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REGISTERED PROFESSIONAL ENGINEER 69407PE OREGON DECEMBER 31, 2007 JOSEPH LAFAYETTE MEEK, III
EXPIRATION DATE: 12/31/19

SUBJECT: **UPDATED: Rogue River TSP Technical Memorandum #4 Existing Conditions**

The purpose of this memo is to update the existing conditions of Rogue River's Transportation System Plan. This will provide an overview of the current transportation system operations and deficiencies within the city. This memorandum was updated to include pedestrian and bicycle issues on OR99.

The current transportation system operations analysis identifies how the study area's transportation system operates today. This analysis includes an evaluation of traffic operations at the study intersections, including non-motorized (pedestrian and bicycle) movements. The results of this analysis will be used to identify existing transportation system needs at the study intersections for motorized and non-motorized travel modes.

In the 2016 existing conditions analysis, there were no intersections exceeding applicable volume-to-capacity (v/c) targets or standards. There are queuing and safety related issues on Depot Street in the interchange area. There are also potential safety concerns at the Main & Pine Street intersection and on North River Road south of Classick Drive, but crash rate thresholds have not yet been reached. The rest of the concerns are a lack of official bicycle facilities, inconsistent sidewalks, and infrequent transit.

Background

The City of Rogue River is in Jackson County along I5 and OR99 and is part of the Middle Rogue Metropolitan Planning Organization (MRMPO). In July 1, 2011 the population was 2,140. This city has grown to the south beyond the significant barriers of railroad tracks, an interstate, and a river. The I5/Depot Street interchange is jammed in between the Central Oregon and Pacific railroad tracks and the Rogue River which

becomes a series of difficult to cross barriers in very close proximity to each other. This leads to traffic operations issues and problems in future planning.

The City has developed from south of the Rogue River and stretched north beyond the city limits to build the high school on East Evans Creek Road. The main street of the community is the east/west oriented Foothill Boulevard/E Main Street/W Main Street. This is connected to I5 and OR99 by way of Depot Street.

Evaluation Criteria and Analysis

The intersection operations analysis results were compared to operational standards and targets used by the County and ODOT to assess performance and potential areas for improvement. The City appears not to have its own traffic operational standard, so a v/c ratio of 0.95 was used which is equivalent to both a state district-level highway v/c target in the Oregon Highway Plan (OHP) and Jackson County's inside-MPO standard. Jackson County and ODOT use volume/capacity (v/c) ratios, which compare the volume of traffic entering an intersection to the theoretical capacity of the intersection to accommodate traffic. A v/c ratio of 1.0 indicates that an intersection is operating at capacity while a v/c ratio over 1.0 indicates that the intersection's capacity is exceeded.

The 1999 OHP mobility standards (amended in 2011) were used to evaluate v/c ratios for state highways in an MPO. Under the OHP, the maximum acceptable v/c ratio for I5 and the interchange ramp terminals is 0.85 and 0.95 for OR99. Jackson County uses v/c standard of 0.95 for intersections within an MPO.

The intersection operations analysis was conducted using SIDRA Version 7 software, with Highway Capacity Manual (HCM) 2010 methodologies. Signalized intersection v/c's were manually calculated using the critical volume to capacity ratio process described in HCM 2010. The I5 mainline segments and merge/diverge areas were analyzed with HCS 2010. Queuing was developed using the SIDRA software. Appendix A shows the overall methodology to be used for the existing/future conditions and the alternatives.

Counts Taken

Classification (trucks, pedestrian and bicycles) traffic counts of varying durations were taken midweek in September 2016 at the below locations. These counts were taken after school was back in session.

16-hour classification (All vehicle classes & pedestrian/bicycle)
- Depot Street @ Highway 99
- Depot Street @ I-5 Southbound Ramp Terminal
- Depot Street @ I-5 Northbound Ramp Terminal

4-hour (2-6 PM) classification (All vehicle classes & pedestrian/bicycle)
- E. Main Street @ Wards Creek Road
- Foothill Boulevard @ W. Evans Creek Road
- E. Main Street / W. Main Street @ Pine Street
- N. River Road @ Classick Drive

- Depot Street @ Classick Drive / Pine Street

4-hour (2-6 PM) volume & pedestrian/bicycle classification only
- E. Main Street @ Broadway Street
- E. Main Street @ Cedar Street
- Depot Street / Oak Street @ E. Main Street

48-hour volume-only tube counts
- River Road , 0.65 mile east of Classick Drive
- Wards Creek Road, 0.02 mile east of Cluster Drive
- Foothill Boulevard at I-5 overcrossing
- Pine Street, 0.25 mile north of Creek View Lane
- W. Evans Creek Road, 0.02 mile north of Park Circle

Volume Development

The transportation and traffic analysis was based on the existing year 2016 30th highest hour conditions. The counts were reviewed to identify the peak periods to determine individual intersection and system peak hours for the operational analysis.
These counts were seasonally adjusted to the peak month using ODOT's Seasonal Trend Tables. The adjusted volumes were rounded and balanced between the intersections as needed. The system peak hour was determined to be 3:30 to 4:30 pm. See Appendix B for the 2016 30th highest hour volumes and lane configuration figures and the volume development worksheets.

Raw traffic counts should not be used alone for operational analysis. These counts should be taken as close to the peak month as possible. The peak hour is converted to a 30th highest volume by applying a seasonal factor. The 30th highest volume is then used for analysis purposes. The 30th highest hour is a transportation industry standard that represents traffic conditions that might occur during the worst evening commute in a month. Hours higher than the 30th highest hour typically surround the holidays, like the day after Thanksgiving.

Compare the 30th highest hour standard to purchasing a coat. For an outrageous cost, a waterproof coat would ensure staying dry for every hour of the year. On the other extreme, a cheap coat may allow getting soaked most rainy hours of the year. A water resistant coat may serve the best benefit, for the economic cost. It is not worth the excessive money to avoid getting a little wet some 20 hours during the year.

2016 Existing Conditions Analysis Results

Preliminary Signal Warrants

Preliminary Signal Warrants (PSW) were evaluated to determine if study area intersections were eligible for potential traffic control changes including signalization, roundabouts, etc. ODOT's Preliminary Signal Warrants (PSW) are based on Manual of Uniform Traffic Control Devices (MUTCD) Warrant 1 (Case A and B). Case A and B deal primarily with high volumes on the minor street and high volumes on the major street, respectively. Meeting preliminary signal warrants does not guarantee that a signal

(or other change) will be installed. An intersection traffic control study would need to be undertaken by the appropriate jurisdiction weighing the costs and benefits of such a change. For example, traffic signals can degrade the previously non-stopped major roadway while enhancing the minor street operation. A traffic signal may introduce safety hazards that outweigh the benefits of a signal, which may not address hazards and safety issues specific to this location. For ODOT's jurisdiction, traffic signal warrants must be met and the State Traffic Engineer's approval obtained before a traffic signal can be installed on a state highway. None of the unsignalized intersections in the study area met PSW's for 2016.

Volume to Capacity ratio, Level of Service, and 95th Percentile Queues

For 2016, the existing volumes were evaluated to describe the base traffic operating conditions. Table 1 summarizes the respective v/c ratio for the project area intersections; none are beyond the maximum allowable v/c ratio (0.85 or 0.95 for OHP) or the 0.95 level for the City jurisdiction in 2016. For additional information on the intersection operation, the applicable delay-based LOS is shown. The Depot and Pine Street intersection does not have a LOS as three-way stops are not applicable in the HCM LOS methodology. Table 2 shows the v/c for mainline I5 and the merge and diverge areas of the ramps. No locations were over the 0.85 maximum OHP v/c target. Analysis worksheets are shown in Appendix C.

In addition to v/c ratios and LOS, 95th percentile queue lengths were analyzed to better understand the system operation. Excessively long queue lengths are often seen in areas where v/c ratios exceed standards.

Figure 1: 95th Percentile Queues

The 95th percentile queue lengths showed no extensively long queues. The longest queues were along Depot Street in the interchange area as shown in Figure 1 as the queues extend between and through both ramp terminals which is a concern. Visual

observation in the peak hour correlated well with the reported queues. The reported distance of 325 feet could represent thirteen cars. There are five closely spaced public intersections on Depot Street (OR99, SB interchange ramp terminal, NB interchange ramp terminal, Pine Street, and East Main Street). The spacing of these streets as well as alleys and the railroad crossing creates areas where driver decision points and turn movement conflicts overlap.

The intersection of Depot Street at Pine Street is a concern as it is less than 150 feet north of the NB I5 intersection with railroad tracks in between. This results in virtually no space to store vehicles waiting at the NB ramp terminal intersection. One short vehicle can fit between the intersection stop-bar and the railroad tracks and the rest have to queue on the eastbound Pine Street, southbound Depot Street or westbound Classick Drive approaches.

Table 1: 2016 V/C Ratios, LOS, and 95th Percentile Queues

Intersection	LOS	Highest Movement[1]	V/C Ratio	Queue[2] (ft)	Agency	Standard
Depot St at Pine St	F	EB	0.45	125	City	0.95
Depot St and I5 NB	B[3]	SB	0.65	**325**	ODOT	0.85
Depot St and I5 SB	C[3]	NB	0.65	**300**	ODOT	0.85
Depot St and OR99	B	SB	0.51	75	ODOT	0.85
Depot St and Main St	C	NB	0.26	50	City	0.95
Main St and Wards Creek Rd	B	SB	0.08	< 50	City	0.95
Main St and Cedar St	C	SB	0.21	< 50	City	0.95
Main St and Broadway St	C	SB	0.24	< 50	City	0.95
Foothill Blvd and W Evans Creek Rd	B	SB	0.18	< 50	City	0.95
Main St and Pine St	B	EB	0.51	50	City	0.95
N River Rd and Classick Dr	C	EB	0.08	< 50	City	0.95

[1] The Highest Movement describes queues
[2] Cells shaded black represent queues that block other intersections.
[3] Intersection operation is essentially LOS F due to queuing extending and requiring more than a cycle to clear vehicles.

The constrained interchange section also can cause a number of operational issues. Any kind of incident on Depot Street or even when a train is crossing can quickly create congestion which can back onto the ramps and out onto the I5 mainline. Queuing that extends out onto the deceleration portion of the ramp or out onto the mainline is an inherent safety issue. The southbound off-ramp is likely to have this problem more often than in the northbound direction. Also, the geometry of the southbound ramp terminal intersection is tight enough that trucks trying to turn left to go into downtown can interfere with vehicles waiting in the left turn lane to head south on I5.

Table 2: Mainline & Merge/Diverge v/c for I5 at Rogue River Interchange

Section	V/C
NB north of interchange	0.52
SB north of interchange	0.46
NB Diverge from I5	0.51
SB Diverge from I5	0.50
NB between ramps	0.39
SB between ramps	0.36
NB Merge onto I5	0.54
SB Merge onto I5	0.56
NB south of interchange	0.47
SB south of interchange	0.54

Non-Motorized Operations

The traffic counts included the total number of pedestrians and bicyclists that entered the study intersections during the evening (3:00 to 5:00 p.m.) peak time periods. Tables 3 and 4 summarize the pedestrian and bicycle movements. The traffic counts indicate a base level of use on the pedestrian and bicycle system throughout the City even in the highest vehicular volume areas. It will be important to maintain and encourage growth of mobility for all users within the City into the future.

Table 3: Pedestrian Crossings

Intersection	Pedestrian Crossings 3-5PM peak period			
	North	East	South	West
Depot St at Pine St	0	3	0	2
Depot St and I5 NB	1	7	0	7
Depot St and I5 SB	2	4	3	6
Depot St and OR99	0	1	2	2
Depot Stand Main St	8	5	6	34
Main St and Wards Creek Rd	3	0	N/A	2
Main St and Cedar St	26	12	N/A	2
Main St and Broadway St	10	3	N/A	10
Foothill Blvd and W Evans Creek Rd	4	11	N/A	0
Main St and Pine St	10	9	28	14
N River Rd and Classick Dr	4	N/A	0	0

Table 4: Bicycle Movements

Intersection	Bicycles Entering Volumes 3-5PM peak period			
	North	East	South	West
Depot St at Pine St	0	0	3	1
Depot St and I5 NB	1	0	3	N/A
Depot St and I5 SB	1	N/A	3	0
Depot St and OR99	8	3	0	0
Depot St and Main St	0	0	1	1
Main St and Wards Creek Rd	1	0	N/A	1
Main St and Cedar St	No Data	No Data	N/A	No Data
Main St and Broadway St	0	1	N/A	2
Foothill Blvd and W Evans Creek Rd	2	0	N/A	1
Main St and Pine St	0	0	0	1
N River Rd and Classick Dr	0	N/A	0	0

Bicycle Level of Traffic Stress (LTS)

The Level of Traffic Stress (LTS) is ODOT's methodology described in the Analysis Procedures Manual (APM), Chapter 14. The methodology quantifies the perceived safety of being in close proximity with vehicles, considering both speed and separation.

In the Bicycle LTS, road segments are classified into one of four levels of traffic stress (see Table 5) based on the anticipated user comfort. This categorization of cyclist types is commonly accepted throughout the bicycling planning practice across the U.S. Table 6 shows the LTS for selected roadways in the study area.

Table 5: Levels of Traffic Stress

LTS	Stress Description	Suitability Age	Traffic Speed	Intersections	Locations
1	Little, requiring less attention than children have	Age 10 or higher	Low	Easy to cross	Residential separated cycle paths
2	Little, requires more attention	Teens and Adults with bicycle skills	Low Differentials	Not difficult for teens	Collector street w/bike lanes or downtown
3	Moderate	Observant Cyclists	Moderate	Safe for adults	Low-speed arterials w/bike lanes or non-multilane road
4	High	Experienced	High	Complex, wide, high volume/speed	High-speed or multilane road or no bike lanes

Cycling comfort decreases as number of lanes and posted speed increase. Cycling comfort increases when dedicated roadway space is provided and interaction with motor vehicles is reduced (e.g., buffered bike lanes or cycle tracks). Discomfort at intersections increases with number of lanes and speeds and/or decreasing with traffic calming and intersection controls.

Bicycle facilities in Rogue River are inconsistent to generally absent. There are no official bicycle facilities with pavement markings. Anything that looks like a bicycle lane is actually a paved shoulder. The "bicycle lanes" along Pine Street and Oak Street are too narrow to be used as vehicle parking. In wider locations, vehicle parking does occur. There is also a lack of marking to show that vehicles and bicycles are sharing the same lanes, such as on East Main Street west of Ward Creek Road. The result is that there are no expectations of drivers that bicycles will be on the shoulder or in the travel lanes.

The Pine Street paved shoulder/"bicycle lanes" run along both sides of Pine Street beyond the elementary and middle schools and into the suburban area until it turns into East Evans Creek Road. The paved shoulder on East Evans Creek Road and past the high school is only about four feet in most places, and while potentially inviting, it is functionally too narrow for safe bicycle riding. Pine Street is a busy roadway, but the speeds are low. This section should be considered a LTS 2, but a LTS 4 on East Evans Creek Road once the wider shoulders go away and the vehicle/posted speeds increase.

West Main Street has paved shoulders that could be used as bicycle facilities. In some locations east of East Evans Creek Road, there is no sidewalk and a section of the pavement is striped to substitute for a combination walking path/possible bike lane. The section of North River Road from south of Classick Drive to East Main Street has wide paved shoulders that could function as a bicycle lane. Also East Main Street west from Wards Creek Road has a wider shoulder on the north side to the Ward Creek bridge, near Cedar Street. There is no bicycle lane on East Main Street, from Ward Creek to Pine Street to connect the West Main and Pine Street sections. There should be bicycle lanes on both sides of the street so that bicycles can travel in the same direction as the vehicular traffic. Near the center of town there is more on street parking and vehicles moving in and out of business accesses.

Given the low speeds at or less than 25 mph and generally two- lane cross sections, the sections of West and East Main Street are LTS 2. River Road north of Classick Drive is also LTS 2 with the slower speeds, but becomes LTS 3 with the increase to 35 mph south of Classick Drive.

OR99 has no bicycle lanes in some sections. There is heavy traffic on OR99 that operates at high speed, but does lower upon coming into town. Due to these factors OR99 is rated LTS 4.

Table 6: Existing Rogue River Level of Traffic Stress

Location	Input	Rank
Pine Street	Low speeds , two lanes, wider paved shoulders	LTS 2
East Evans Creek Rd	Moderate speeds, two lanes, narrow shoulders	LTS 4
West Main St	Low speed, two lanes, mixed traffic conditions	LTS 2
East Main St	Low speed, two lanes, mixed traffic conditions	LTS 2
Broadway St north of 1st Street	Low speed, two lanes, mixed traffic conditions	LTS 2
Broadway St south of 1st Street	Low speed, two lanes, narrow bike lane with adjacent parking	LTS 3
River Rd north of Classick Dr	Low speed, two lanes, wide shoulder "bike lane"	LTS 2
River Rd south of Classick Dr	Moderate speed, two lanes, wide shoulder "bike lane"	LTS 3
OR99	No bike lane/paved shoulder in areas, volume	LTS 4

Qualitative MMLOS

The Qualitative Multimodal Assessment methodology (QMA) follows the concepts of the full MMLOS in the 2010 Highway Capacity Manual (HCM). A subjective rating of "Excellent/Good/Fair/Poor" is applied to a roadway segment or intersection base on its characteristics. This generalized process allows for a representation of the roadway network to be produced without the intense data collection required by the full HCM MMLOS. Bicycle, Pedestrian and Transit facilities are largely influenced by adjacent modes. Each of the rankings takes into account many aspects of the mode. Each looks at a different combination of available facilities, width of the facility, vehicular travel speeds, number of vehicular lanes, and more. Appendix D contains tables with the information they take into account. The bicycle mode is covered under the LTS section, so it will not be repeated in this section. Table 7 contains the summarized multimodal assessment for pedestrians and transit for the area.

Table 7: Existing Rogue River Qualitative Pedestrian & Transit Assessment

Location	Pedestrian	Transit
Pine St	Fair	Poor
East Evans Creek Rd	Very Poor	Poor
West Main St	Poor	Poor
East Main St west of Ward Creek	Poor	Poor
East Main St east of Ward Creek	Fair	Poor
Broadway St north of 1st St	Fair	Poor
Broadway St south of 1st St (west side only)	Fair	Poor
North River Rd	Fair	Poor
OR99	Poor	Poor

Pedestrian Facilities

Availability of sidewalk facilities in the study area are inconsistent. West Main Street has sidewalk to the west of Pine Street for a few blocks but that converts to a striped walking path on the north side road shoulder which continues all of the way to East Evans Creek

Road. The East Main Street section has sidewalk facilities on the south side from the east end, Rogue Lane, to Ward Creek, near Cedar Street. There are sidewalk facilities on both sides of East Main Street, from Ward Creek to Pine Street to connect the two sections. River Road has a sidewalk on the east side from Wards Creek Road to a bit past Classick Drive. There are sidewalks on each side of Pine Street until just north of Short Street. From there sidewalk only exists on the west side of Pine Street for a short distance. From Creek View Lane north, there are no sidewalk facilities on Pine Street. There are no sidewalks along OR99. For not having any pedestrian facility a rating of poor is given.

Most sidewalk locations have fair pavement conditions, but many have substandard widths or ADA (Americans with Disabilities Act) ramps. For this reason they received a fair rating.

Transit Facilities

There is no internal city public transportation inside of Rogue River. This would lead to a "Very Poor" rating due to there are not being any transit facilities available for travel inside the city. There is a Rogue Valley Commuter line that travels between Grants Pass and Medford. There is one stop in Rogue River at the Community Center at 132 Broadway Street. The cost is two dollars cash or a $50 dollar monthly pass. There are fewer than 10 stops per day. Considerable walking (but not excessive) will be required from most residential areas to reach the stop location. This is only useful for leaving the city of Rogue River and traveling to Grants Pass or Medford. Due to this service, the transit will be rated "Poor."

Crash and Safety Analysis

Crashes within the Rogue River urban growth boundary (UGB) were analyzed for the last five full years of available data (2010-2014). Crash information was obtained from ODOT's Crash Analysis and Reporting Unit which is the official state source. Appendix E shows the full crash listings.

I5 (Hwy #001) Crash Summary (MP 48.32 – 49.87)

The crashes in this section of I5 within the Rogue River UGB are typical for a interstate highway. The typical crash seems to be a property damage only crash that involved an improper lane change or another driver error. The crashes typically occurred in clear, dry, daylight conditions in the afternoon. None of the crashes occurred in work zones. None of the crashes involved a pedestrian, bicyclist, or a motor cycle. The highest age groups in crashes were 20 - 29 year olds and 60 – 69 year olds. Tuesday was the highest day for crashes.

No fatal crashes occurred in this section of I5, but there were three severe injury A crashes. One severe injury A occurred at the median barrier at 8pm on a Saturday. Two older drivers sideswiped each other in passenger cars. It was rainy and the pavement was wet. The driver was driving too fast for conditions and made an improper lane change. At the northbound off-ramp another injury A occurred on a Tuesday at 6pm. The driver lost control as a tire failure occurred and ran off the road. The vehicles hit the median barrier and the guard rail. With snow on the road, the speed was too fast for conditions in

the last injury A crash. The driver lost control and the vehicle ran off the road into the median barrier.

Table 8 shows the breakdown of the crashes by type. The number of crashes may not match those reported to have occurred on the I5 mainline as this also includes crashes on the interchange ramps.

Table 8: I5 (Hwy #1) MP 48.32 – 49.87 Crash Type and Year Table

Crash Type	2010	2011	2012	2013	2014	Total
Fixed Object	5	9	4	4	2	**24**
Other	0	0	2	0	0	**2**
Non-Collision	1	0	0	1	0	**2**
Rear-end	1	2	2	2	2	**9**
Sideswipe-Overtaking	2	1	1	2	1	**7**
Total	**9**	**12**	**9**	**9**	**5**	**44**
Fatal - Injury A[1] Crashes	2	0	0	1	0	**3**
Intersection / Related	0	0	0	0	0	**0**

[1]Injury A is an incapacitating non-fatal injury (i.e. broken bones, severe/internal bleeding, unconsciousness, etc.) that prevents a person from continuing normal activities that they were capable of before the injury.

- Gleaned points of the 44 total crashes:
- 58% were property damage only crashes
- 53% were fixed or other object crashes
- 22% were due to improper lane change
- 18% were due to traveling too fast for conditions
- 58% occurred in daylight conditions
- 64% occurred in dry conditions
- 53% occurred in clear conditions
- 49% occurred on a horizontal curve
- 33% occurred on a straight alignment
- 9% occurred at the off-ramps
- 13% occurred in the 3pm hour, 46% from noon to 6pm

Crashes generally decreased year by year with the high of 12 crashes in 2011.

- 9 crashes in 2010
- 12 crashes in 2011
- 9 crashes in 2012
- 9 crashes in 2013
- 5 crashes in 2014

OR99 (Hwy #060) Crash Summary (MP 8.52 – 9.52)

The crashes on this section of OR99 within the Rogue River UGB are typical for a minor arterial highway with street connections. The typical crash seems to be a property damage only crash that involved following too closely or careless driving. The crashes typically occurred at an intersection in clear, dry, daylight conditions. None of the crashes occurred in work zones. No fatal or severe injury A crashes occurred in this section of I5. None of the crashes involved a pedestrian, bicyclist, or a motor cycle. The highest

age groups in crashes were 20 - 29 year olds and 60 – 69 year olds. Tuesday and Saturday were the highest days for crashes.

Table 9 shows the breakdown of the crashes by type. The number of crashes may not match those reported to have occurred on that street due to the crashes being reported on an intersecting higher classification roadway.

Table 9: OR99 (Hwy #60) MP 8.52 – 9.52 Crash Type and Year Table

Crash Type	2010	2011	2012	2013	2014	Total
Fixed Object	0	0	1	0	0	**1**
Rear-end	0	1	0	3	3	**7**
Turning	0	0	0	1	0	**1**
Total	**0**	**1**	**1**	**4**	**3**	**9**
Fatal - Injury A[1] Crashes	0	0	0	0	0	**0**
Intersection / Related	0	0	0	0	0	**0**

[1]Injury A is an incapacitating non-fatal injury (i.e. broken bones, severe/internal bleeding, unconsciousness, etc.) that prevents a person from continuing normal activities that they were capable of before the injury.

Gleaned points of the 9 crashes in the last full five years of available data (2010-2014):

- 44% were property damage only crashes
- 78% were rear-end crashes
- 33% were due to following too closely
- 78% occurred in daylight conditions
- 67% occurred in dry conditions
- 67% occurred in clear conditions
- 67% occurred at an intersection
- 22% occurred in the 9am hour, 1pm hour, and 3pm hour

Nine crashes is too small a number to state a trend over the five years.

- 0 crashes in 2010
- 1 crash in 2011
- 1 crashes in 2012
- 4 crashes in 2013
- 3 crashes in 2014

Safety Priority Index System (SPIS)

The Safety Priority Index System (SPIS) is a method developed in 1986 by the Oregon Department of Transportation (ODOT) for identifying potential safety problems on stated highways. The SPIS identifies locations based on three years of crash data and considers crash frequency, crash rate, and crash severity. A roadway segment becomes a SPIS site if the location has three or more crashes or a least one fatal crash over the three-year period. There are no 2013 or 2014 SPIS or top 10% SPIS sites within the stated mile points on I5 or OR99 within the Rogue River UGB.

Rogue River Street Network Crash Summary

Tables 10-15 show the breakdown of the crashes by type for the City street network. There were no crashes on these roadways from 2010 to 2014 or they are recorded on a higher classification intersecting roadway: East Evans Creek Road, West Evans Creek Road, Broadway Street, Cedar Street, Wards Creek Road, 1st Street, 2nd Street, 3rd Street, and Pine Street.

The number of crashes in the tables may not match those reported to have occurred on that street due to the crashes being reported on an intersecting higher classification roadway.

Table 10: Classick Dr Crash Type and Year Table

Crash Type	2010	2011	2012	2013	2014	Total
Sideswipe-Meeting	0	0	0	1	0	**1**
Total	**0**	**0**	**0**	**1**	**0**	**1**
Fatal - Injury A[1] Crashes	0	0	0	0	0	**0**
Intersection / Related	0	0	0	0	0	**0**

[1]Injury A is an incapacitating non-fatal injury (i.e. broken bones, severe/internal bleeding, unconsciousness, etc.) that prevents a person from continuing normal activities that they were capable of before the injury.

There were not enough crashes on this street to draw any trends or conclusions from.

Table 11: Depot St Crash Type and Year Table

Crash Type	2010	2011	2012	2013	2014	Total
Angle	0	0	1	2	0	**3**
Rear-end	1	2	0	2	2	**7**
Turning	0	2	0	1	0	**3**
Total	**1**	**4**	**1**	**5**	**2**	**13**
Fatal - Injury A[1] Crashes	0	0	0	0	0	**0**
Intersection / Related	0	4	1	4	2	**11**

[1]Injury A is an incapacitating non-fatal injury (i.e. broken bones, severe/internal bleeding, unconsciousness, etc.) that prevents a person from continuing normal activities that they were capable of before the injury.

Most of the crashes were at the I5 ramp terminal signals or at the adjacent Pine Street intersection with various causes. For example, one of the crashes at the ramp terminal involved a tire failure, another that involved failure to yield right of way and a third involved reckless driving and disregard for a signal. The close proximity of these two intersections with the railroad crossing in between results in driver decision points to overlap which can be a contributing factor. A majority of the crashes occurred in 2011 and 2013.

Table 12: Foothills Blvd Crash Type and Year Table

Crash Type	2010	2011	2012	2013	2014	Total
Fixed Object	1	0	2	1	2	**6**
Total	**1**	**0**	**2**	**1**	**2**	**6**
Fatal - Injury A[1] Crashes	0	0	1	0	0	**1**
Intersection / Related	1	0	0	0	1	**2**

[1]Injury A is an incapacitating non-fatal injury (i.e. broken bones, severe/internal bleeding, unconsciousness, etc.) that prevents a person from continuing normal activities that they were capable of before the injury.

All crashes on Foothill Boulevard were fixed object crashes. Two of which were traveling too fast for conditions (weather and light). Generally the fixed object was a tree stump, ditch, sign, or bridge railing.

The fatality that occurred near the intersection of West Evans Creek Road and Foothill Boulevard involved one car, one person, drugs, and alcohol. The crash occurred at 3 AM on a Wednesday in May. The conditions that early morning were clear weather, dry pavement, and dark (unlit). The driver made an improper wide turn, lost control of the vehicle, and ran off the road.

Table 13: Main St Crash Type and Year Table

Crash Type	2010	2011	2012	2013	2014	Total
Angle	1	0	0	0	1	**2**
Fixed Object	0	0	0	1	0	**1**
Rear-end	1	2	1	0	0	**4**
Sideswipe-Overtaking	0	1	0	0	0	**1**
Turning	2	0	2	0	0	**4**
Pedestrian	0	1	1	0	0	**2**
Total	**4**	**4**	**4**	**1**	**1**	**14**
Fatal - Injury A[1] Crashes	0	0	1	0	0	**1**
Intersection / Related	5	3	2	1	1	**12**

[1]Injury A is an incapacitating non-fatal injury (i.e. broken bones, severe/internal bleeding, unconsciousness, etc.) that prevents a person from continuing normal activities that they were capable of before the injury.

The number of crashes occurring has gone down in recent years. There is a wide variety of crash types on Main Street but are typical for an urban area as most are intersection related. Five of the intersection related crashes occurred on Pine Street.

The pedestrian crash near Gilmore Street took place at 5 PM on a Wednesday in January (2011). It was foggy, but the pavement was dry and the location was illuminated. The pedestrian was injured with an injury severity of Injury B. The pedestrian was crossing improperly between intersections. The pedestrian's clothing was not easily visible.

The fatality was at the intersections of a private roadway, Pioneer Court. An 86 year old man was struck down by a truck traveling west on Main Street. The crash occurred on a Thursday in January at 9 AM. It was a rainy day with wet pavement. The pedestrian was not in visible clothing and crossing improperly between intersections.

Table 14: Oak St Crash Type and Year Table

Crash Type	2010	2011	2012	2013	2014	Total
Turning	0	0	1	0	0	**1**
Total	**0**	**0**	**1**	**0**	**0**	**1**
Fatal - Injury A[1] Crashes	0	0	0	0	0	**0**
Intersection / Related	0	0	1	0	0	**1**

[1]Injury A is an incapacitating non-fatal injury (i.e. broken bones, severe/internal bleeding, unconsciousness, etc.) that prevents a person from continuing normal activities that they were capable of before the injury.

There were not enough crashes on this street to draw any trends or conclusions from.

Table 15: River Rd Crash Type and Year Table

Crash Type	2010	2011	2012	2013	2014	Total
Fixed Object	1	1	0	1	0	**3**
Sideswipe-Meeting	0	0	0	0	2	**2**
Total	**1**	**1**	**0**	**1**	**2**	**5**
Fatal - Injury A[1] Crashes	0	0	0	0	1	**1**
Intersection / Related	0	0	0	0	0	**0**

[1]Injury A is an incapacitating non-fatal injury (i.e. broken bones, severe/internal bleeding, unconsciousness, etc.) that prevents a person from continuing normal activities that they were capable of before the injury.

Of the four crashes on North River Road south of Classick Drive, all involved an injury. Most crashes occurred on a clear, dry day. One of the crashes included an Injury A severity injury of a two year old. Alcohol was involved in that crash. All of the crashes involved a vehicle traveling southbound and older drivers. Two of the four crashes were sideswipe meeting crashes.

The Highway Safety Manual Part B screening Critical Crash Rate methodology was used to screen the three-legged unsignalized intersections in the study area. There is not enough four legged unsignalized or signalized intersections to use this methodology on, so those types only are compared with the published 90th percentile crash rate. All of the intersection crash rates are less than their corresponding critical rates and the published 90th percentile crash rate as shown in Tables 16 and 17. Even though there are evident crash patterns at the intersections of Pine Street with Depot Street and Main Street, there are not enough crashes and related safety issues here to discuss further.

Table 16: Three Leg Intersection Crash Comparison Table

Three Leg Intersection	Crash Total (5 yrs)	Crash Rate	Critical Crash Rate	Over Critical Crash Rate
East Main St and Wards Creek Rd	0	0.00	0.31	Under
Foothill Blvd and West Evans Creek Rd	2	0.19	0.21	Under
East Main St and Broadway St	0	0.00	0.19	Under
East Main St and Cedar St	1	0.06	0.21	Under
North River Rd and Classick Dr	0	0.00	0.35	Under

Table 17: Intersection Crash Comparison Table

Other Intersection	Crash Total (5 yrs)	Crash Rate	90th Percentile Crash Rate	Over 90th Percentile Crash Rate
Classick Dr/Pine St and Depot St	5	0.22	0.408	Under
Depot St and Main St	1	0.07	0.408	Under
Main St and Pine St	5	0.27	0.408	Under
Hwy 99 and Depot St	2	0.12	0.408	Under
I5 NB and Depot St	3	0.12	0.509	Under
I5 SB and Depot St	5	0.24	0.509	Under

Summary

No locations are beyond the maximum allowable v/c ratios in 2016. While there are evident crash patterns at a few locations, crash rate thresholds have not been met, so these locations at the intersections of Pine Street with Depot Street and Main Street and on North River Road are more in a "monitoring" state under existing conditions.

Other noted issues are:

- Queuing on Depot Street between the southbound I5 ramp and Pine Street
- Potential queuing onto the I5 off-ramps and mainline
- Truck turning/off-tracking conflicts at the southbound I5 ramp terminal between south-to-east and west-to-south movements
- Lack of marked bicycle lanes throughout
- Inconsistent sidewalks especially outside of the downtown area
- Infrequent connecting transit service and stops within the City

If you have any questions, please feel free to contact me at 503-986-4112.

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File