	-	-	-	-	-	-
Stage 2	705	697	-	723	674	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.9		9.7		0.1		0.4	
HCM LOS	B		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1320	-	-	465 795	1326	-	-
HCM Lane V/C Ratio	0.002	-	-	0.023 0.042	0.01	-	-
HCM Control Delay (s)	7.7	0	-	12.9 9.7	7.7	0	-
HCM Lane LOS	A	A	-	B A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.1	0	-	-

HCM 6th TWSC
59: Siskiyou Blvd & Tolman Creek Rd

06/27/2024

Intersection												
Int Delay, s/veh	7.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	100	108	40	7	122	32	29	38	2	40	42	129
Future Vol, veh/h	100	108	40	7	122	32	29	38	2	40	42	129
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	2	0	0	3	3	0	10	0	0	5	1
Mvmt Flow	110	119	44	8	134	35	32	42	2	44	46	142
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	169	0	0	163	0	0	623	546	141	551	551	152
Stage 1	-	-	-	-	-	-	361	361	-	168	168	-
Stage 2	-	-	-	-	-	-	262	185	-	383	383	-
Critical Hdwy	4.13	-	-	4.1	-	-	7.1	6.6	6.2	7.1	6.55	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.6	-	6.1	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.6	-	6.1	5.55	-
Follow-up Hdwy	2.227	-	-	2.2	-	-	3.5	4.09	3.3	3.5	4.045	3.309
Pot Cap-1 Maneuver	1402	-	-	1428	-	-	401	434	912	448	438	897
Stage 1	-	-	-	-	-	-	662	612	-	839	754	-
Stage 2	-	-	-	-	-	-	747	732	-	644	607	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1402	-	-	1428	-	-	286	394	912	382	398	897
Mov Cap-2 Maneuver	-	-	-	-	-	-	286	394	-	382	398	-
Stage 1	-	-	-	-	-	-	604	559	-	766	749	-
Stage 2	-	-	-	-	-	-	587	728	-	543	554	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.1			0.3			18.4			14.8		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	345	1402	-	-	1428	-	-	596				
HCM Lane V/C Ratio	0.22	0.078	-	-	0.005	-	-	0.389				
HCM Control Delay (s)	18.4	7.8	0	-	7.5	0	-	14.8				
HCM Lane LOS	C	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.8	0.3	-	-	0	-	-	1.8				

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	130	121	0	2	12
Future Vol, veh/h	4	130	121	0	2	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	2	4	0	0	0
Mvmt Flow	5	157	146	0	2	14

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	146	0	0 313 146
Stage 1	-	-	- 146 -
Stage 2	-	-	- 167 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1448	-	- 684 906
Stage 1	-	-	- 886 -
Stage 2	-	-	- 867 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1448	-	- 681 906
Mov Cap-2 Maneuver	-	-	- 681 -
Stage 1	-	-	- 882 -
Stage 2	-	-	- 867 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1448	-	-	-	865
HCM Lane V/C Ratio	0.003	-	-	-	0.019
HCM Control Delay (s)	7.5	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

HCM 6th TWSC
1: Siskiyou Blvd & Site Access

08/16/2024

Intersection

Int Delay, s/veh 4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	142	132	121	27	22	118
Future Vol, veh/h	142	132	121	27	22	118
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	2	4	0	0	0
Mvmt Flow	171	159	146	33	27	142

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	179	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.1	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.2	-	-
Pot Cap-1 Maneuver	1409	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1409	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1409	-	-	-	372	887
HCM Lane V/C Ratio	0.121	-	-	-	0.071	0.16
HCM Control Delay (s)	7.9	0	-	-	15.4	9.8
HCM Lane LOS	A	A	-	-	C	A
HCM 95th %tile Q(veh)	0.4	-	-	-	0.2	0.6

HCM Signalized Intersection Capacity Analysis

11: Ashland St & I-5 SB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	876	46	15	238	0	0	0	0	129	1	481
Future Volume (vph)	0	876	46	15	238	0	0	0	0	129	1	481
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0	4.0	4.0						4.9	4.9
Lane Util. Factor		1.00	1.00	1.00	1.00						1.00	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (prot)		1716	1377	1385	1716						1559	1458
Flt Permitted		1.00	1.00	0.95	1.00						0.95	1.00
Satd. Flow (perm)		1716	1377	1385	1716						1559	1458
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	922	48	16	251	0	0	0	0	136	1	506
RTOR Reduction (vph)	0	0	18	0	0	0	0	0	0	0	0	421
Lane Group Flow (vph)	0	922	30	16	251	0	0	0	0	0	137	85
Heavy Vehicles (%)	0%	2%	8%	20%	2%	0%	0%	0%	0%	7%	0%	2%
Turn Type		NA	Perm	Prot	NA					Perm	NA	Perm
Protected Phases		4		3	8						6	
Permitted Phases			4							6		6
Actuated Green, G (s)		42.4	42.4	1.2	48.1						11.1	11.1
Effective Green, g (s)		42.9	42.9	1.7	48.6						11.6	11.6
Actuated g/C Ratio		0.62	0.62	0.02	0.70						0.17	0.17
Clearance Time (s)		4.5	4.5	4.5	4.5						5.4	5.4
Vehicle Extension (s)		4.0	4.0	2.5	4.0						2.5	2.5
Lane Grp Cap (vph)		1065	854	34	1206						261	244
v/s Ratio Prot		c0.54		c0.01	0.15							
v/s Ratio Perm			0.02								0.09	0.06
v/c Ratio		0.87	0.03	0.47	0.21						0.52	0.35
Uniform Delay, d1		10.7	5.1	33.3	3.6						26.2	25.4
Progression Factor		1.00	1.00	1.00	1.00						1.00	1.00
Incremental Delay, d2		7.8	0.0	7.3	0.1						1.5	0.6
Delay (s)		18.5	5.1	40.6	3.7						27.7	26.0
Level of Service		B	A	D	A						C	C
Approach Delay (s)		17.8			5.9			0.0			26.4	
Approach LOS		B			A			A			C	
Intersection Summary												
HCM 2000 Control Delay			19.1			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			69.1			Sum of lost time (s)			12.9			
Intersection Capacity Utilization			72.0%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

11: Ashland St & I-5 SB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	876	46	15	238	0	0	0	0	129	1	481
Future Volume (veh/h)	0	876	46	15	238	0	0	0	0	129	1	481
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1723	1641	1477	1723	0				1654	1750	1723
Adj Flow Rate, veh/h	0	922	48	16	251	0				136	1	506
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	8	20	2	0				7	0	2
Cap, veh/h	0	1031	832	30	1158	0				349	3	308
Arrive On Green	0.00	0.60	0.60	0.02	0.67	0.00				0.20	0.21	0.21
Sat Flow, veh/h	0	1723	1391	1407	1723	0				1655	12	1460
Grp Volume(v), veh/h	0	922	48	16	251	0				137	0	506
Grp Sat Flow(s),veh/h/ln	0	1723	1391	1407	1723	0				1667	0	1460
Q Serve(g_s), s	0.0	35.3	1.1	0.9	4.3	0.0				5.4	0.0	16.1
Cycle Q Clear(g_c), s	0.0	35.3	1.1	0.9	4.3	0.0				5.4	0.0	16.1
Prop In Lane	0.00		1.00	1.00		0.00				0.99		1.00
Lane Grp Cap(c), veh/h	0	1031	832	30	1158	0				352	0	308
V/C Ratio(X)	0.00	0.89	0.06	0.53	0.22	0.00				0.39	0.00	1.64
Avail Cap(c_a), veh/h	0	1174	947	166	1467	0				352	0	308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	13.2	6.4	37.0	4.8	0.0				26.1	0.0	30.1
Incr Delay (d2), s/veh	0.0	8.8	0.0	10.0	0.1	0.0				0.5	0.0	303.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.2	0.3	0.4	1.2	0.0				2.0	0.0	31.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	22.0	6.4	47.0	4.9	0.0				26.6	0.0	333.8
LnGrp LOS	A	C	A	D	A	A				C	A	F
Approach Vol, veh/h		970			267						643	
Approach Delay, s/veh		21.2			7.4						268.3	
Approach LOS		C			A						F	
Timer - Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			5.7	49.7		21.0		55.3				
Change Period (Y+Rc), s			4.5	4.5		5.4		4.5				
Max Green Setting (Gmax), s			8.5	51.5		15.6		64.5				
Max Q Clear Time (g_c+I1), s			2.9	37.3		18.1		6.3				
Green Ext Time (p_c), s			0.0	7.9		0.0		2.3				
Intersection Summary												
HCM 6th Ctrl Delay			103.8									
HCM 6th LOS			F									
Notes												

HCM Signalized Intersection Capacity Analysis

14: Ashland St & I-5 NB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	646	359	0	0	228	233	25	0	23	0	0	0
Future Volume (vph)	646	359	0	0	228	233	25	0	23	0	0	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0			4.0	4.0		4.0	4.0			
Lane Util. Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (prot)	1630	1699			1699	1403		1599	1488			
Flt Permitted	0.95	1.00			1.00	1.00		0.95	1.00			
Satd. Flow (perm)	1630	1699			1699	1403		1599	1488			
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	680	378	0	0	240	245	26	0	24	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	193	0	0	22	0	0	0
Lane Group Flow (vph)	680	378	0	0	240	52	0	26	2	0	0	0
Heavy Vehicles (%)	2%	3%	0%	0%	3%	6%	4%	0%	0%	0%	0%	0%
Turn Type	Prot	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	7	4			8			2				
Permitted Phases						8	2		2			
Actuated Green, G (s)	24.2	39.5			10.8	10.8		3.5	3.5			
Effective Green, g (s)	24.7	40.0			11.3	11.3		4.9	4.9			
Actuated g/C Ratio	0.47	0.76			0.21	0.21		0.09	0.09			
Clearance Time (s)	4.5	4.5			4.5	4.5		5.4	5.4			
Vehicle Extension (s)	2.5	4.0			4.0	4.0		2.5	2.5			
Lane Grp Cap (vph)	761	1284			362	299		148	137			
v/s Ratio Prot	c0.42	0.22			c0.14							
v/s Ratio Perm						0.04		0.02	0.00			
v/c Ratio	0.89	0.29			0.66	0.18		0.18	0.02			
Uniform Delay, d1	12.9	2.0			19.1	17.0		22.1	21.8			
Progression Factor	1.00	1.00			1.00	1.00		1.00	1.00			
Incremental Delay, d2	12.9	0.2			5.0	0.4		0.4	0.0			
Delay (s)	25.8	2.2			24.0	17.4		22.6	21.8			
Level of Service	C	A			C	B		C	C			
Approach Delay (s)		17.3			20.7			22.2			0.0	
Approach LOS		B			C			C			A	
Intersection Summary												
HCM 2000 Control Delay			18.5				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			52.9				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			72.0%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary

14: Ashland St & I-5 NB Ramps

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	646	359	0	0	228	233	25	0	23	0	0	0
Future Volume (veh/h)	646	359	0	0	228	233	25	0	23	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No			No					
Adj Sat Flow, veh/h/ln	1723	1709	0	0	1709	1668	1695	1750	1750			
Adj Flow Rate, veh/h	680	378	0	0	240	245	26	0	24			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	3	0	0	3	6	4	0	0			
Cap, veh/h	757	1291	0	0	368	304	146	0	130			
Arrive On Green	0.46	0.76	0.00	0.00	0.22	0.22	0.06	0.00	0.09			
Sat Flow, veh/h	1641	1709	0	0	1709	1414	1667	0	1483			
Grp Volume(v), veh/h	680	378	0	0	240	245	26	0	24			
Grp Sat Flow(s),veh/h/ln	1641	1709	0	0	1709	1414	1667	0	1483			
Q Serve(g_s), s	19.4	3.5	0.0	0.0	6.5	8.4	0.8	0.0	0.8			
Cycle Q Clear(g_c), s	19.4	3.5	0.0	0.0	6.5	8.4	0.8	0.0	0.8			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	757	1291	0	0	368	304	146	0	130			
V/C Ratio(X)	0.90	0.29	0.00	0.00	0.65	0.81	0.18	0.00	0.19			
Avail Cap(c_a), veh/h	872	1413	0	0	370	306	328	0	292			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	1.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00			
Uniform Delay (d), s/veh	12.6	2.0	0.0	0.0	18.2	18.9	22.1	0.0	21.5			
Incr Delay (d2), s/veh	10.7	0.2	0.0	0.0	4.6	15.1	0.4	0.0	0.5			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.5	0.2	0.0	0.0	2.7	3.6	0.3	0.0	0.2			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	2.1	0.0	0.0	22.8	34.0	22.6	0.0	22.0			
LnGrp LOS	C	A	A	A	C	C	C	A	C			
Approach Vol, veh/h	1058			485			50					
Approach Delay, s/veh	15.8			28.5			22.3					
Approach LOS	B			C			C					
Timer - Assigned Phs	2			4			7			8		
Phs Duration (G+Y+Rc), s	8.4			42.4			27.4			14.9		
Change Period (Y+Rc), s	* 5.4			4.5			4.5			4.5		
Max Green Setting (Gmax), s	* 8.6			41.5			26.5			10.5		
Max Q Clear Time (g_c+I1), s	2.8			5.5			21.4			10.4		
Green Ext Time (p_c), s	0.1			6.7			1.6			0.1		
Intersection Summary												
HCM 6th Ctrl Delay	19.8											
HCM 6th LOS	B											
Notes												
User approved pedestrian interval to be less than phase max green.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM Signalized Intersection Capacity Analysis

19: Tolman Creek Rd & Ashland St

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	509	66	219	388	41	72	123	234	76	124	40
Future Volume (vph)	90	509	66	219	388	41	72	123	234	76	124	40
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.90		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1662	3239		1662	3248		1662	1562		1614	1661	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1662	3239		1662	3248		1662	1562		1614	1661	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	97	547	71	235	417	44	77	132	252	82	133	43
RTOR Reduction (vph)	0	14	0	0	10	0	0	104	0	0	18	0
Lane Group Flow (vph)	97	604	0	235	451	0	77	280	0	82	158	0
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	1%	1%	3%	2%	0%
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	6.0	15.1		10.8	19.9		5.9	14.6		6.0	14.7	
Effective Green, g (s)	6.5	15.6		11.3	20.4		5.9	14.6		6.0	14.7	
Actuated g/C Ratio	0.10	0.25		0.18	0.32		0.09	0.23		0.09	0.23	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	
Lane Grp Cap (vph)	170	795		295	1043		154	359		152	384	
v/s Ratio Prot	0.06	c0.19		c0.14	0.14		0.05	c0.18		c0.05	0.10	
v/s Ratio Perm												
v/c Ratio	0.57	0.76		0.80	0.43		0.50	0.78		0.54	0.41	
Uniform Delay, d1	27.2	22.2		25.0	17.0		27.4	22.9		27.4	20.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.8	4.6		13.4	0.4		1.9	10.1		2.8	0.5	
Delay (s)	30.9	26.8		38.4	17.4		29.3	33.1		30.3	21.3	
Level of Service	C	C		D	B		C	C		C	C	
Approach Delay (s)		27.4			24.5			32.4			24.1	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			27.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			63.5			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			71.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th Signalized Intersection Summary 19: Tolman Creek Rd & Ashland St

08/16/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	90	509	66	219	388	41	72	123	234	76	124	40
Future Volume (veh/h)	90	509	66	219	388	41	72	123	234	76	124	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1750	1736	1750	1750	1736	1750	1750	1736	1736	1709	1723	1750
Adj Flow Rate, veh/h	97	547	71	235	417	44	77	132	252	82	133	43
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	1	0	0	1	0	0	1	1	3	2	0
Cap, veh/h	135	680	88	288	974	102	97	148	282	102	351	113
Arrive On Green	0.08	0.23	0.22	0.17	0.32	0.32	0.06	0.28	0.28	0.06	0.28	0.28
Sat Flow, veh/h	1667	2937	380	1667	3013	316	1667	534	1019	1628	1247	403
Grp Volume(v), veh/h	97	306	312	235	227	234	77	0	384	82	0	176
Grp Sat Flow(s),veh/h/ln	1667	1650	1668	1667	1650	1679	1667	0	1553	1628	0	1650
Q Serve(g_s), s	3.5	11.0	11.0	8.5	6.8	6.8	2.8	0.0	14.8	3.1	0.0	5.4
Cycle Q Clear(g_c), s	3.5	11.0	11.0	8.5	6.8	6.8	2.8	0.0	14.8	3.1	0.0	5.4
Prop In Lane	1.00		0.23	1.00		0.19	1.00		0.66	1.00		0.24
Lane Grp Cap(c), veh/h	135	382	386	288	533	543	97	0	429	102	0	464
V/C Ratio(X)	0.72	0.80	0.81	0.82	0.43	0.43	0.80	0.00	0.89	0.80	0.00	0.38
Avail Cap(c_a), veh/h	240	396	401	294	533	543	240	0	472	235	0	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.0	22.6	22.7	24.9	16.6	16.6	29.0	0.0	21.7	28.9	0.0	18.1
Incr Delay (d2), s/veh	5.2	11.6	11.9	15.4	0.8	0.8	10.5	0.0	17.8	10.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.1	5.2	4.3	2.4	2.5	1.4	0.0	7.2	1.5	0.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	34.3	34.6	40.3	17.4	17.4	39.5	0.0	39.5	39.1	0.0	18.4
LnGrp LOS	C	C	C	D	B	B	D	A	D	D	A	B
Approach Vol, veh/h	715			696			461			258		
Approach Delay, s/veh	34.3			25.1			39.5			25.0		
Approach LOS	C			C			D			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.9	21.3	14.8	18.5	7.6	21.6	9.1	24.2				
Change Period (Y+Rc), s	4.0	4.0	4.5	4.5	4.0	4.0	4.5	4.5				
Max Green Setting (Gmax), s	9.0	19.0	10.5	14.5	9.0	19.0	8.5	16.5				
Max Q Clear Time (g_c+I1), s	5.1	16.8	10.5	13.0	4.8	7.4	5.5	8.8				
Green Ext Time (p_c), s	0.1	0.4	0.0	0.9	0.1	0.5	0.1	3.2				
Intersection Summary												
HCM 6th Ctrl Delay	31.3											
HCM 6th LOS	C											
Notes												

HCM Signalized Intersection Capacity Analysis

43: Siskiyou Blvd & Ashland St

08/16/2024



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↔↔	↔↔		↔↔	↔
Traffic Volume (vph)	0	419	523	11	309	452
Future Volume (vph)	0	419	523	11	309	452
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Total Lost time (s)		4.0	4.0		4.0	4.0
Lane Util. Factor		0.88	0.95		0.97	1.00
Frt		0.85	1.00		1.00	1.00
Flt Protected		1.00	1.00		0.95	1.00
Satd. Flow (prot)		2567	3283		3225	1716
Flt Permitted		1.00	1.00		0.95	1.00
Satd. Flow (perm)		2567	3283		3225	1716
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	466	581	12	343	502
RTOR Reduction (vph)	0	388	4	0	0	0
Lane Group Flow (vph)	0	78	589	0	343	502
Heavy Vehicles (%)	0%	2%	1%	0%	0%	2%
Turn Type		Perm	NA		Prot	NA
Protected Phases			2		1	6
Permitted Phases		8				
Actuated Green, G (s)		6.0	10.0		8.0	22.0
Effective Green, g (s)		6.0	10.0		8.0	22.0
Actuated g/C Ratio		0.17	0.28		0.22	0.61
Clearance Time (s)		4.0	4.0		4.0	4.0
Vehicle Extension (s)		2.5	4.0		2.5	4.0
Lane Grp Cap (vph)		427	911		716	1048
v/s Ratio Prot			c0.18		0.11	c0.29
v/s Ratio Perm		c0.03				
v/c Ratio		0.18	0.65		0.48	0.48
Uniform Delay, d1		12.9	11.4		12.2	3.8
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.1	1.8		0.4	0.5
Delay (s)		13.0	13.2		12.6	4.3
Level of Service		B	B		B	A
Approach Delay (s)	13.0		13.2			7.7
Approach LOS	B		B			A
Intersection Summary						
HCM 2000 Control Delay			10.7		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.50			
Actuated Cycle Length (s)			36.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			38.7%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM 6th Edition methodology does not support Non-NEMA phasing.

Intersection												
Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	8	0	2	5	0	119	3	230	10	119	228	11
Future Vol, veh/h	8	0	2	5	0	119	3	230	10	119	228	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	0	0	33	0	0	0	0	1	50	0	2	0
Mvmt Flow	9	0	2	5	0	128	3	247	11	128	245	12
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	830	771	251	767	772	253	257	0	0	258	0	0
Stage 1	507	507	-	259	259	-	-	-	-	-	-	-
Stage 2	323	264	-	508	513	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.53	7.1	6.5	6.2	4.1	-	-	4.1	-	-
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	3.597	3.5	4	3.3	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	292	333	718	322	333	791	1320	-	-	1318	-	-
Stage 1	552	543	-	750	697	-	-	-	-	-	-	-
Stage 2	693	694	-	551	539	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	223	294	718	293	294	791	1320	-	-	1318	-	-
Mov Cap-2 Maneuver	223	294	-	293	294	-	-	-	-	-	-	-
Stage 1	550	482	-	748	695	-	-	-	-	-	-	-
Stage 2	579	692	-	487	478	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	19.5		10.9		0.1		2.7					
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1320	-	-	259	740	1318	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.042	0.18	0.097	-	-				
HCM Control Delay (s)	7.7	0	-	19.5	10.9	8	0	-				
HCM Lane LOS	A	A	-	C	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.7	0.3	-	-				

HCM 6th TWSC
59: Siskiyou Blvd & Tolman Creek Rd

08/16/2024

Intersection												
Int Delay, s/veh	9.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	100	236	40	13	228	38	29	38	2	54	42	129
Future Vol, veh/h	100	236	40	13	228	38	29	38	2	54	42	129
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	91	91	91	91	91	91	91	91	91
Heavy Vehicles, %	3	2	0	0	3	3	0	10	0	0	5	1
Mvmt Flow	110	259	44	14	251	42	32	42	2	59	46	142
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	293	0	0	303	0	0	895	822	281	823	823	272
Stage 1	-	-	-	-	-	-	501	501	-	300	300	-
Stage 2	-	-	-	-	-	-	394	321	-	523	523	-
Critical Hdwy	4.13	-	-	4.1	-	-	7.1	6.6	6.2	7.1	6.55	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.6	-	6.1	5.55	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.6	-	6.1	5.55	-
Follow-up Hdwy	2.227	-	-	2.2	-	-	3.5	4.09	3.3	3.5	4.045	3.309
Pot Cap-1 Maneuver	1263	-	-	1269	-	-	264	300	763	295	305	769
Stage 1	-	-	-	-	-	-	556	530	-	713	660	-
Stage 2	-	-	-	-	-	-	635	638	-	541	526	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1263	-	-	1269	-	-	171	265	763	236	269	769
Mov Cap-2 Maneuver	-	-	-	-	-	-	171	265	-	236	269	-
Stage 1	-	-	-	-	-	-	498	474	-	638	651	-
Stage 2	-	-	-	-	-	-	475	630	-	440	471	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.2			0.4			29.9			26.6		
HCM LOS							D			D		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	219	1263	-	-	1269	-	-	407				
HCM Lane V/C Ratio	0.346	0.087	-	-	0.011	-	-	0.608				
HCM Control Delay (s)	29.9	8.1	0	-	7.9	0	-	26.6				
HCM Lane LOS	D	A	A	-	A	A	-	D				
HCM 95th %tile Q(veh)	1.5	0.3	-	-	0	-	-	3.9				

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	272	239	0	2	12
Future Vol, veh/h	4	272	239	0	2	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	0	2	4	0	0	0
Mvmt Flow	5	328	288	0	2	14

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	288	0	0 626 288
Stage 1	-	-	- 288 -
Stage 2	-	-	- 338 -
Critical Hdwy	4.1	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.2	-	- 3.5 3.3
Pot Cap-1 Maneuver	1286	-	- 451 756
Stage 1	-	-	- 766 -
Stage 2	-	-	- 727 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1286	-	- 449 756
Mov Cap-2 Maneuver	-	-	- 449 -
Stage 1	-	-	- 762 -
Stage 2	-	-	- 727 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1286	-	-	-	689
HCM Lane V/C Ratio	0.004	-	-	-	0.024
HCM Control Delay (s)	7.8	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Croman-Mill

Queuing and Blocking Report
2024 Background Am

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Intersection: 11: Ashland St & I-5 SB Ramps, Interval #1

Movement	EB	WB	WB	SB	SB
Directions Served	T	L	T	LT	R
Maximum Queue (ft)	162	54	93	185	200
Average Queue (ft)	92	18	39	68	121
95th Queue (ft)	215	54	87	197	197
Link Distance (ft)	1021		498	446	
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)		130			260
Storage Blk Time (%)			0		0
Queuing Penalty (veh)			0		1

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #2

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	252	2	70	94	129	225
Average Queue (ft)	89	0	20	35	50	110
95th Queue (ft)	197	2	57	79	101	197
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)						0
Queuing Penalty (veh)						0

Intersection: 11: Ashland St & I-5 SB Ramps, All Intervals

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	269	2	74	102	213	240
Average Queue (ft)	90	0	19	36	54	112
95th Queue (ft)	201	2	56	81	133	198
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		0
Queuing Penalty (veh)				0		0

Queuing and Blocking Report
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Intersection: 14: Ashland St & I-5 NB Ramps, Interval #1

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	147	63	100	88	44	51
Average Queue (ft)	98	16	59	43	18	27
95th Queue (ft)	150	51	108	87	41	59
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #2

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	172	87	104	77	63	60
Average Queue (ft)	83	15	44	36	15	20
95th Queue (ft)	146	58	89	68	46	53
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: Ashland St & I-5 NB Ramps, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	178	93	112	98	67	63
Average Queue (ft)	87	15	47	38	16	22
95th Queue (ft)	148	57	95	73	45	55
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)						
Queuing Penalty (veh)						

Queuing and Blocking Report
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Intersection: 19: Tolman Creek Rd & Ashland St, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	52	147	92	144	105	130	64	138	98	100
Average Queue (ft)	31	92	46	95	59	91	36	86	58	57
95th Queue (ft)	62	152	98	153	104	131	67	146	98	112
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		0		0				1	1	1
Queuing Penalty (veh)		0		1				0	1	1

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	56	120	84	121	95	119	57	140	82	86
Average Queue (ft)	19	69	31	68	42	68	23	67	40	39
95th Queue (ft)	47	116	68	113	80	110	52	120	69	74
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)								1		0
Queuing Penalty (veh)								0		0

Intersection: 19: Tolman Creek Rd & Ashland St, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	60	151	111	144	105	130	65	155	99	104
Average Queue (ft)	22	74	34	75	46	74	26	72	44	44
95th Queue (ft)	52	127	77	127	88	119	57	128	79	86
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		0		0				1	0	0
Queuing Penalty (veh)		0		0				0	0	0

Queuing and Blocking Report
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Intersection: 43: Siskiyou Blvd & Ashland St, Interval #1

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	49	17	121	110	39	106	127
Average Queue (ft)	16	3	75	74	15	77	68
95th Queue (ft)	48	23	128	124	41	112	129
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #2

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	25	18	90	106	44	104	99
Average Queue (ft)	3	1	49	42	10	58	44
95th Queue (ft)	14	11	79	87	35	90	85
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 43: Siskiyou Blvd & Ashland St, All Intervals

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	50	22	126	120	48	113	131
Average Queue (ft)	6	1	55	49	11	62	50
95th Queue (ft)	27	14	97	101	37	98	100
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #1

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	49	14	43
Average Queue (ft)	26	3	10
95th Queue (ft)	55	15	40
Link Distance (ft)	607	896	386
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	48	13	20	35
Average Queue (ft)	19	3	1	6
95th Queue (ft)	46	12	10	26
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	58	18	20	48
Average Queue (ft)	21	3	1	7
95th Queue (ft)	48	12	9	30
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	46	2	51	92
Average Queue (ft)	14	0	34	59
95th Queue (ft)	41	3	56	98
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	43	2	64	116
Average Queue (ft)	7	0	29	46
95th Queue (ft)	26	2	53	90
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	51	4	65	116
Average Queue (ft)	9	0	31	49
95th Queue (ft)	31	2	54	93
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	6	22
Average Queue (ft)	2	8
95th Queue (ft)	13	25
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	28	22
Average Queue (ft)	2	11
95th Queue (ft)	16	29
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	28	22
Average Queue (ft)	2	10
95th Queue (ft)	16	28
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 4
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, All Intervals: 1

Queuing and Blocking Report
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Intersection: 11: Ashland St & I-5 SB Ramps, Interval #1

Movement	EB	WB	WB	SB	SB
Directions Served	T	L	T	LT	R
Maximum Queue (ft)	221	57	82	106	171
Average Queue (ft)	120	20	32	54	114
95th Queue (ft)	259	59	84	107	197
Link Distance (ft)	1021		498	446	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		130		260	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #2

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	232	2	62	90	95	207
Average Queue (ft)	93	0	21	33	42	99
95th Queue (ft)	191	2	55	76	84	176
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130		260	
Storage Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	

Intersection: 11: Ashland St & I-5 SB Ramps, All Intervals

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	277	2	63	97	106	216
Average Queue (ft)	100	0	21	33	45	103
95th Queue (ft)	211	2	56	78	91	182
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130		260	
Storage Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	

Queuing and Blocking Report
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Intersection: 14: Ashland St & I-5 NB Ramps, Interval #1

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	166	114	102	81	51	66
Average Queue (ft)	101	22	56	47	19	31
95th Queue (ft)	172	116	110	82	53	70
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	0					
Queuing Penalty (veh)	1					

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #2

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	176	56	117	105	49	62
Average Queue (ft)	87	12	41	41	15	25
95th Queue (ft)	152	42	87	88	40	62
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: Ashland St & I-5 NB Ramps, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	193	125	125	110	55	71
Average Queue (ft)	91	14	44	43	16	26
95th Queue (ft)	157	68	94	87	44	64
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Queuing and Blocking Report
2030 Background Am

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Intersection: 19: Tolman Creek Rd & Ashland St, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	55	149	102	123	113	145	60	162	99	107
Average Queue (ft)	29	99	52	77	67	100	34	95	59	55
95th Queue (ft)	59	169	117	123	124	156	65	170	107	110
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		0						3	0	1
Queuing Penalty (veh)		0						1	0	1

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	64	135	68	110	93	119	64	151	93	93
Average Queue (ft)	25	71	27	59	42	71	25	68	41	40
95th Queue (ft)	54	118	57	100	82	107	55	123	75	76
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)								0	0	0
Queuing Penalty (veh)								0	0	0

Intersection: 19: Tolman Creek Rd & Ashland St, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	65	159	106	126	122	151	72	173	107	114
Average Queue (ft)	26	78	33	64	48	78	28	75	45	43
95th Queue (ft)	55	135	78	107	96	125	58	138	86	86
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		0						1	0	0
Queuing Penalty (veh)		0						0	0	0

Queuing and Blocking Report
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Intersection: 43: Siskiyou Blvd & Ashland St, Interval #1

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	42	19	90	93	44	124	119
Average Queue (ft)	13	3	63	64	24	84	73
95th Queue (ft)	37	20	91	106	52	123	121
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						1	

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #2

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	41	7	87	87	44	106	94
Average Queue (ft)	5	0	46	39	11	55	44
95th Queue (ft)	23	1	73	76	36	90	86
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 43: Siskiyou Blvd & Ashland St, All Intervals

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	48	20	91	97	49	129	119
Average Queue (ft)	7	1	50	45	14	62	51
95th Queue (ft)	27	9	80	87	42	103	99
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 49: Siskiyou Blvd/Lithia Way & E main, Interval #1

Movement

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

Intersection: 49: Siskiyou Blvd/Lithia Way & E main, Interval #2

Movement

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

Intersection: 49: Siskiyou Blvd/Lithia Way & E main, All Intervals

Movement

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

Intersection: 50: , Interval #1

Movement

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

Intersection: 50: , Interval #2

Movement

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

Intersection: 50: , All Intervals

Movement

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

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	49	14	18	47
Average Queue (ft)	24	3	3	8
95th Queue (ft)	48	15	20	40
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	46	13	26	44
Average Queue (ft)	15	3	1	4
95th Queue (ft)	42	11	14	26
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	54	18	38	67
Average Queue (ft)	17	3	2	5
95th Queue (ft)	45	13	16	30
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	25	2	56	101
Average Queue (ft)	7	0	31	56
95th Queue (ft)	23	3	55	101
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	30	5	53	92
Average Queue (ft)	6	0	29	45
95th Queue (ft)	22	4	48	77
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	34	6	59	115
Average Queue (ft)	7	0	29	48
95th Queue (ft)	22	4	50	84
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	24	22
Average Queue (ft)	4	9
95th Queue (ft)	22	26
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	18	22
Average Queue (ft)	1	8
95th Queue (ft)	11	25
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	24	22
Average Queue (ft)	2	8
95th Queue (ft)	14	25
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 68: 3rd St & E main, Interval #1

Movement

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

Intersection: 68: 3rd St & E main, Interval #2

Movement

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

Intersection: 68: 3rd St & E main, All Intervals

Movement

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

Network Summary

Network wide Queuing Penalty, Interval #1: 4
Network wide Queuing Penalty, Interval #2: 0
Network wide Queuing Penalty, All Intervals: 1

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Intersection: 11: Ashland St & I-5 SB Ramps, Interval #1

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	228	20	43	61	215	256
Average Queue (ft)	138	5	13	30	83	150
95th Queue (ft)	247	41	40	69	245	266
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)						2
Queuing Penalty (veh)						4

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #2

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	217	5	74	89	177	260
Average Queue (ft)	122	0	17	33	54	130
95th Queue (ft)	214	2	54	77	145	226
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		0
Queuing Penalty (veh)				0		1

Intersection: 11: Ashland St & I-5 SB Ramps, All Intervals

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	237	25	74	96	272	270
Average Queue (ft)	126	1	16	32	61	135
95th Queue (ft)	223	20	51	75	175	237
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		1
Queuing Penalty (veh)				0		2

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #1

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	188	53	98	88	40	48
Average Queue (ft)	122	12	51	59	17	19
95th Queue (ft)	194	47	100	94	48	53
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #2

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	179	91	124	108	82	59
Average Queue (ft)	99	15	51	42	19	22
95th Queue (ft)	160	56	102	82	60	55
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: Ashland St & I-5 NB Ramps, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	202	91	133	112	89	62
Average Queue (ft)	105	14	51	46	18	21
95th Queue (ft)	171	54	101	87	57	55
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	73	172	143	151	132	139	142	220	78	100
Average Queue (ft)	30	120	69	101	69	95	55	133	49	61
95th Queue (ft)	75	194	152	170	134	140	141	234	80	101
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		0		1				8		1
Queuing Penalty (veh)		0		3				5		1

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	60	151	113	154	90	121	86	200	95	86
Average Queue (ft)	20	76	34	79	45	76	33	86	43	41
95th Queue (ft)	51	124	77	132	81	111	73	159	82	73
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		0		0				2	0	
Queuing Penalty (veh)		0		0				1	0	

Intersection: 19: Tolman Creek Rd & Ashland St, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	74	177	158	182	132	148	145	224	98	103
Average Queue (ft)	22	87	42	84	51	80	38	98	45	46
95th Queue (ft)	58	150	103	144	99	121	96	185	82	83
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		0		0				4	0	0
Queuing Penalty (veh)		0		1				2	0	0

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #1

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	34	0	94	110	101	144	113
Average Queue (ft)	14	0	69	71	33	87	67
95th Queue (ft)	37	1	102	123	103	152	111
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	2	
Queuing Penalty (veh)					0	3	

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #2

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	36	4	95	107	79	131	100
Average Queue (ft)	6	0	55	52	13	60	45
95th Queue (ft)	22	3	88	93	50	104	85
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	0	
Queuing Penalty (veh)					0	0	

Intersection: 43: Siskiyou Blvd & Ashland St, All Intervals

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	38	5	110	130	106	146	113
Average Queue (ft)	8	0	59	56	18	66	50
95th Queue (ft)	27	2	93	102	67	120	94
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	1	

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	40	41	5	60
Average Queue (ft)	19	23	0	31
95th Queue (ft)	49	44	0	67
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #2

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	35	46	58
Average Queue (ft)	18	19	20
95th Queue (ft)	43	38	52
Link Distance (ft)	607	896	386
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	40	46	5	66
Average Queue (ft)	18	20	0	23
95th Queue (ft)	45	40	0	56
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	54	7	60	128
Average Queue (ft)	16	1	37	75
95th Queue (ft)	46	6	68	134
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	18	69	132
Average Queue (ft)	14	1	34	59
95th Queue (ft)	42	9	60	106
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	64	19	78	141
Average Queue (ft)	14	1	35	63
95th Queue (ft)	43	8	62	115
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	22	22
Average Queue (ft)	3	9
95th Queue (ft)	21	27
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	35	27
Average Queue (ft)	3	7
95th Queue (ft)	20	24
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	35	27
Average Queue (ft)	3	7
95th Queue (ft)	20	25
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 1: Siskiyou Blvd & Site Access , Interval #1

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	46	34	52
Average Queue (ft)	10	19	38
95th Queue (ft)	39	44	58
Link Distance (ft)	854		629
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		150	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 1: Siskiyou Blvd & Site Access , Interval #2

Movement	EB	WB	SB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	40	4	39	61
Average Queue (ft)	12	0	16	36
95th Queue (ft)	37	4	41	56
Link Distance (ft)	854	653		629
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 1: Siskiyou Blvd & Site Access , All Intervals

Movement	EB	WB	SB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	50	4	43	61
Average Queue (ft)	11	0	17	36
95th Queue (ft)	38	3	42	57
Link Distance (ft)	854	653		629
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 11: Ashland St & I-5 SB Ramps, Interval #1

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	187	12	40	71	243	233
Average Queue (ft)	84	2	13	27	91	151
95th Queue (ft)	177	17	42	69	290	282
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)					1	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)					0	4
Queuing Penalty (veh)					0	8

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #2

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	183	5	61	93	267	240
Average Queue (ft)	84	0	15	36	62	109
95th Queue (ft)	160	3	44	79	202	209
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)					1	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)					0	2
Queuing Penalty (veh)					0	3

Intersection: 11: Ashland St & I-5 SB Ramps, All Intervals

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	213	14	61	96	349	268
Average Queue (ft)	84	1	15	34	69	120
95th Queue (ft)	164	8	44	77	227	232
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)					1	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)					0	2
Queuing Penalty (veh)					0	4

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #1

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	149	55	91	81	44	53
Average Queue (ft)	99	19	45	51	16	23
95th Queue (ft)	162	59	92	88	43	54
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #2

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	165	88	101	124	59	57
Average Queue (ft)	92	15	37	45	16	22
95th Queue (ft)	150	57	83	96	44	54
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 14: Ashland St & I-5 NB Ramps, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	174	89	109	132	59	59
Average Queue (ft)	94	16	39	46	16	22
95th Queue (ft)	153	57	86	95	44	54
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)						
Queuing Penalty (veh)						

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Intersection: 19: Tolman Creek Rd & Ashland St, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	55	161	137	106	131	152	90	142	88	114
Average Queue (ft)	32	104	58	70	78	102	43	91	56	64
95th Queue (ft)	56	163	137	110	135	154	92	176	97	111
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		0						3	1	0
Queuing Penalty (veh)		0						2	1	0

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	52	123	69	123	98	120	89	149	81	91
Average Queue (ft)	23	64	29	60	41	70	34	71	42	39
95th Queue (ft)	54	106	58	104	82	111	71	123	77	77
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)								1		0
Queuing Penalty (veh)								0		0

Intersection: 19: Tolman Creek Rd & Ashland St, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	57	164	137	126	132	155	108	167	101	118
Average Queue (ft)	25	74	36	62	50	77	36	76	45	45
95th Queue (ft)	56	128	86	106	102	127	77	139	83	89
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		0						1	0	0
Queuing Penalty (veh)		0						1	0	0

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #1

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	42	10	102	101	40	101	114
Average Queue (ft)	14	1	68	68	15	69	61
95th Queue (ft)	41	10	106	104	44	109	113
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #2

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	43	22	101	93	39	112	91
Average Queue (ft)	7	2	51	44	9	58	45
95th Queue (ft)	25	15	83	83	34	98	85
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 43: Siskiyou Blvd & Ashland St, All Intervals

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	51	25	107	104	48	112	114
Average Queue (ft)	9	2	55	49	11	61	49
95th Queue (ft)	29	14	90	92	37	101	93
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 49: Siskiyou Blvd/Lithia Way & E main, Interval #1

Movement

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

Intersection: 49: Siskiyou Blvd/Lithia Way & E main, Interval #2

Movement

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

Intersection: 49: Siskiyou Blvd/Lithia Way & E main, All Intervals

Movement

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

Intersection: 50: , Interval #1

Movement

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

Intersection: 50: , Interval #2

Movement

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

Intersection: 50: , All Intervals

Movement

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

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	31	13	10	38
Average Queue (ft)	14	3	1	11
95th Queue (ft)	39	12	8	38
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	41	18	14	48
Average Queue (ft)	15	3	1	7
95th Queue (ft)	42	13	9	31
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	41	18	20	48
Average Queue (ft)	15	3	1	8
95th Queue (ft)	41	12	9	33
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	32	2	51	104
Average Queue (ft)	12	0	33	67
95th Queue (ft)	33	4	54	114
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	47	13	50	102
Average Queue (ft)	9	1	28	47
95th Queue (ft)	31	7	48	85
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	55	13	54	118
Average Queue (ft)	9	1	30	51
95th Queue (ft)	32	6	50	94
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	23	22
Average Queue (ft)	4	10
95th Queue (ft)	24	28
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	35	22
Average Queue (ft)	3	8
95th Queue (ft)	17	24
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	39	22
Average Queue (ft)	3	8
95th Queue (ft)	19	26
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 68: 3rd St & E main, Interval #1

Movement

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

Intersection: 68: 3rd St & E main, Interval #2

Movement

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

Intersection: 68: 3rd St & E main, All Intervals

Movement

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

Network Summary

Network wide Queuing Penalty, Interval #1: 12
Network wide Queuing Penalty, Interval #2: 4
Network wide Queuing Penalty, All Intervals: 6

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #1

Movement	EB	WB	WB	SB	SB
Directions Served	T	L	T	LT	R
Maximum Queue (ft)	227	44	72	210	243
Average Queue (ft)	146	18	37	95	170
95th Queue (ft)	262	45	88	279	286
Link Distance (ft)	1021		498	446	
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)		130			260
Storage Blk Time (%)				0	3
Queuing Penalty (veh)				2	5

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #2

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	271	7	65	92	293	280
Average Queue (ft)	126	0	21	27	70	137
95th Queue (ft)	231	3	54	71	202	247
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		2
Queuing Penalty (veh)				0		3

Intersection: 11: Ashland St & I-5 SB Ramps, All Intervals

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	295	7	66	96	313	280
Average Queue (ft)	131	0	20	29	76	145
95th Queue (ft)	239	3	52	76	223	259
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0	0	2
Queuing Penalty (veh)				0	0	3

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #1

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	206	41	85	105	39	53
Average Queue (ft)	139	14	54	63	18	20
95th Queue (ft)	222	40	93	117	42	49
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	0					
Queuing Penalty (veh)	1					

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #2

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	205	80	107	132	56	66
Average Queue (ft)	108	13	47	50	20	25
95th Queue (ft)	184	49	94	103	50	60
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 14: Ashland St & I-5 NB Ramps, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	232	83	110	144	58	66
Average Queue (ft)	116	13	49	53	19	24
95th Queue (ft)	197	47	94	108	48	58
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	80	167	126	150	109	134	74	217	100	109
Average Queue (ft)	38	118	66	101	70	99	35	119	55	65
95th Queue (ft)	88	175	142	160	109	139	73	236	102	114
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		0		0				6	1	1
Queuing Penalty (veh)		0		1				5	2	1

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	56	140	99	159	101	128	111	202	94	92
Average Queue (ft)	20	78	37	79	45	74	36	94	43	45
95th Queue (ft)	54	124	78	129	86	113	80	172	82	78
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)				0				2	0	0
Queuing Penalty (veh)				0				1	0	0

Intersection: 19: Tolman Creek Rd & Ashland St, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	80	171	142	166	114	137	113	249	116	114
Average Queue (ft)	25	88	44	84	51	80	36	100	46	50
95th Queue (ft)	65	144	100	139	95	123	78	191	88	90
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		0		0				3	0	0
Queuing Penalty (veh)		0		0				2	1	0

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #1

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	54	34	101	98	59	144	115
Average Queue (ft)	18	6	71	74	21	84	67
95th Queue (ft)	53	38	112	114	67	143	119
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)						1	
Queuing Penalty (veh)						1	

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #2

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	36	10	99	101	60	118	111
Average Queue (ft)	6	1	56	50	11	56	48
95th Queue (ft)	24	6	89	88	44	98	99
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 43: Siskiyou Blvd & Ashland St, All Intervals

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	55	38	112	112	88	157	126
Average Queue (ft)	9	2	60	56	14	63	52
95th Queue (ft)	34	19	97	98	50	113	106
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)						0	
Queuing Penalty (veh)						0	

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #1

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	35	54	63
Average Queue (ft)	19	26	33
95th Queue (ft)	45	53	67
Link Distance (ft)	607	896	386
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	31	50	15	66
Average Queue (ft)	13	19	1	18
95th Queue (ft)	37	41	10	53
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	35	58	15	74
Average Queue (ft)	14	21	1	22
95th Queue (ft)	39	44	8	58
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	48	18	57	131
Average Queue (ft)	17	4	36	64
95th Queue (ft)	49	23	68	132
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	51	14	72	146
Average Queue (ft)	13	1	32	55
95th Queue (ft)	37	11	59	103
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	60	32	73	184
Average Queue (ft)	14	2	33	57
95th Queue (ft)	40	14	62	111
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	22	18
Average Queue (ft)	5	5
95th Queue (ft)	26	21
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	35	27
Average Queue (ft)	5	5
95th Queue (ft)	25	22
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	35	27
Average Queue (ft)	5	5
95th Queue (ft)	25	21
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 1: Siskiyou Blvd & Site Access , Interval #1

Movement	EB	WB	SB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	48	4	32	56
Average Queue (ft)	19	1	21	35
95th Queue (ft)	52	7	41	56
Link Distance (ft)	1016	497		653
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 1: Siskiyou Blvd & Site Access , Interval #2

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	53	31	57
Average Queue (ft)	17	13	29
95th Queue (ft)	48	35	46
Link Distance (ft)	1016		653
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		150	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 1: Siskiyou Blvd & Site Access , All Intervals

Movement	EB	WB	SB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	61	4	36	61
Average Queue (ft)	17	0	15	30
95th Queue (ft)	49	3	37	49
Link Distance (ft)	1016	497		653
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 11: Ashland St & I-5 SB Ramps, Interval #1

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	292	2	39	110	120	92
Average Queue (ft)	134	0	11	38	59	63
95th Queue (ft)	344	2	37	106	120	93
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #2

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	324	22	66	119	109	157
Average Queue (ft)	128	1	18	35	51	72
95th Queue (ft)	273	11	50	90	96	132
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 11: Ashland St & I-5 SB Ramps, All Intervals

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	377	22	66	136	133	157
Average Queue (ft)	129	1	17	36	53	70
95th Queue (ft)	293	10	47	94	103	125
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

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Intersection: 14: Ashland St & I-5 NB Ramps, Interval #1

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	215	59	142	124	46	33
Average Queue (ft)	136	13	85	58	15	17
95th Queue (ft)	210	49	145	116	39	38
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	0					
Queuing Penalty (veh)	1					

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #2

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	235	122	157	127	50	32
Average Queue (ft)	135	20	73	57	17	12
95th Queue (ft)	231	81	127	107	41	34
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	1					
Queuing Penalty (veh)	2					

Intersection: 14: Ashland St & I-5 NB Ramps, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	248	126	164	136	51	38
Average Queue (ft)	135	18	76	57	17	13
95th Queue (ft)	227	75	132	109	41	35
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	1					
Queuing Penalty (veh)	2					

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Intersection: 19: Tolman Creek Rd & Ashland St, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	104	197	161	134	84	110	92	150	83	101
Average Queue (ft)	58	141	96	83	47	75	34	96	48	62
95th Queue (ft)	112	208	174	135	82	116	81	154	83	113
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		1		0				2	0	0
Queuing Penalty (veh)		1		0				1	0	0

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	113	215	226	166	113	146	114	184	82	128
Average Queue (ft)	48	131	83	84	49	79	37	93	41	57
95th Queue (ft)	91	201	181	136	95	130	80	156	71	103
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		1		0				2		1
Queuing Penalty (veh)		1		1				1		0

Intersection: 19: Tolman Creek Rd & Ashland St, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	140	228	226	169	113	151	132	190	91	135
Average Queue (ft)	50	134	86	84	48	78	36	94	43	58
95th Queue (ft)	97	203	180	136	92	127	80	156	74	106
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		1		0				2	0	1
Queuing Penalty (veh)		1		1				1	0	0

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Intersection: 43: Siskiyou Blvd & Ashland St, Interval #1

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	39	8	127	129	134	146	130
Average Queue (ft)	16	1	79	82	48	96	73
95th Queue (ft)	48	9	122	132	117	146	127
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	3	

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #2

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	54	18	116	129	110	152	128
Average Queue (ft)	15	1	69	68	29	86	59
95th Queue (ft)	43	9	105	106	79	137	107
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	2	

Intersection: 43: Siskiyou Blvd & Ashland St, All Intervals

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	58	18	135	142	140	161	141
Average Queue (ft)	15	1	72	72	33	88	62
95th Queue (ft)	44	9	110	114	90	139	113
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	2	

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #1

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	53	17	32
Average Queue (ft)	14	8	4
95th Queue (ft)	50	21	24
Link Distance (ft)	607	896	386
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	35	18	5	27
Average Queue (ft)	12	9	0	3
95th Queue (ft)	36	21	4	19
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	57	22	5	37
Average Queue (ft)	12	9	0	3
95th Queue (ft)	40	21	4	20
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	38	4	72	113
Average Queue (ft)	11	1	39	64
95th Queue (ft)	42	4	70	111
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	38	11	79	100
Average Queue (ft)	8	0	33	55
95th Queue (ft)	26	6	64	88
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	52	13	84	122
Average Queue (ft)	9	1	34	57
95th Queue (ft)	30	6	66	94
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	6	22
Average Queue (ft)	1	12
95th Queue (ft)	9	29
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	11	26
Average Queue (ft)	1	9
95th Queue (ft)	8	27
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	11	26
Average Queue (ft)	1	10
95th Queue (ft)	8	28
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 6
Network wide Queuing Penalty, Interval #2: 7
Network wide Queuing Penalty, All Intervals: 7

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Intersection: 11: Ashland St & I-5 SB Ramps, Interval #1

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	289	2	52	82	116	130
Average Queue (ft)	125	0	15	33	52	78
95th Queue (ft)	296	3	51	85	116	129
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #2

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	339	5	53	107	137	190
Average Queue (ft)	117	0	17	34	52	75
95th Queue (ft)	259	3	48	90	114	138
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 11: Ashland St & I-5 SB Ramps, All Intervals

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	396	6	66	115	138	190
Average Queue (ft)	119	0	16	34	52	76
95th Queue (ft)	269	3	49	89	115	136
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #1

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	216	51	138	124	35	27
Average Queue (ft)	152	20	83	73	20	11
95th Queue (ft)	246	57	154	128	43	32
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	1					
Queuing Penalty (veh)	2					

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #2

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	236	72	145	130	59	32
Average Queue (ft)	134	14	70	58	17	13
95th Queue (ft)	223	51	131	109	45	34
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	0					
Queuing Penalty (veh)	1					

Intersection: 14: Ashland St & I-5 NB Ramps, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	241	76	153	136	59	33
Average Queue (ft)	138	16	73	61	18	12
95th Queue (ft)	230	53	138	115	45	33
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	0					
Queuing Penalty (veh)	1					

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Intersection: 19: Tolman Creek Rd & Ashland St, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	118	197	174	111	92	116	81	135	68	117
Average Queue (ft)	60	139	87	79	56	80	46	84	41	70
95th Queue (ft)	118	213	180	125	94	122	94	127	74	118
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		2					0	1		1
Queuing Penalty (veh)		2					1	0		1

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	194	240	206	151	105	132	90	184	114	125
Average Queue (ft)	55	134	86	81	51	75	36	91	50	60
95th Queue (ft)	121	202	178	130	97	117	73	152	95	104
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		2		0				1	0	1
Queuing Penalty (veh)		1		0				1	0	0

Intersection: 19: Tolman Creek Rd & Ashland St, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	195	248	212	151	106	134	95	184	114	138
Average Queue (ft)	56	135	86	81	52	77	38	89	48	62
95th Queue (ft)	121	205	178	129	97	118	79	147	91	108
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		2		0			0	1	0	1
Queuing Penalty (veh)		1		0			0	1	0	1

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #1

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	45	20	118	139	90	126	135
Average Queue (ft)	24	4	86	89	42	92	72
95th Queue (ft)	52	21	132	147	98	132	133
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	2	

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #2

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	60	35	128	118	113	156	137
Average Queue (ft)	15	3	70	70	30	84	63
95th Queue (ft)	44	19	108	108	87	131	116
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	1	

Intersection: 43: Siskiyou Blvd & Ashland St, All Intervals

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	61	40	136	152	117	156	146
Average Queue (ft)	17	3	74	75	33	86	65
95th Queue (ft)	47	20	115	120	90	132	121
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	2	

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	36	13	5	35
Average Queue (ft)	11	10	1	7
95th Queue (ft)	37	19	7	39
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	40	32	9	42
Average Queue (ft)	14	9	0	4
95th Queue (ft)	40	24	5	25
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	44	32	14	55
Average Queue (ft)	13	9	0	5
95th Queue (ft)	39	23	6	29
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	44	10	53	81
Average Queue (ft)	11	2	33	52
95th Queue (ft)	40	12	53	90
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	40	12	68	115
Average Queue (ft)	7	1	32	59
95th Queue (ft)	24	7	58	104
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	52	19	68	122
Average Queue (ft)	8	1	32	57
95th Queue (ft)	29	9	57	101
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #1

Movement	SB
Directions Served	LR
Maximum Queue (ft)	22
Average Queue (ft)	9
95th Queue (ft)	27
Link Distance (ft)	624
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	6	22
Average Queue (ft)	0	7
95th Queue (ft)	5	24
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	6	22
Average Queue (ft)	0	8
95th Queue (ft)	4	25
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 9
Network wide Queuing Penalty, Interval #2: 5
Network wide Queuing Penalty, All Intervals: 6

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #1

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	374	7	49	105	84	137
Average Queue (ft)	205	1	18	40	49	92
95th Queue (ft)	424	11	54	102	92	144
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #2

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	367	11	61	130	137	174
Average Queue (ft)	147	1	15	36	56	85
95th Queue (ft)	312	5	48	102	116	144
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 11: Ashland St & I-5 SB Ramps, All Intervals

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	407	14	65	134	137	174
Average Queue (ft)	161	1	16	37	54	87
95th Queue (ft)	345	7	50	102	111	145
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #1

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	220	110	152	135	45	32
Average Queue (ft)	151	29	86	74	19	14
95th Queue (ft)	220	123	169	135	43	37
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	1					
Queuing Penalty (veh)	4					

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #2

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	248	246	185	169	47	32
Average Queue (ft)	157	28	79	65	15	12
95th Queue (ft)	251	129	150	131	37	33
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	1		0			
Queuing Penalty (veh)	5		0			

Intersection: 14: Ashland St & I-5 NB Ramps, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	248	253	188	173	50	38
Average Queue (ft)	156	28	81	67	16	13
95th Queue (ft)	244	128	155	132	38	34
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	1		0			
Queuing Penalty (veh)	5		0			

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	190	267	217	153	109	144	119	270	89	128
Average Queue (ft)	84	179	138	107	60	94	53	164	51	80
95th Queue (ft)	188	263	210	157	118	146	126	272	93	134
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		8		0	0			14		2
Queuing Penalty (veh)		7		0	0			10		1

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	190	256	219	168	100	134	163	207	123	154
Average Queue (ft)	58	154	109	99	49	80	46	117	51	73
95th Queue (ft)	127	233	206	155	91	119	106	189	94	132
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)	0	3		0			0	5	0	2
Queuing Penalty (veh)	0	2		1			0	3	0	1

Intersection: 19: Tolman Creek Rd & Ashland St, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	214	276	231	176	114	153	163	270	123	166
Average Queue (ft)	64	160	116	101	51	83	48	128	51	75
95th Queue (ft)	145	243	210	156	98	127	111	217	94	133
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)	0	4		0	0		0	7	0	2
Queuing Penalty (veh)	0	4		1	0		0	5	0	1

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #1

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	42	13	132	134	95	141	130
Average Queue (ft)	17	2	88	95	32	89	80
95th Queue (ft)	43	12	130	140	82	138	143
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	2	

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #2

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	54	14	122	132	115	163	142
Average Queue (ft)	13	1	72	75	32	88	64
95th Queue (ft)	40	7	111	118	88	142	119
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	2	

Intersection: 43: Siskiyou Blvd & Ashland St, All Intervals

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	59	19	144	140	122	168	146
Average Queue (ft)	14	1	75	80	32	88	68
95th Queue (ft)	41	9	117	126	87	141	126
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	2	

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	31	50	4	61
Average Queue (ft)	11	24	0	31
95th Queue (ft)	34	48	5	69
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	56	51	10	88
Average Queue (ft)	14	21	0	28
95th Queue (ft)	43	41	6	70
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	56	55	13	88
Average Queue (ft)	13	22	0	29
95th Queue (ft)	41	43	6	70
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	64	14	81	139
Average Queue (ft)	21	3	43	86
95th Queue (ft)	60	14	93	142
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	81	14	87	171
Average Queue (ft)	17	1	35	74
95th Queue (ft)	54	8	70	137
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	94	16	101	175
Average Queue (ft)	18	2	37	77
95th Queue (ft)	55	10	77	139
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	17	22
Average Queue (ft)	3	11
95th Queue (ft)	21	29
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	12	22
Average Queue (ft)	1	8
95th Queue (ft)	7	25
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	22	22
Average Queue (ft)	1	8
95th Queue (ft)	12	26
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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Intersection: 1: Siskiyou Blvd & Site Access , Interval #1

Movement	EB	SB	SB
Directions Served	LT	L	R
Maximum Queue (ft)	52	25	42
Average Queue (ft)	24	15	25
95th Queue (ft)	58	35	41
Link Distance (ft)	1024		759
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		150	
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 1: Siskiyou Blvd & Site Access , Interval #2

Movement	EB	WB	SB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	67	8	29	47
Average Queue (ft)	21	0	12	24
95th Queue (ft)	56	5	32	42
Link Distance (ft)	1024	480		759
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 1: Siskiyou Blvd & Site Access , All Intervals

Movement	EB	WB	SB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	69	8	30	49
Average Queue (ft)	22	0	12	24
95th Queue (ft)	56	4	33	42
Link Distance (ft)	1024	480		759
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 11: Ashland St & I-5 SB Ramps, Interval #1

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	257	2	37	65	102	143
Average Queue (ft)	150	0	15	30	45	77
95th Queue (ft)	263	2	42	71	101	139
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130		260	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #2

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	342	17	53	102	105	166
Average Queue (ft)	121	1	14	32	41	77
95th Queue (ft)	268	11	41	83	88	134
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130		260	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 11: Ashland St & I-5 SB Ramps, All Intervals

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	342	17	54	102	121	174
Average Queue (ft)	128	1	14	31	42	77
95th Queue (ft)	269	10	41	81	91	135
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130		260	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #1

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	205	40	100	108	57	28
Average Queue (ft)	141	10	61	58	19	17
95th Queue (ft)	214	34	105	107	53	36
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	0					
Queuing Penalty (veh)	2					

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #2

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	238	116	154	143	50	33
Average Queue (ft)	129	16	68	63	15	14
95th Queue (ft)	208	74	132	116	38	35
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	0					
Queuing Penalty (veh)	1					

Intersection: 14: Ashland St & I-5 NB Ramps, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	242	116	154	144	63	34
Average Queue (ft)	132	14	66	62	16	15
95th Queue (ft)	210	67	126	114	43	36
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	0					
Queuing Penalty (veh)	1					

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	76	186	150	118	84	102	85	130	71	111
Average Queue (ft)	45	141	90	72	46	74	49	91	39	68
95th Queue (ft)	83	207	174	117	86	109	88	140	74	112
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		1						1		1
Queuing Penalty (veh)		1						1		1

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	150	220	196	155	150	153	86	172	105	134
Average Queue (ft)	55	130	86	80	61	78	36	93	47	63
95th Queue (ft)	104	208	176	146	149	128	71	152	84	115
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		1		3				1	0	1
Queuing Penalty (veh)		1		6				1	1	0

Intersection: 19: Tolman Creek Rd & Ashland St, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	150	221	196	155	156	160	106	172	105	134
Average Queue (ft)	52	133	87	78	58	77	39	92	45	64
95th Queue (ft)	100	209	176	140	137	124	76	149	82	114
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		1		3				1	0	1
Queuing Penalty (veh)		1		5				1	0	1

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #1

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	52	21	120	126	129	146	123
Average Queue (ft)	22	3	77	81	55	103	76
95th Queue (ft)	55	21	121	129	146	158	136
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	3	
Queuing Penalty (veh)					0	5	

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #2

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	52	20	110	118	130	167	138
Average Queue (ft)	12	1	68	71	32	83	63
95th Queue (ft)	36	11	102	111	89	131	121
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	1	

Intersection: 43: Siskiyou Blvd & Ashland St, All Intervals

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	61	31	122	134	150	175	162
Average Queue (ft)	15	2	70	73	37	88	66
95th Queue (ft)	42	14	108	116	107	140	125
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	2	

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	35	22	5	17
Average Queue (ft)	10	10	1	3
95th Queue (ft)	37	24	8	19
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	43	18	10	43
Average Queue (ft)	8	8	1	4
95th Queue (ft)	32	20	7	25
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	48	23	11	43
Average Queue (ft)	8	8	1	4
95th Queue (ft)	34	21	7	24
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	25	7	47	131
Average Queue (ft)	8	1	26	71
95th Queue (ft)	26	6	52	150
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	50	8	60	141
Average Queue (ft)	7	0	30	54
95th Queue (ft)	29	3	54	102
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	50	9	61	164
Average Queue (ft)	8	0	29	58
95th Queue (ft)	28	4	53	117
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
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Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #1

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	12	22
Average Queue (ft)	2	8
95th Queue (ft)	13	25
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #2

Movement	SB
Directions Served	LR
Maximum Queue (ft)	22
Average Queue (ft)	8
95th Queue (ft)	24
Link Distance (ft)	624
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	12	22
Average Queue (ft)	0	8
95th Queue (ft)	6	25
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty, Interval #1: 10
Network wide Queuing Penalty, Interval #2: 12
Network wide Queuing Penalty, All Intervals: 11

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #1

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	265	1	36	80	104	160
Average Queue (ft)	155	0	9	30	50	92
95th Queue (ft)	292	1	32	84	109	171
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)						0
Queuing Penalty (veh)						0

Intersection: 11: Ashland St & I-5 SB Ramps, Interval #2

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	338	88	62	114	134	197
Average Queue (ft)	159	4	16	32	50	94
95th Queue (ft)	303	70	49	87	101	170
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 11: Ashland St & I-5 SB Ramps, All Intervals

Movement	EB	EB	WB	WB	SB	SB
Directions Served	T	R	L	T	LT	R
Maximum Queue (ft)	343	88	63	114	144	217
Average Queue (ft)	158	3	14	32	50	94
95th Queue (ft)	301	60	46	86	103	170
Link Distance (ft)	1021	1021		498	446	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			130			260
Storage Blk Time (%)				0		0
Queuing Penalty (veh)				0		0

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #1

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	215	125	128	110	37	26
Average Queue (ft)	142	35	76	61	17	10
95th Queue (ft)	232	184	136	108	37	29
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	1					
Queuing Penalty (veh)	3					

Intersection: 14: Ashland St & I-5 NB Ramps, Interval #2

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	265	244	149	145	70	33
Average Queue (ft)	161	31	66	65	16	14
95th Queue (ft)	258	162	120	118	44	35
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	2					
Queuing Penalty (veh)	6					

Intersection: 14: Ashland St & I-5 NB Ramps, All Intervals

Movement	EB	EB	WB	WB	NB	NB
Directions Served	L	T	T	R	LT	R
Maximum Queue (ft)	265	269	163	149	70	33
Average Queue (ft)	156	32	68	64	16	13
95th Queue (ft)	253	167	124	116	43	34
Link Distance (ft)		498	822		477	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	245			250		150
Storage Blk Time (%)	1					
Queuing Penalty (veh)	5					

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #1

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	129	200	171	167	126	116	106	250	86	123
Average Queue (ft)	64	156	115	119	62	88	56	146	52	73
95th Queue (ft)	130	213	193	183	123	123	116	254	89	125
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		2		2				12	1	1
Queuing Penalty (veh)		2		4				9	1	1

Intersection: 19: Tolman Creek Rd & Ashland St, Interval #2

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	184	266	221	191	133	138	146	248	114	140
Average Queue (ft)	59	156	108	107	57	79	50	118	47	67
95th Queue (ft)	130	243	207	175	114	120	111	211	94	118
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		4		1			0	5	0	1
Queuing Penalty (veh)		4		3			0	4	1	1

Intersection: 19: Tolman Creek Rd & Ashland St, All Intervals

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	184	266	221	196	155	140	164	284	115	143
Average Queue (ft)	60	156	110	110	58	81	51	125	48	69
95th Queue (ft)	130	237	204	177	117	121	113	224	93	120
Link Distance (ft)		1058	1058		1021	1021		579		770
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	190			180			140		120	
Storage Blk Time (%)		4		2			0	7	0	1
Queuing Penalty (veh)		3		3			0	5	1	1

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #1

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	51	14	146	167	128	215	137
Average Queue (ft)	20	4	95	103	54	113	79
95th Queue (ft)	49	19	169	186	141	203	132
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	5	
Queuing Penalty (veh)					1	9	

Intersection: 43: Siskiyou Blvd & Ashland St, Interval #2

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	51	21	117	129	92	141	147
Average Queue (ft)	14	2	70	70	24	81	70
95th Queue (ft)	41	13	106	113	66	127	123
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	1	
Queuing Penalty (veh)					0	1	

Intersection: 43: Siskiyou Blvd & Ashland St, All Intervals

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	R	R	T	TR	L	L	T
Maximum Queue (ft)	58	26	155	173	128	215	159
Average Queue (ft)	16	2	76	78	31	89	72
95th Queue (ft)	43	14	127	138	91	153	125
Link Distance (ft)	1232	1232	1606	1606		844	844
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					126		
Storage Blk Time (%)					0	2	
Queuing Penalty (veh)					0	3	

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #1

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	31	45	70
Average Queue (ft)	9	25	33
95th Queue (ft)	32	47	73
Link Distance (ft)	607	896	386
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	44	51	26	81
Average Queue (ft)	9	21	3	32
95th Queue (ft)	33	43	19	71
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 54: Tolman Creek Rd & Takelma Way/Mistletoe Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	44	54	26	83
Average Queue (ft)	9	22	2	32
95th Queue (ft)	33	44	16	71
Link Distance (ft)	607	896	558	386
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #1

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	38	12	71	147
Average Queue (ft)	14	3	37	88
95th Queue (ft)	40	15	71	157
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, Interval #2

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	64	15	101	135
Average Queue (ft)	14	1	36	63
95th Queue (ft)	45	7	76	113
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 59: Siskiyou Blvd & Tolman Creek Rd, All Intervals

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	64	21	101	152
Average Queue (ft)	14	1	36	69
95th Queue (ft)	44	10	75	127
Link Distance (ft)	785	880	746	707
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #1

Movement	SB
Directions Served	LR
Maximum Queue (ft)	22
Average Queue (ft)	12
95th Queue (ft)	30
Link Distance (ft)	624
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, Interval #2

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	27	22
Average Queue (ft)	1	7
95th Queue (ft)	15	24
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 62: Siskiyou Blvd & Milstletoe Rd, All Intervals

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	27	22
Average Queue (ft)	1	9
95th Queue (ft)	13	26
Link Distance (ft)	880	624
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 1: Siskiyou Blvd & Site Access , Interval #1

Movement	EB	WB	SB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	62	8	28	50
Average Queue (ft)	28	1	14	30
95th Queue (ft)	69	9	36	53
Link Distance (ft)	1112	841		662
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 1: Siskiyou Blvd & Site Access , Interval #2

Movement	EB	WB	SB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	58	9	33	45
Average Queue (ft)	17	0	12	24
95th Queue (ft)	50	5	33	40
Link Distance (ft)	1112	841		662
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 1: Siskiyou Blvd & Site Access , All Intervals

Movement	EB	WB	SB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	71	13	33	50
Average Queue (ft)	20	1	12	25
95th Queue (ft)	55	6	34	44
Link Distance (ft)	1112	841		662
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

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