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Technical Memorandum

June 9, 2023   Project# 27003.011

To: Thomas Guevara, *Oregon Department of Transportation*
            Deanna Schafer and Kim Clardy, *City of Reedsport*

From: Michael Ruiz-Leon, Allison Woodworth, Cedomir Jesic, Matt Bell, and Marc Butorac, PE, PTOE.
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Project: City of Reedsport Rail Crossing Study and Refinement Plan

Subject: Tech Memo #4: Existing Transportation Conditions

TABLE OF CONTENTS

INTRODUCTION

The City of Reedsport (City) and the Oregon Department of Transportation (ODOT) have embarked on a Rail Crossing Study and Refinement Plan (Study) to determine the impacts of potential increased rail activity on the Coos Bay Rail Line to Umpqua Highway (OR 38), Winchester Avenue, and the greater Reedsport transportation system. This memorandum summarizes information related to existing transportation system conditions in the City of Reedsport relevant to the Study. This memorandum also includes information on traffic counts conducted at the Study intersections, analyzes transportation conditions affecting vehicles and non-motorized transportation, and provides environmental/topographical conditions related to the drainage system. The information within this memorandum will serve as the basis for the development and evaluation of transportation improvements to address identified transportation needs as a result of the potential increased rail activity.

PROJECT BACKGROUND AND STUDY AREA

The Oregon International Port of Coos Bay is proposing to design, permit, and construct a new multi-modal container facility on the North Spit in Coos County, Oregon, in the future. The container facility will be designed to accommodate 1,200,000 inbound and 1,200,000 outbound containers per year. The City and ODOT have commissioned a study to evaluate the impacts to at the Umpqua Highway (OR 38) and

Winchester Avenue railroad crossings resulting from increased rail activity when the container facility is constructed and begins operations.

Study Area

The study area, as shown in Figure 1, is the land located within the City limits bordered by the Umpqua River to the north; Schofield Creek to the west and south; and the OR 38/Riverfront Way/Winchester Avenue intersection to the east. The rail crossing on OR38 is located within the study area and is bordered on the west by W. Railroad Avenue and on the east by E. Railroad Avenue. The rail crossing on Winchester Avenue is also located within the study area and is bordered on the west by River Bend Road and on the east by Elm Avenue.

LAND USE INVENTORY

This section presents a review of current land uses for the Reedsport Rail Crossing study area. Information presented in this section includes a description of existing land use designations and land uses in the study area. This review is intended to identify the demands that existing and allowed land uses place upon the rail crossing and surrounding transportation system, as well as identify specific transportation needs of existing and potential future land uses.

Comprehensive Plan Designations

The comprehensive plan designations established in City of Reedsport Comprehensive Plan are shown in Figure 2. Within the Reedsport Rail Crossing Study area, the area has a mix of residential, commercial, industrial, and public/semipublic land designations. The land designations at the OR 38 and Winchester Avenue crossings are industrial with commercial designations to the east. All comprehensive plan designations in the Study area are consistent with the current zoning designations (see descriptions of zoning designations in the Zoning Districts section below).

Zoning Districts

Future development and redevelopment in the study area will be subject to the regulations associated with City land use designations. Knowing the designations and permitted uses provides an idea of the type and intensity of traffic to be expected in the study area.

Zoning in the study area is shown on Figure 3. Generally, zoning is consistent with the comprehensive plan designations for the study area. Zoning adjacent to the rail crossings are industrial zones to the east and commercial zones to the west. With commercial, transitional commercial, and commercial mixed-use zoning to the east and single and multi-family housing to the west of the OR 38 and Winchester Avenue crossings.

Zoning adjacent to US 101 within the study area includes a mix of commercial and multi-family residential zones. The multi-family residential zoning is located to the northeast of the US 101/OR 38 intersection. Zoning adjacent to OR 38 within the study area is primarily commercial resource zones and single and multi-family housing to northwest of the West Railroad Avenue/OR 38 intersection. Zoning adjacent to Winchester Avenue is a mix of commercial and industrial.

Activity centers near Study intersections include the Reedsport downtown core, City Hall, library, Triangle Park, and post office.
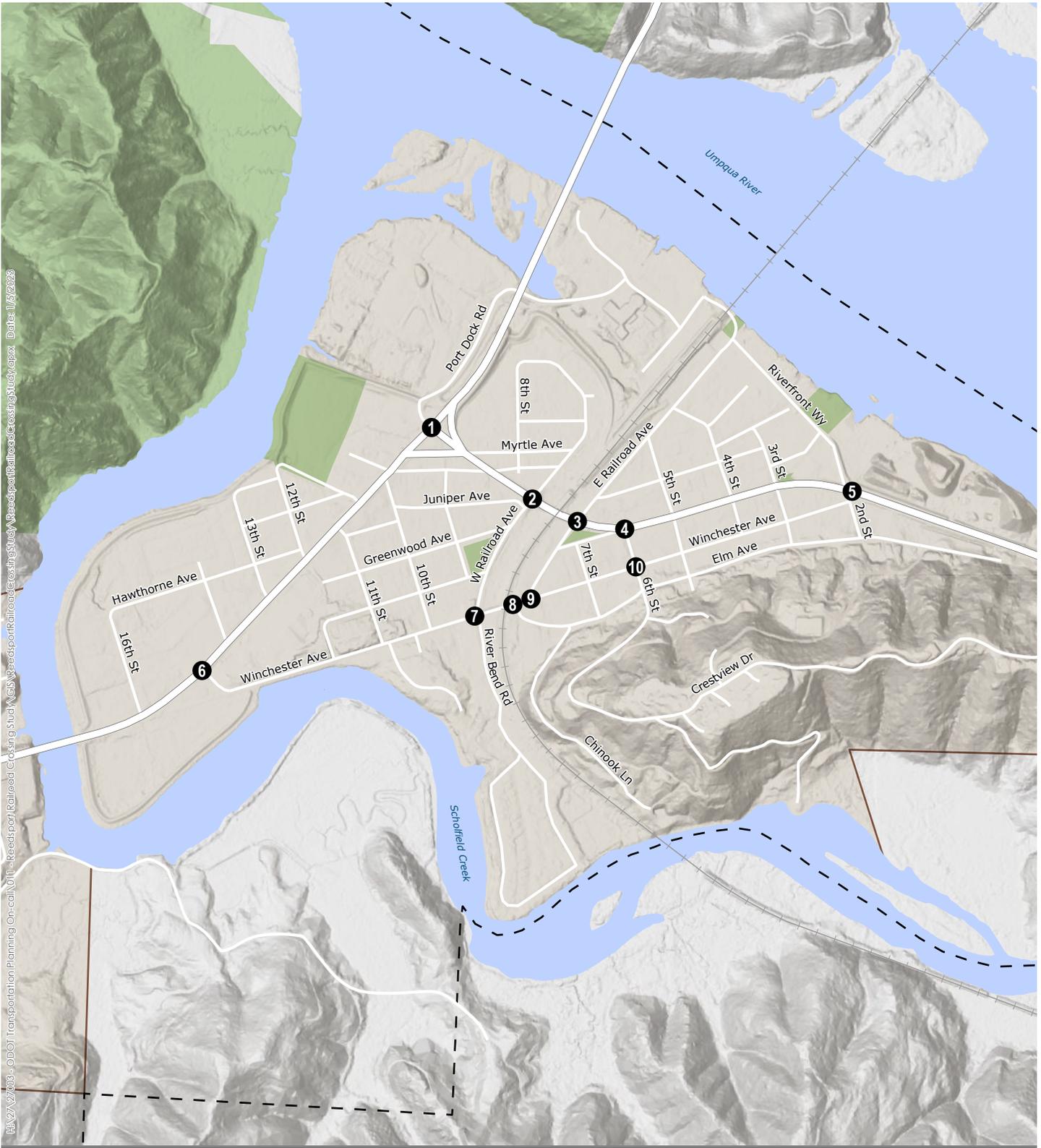
Study Area and Study Intersections
Reedsport, Oregon

Figure 1

Legend:
- Study Intersection
- City Boundary
- Urban Growth Boundary
- National Forest or Park
- Railroad

0   1,000 Feet

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Legend
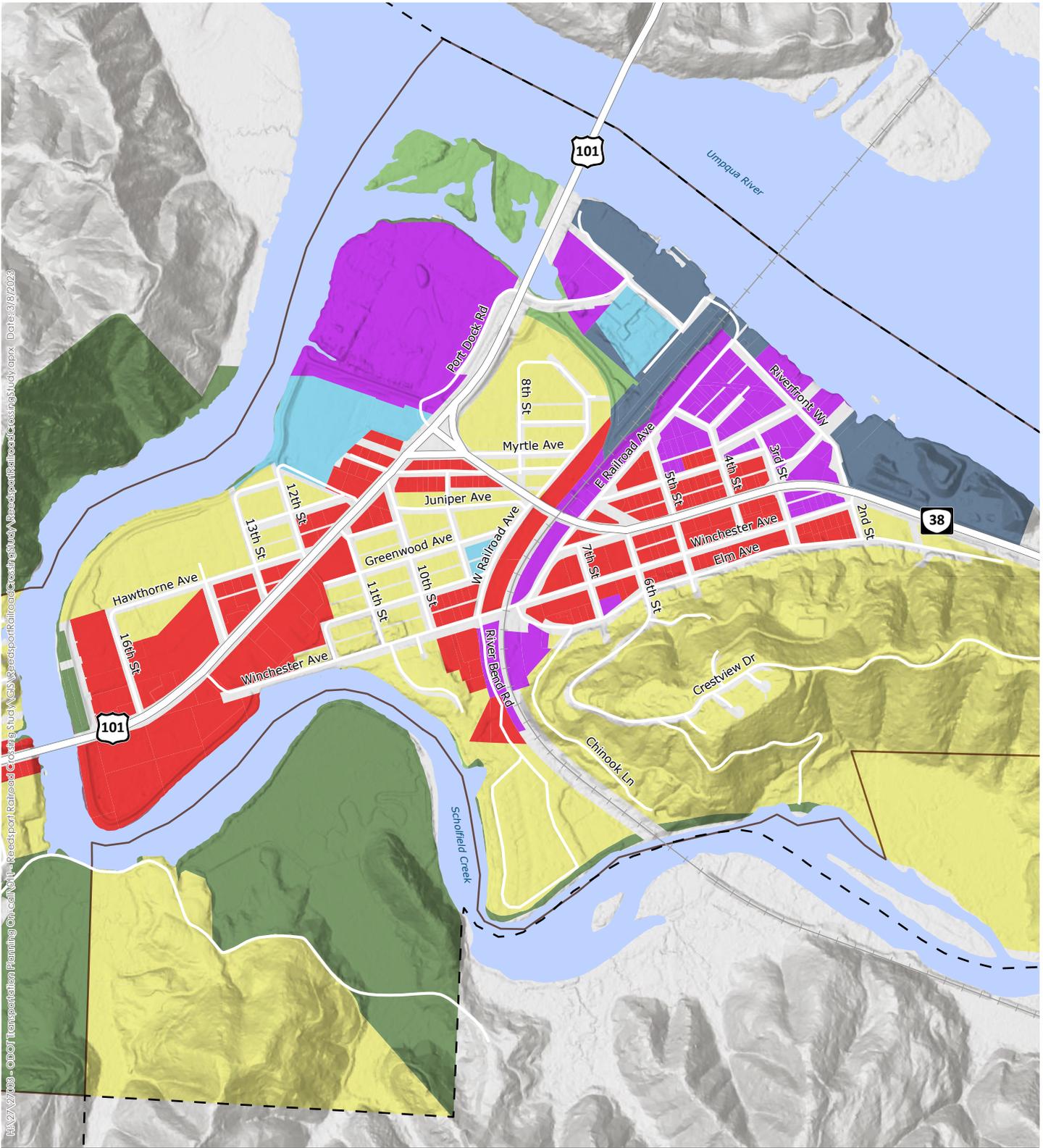
- Residential
- Commercial
- Industrial
- Public/Semi Public
- Water-Related Commercial
- Water-Dependent Industrial
- Urban Conservation
- Estuarine Conservation
- Urban Growth Boundary
- City Boundary
- Railroad

0   1,000 Feet

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Figure 2

**Comprehensive Plan
Reedsport, Oregon**

Legend:

- Urban Conservation
- Estuarine Natural
- Estuarine Development
- Estuarine Conservation
- Rural Suburban Residential
- Single Family Residential
- Multi-Family Residential
- Commercial Transitional
- Commercial
- Water-Related Commercial
- Public/Semi Public Land
- Light Industrial
- Heavy Industrial
- Water-Dependent Industrial
- Commercial Mixed-Use
- Urban Growth Boundary
- City Boundary
- Railroad

Figure 3

**Zoning
Reedsport, Oregon**

0 — 1,000 Feet

Map labels: Umpqua River, 101, 38, Port Dock Rd, 8th St, Myrtle Ave, Juniper Ave, 12th St, 13th St, Greenwood Ave, 11th St, 10th St, W Railroad Ave, E Railroad Ave, Hawthorne Ave, 16th St, Winchester Ave, River Bend Rd, Chinook Ln, Scholfield Creek, Crestview Dr, Riverfront Wy, 5th St, 4th St, 3rd St, 2nd St, 7th St, 6th St, Elm Ave, Winchester Ave

Demographics Inventory

This section identifies transportation-disadvantaged populations and evaluates their access to transit. Data were obtained from the U.S. Census American Community Survey 5-year estimates for 2017–2021.

Title VI of the Civil Rights Act of 1964 prohibits discrimination in the provision of federally supported benefits and services, including public transportation service. The Title VI analysis presents information about poverty status, age (youth ages 5-17 and seniors ages 65 and older), racial/ethnic composition, English proficiency, and proportion of people with disabilities.

. These same groups—where data was available—are a higher proportion of the population than the State for the study area block group with the addition of American Indian or Alaskan Natives. Data for low English proficiency and persons with a disability is not provided at the block group level. The study area has a notably higher percentage of people living at 200% below poverty level than the comparison groups.

Table 1 summarizes these Title VI metrics for the State of Oregon, Douglas County, the City of Reedsport, and the block group, which contains the study area. Figure 4 illustrates the location and size of block group in relation to the study area and the rest of the city. Population characteristics not provided at the block group level are noted as "not available" within Table 1. Title VI and Transportation-Disadvantaged Populations

County averages are provided for comparison, with local values higher than the County average in **bold**. This analysis provides information about transportation-disadvantaged populations that have been historically underrepresented in planning processes. As shown, Reedsport has a higher percentage of people below the federal poverty level, older adults, people with disabilities, and zero vehicle households. These same groups—where data was available—are a higher proportion of the population than the State for the study area block group with the addition of American Indian or Alaskan Natives. Data for low English proficiency and persons with a disability is not provided at the block group level. The study area has a notably higher percentage of people living at 200% below poverty level than the comparison groups.

Table 1. Title VI and Transportation-Disadvantaged Populations

		Oregon	Douglas County	Reedsport	Study Area Block Group[1]
	Total population	4,128,333	109,312	4,254	1,558
	Total households	1,702,599	45,663	1,872	734
Income	Below 100% poverty	12.1%	13.8%	20.4%	**28.8%**
	Below 200% poverty	28.7%	35.5%	44.4%	**51.4%**
Age	Youth	15.4%	14.5%	13.1%	11.3%
	Older adults	17.8%	25.5%	30.5%	**34.7%**
Race or Ethnicity	White	80.8%	86.3%	90.0%	84.9%
	Black	1.8%	0.3%	0.1%	0.0%
	American Indian or Alaskan Native	1.1%	0.9%	1.1%	**1.7%**

	Asian	4.4%	0.9%	0.3%	0.5%
	Hawaiian or Pacific Islander	0.4%	0.1%	0.0%	0.0%
	Some other race alone	3.8%	0.4%	0.4%	0.0%
	Two or more races	7.7%	5.0%	2.4%	0.9%
	Hispanic or Latino of any race	13.5%	6.2%	5.7%	**12.0%**
Persons with low English proficiency		2.3%	0.4%	1.3%	N/A[2]
Persons with disability		15.1%	23.2%	23.1%	N/A[2]
Zero vehicle households[3]		2.7%	5.0%	14.0%	8.6%

Source: American Community Survey 2017–2021 5-Year Estimates; Tables B01003; B11016; S1602, C17002, B03002, B25044, and B01001.

[1] 2020 Census Tract 100, Block Group 2, Douglas County, Oregon.

[2] Data not available at the block group level.

[3] A percent of households. All other proportions calculated as a percent of the total population.

Figure 4

**Census Block Groups
Reedsport, Oregon**
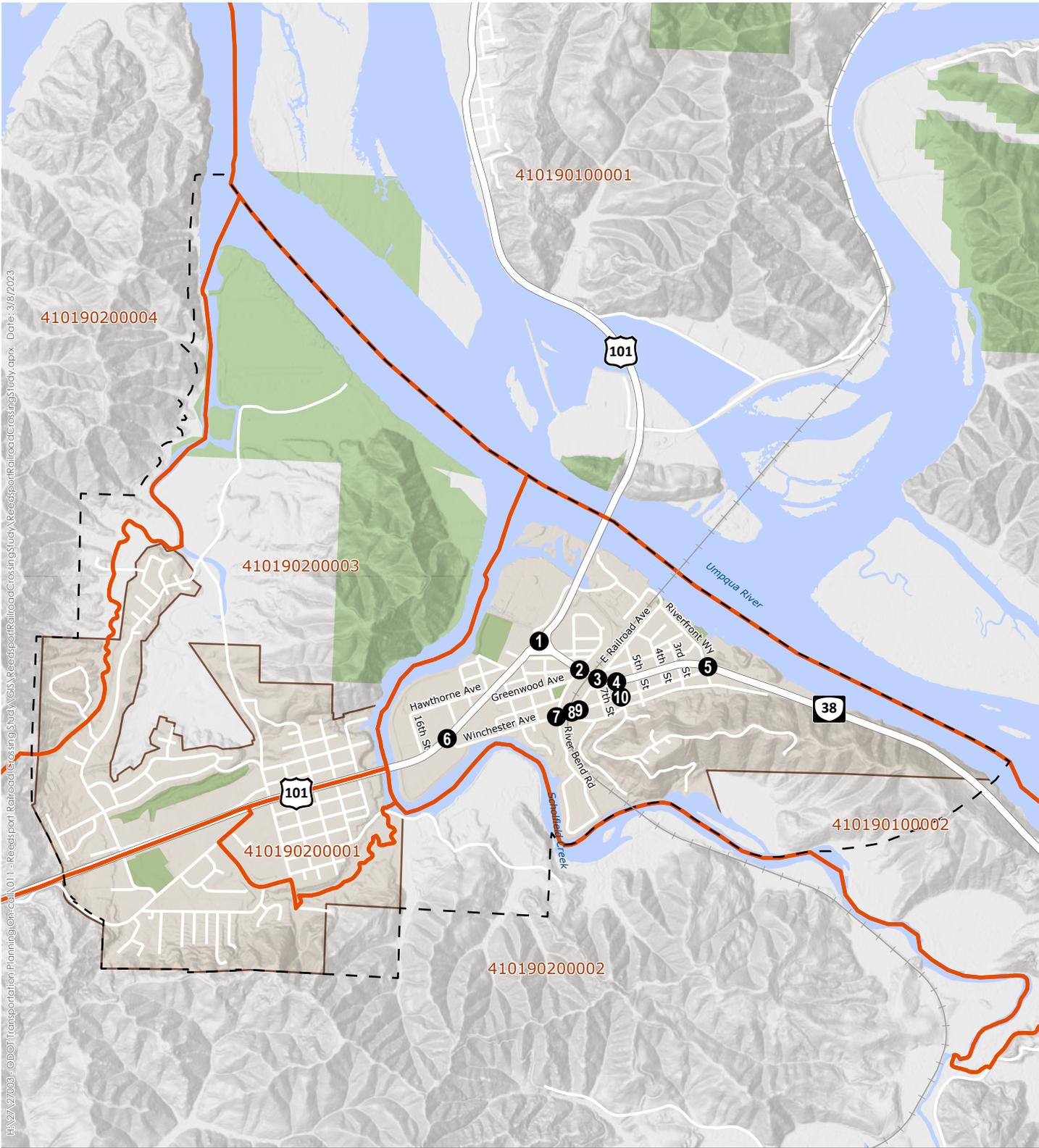
Legend:
- Census Block Group Boundary
- Urban Growth Boundary
- City Boundary
- Railroad

Map labels:
410190100001
410190200004
410190200003
410190200001
410190200002
410190100002

Street labels: Hawthorne Ave, Greenwood Ave, Winchester Ave, 16th St, E Railroad Ave, Riverfront Wy, 3rd St, 4th St, 5th St, 7th St, River Bend Rd, Schofield Creek, Umpqua River

Route markers: 101, 38

0   2,000 Feet

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Natural Resources

This section identifies natural resources based on City of Reedsport and Douglas County resources. An inventory of natural resources located in the study area is provided in Table 2.

Table 2. Natural Resources

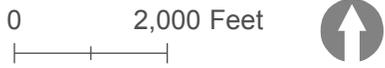| Resources	Description
Goal 5 Resources	Goal 5 resources in Douglas County are maintained by the Douglas County planning department and Oregon Department of Fish and Wildlife (ODF&W). The study area is within the Reedsport Urban Growth Boundary. Below are the Goal 5 resources that are present outside the study area: • Big game habitat overlay area (impacted) There are no documented historic and cultural resources present in the study area. *Source: Douglas County GIS: https://douglascounty-oregon.us/DocumentCenter/View/3021/Map-E-Goal-5-Inventory-Areas-PDF*
Cultural Resources	The National Register of Historic Places is the official list of the Nation's historic places worthy of preservation maintained by the National Park Service. The National Register of Historic Places list two resources potentially within the Study Area: • Umpqua River Bridge No. 01822 • Umpqua-Eden Site – Archaeological site with an undisclosed location Source: https://www.nps.gov/subjects/nationalregister/database-research.htm
Wetlands	Per the National Wetland Inventory (NWI) database, there are several wetlands located within the study area, primarily in the areas adjacent to the OR 38 and Winchester Avenue rail crossings. Acres of wetland (by type) in the study are as follows: • Freshwater emergent wetland: 4.05 acres (currently vacant land west of the railroad crossings from Greenwood Avenue to Winchester Avenue and north of Greenwood Avenue to N. 4th Street) • Freshwater forested/shrub wetland: 0.16 acres (southwest corner of the Elm Avenue/Winchester Avenue intersection) *Source: https://www.fws.gov/wetlands/data/data-download.html*
Known Hazardous Material Spill Locations	Per the State of Oregon Department of Environmental Quality (DEQ) Environmental Cleanup Site (ECSI) database, there are five known environmental cleanup sites within the study area (listed below). • Dean Creek Nursery Inc., 1313 Highway 101 S; no further State action required. • Unocal Service Station #3259 (former), 1241 Highway Ave.; no further State action required. • Dry Dock Road, Umpqua River Navigation Dry Dock; remedial design. • 155 E. Railroad Ave., Unocal Bulk Plant; site investigation recommended. • Fred Wahl Marine, 1000 Port Dock Rd.; no further state action required *Source: https://www.deq.state.or.us/lq/ECSI/ecsiquery.asp?listtype=lis&listtitle=Environmental+Cleanup+Site%20Information+Database* The State of Oregon DEQ Leaking Underground Storage Tank (LUST) Cleanup List is a listing of all sites with known groundwater contamination from spills and releases from regulated underground storage tanks. There are 22 LUST sites (https://www.deq.state.or.us/lq/tanks/lust/LustPublicLookup.asp) within the study area: • Reedsport Mobil, 532 Fir Ave. • State of Oregon Highway Department, Highway 101 and 11th • Unocal 3259, 1241 Highway Ave. • 101 Service, 985 Highway Ave. • F & M Fuel/Former 101 Service, 985 Highway Ave. • R & L Garage & Towing, 542 Fir Ave. • One Stop Market, 1625 Highway 101 S • Scholfield's Market, 1625 Highway 101 S • Gte - Reedsport Central Office (6110-B01), 534 Winchester Ave. • Reedsport, City Of (Shops), 451 Winchester Ave.

- Douglas County Shop-Reedsport #6, 680 Fir Ave. PO Box 31
- Truax Corporation #93, 1030 Highway 101
- Oregon Dunes National Recreation Area, 855 Highway Ave.
- Ron's Oil #6- Reedsport, 1070 Highway 101
- Ron's Oil Co #6, 1070 Highway 101
- Migas Automotive Service, 1199 Highway Ave.
- Chevron USA Inc., 1399 Highway 101
- Coast Auto Electric, 543 Fir Ave.
- Reedsport 5th St. Sewer Line, 5th St. between 270 Fir and 532 Fir Ave.
- The Connection, 470 Fir Ave.
- Unocal Bulk Plant #0639, 155 E. Railroad
- Heating Oil Tank, 575 Greenwood Ave.

The State of Oregon DEQ Underground Storage Tank (UST) Cleanup List provides a summary of all sites with reported releases of petroleum projects from regulated underground storage tanks, unregulated underground storage tanks, and home heating oil tanks. There are 22 UST sites (https://www.oregon.gov/deq/tanks/Pages/Tank-Lists.aspx) within the study area:

- Unocal 3259, 1241 Highway Ave.
- State Of Oregon Highway Department, Highway 101 and 11th
- Chevron USA, Inc., 1399 Highway 101
- Unocal Bulk Plant #0639, 155 E. Railroad
- Reedsport, City Of (Shops), 451 Winchester Ave.
- Migas Automotive Service, 1199 Highway Ave.
- Oregon Dunes National Recreation Area, 855 Highway Ave.
- Gte - Reedsport Central Office (6110-B01), 534 Winchester Ave.
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- Ron's Oil Co #6, 1070 Highway 101
- 101 Service, 985 Highway Ave.
- Truax Corporation #93, 1030 Highway 101
- Coast Auto Electric, 543 Fir Ave.
- The Connection, 470 Fir Ave.
- Scholfield's Market, 1625 Highway 101 S
- Ron's Oil #6- Reedsport, 1070 Highway 101
- F & M Fuel/Former 101 Service, 985 Highway Ave.

TRAFFIC COUNTS

The study intersections for the City of Reedsport Rail Crossing Study and Refinement Plan were determined by the City and ODOT. There are 10 study intersections located along state and local facilities, including two signalized intersections (intersections 1 and 6) and eight unsignalized intersections. Figure 1 illustrates the location of the following study intersections.

State Facilities

1. US 101/OR 38 (signalized)
2. West Railroad Avenue/OR 38
3. East Railroad Avenue/OR 38
4. 2nd Street/OR 38
5. North 6th Street/OR 38
6. US 101/Winchester Avenue (signalized)

Local Facilities

7. West Railroad Avenue/Winchester Avenue
8. East Railroad Avenue/Winchester Avenue
9. South 6th Street/Winchester Avenue
10. Elm Avenue/Winchester Avenue

Turning movement counts were conducted at the Study intersections in August 2022. The counts were conducted on a typical mid-week day during the peak summer months. The counts conducted at the signalized intersections were conducted over a 16-hour period (6:00 AM to 10:00 PM), while the counts conducted at the unsignalized intersections were conducted over a 4-hour period (2:00 to 6:00 PM). All the counts include the total number of pedestrians, bicyclists, and motor vehicles that entered the study intersections in 15-minute intervals.

Tech Memo 3: Analysis Methodology and Assumptions Memorandum includes information related to the peak hour development, seasonal adjustment factors, and historical factors used to develop traffic volumes for the traffic operations analysis. Per the memorandum, a system-wide peak hour from 2:00 to 3:00 PM was selected as a basis for the peak hour analysis and a seasonal adjustment factor of 1.0 was applied to the counts on US 101 and OR 38 to reflect the peak season.

MOTOR VEHICLE TRANSPORTATION ANALYSIS

Roadway System Characteristics

Table 3 summarizes the attributes of key roadways in the motorized vehicle transportation analysis. Most Study area roadways are two lanes in nature. The study area roadways appear to be in good condition. The existing lane configurations and traffic control devices are summarized in Figure 5. Signalized intersections along US 101 are owned and maintained by ODOT.

Table 3. Existing Transportation Facilities and Roadway Designations

Roadway	Motor Vehicle Travel Lanes	Posted Speed (MPH)	Lane Width (feet)	Shoulder Width (feet)	Sidewalk	Bicycle Lane
US 101	4	30	12	3	Yes	Yes
OR 38	2	25	12	6	Partial	Yes
Winchester Avenue	2	25	13	6	Partial	None
West Railroad Avenue	2	25	12	3	Partial	None
East Railroad Avenue	2	25	12	3	None	None
Elm Avenue	2	25	11	4	None	None
North 6th Street	2	25	15	3	Yes	None
South 6th Street	2	25	11	0	Yes	None
Riverfront Way	2	25	12	0	None	None

Figure 5. Existing Lane Configurations and Traffic Control Devices
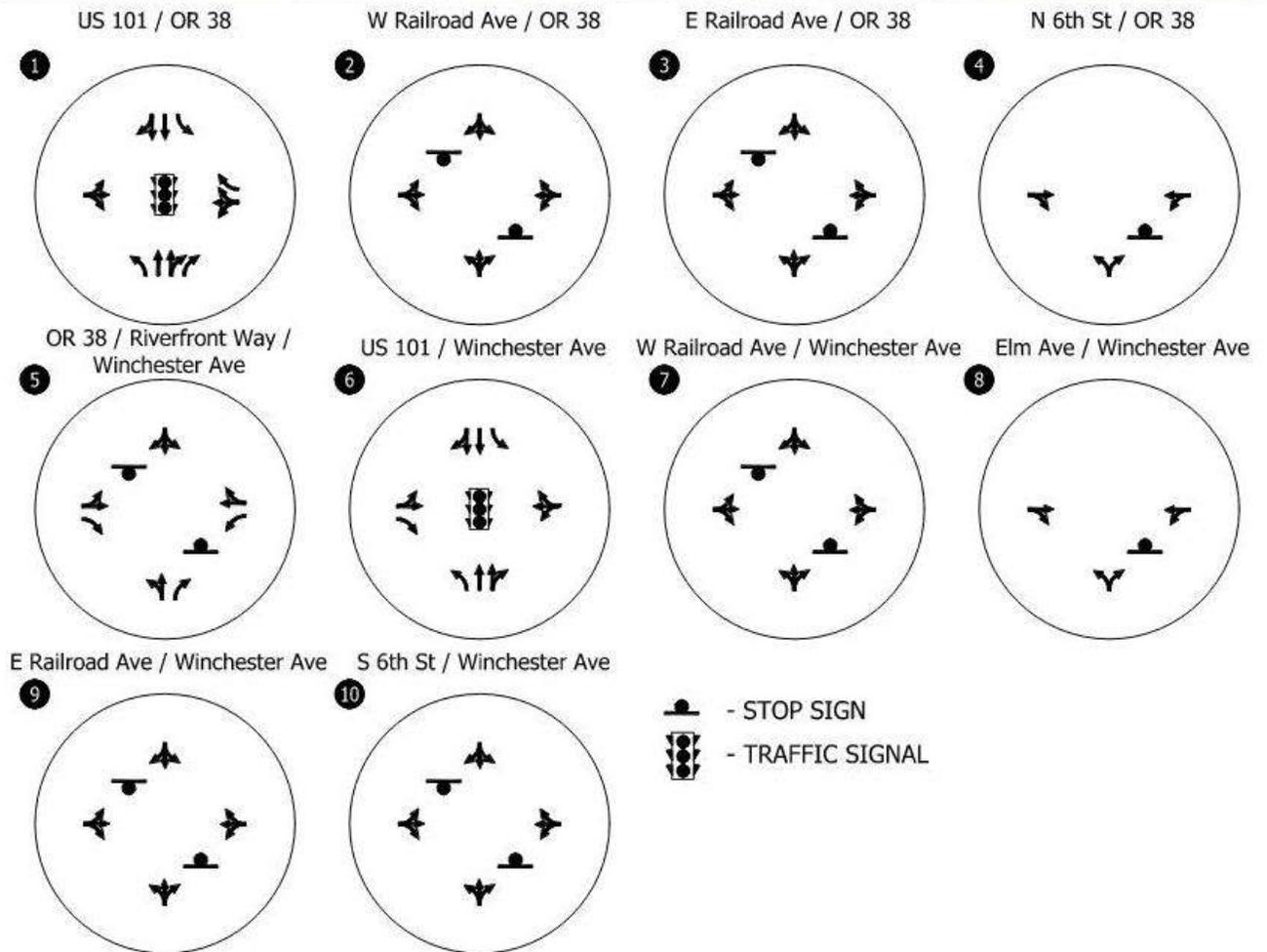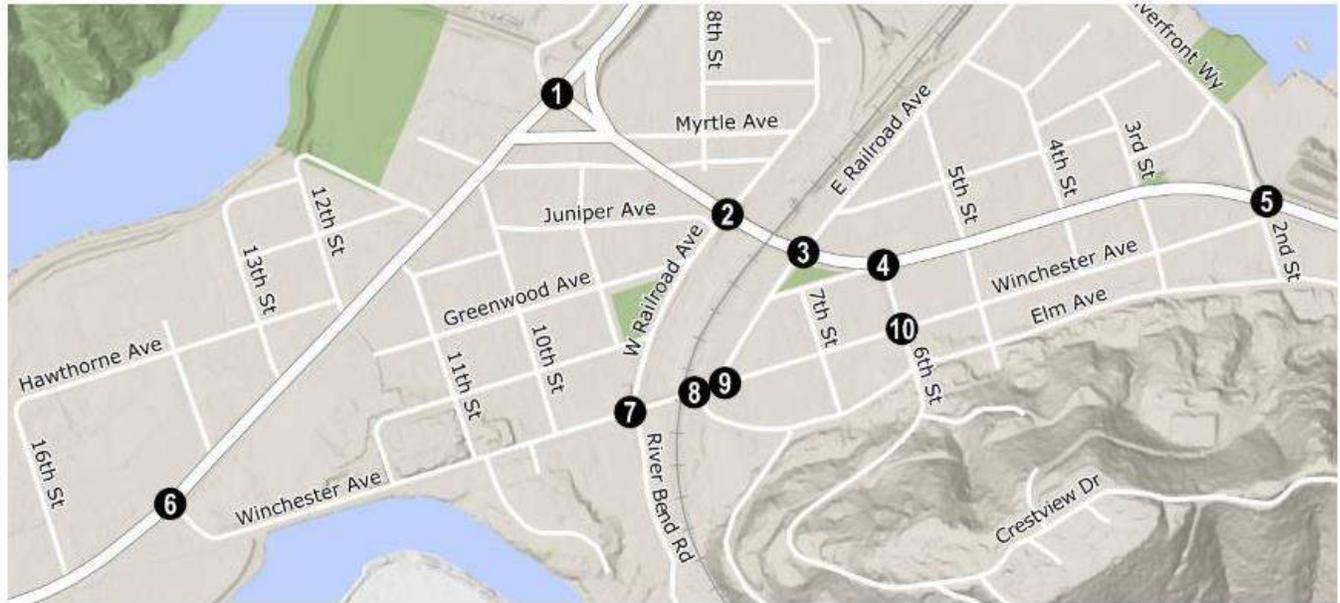
Jurisdiction

Streets within Reedsport are owned and operated by two jurisdictions: the City of Reedsport and ODOT. Each jurisdiction is responsible for determining the functional classification of the streets, defining major design and multimodal features, and approving construction and access permits. Coordination is required between the jurisdictions to ensure that the streets are planned, operated, maintained, and improved to safely meet public needs. ODOT owns and operates US 101 and OR 38. The City of Reedsport owns and operates Winchester Avenue and all other roadway facilities within the study area.

Functional Classification

A roadway's functional classification determines its role in the transportation system, as well as its width, right-of-way dedications, driveway (access) spacing requirements, and types of pedestrian and bicycle facilities provided. The functional classification is typically established by the City based on the following hierarchy:

- **Arterials** are intended to serve high volumes of traffic, particularly through traffic, at relatively high speeds. They also serve truck movements and typically emphasize traffic movement over local land access.
- **Collectors** serve traffic from the local street system and distribute it to the arterial street system. These roadways provide a balance between traffic movement and land access and should be designed as best to facilitate traffic circulation throughout the City.
- **Local streets** provide land access and carry locally generated traffic at relatively low speeds to the collector street system. Local streets should provide connectivity through neighborhoods but should be designed to discourage cut-through vehicular traffic.

ODOT Highway Classification

ODOT has a separate classification system for its highways, which guides the planning, management, and investment for state highways. ODOT's categories, from highest to lowest, are Interstate, Statewide, Regional, and District Highways. According to the Oregon Highway Plan (OHP), both US 101 and OR 38 are classified as Statewide Highways. The OHP defines Statewide Highways as follows:

- *Statewide Highways typically provide inter-urban and inter-regional mobility and provide connections to larger urban areas and recreation areas that are not directly served by Interstate Highways. A secondary function is to provide connections for intra-urban and intra-regional trips. The management objective is to provide safe, efficient, high-speed, continuous-flow operation. In constrained and urban areas, interruptions to flow should be minimal. Inside Special Transportation Areas, local access may also be a priority.*

Table 4 denotes the functional classification by jurisdiction for the roadways in the study area.

Table 4. Functional Classification Comparison by Jurisdiction

Roadway	Federal	State	City[1]
ODOT			
US 101	Rural Other Principal Arterial	Statewide Highway	Arterial
OR 38	Rural Other Principal Arterial	Statewide Highway	Arterial

City of Reedsport			
Winchester Avenue	Rural Major Collector	--	Collector
West Railroad Avenue	--	--	Local
East Railroad Avenue	--	--	Local
Elm Avenue	--	--	Local
North 6th Street	--	--	Local
South 6th Street	--	--	Local
Riverfront Way	--	--	Local

[1] Per Reedsport Transportation System Plan, Map 3-5 (Reference 1).

Intelligent Transportation Systems

Within the study area, there are two identified intelligent transportation systems (ITS). A road and weather information system (RWIS) is located along US 101 south of 11th Street. The RWIS provides road and weather updates using sensors and cameras to provide users with visual and sensor data. The RWIS can be used to help agencies determine when to apply road treatments during weather events. Additionally, a variable message sign (VMS) is located along OR 38 east of Winchester Avenue. A VMS is a traffic control device that displays a message to motorists with information about traffic conditions.

Intersection Operations Analysis

The intersection operations analysis was conducted using PTV Vistro 2022, a software tool designed to assist with operations analyses in accordance with Highway Capacity Manual (HCM) methodologies. The analysis results include level-of-service (LOS), delay (del), and volume-to-capacity (v/c) ratios at all intersections, regardless of jurisdiction. The LOS, del, and v/c ratios are reported for the overall intersection at signalized intersections and the critical movement at unsignalized intersections in accordance with the methodologies outlined in ODOT's Analysis Procedures Manual (APM).

Table 5 and Figure 6 summarize the results of the intersection operations analysis and compares the results to the applicable mobility standards and targets, which were presented in the *Analysis Methodology and Assumptions Memorandum*. Attachment A of this memorandum contains the existing traffic conditions worksheets.

Table 5. Intersection Operations, Weekday PM Peak Hour

Map ID	Intersection	Control Type	Mobility Standard/Target[1]	Intersection Operations			
				CM	LOS[2]	Del[3]	v/c[4]
1	US 101/OR 38	Signal	v/c = 0.85	–	C	24.2	0.81
2	W. Railroad Avenue/OR 38	TWSC	v/c = 0.85 / 0.95	NB	B	12.9	0.02
3	E. Railroad Avenue/OR 38	TWSC	v/c = 0.85 / 0.95	EB	A	0.6	0.02
4	N. 6th Street/OR 38	TWSC	v/c = 0.85 / 0.95	NB	B	12.0	0.04
5	OR 38/Riverfront Way-Winchester Avenue	TWSC	v/c = 0.85 / 0.95	NB	C	15.5	0.11
6	US 101/Winchester Avenue	Signal	v/c = 0.85	–	B	10.1	0.52
7	W. Railroad Avenue/Winchester Avenue	TWSC	LOS D	NB	A	9.8	0.03

8	Elm Avenue/Winchester Avenue	TWSC	LOS D	NB	A	9.5	0.01
9	E. Railroad Avenue/Winchester Avenue	TWSC	LOS D	NB	B	10.0	0.01
10	S. 6th Street/Winchester Avenue	TWSC	LOS D	NB	A	10.0	0.02

[1] State Highway v/c ratio/side street v/c ratio.
[2] Intersection LOS (signal); CM LOS (TWSC).
[3] Intersection average vehicle delay (signal); CM vehicle delay (TWSC).
[4] Intersection v/c (signal); CM v/c (TWSC).
CM = critical movement; Del = delay; EB = eastbound; LOS = level of service; NB = northbound; TWSC = two-way stop-control; v/c = volume to capacity.

Figure 6. Existing Traffic Conditions, Weekday PM Peak Hour
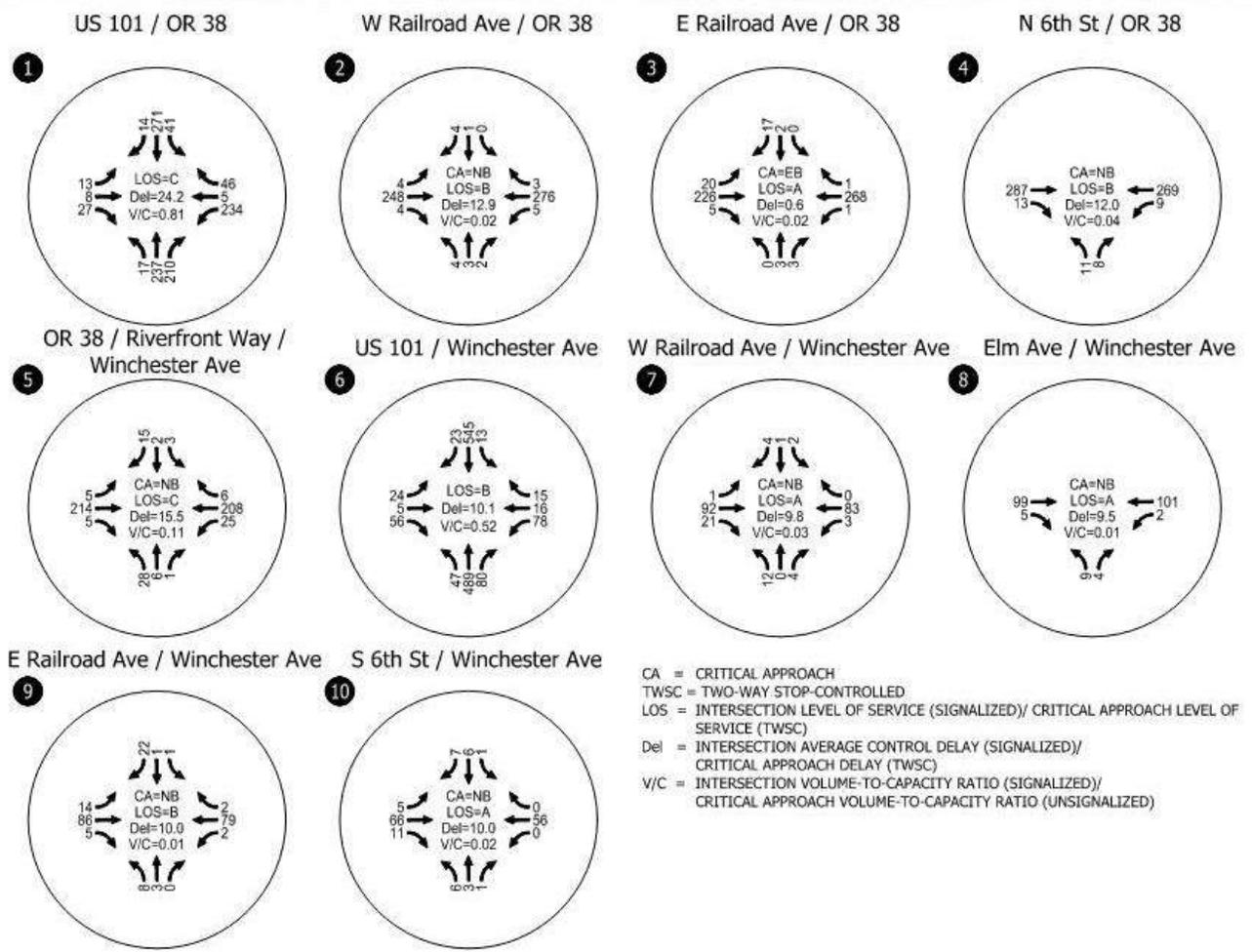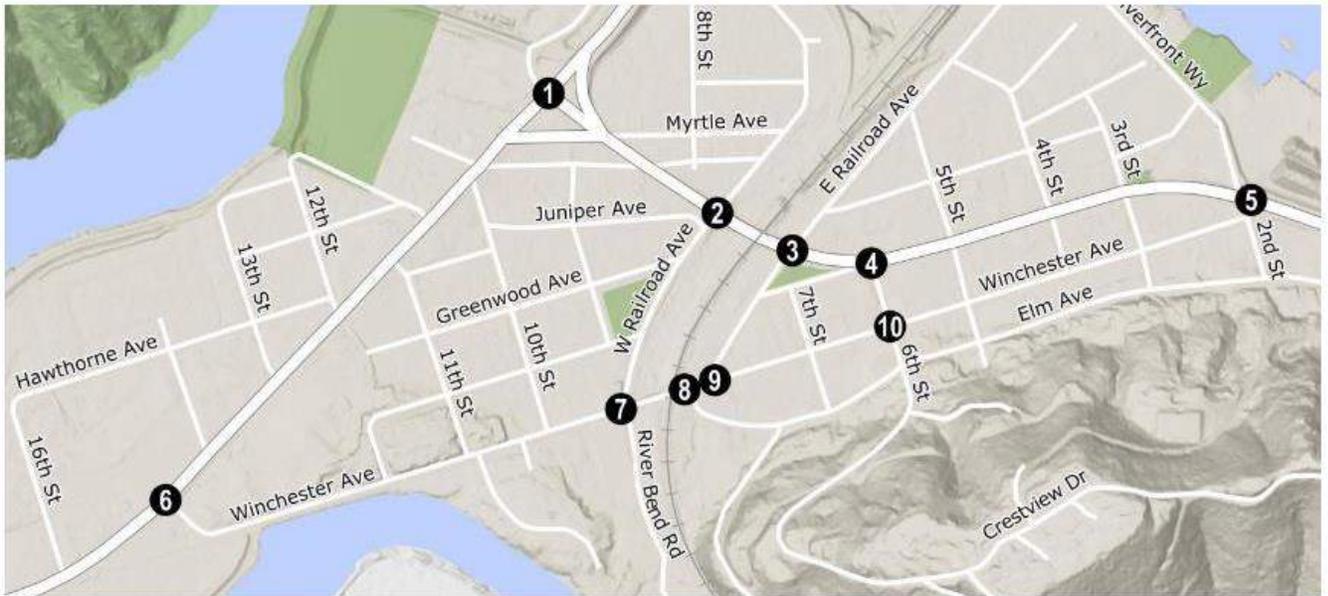
As shown in Table 5 and Figure 6, all study intersections currently operate acceptably during the weekday PM peak hour. Attachment contains the existing traffic conditions worksheets.

Queueing Analysis

A queuing analysis during non-train events was conducted at the signalized study intersections using PTV Vistro 2022. Table 6 summarizes the 95th percentile queues during the weekday PM peak hour and indicates if existing storage can accommodate the queues. The vehicle queue and storage lengths were rounded up to the nearest 25 feet. The storage lengths reflect the striped storage for each movement at the intersections. Unsignalized intersection queues were also analyzed and found to be less than one vehicle length during the peak hour. Attachment A contains the queuing analysis worksheets.

Table 6. Queueing Summary, Weekday PM Peak Hour

Map ID	Intersection	Movement	Storage Length (feet)	95th Percentile Queue (feet)	Adequate?
1	US 101/ OR 38	EB/T/L	200	200	Yes
		WB/T/L	250	<25	Yes
		NB/L	150	<25	Yes
		SB/L	225	25	Yes
6	US 101/ Winchester Avenue	EB/T/L	70	<25	Yes
		WB/T/L/R	175	50	Yes
		NB/L	115	<25	Yes
		SB/L	80	<25	Yes

EB = eastbound; L = left; NB = northbound; R = right; SB = southbound; T = through; WB = westbound.

As shown in Table 6, the striped storage lengths at the signalized study intersections are currently adequate to accommodate the 95th percentile queues.

Train Event Considerations

Impacts of train events at the OR 38 and Winchester Avenue rail crossings were evaluated for the existing conditions. Projected queueing outcomes during a 160-second train crossing[1] were used to estimate queueing. Queues were calculated using the crossing volumes, including the total eastbound and total westbound approaches. Train event assumptions are detailed in the *Analysis Methodology and Assumptions Memorandum*.

The 95th percentile queue lengths shown quantify the queue lengths that have a 5 percent probability of being exceeded during a 3-minute train crossing. These were calculated by applying a Poisson distribution to the expected number of vehicle arrivals during a 160-second train crossing and summing the associated probability for each number of arrivals, starting at zero vehicles, until a total probability of 95 percent was attained. The 95th percentile queue lengths are shown in Table 7 and Figure 7.

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[1] Train-crossing assumes a 1,500-foot long train, a train speed of 10 mph (14.7 feet per second), and 25 seconds of gates down both before and after the train crossing for lowering and clearance. The resulting 152 seconds is rounded up to a 160-second event.

Table 7. Train Event 95th Percentile Queueing

Crossing	Approach	Storage Length (feet)	95th Percentile Queues (feet)	
			Existing	Exceeds Storage?
OR 38	Eastbound	140[1]	475	**Yes**
	Westbound	150[2]	525	**Yes**
Winchester Avenue	Eastbound	130[1]	225	**Yes**
	Westbound	100[2]	250	**Yes**

[1] Distance to W. Railroad Avenue.
[2] Distance to E. Railroad Avenue.

The 95th percentile queues lengths are within storage lengths during crossing events on Winchester Avenue for eastbound and westbound movements and are expected to exceed storage on OR 38 for those movements. During a train event, the OR 38 eastbound traffic is expected to queue west of W. Railroad Avenue and is not expected to queue past Laurel Avenue. Additionally, a train event with existing lane configurations and storage lengths would cause the westbound traffic to extend past N. 6th Street. Attachment B of this memorandum contains the train event queuing calculations.

Figure 7. Train Event Queue Lengths

Crash Analysis

Crash data was obtained from ODOT's Crash Analysis & Reporting Unit. The data includes the total number, type, and severity of crashes that occurred throughout the study area for the 5-year period from January 1, 2016, through December 31, 2020. Based on the data, a total of 15 crashes were reported at the study intersections over the 5-year period, of which seven resulted in injury and eight resulted in property-damage-only (PDO).None of the reported crashes involved bicycles or pedestrians. The following sections summarize the results of the intersection and segment crash analysis based on the 5 years of crash data. Figure 8 shows the reported crashes from 2016 to 2020.

Intersection Crash Analysis

The intersection crash analysis includes an evaluation of intersection crash rates, critical crash rates, and excess proportion of specific crash types. The intersection crash analysis identifies the study intersections where existing safety issues may exist and may require mitigation. There were no reported crashes at three study intersections. Table 8 summarizes the collision type and crash severity for all reported crashes at the study intersections.

Table 8. Intersection Crash History (January 1, 2016, to December 31, 2020)

Map ID	Intersection	Collision Type					Crash Severity			Total
		Angle	Head-On	Turn	Rear-End	Other	Fatal/ Severe	Injury	PDO	
1	US 101/OR 38[1]	-	-	-	3	-	-	1	2	3
2	W Railroad Avenue/ OR 38	1	-	-	-	-	-	1		1
3	E Railroad Avenue/ OR 38	-	-	-	1	-	-	-	1	1
4	OR 38/Riverfront Way-Winchester Avenue	-	-	-	-	-	-	-	-	0
5	N 6th Street/OR 38	-	-	1	-	-	-	-	1	1
6	US 101/ Winchester Avenue	3	-	3	1			3	4	7
7	W. Railroad Avenue/ Winchester Avenue	1	-	-	-	-	-	1	-	1
8	Elm Avenue/ Winchester Avenue	-	-	-	-	-	-	-	-	0
9	E. Railroad Avenue/ Winchester Avenue	-	-	-	-	-	-	-	-	0
10	South 6th Street/ Winchester Avenue	-	-	-	1	-	-	1	-	1

[1] Initial data received from ODOT crash team indicated that no crashes occurred at this intersection. Further inspection of the ODOT TransGIS crash database determined that three crashes were within 250 feet of US 101/ OR 38 and were considered intersection-related for the purpose of this safety analysis. Two crashes occurred on the eastern leg within the vicinity of the US 101/ OR 38 northbound channelized right-turn exit and one crash occurred on the northern leg of US 101.

Legend (on map)
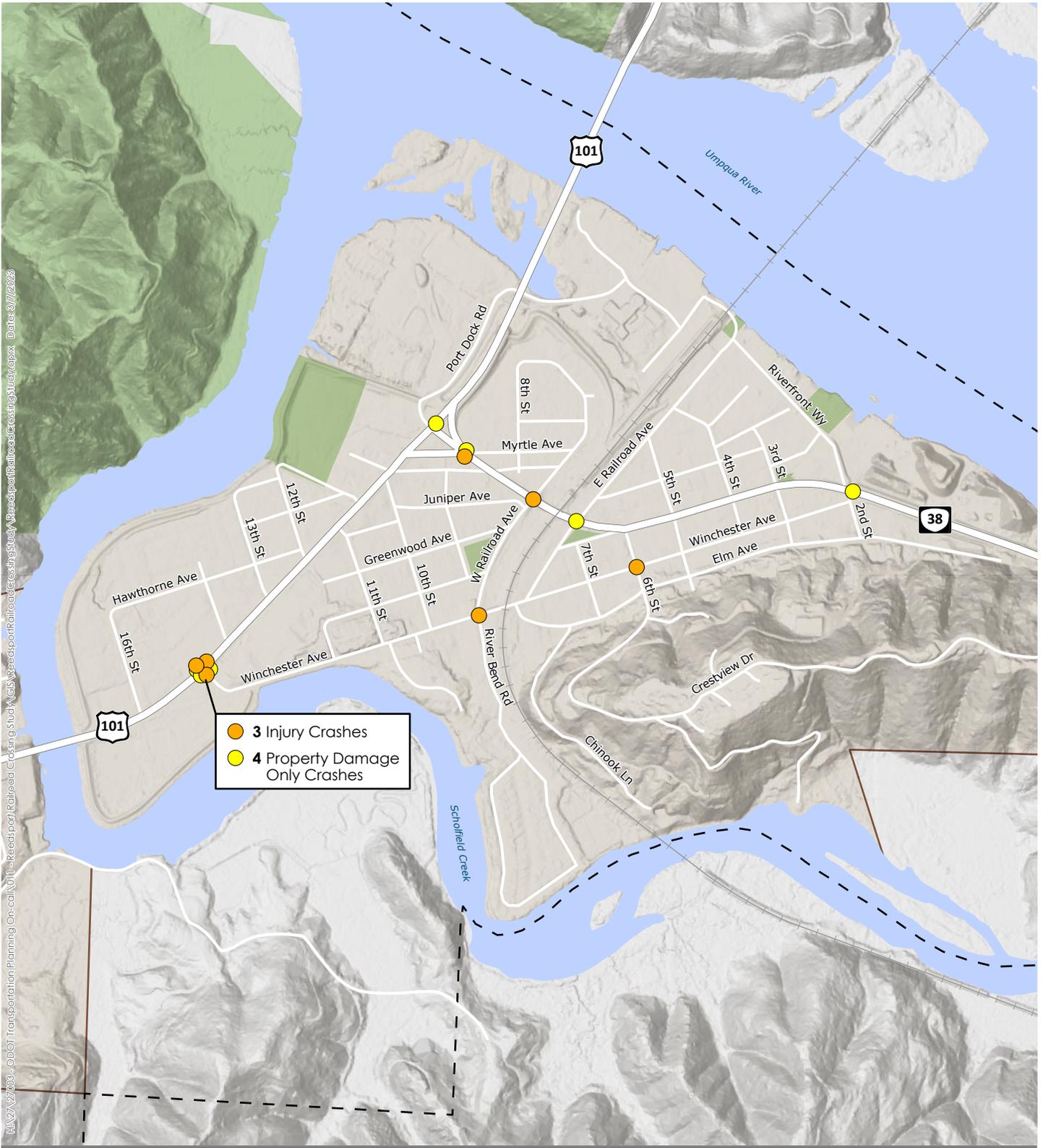
- **3** Injury Crashes
- **4** Property Damage Only Crashes

Roads and labels: 101, 38, Port Dock Rd, 8th St, Myrtle Ave, Juniper Ave, E Railroad Ave, Riverfront Wy, 5th St, 4th St, 3rd St, 2nd St, W Railroad Ave, Greenwood Ave, 12th St, 13th St, Hawthorne Ave, 16th St, 11th St, 10th St, 7th St, 6th St, Winchester Ave, Elm Ave, Crestview Dr, River Bend Rd, Chinook Ln, Umpqua River, Scholfield Creek

Legend

- 🟠 Injury Crash
- 🟡 Property Damage Only Crash
- City Boundary
- Urban Growth Boundary
- National Forest or Park
- Railroad

0   1,000 Feet

Figure 8

KITTELSON & ASSOCIATES

**Reported Crashes
Reedsport, Oregon**

Intersection Crash Rates

Intersection crash rates were developed for the study intersections based on the total number of crashes reported at the intersections over the 5-year period and the total entering volume, or million entering vehicles (MEV). Intersection crash rates were compared to 90th percentile crash rates developed by ODOT and documented in Table 4-1 of the ODOT APM. Table 9 summarizes the total number of crashes reported at the study intersections over the 5-year period, the intersection crash rates, and the corresponding 90th percentile crash rates as identified in the APM. Attachment C of this memorandum contains crash data from 2016-2020.

Table 9. Intersection Crash Rates vs. ODOT 90th Percentile Rates

Map ID	Intersection	Total Crashes	Intersection Crash Rate	90th Percentile Rate	Exceeds 90th Percentile Rate?
1	US 101/OR 381	3	0.15	0.86	No
2	W. Railroad Avenue/OR 38	1	0.10	0.41	No
3	E. Railroad Avenue/OR 38	1	0.10	0.41	No
4	OR 38/Riverfront Way-Winchester Avenue	0	0.00	0.29	No
5	N. 6th Street/OR 38	1	0.11	0.41	No
6	US 101/Winchester Avenue	7	0.28	0.86	No
7	W. Railroad Avenue/Winchester Avenue	1	0.25	0.41	No
8	Elm Avenue/Winchester Avenue	0	0.00	0.29	No
9	E. Railroad Avenue/Winchester Avenue	0	0.00	0.29	No
10	South 6th Street/Winchester Avenue	1	0.34	0.41	No

As shown in Table 9, none of the study intersections experience crash rates that exceed the 90th percentile. Attachment D contains the intersection crash rate analysis worksheet.

Critical Crash Rates

Critical crash rates were developed for the study intersections with sufficient reference populations based on the total number of crashes reported at the intersections over the 5-year period, the intersection type, and the total entering volume or average annual daily traffic (AADT). This method is only applicable where at least five to 10 intersections are available with similar characteristics (e.g., traffic control and legs/approaches). Otherwise, the critical crash rate defaults to the 90th percentile crash rates outlined in Table 9. Critical crash rates were calculated for the study intersections using ODOT's Critical Crash Rate Calculator tool. Table 10 summarizes the total number of crashes reported at the study intersections over the 5-year period, the intersection crash rates, and the corresponding critical crash rates. None of the study intersections currently exceed their corresponding critical crash rates. Attachment D contains the critical crash rate analysis worksheet.

Table 10. Intersection Crash Rates vs. Critical Crash Rates

Map ID	Intersection	Total Crashes	Intersection Crash Rate	Critical Crash Rate	Exceeds Critical Crash Rate?
1	US 101/OR 381	3	0.15	0.56	No
2	W. Railroad Avenue/OR 38	1	0.10	0.82	No
3	E. Railroad Avenue/OR 38	1	0.10	0.83	No
4	OR 38/Riverfront Way-Winchester Avenue	0	0.00	0.46	No
5	N. 6th Street/OR 38	1	0.11	0.84	No
6	US 101/Winchester Avenue	7	0.28	0.53	No
7	W. Railroad Avenue/Winchester Avenue	1	0.25	1.09	No
8	Elm Avenue/Winchester Avenue	0	0.00	0.68	No
9	E. Railroad Avenue/Winchester Avenue	0	0.00	0.68	No
10	South 6th Street/Winchester Avenue	1	0.34	1.23	No

Excess Proportion of Specific Crash Types

The Excess Proportion of Specific Crash Types analysis method quantifies the extent to which a specific crash type is overrepresented at an intersection when compared to the average representation within a reference population (five or more intersections with the same configuration). The analysis method does not consider the overall frequency or rate of crashes; instead, it considers only the types of crashes observed. It is useful for identifying locations that may benefit from targeted countermeasures. This method is best used in conjunction with the Critical Crash Rate analysis described above, as the two methods have complementary strengths and weaknesses.

Table 11 summarizes the intersections with a high probability (over 90 percent) that the long-term expected proportion of specific crash types will be greater than the long-term expected proportion of specific crash types of other intersections in the reference population. The table shows the study intersection, intersection type/reference population, collision type in excess, probability of future occurrences, and proportion of benefit or likelihood that the intersection will benefit from a countermeasure targeted at the specific crash type. Attachment D contains the excess proportion of specific crash types analysis worksheet.

Table 11. Excess Proportion of Specific Crash Rates

Map ID	Intersection	Intersection Type / Reference Population	Collision Type in Excess	Probability of Future Occurrence	Proportion of Benefit
1	US 101/OR 381	4 SG	Rear-End	100%	N/A
2	W. Railroad Avenue/OR 38	4 ST	N/A	N/A	N/A
3	E. Railroad Avenue/OR 38	4 ST	N/A	N/A	N/A
4	OR 38/Riverfront Way-Winchester Avenue	3 ST	N/A	N/A	N/A
5	N. 6th Street/OR 38	4 ST	N/A	N/A	N/A

6	US 101/Winchester Avenue	4 SG	Turn	43%	N/A
7	W. Railroad Avenue/Winchester Avenue	4 ST	N/A	N/A	N/A
8	Elm Avenue/Winchester Avenue	3 ST	N/A	N/A	N/A
9	E. Railroad Avenue/Winchester Avenue	3 ST	N/A	N/A	N/A
10	South 6th Street/Winchester Avenue	4 ST	N/A	N/A	N/A

3 = 3-legged intersection, 4 = 4-legged intersection, SG = traffic signal controlled, ST = stop controlled.

Safety Priority Index System

The Safety Priority Index System (SPIS) was developed by ODOT to identify sites along state and local roads where potential safety issues warrant further investigation. The SPIS compares the total number of crashes reported on city streets, county roads, and state highways and generates a list of sites (intersections and roadway segments) with calculated SPIS scores. The scores are based on crash frequency, crash rate, and crash severity. SPIS sites with scores in the top 5 percent are investigated by ODOT staff and reported to the Federal Highway Administration (FHWA). Per the most recent SPIS list (2020), there are no sites within study area in the top 15 percent of SPIS sites.

Parking Analysis

On-Street Parking Supply

OR 38: On street parallel parking is permitted on both sides of the street on the two blocks of commercial uses between N. 5th Street and N. 3rd Street. This amounts to roughly 1,130 feet of curb (45 vehicles).[2]

Winchester Avenue: Curbside street parking is permitted on both sides of the street within the shoulder between 2nd Street and US-101.

Off-Street Parking Supply

OR 38: The commercial properties on OR 38 between N. 6th Avenue and N. 5th Street have dedicated private parking lots. While there is on-street parking to serve the businesses between N. 5th and N. 3rd, there are two large dedicated off-street parking lots with entrances on the south side of OR 38 serving those businesses. Off-street parking is provided behind the post office, which fronts the north side of OR 38.

Winchester Avenue: A mixture of residential and non-residential land uses front Winchester Avenue within the study area. Off-street parking lots for the non-residential entities are available throughout the corridor between US 101 and 2nd Street.

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[2] Assuming 25 feet per parking space.

Emergency Service Providers

Emergency service providers within Reedsport include the Reedsport Volunteer Fire Department, the Reedsport Police Department, and the Lower Umpqua Hospital. Information on these providers is summarized below.

- The **Reedsport Volunteer Fire Department** operates out of two stations, including Station 1 on the north side of Winchester Avenue at 4th Street and Station 2 on the north side of Frontage Avenue between Ranch Road and 22nd Street. The two stations serve the City of Reedsport specializing in fire fighting, rescue, hazardous materials incidents, special assignments, mutual aid calls, and fire prevention. Train events along the CBRL could reduce response times to areas north of the rail line as well as increase reliance on Station 2 to serve areas that would otherwise be served by Station 1.
- The **Reedsport Police Department** operates out of the same building as the Reedsport Volunteer Fire Department Station 1. The police department facility houses a full-time communications center and municipal jail, as well as the department's Dispatch/Records Section, which provides dispatch services for the Police Department, the Reedsport Volunteer Fire Department, and the Lower Umpqua Hospital Ambulance services. Like Station 1, train events along the CBRL could reduce response times to areas north of the rail line, as well as areas west of Scholfield Creek.
- The **Lower Umpqua Hospital** is located on the west side of Ranch Road, north of Ridgeway Drive. Ranch Road connects to US 101 via Frontage Road-22nd Street on the north side of US 101 and Longwood Drive on the south side of US 101. A train event along the CBRL could reduce response time to and from areas south of the CBRL.

NON-MOTORIZED TRANSPORTATION INVENTORY

Public Transportation

Regional Service

The study area is located within ODOT Region 3, which includes Coos, Curry, Douglas, Jackson, and Josephine counties. Coos County Area Transit (CCAT) runs intercity service between Coos Bay and Florence on Monday through Saturday with one morning and one evening run. Route deviations are available upon request. The northbound and southbound Reedsport stops for the CCAT's Florence Express within the study area are located on the south side of the US 101/13th Street intersection.

On-Demand / Dial-a-Ride

Dial-a-Ride service is available to Reedsport seniors and people with disabilities with advance reservations for trips starting and ending within Douglas County through the Umpqua Public Transportation District's "Douglas Rides" program.

Pedestrians

Within the City of Reedsport study area, existing pedestrian facilities were inventoried and compared to the Reedsport TSP.

OR 38

Partial sidewalks are provided on the south side of OR 38 from Myrtle Avenue to Laurel Avenue, and whole sidewalks are provided on both sides along OR 38 from Laurel Avenue to N. 3rd Street. There is currently no sidewalk east of 3rd Street. The TSP has identified a future pedestrian crossing crosswalk on OR 38 and Winchester Avenue. Pedestrian rail crossings are provided on both sides of OR 38. Marked crosswalks are provided on all crossings of the 5th Street and OR 38 intersection. Sidewalk facilities appear to be in good condition and range from 6 to 10 feet in width in the study area.

Winchester Avenue

Partial sidewalks are provided on Winchester from US 101 to the Kel-Cee Ace Hardware southern access and 12th Street to East Railroad Avenue. Sidewalks on both sides of Winchester Avenue are provided from E. Railroad Avenue to OR 38. There is currently no sidewalk from the Kel-Cee Ace Hardware southern access to 12th Street. The TSP has identified complete sidewalks on both sides of Winchester from US 101 to Schofield Drive. Pedestrian rail crossings are provided on the south side of Winchester Avenue. Marked crosswalks are provided on the west leg of N. 10th Street and Winchester Avenue intersection, the east leg of N. 5th Street and Winchester Avenue intersection, and the midblock crossing between 5th Street and 4th Street. Sidewalk facilities appear to be in good condition and vary from 5 to 7 feet in width along the study area.

Local Roads

West Railroad Avenue currently has no sidewalks north of OR 38 and partial sidewalks on the west side from Juniper Avenue to Winchester. 6th Street currently has sidewalks on both sides from OR 38 to Elm Avenue. E. Railroad Avenue and Elm Avenue currently have no sidewalks.

Intermodal Connections

There is currently no fixed route transit service provided in the City of Reedsport. CCAT provides intercity connections from Coos Bay to Florence with a stop in Reedsport. The northbound and southbound stops in Reedsport are located on the southside of the US 101/13th Street intersection. Sidewalks are provided to and from the stops along US 101.

Pedestrian Generators

Pedestrian accessibility to key destinations within the study area described below:

» Downtown Reedsport – The downtown area has the most complete sidewalk network and generally provides good pedestrian connectivity to destinations. The commercial core around OR 38 and Winchester Avenue has a complete sidewalk network, the Lower Umpqua Library has a complete sidewalk network surrounding it, and Florence City Hall (on US 101 between 1st Street and 2nd Street) has a complete sidewalk network except on 1st Street.

Bicycles

Within the City of Reedsport study area, existing bicycle facilities were inventoried and compared to the Reedsport TSP.

OR 38

Striped bike lanes are provided on OR 38 from US 101 to 3rd Street. The bicycle facilities appear to be in good condition and are 6 feet in width.

Winchester Avenue

There are currently no bicycle facilities on Winchester Avenue, which is a shared roadway. The roadway width is 13 feet from US 101 to OR 38.

Local Roads

There are currently no bicycle facilities on local roads within the study area. The local roads are shared roadway facilities.

Intermodal Connections

There is currently no fixed route transit service provided in the City of Reedsport. CCAT provides intercity connections from Coos Bay to Florence with a stop in Reedsport. The northbound and southbound stops in Reedsport are located on the southside of the US 101/13th Street intersection. Striped bicycle lanes are provided to and from the stops along US 101.

RAIL

Since resuming rail service in 2011, the Coos Bay Rail Line (CBRL) provides freight service to industrial customers in and around Coos Bay and Coquille via interchange connections with the Union Pacific Railroad, Portland and Western, and Central Oregon & Pacific in Eugene, approximately 120 railroad miles to the north and east.

Rail Owners and Operators

Coos Bay Rail Line (CBRL) is the owner and operator of the rail line.

Historic Rail Activity and Operations

Rail activity over the line has been consistent since 2011, when CBRL began operations. The Umpqua swing span is kept in the open position for river traffic, closing only for rail passages as required. The train speeds are restricted to 10 mph across the Umpqua River bridge, which is the maximum and average speed for trains passing through Reedsport.

Existing Operations

Based upon data obtained from the existing crossing inventories within Reedsport and input from Coos Bay Railroad staff, the current train service on the line through Reedsport consists of a maximum of two trains per day, a maximum operating length of about 1,500 feet, with a maximum train speed of 10 mph though town. The 10 mph speed restriction in place on the Umpqua swing span at the east side of town is the limiting feature along the rail line within Reedsport.

The frequency of operation of the swing span was not provided by the CBRL. However, it was described as infrequent, with vessel passages occurring weekly rather than daily, though it was noted to be seasonal, with passages in correlation with the fishing seasons along the Oregon Coast. The current operation of the swing span favors watercraft, with the bridge remaining open until train passage requires closure. CRBL staff reported that efforts are underway to petition the U.S. Coast Guard to allow the bridge to remain closed, with openings for watercraft on a scheduled or on-call basis. This would favor railroad operations, providing the CBRL with the ability to coordinate opening with rail traffic, thus lessening the potential delays incurred by train traffic waiting for bridge openings.

Rail Crossing Controls and Configurations

There are two at-grade rail CBRL crossings in the City within the study area.

Winchester Avenue

The CBRL rail line crosses Winchester Avenue at grade between River Bend Rd and Elm Avenue. Winchester Avenue is one lane in each direction. There are stop bars roughly 20 feet from the tracks in both travel lanes, and rail crossing warning striping within 220 feet of the rail in either direction. The crossing is controlled by a two quadrant active warning gate system to manage vehicle conflicts. The gates are accompanied by flashing lights and a cross buck "rail crossing" warning sign (Figure 9). The single pedestrian crossing is uncontrolled and on the east side of the street (Figure 10). Attachment E contains the crossing key data for Winchester Avenue.

Figure 9 Winchester Avenue at Grade Rail Crossing (Looking Eastbound)

Figure 10. Winchester Avenue At-Grade Pedestrian Crossing (Looking Eastbound)

OR 38

The rail line crosses OR 38 at grade between W. Railroad Avenue and E. Railroad Avenue, where there is a slight curve on the westbound approach (Figure 11). There are stop bars roughly 15 feet from the tracks in both travel lanes, and rail crossing warning striping within 220 feet of the rail in the westbound direction and 300 feet in the eastbound direction. The crossing is controlled by a two-quadrant active warning gate system to manage vehicle conflicts. The gates are accompanied by flashing lights and a cross buck "rail crossing" warning sign. There are uncontrolled pedestrian crossings in both directions. Attachment E contains the crossing key data for OR 38.

Figure 11. OR 38 At-Grade Rail Crossing

DRAINAGE SYSTEM

Floodplain

All study intersections are located within the Reedsport levee system, which protects the area from riverine flooding from the Umpqua River and Scholfield Creek. The potential for flooding is still present in the event of a levee failure or failure of the storm drainage system. The levee system has been provisionally accredited by the Federal Emergency Management Agency. The area is expected to be protected from flooding up to the 200-year event, with larger events potentially overtopping the levees. Floodwalls are provided along the study area as shown in Figure 12.

Figure 12. Floodwalls within Study Area

Drainage System

Storm drainage for the study intersections is provided by the City of Reedsport drainage system, with catch basins leading to the gravity storm sewer that provides a means for stormwater to drain from the roadway. Most of the system is gravity-driven with pump stations at the discharge points along the Umpqua River and Scholfield Creek that discharge flows when levels in these water bodies are high enough to prevent gravity flow. The existing conditions drainage system is shown in Figure 13.

Legend

- ● Study Intersection
- City Boundary
- Urban Growth Boundary
- National Forest or Park
- Railroad
- Reedsport Storm Lines
- Levee

FEMA Special Flood Hazard Area

- 1% annual chance flood hazard
- Floodway
- 0.2% annual chance flood hazard
- Area with reduced flood risk due to levee

0   1,000 Feet

Figure 13

**Drainage System
Reedsport, Oregon**

KITTELSON & ASSOCIATES

EXISTING DEFICIENCIES AND NEEDS

This working memorandum identified existing deficiencies and needs. These include the following key findings:

- Capacity - Under existing conditions, the study intersections are currently meeting respective performance standards during the weekday PM peak hour.
- Queue storage - Train events at OR 38 and Winchester Avenue are likely to cause queuing exceeding the eastbound and westbound approach storage length both today and in the future.
- Safety - A crash analysis indicates the study intersections do not exceed the 90th percentile crash rates and critical crash rates. It also indicates that the long-term expected proportion of specific crash types will be greater than the long-term expected proportion of specific crash types in other intersections in the reference population.
- Title VI and environmental justice populations – The study area in Reedsport has a higher percentage of people living below the federal poverty level, older adults, people with disabilities, and zero-vehicle households than the rest of the State.
- Pedestrian connectivity – Sidewalks are provided in the study area on one or both sides, with the exception of the following:

  - Winchester Avenue – There is no sidewalk from the Kel-Cee Hardware southern access to 12th Street.
  - West Railroad Avenue – There is no sidewalk north of OR 38.
  - E. Railroad Avenue and Elm Avenue – No sidewalk is provided.

- Bicycle connectivity – Bicycle connectivity is provided in the study area through bike lanes on US 101, OR 38 from US 101 to 3rd Street, and shared roadways on Winchester Avenue and local streets.
- Rail system – There are currently at grade rail CBRL crossings at OR 38 and Winchester Avenue with a current 10 mph speed limit restriction in place on the Umpqua swing span at the east side of town.
- Stormwater infrastructure – The study area is located within the Reedsport levee system, which protects the area from riverine flooding up to the 200-year event. Potential flooding is likely in the event of a levee failure or a failure of the storm drainage system.

REFERENCES

1. City of Reedsport. City of Reedsport Transportation System Plan, 2006.

ATTACHMENTS

A. Existing Traffic Conditions Worksheets
B. Train Event Queueing Calculations
C. ODOT Crash Data
D. Crash Rate Analysis Worksheets
E. Crossing Key Data

Attachment A: Existing Traffic
Conditions Worksheets

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Version 2022 (SP 0-0)

27003 Reedsport Rail Crossing Study

Existing Traffic Conditions

HCM 6th Edition

Weekday PM Peak Hour

Intersection Level Of Service Report
Intersection 1: US 101 / OR 38

Control Type:	Signalized	Delay (sec / veh):	24.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.809

Intersection Setup

Name	US 101			US 101			Port Dock Rd			OR 38		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	0	0	0	1
Entry Pocket Length [ft]	150.00	100.00	100.00	225.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	320.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	1
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.21
Speed [mph]	30.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			No			Yes			No		
Crosswalk	Yes			Yes			Yes			No		

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Version 2022 (SP 0-0)

27003 Reedsport Rail Crossing Study

Existing Traffic Conditions

HCM 6th Edition

Weekday PM Peak Hour

Volumes

Name	US 101			US 101			Port Dock Rd			OR 38		
Base Volume Input [veh/h]	17	237	210	41	271	14	13	8	27	234	5	46
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	18.00	9.00	5.00	2.00	6.00	0.00	0.00	50.00	11.00	9.00	20.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	17	237	210	41	271	14	13	8	27	234	5	46
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	64	57	11	74	4	4	2	7	64	1	13
Total Analysis Volume [veh/h]	18	258	228	45	295	15	14	9	29	254	5	50
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			1			0		
v_di, Inbound Pedestrian Volume crossing m	1			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	1			1			1			0		

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Version 2022 (SP 0-0)

27003 Reedsport Rail Crossing Study

Existing Traffic Conditions

HCM 6th Edition

Weekday PM Peak Hour

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lag	-	-	Lag	-	-	-	-	-	-	-	-
Minimum Green [s]	3	10	0	3	10	0	0	5	0	0	7	0
Maximum Green [s]	15	45	0	15	45	0	0	35	0	0	35	0
Amber [s]	3.5	3.8	0.0	3.5	3.8	0.0	0.0	3.5	0.0	0.0	3.8	0.0
All red [s]	1.8	1.0	0.0	1.8	1.5	0.0	0.0	1.8	0.0	0.0	2.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	2.5	4.5	0.0	2.5	4.5	0.0	0.0	2.5	0.0	0.0	2.5	0.0
Walk [s]	0	0	0	0	7	0	0	7	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	19	0	0	20	0	0	0	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.3	2.8	0.0	3.3	3.3	0.0	0.0	3.3	0.0	0.0	3.8	0.0
Minimum Recall	No	Yes		No	Yes			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No		No	No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	R	L	C	C	C	C	R
C, Cycle Length [s]	66	66	66	66	66	66	66	66	66	66
L, Total Lost Time per Cycle [s]	5.05	4.80	4.80	4.80	5.30	5.30	5.30	5.30	5.80	5.80
l1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	2.00	0.00
l2, Clearance Lost Time [s]	0.00	2.80	2.80	2.80	0.00	3.30	3.30	0.00	3.80	3.80
g_i, Effective Green Time [s]	20	13	13	13	20	14	14	35	35	35
g / C, Green / Cycle	0.30	0.20	0.20	0.20	0.30	0.21	0.21	0.54	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.02	0.10	0.10	0.10	0.03	0.09	0.09	0.22	0.56	0.03
s, saturation flow rate [veh/h]	1187	1765	1616	1517	1292	1810	1775	231	466	1615
c, Capacity [veh/h]	318	352	322	303	335	377	369	91	355	856
d1, Uniform Delay [s]	21.92	23.36	23.44	23.45	23.23	22.60	22.62	13.16	16.43	7.51
k, delay calibration	0.19	0.19	0.19	0.19	0.19	0.08	0.19	0.08	0.45	0.08
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.13	1.77	2.04	2.30	0.31	0.54	1.29	4.11	11.34	0.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

	L	C	C	R	L	C	C	C	C	R
X, volume / capacity	0.06	0.48	0.50	0.51	0.13	0.41	0.42	0.57	0.73	0.06
d, Delay for Lane Group [s/veh]	22.05	25.13	25.47	25.75	23.54	23.14	23.91	17.27	27.78	7.53
Lane Group LOS	C	C	C	C	C	C	C	B	C	A
Critical Lane Group	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.19	2.40	2.28	2.23	0.49	2.04	2.09	0.42	4.64	0.31
50th-Percentile Queue Length [ft/ln]	4.79	59.90	57.09	55.64	12.15	50.91	52.35	10.57	116.07	7.81
95th-Percentile Queue Length [veh/ln]	0.34	4.31	4.11	4.01	0.88	3.67	3.77	0.76	8.18	0.56
95th-Percentile Queue Length [ft/ln]	8.62	107.8	102.7	100.1	21.88	91.64	94.23	19.03	204.41	14.06

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	22.05	25.25	25.67	23.54	23.50	23.91	17.27	17.27	17.27	27.78	27.78	7.53
Movement LOS	C	C	C	C	C	C	B	B	B	C	C	A
d_A, Approach Delay [s/veh]	25.32			23.52			17.27			24.50		
Approach LOS	C			C			B			C		
d_I, Intersection Delay [s/veh]	24.25											
Intersection LOS	C											
Intersection V/C	0.809											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	-5.8	11.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	9708.42	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	22.91	39.04	22.91	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.973	2.507	1.757	0.000
Crosswalk LOS	C	B	A	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1364	1364	1061	1061
d_b, Bicycle Delay [s]	3.34	3.34	7.28	7.27
I_b,int, Bicycle LOS Score for Intersection	1.975	1.852	1.645	2.069
Bicycle LOS	A	A	A	B

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Weekday PM Peak Hour
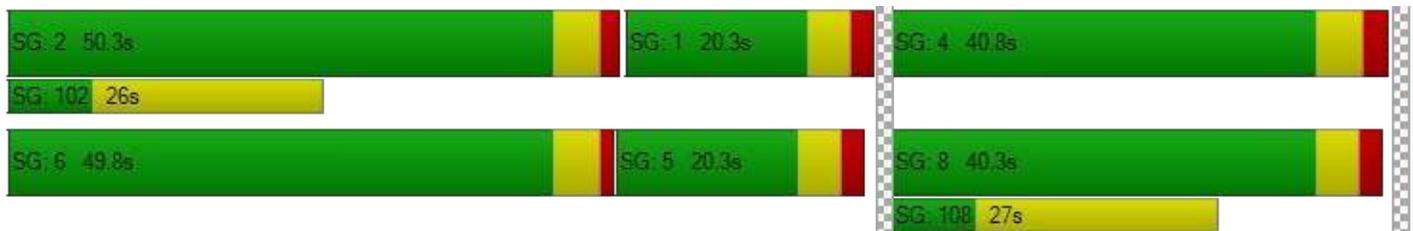
Intersection Level Of Service Report
Intersection 2: OR 38 / W Railroad Ave

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.010

Intersection Setup

Name	W Railroad Ave			W Railroad Ave			OR 38			OR 38		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	✛			✛			✛			✛		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	W Railroad Ave			W Railroad Ave			OR 38			OR 38		
Base Volume Input [veh/h]	4	3	2	0	1	4	4	248	4	5	276	3
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.00	0.00	0.00	9.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	4	3	2	0	1	4	4	248	4	5	276	3
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	1	1	0	0	1	1	67	1	1	75	1
Total Analysis Volume [veh/h]	4	3	2	0	1	4	4	270	4	5	300	3
Pedestrian Volume [ped/h]	0			0			0			0		

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Existing Traffic Conditions

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	13.85	13.77	9.82	13.75	13.67	9.89	7.84	0.00	0.00	7.78	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.06	0.06	0.06	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.49	1.49	1.49	0.59	0.59	0.59	0.24	0.24	0.24	0.29	0.29	0.29
d_A, Approach Delay [s/veh]	12.93			10.65			0.11			0.13		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.40											
Intersection LOS	B											

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Existing Traffic Conditions

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Intersection Level Of Service Report
Intersection 3: OR 38 / E Railroad Ave

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.005

Intersection Setup

Name	E Railroad Ave			E Railroad Ave			OR 38			OR 38		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	E Railroad Ave			E Railroad Ave			OR 38			OR 38		
Base Volume Input [veh/h]	0	3	3	0	2	17	20	226	5	1	268	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00	0.00	0.00	8.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	3	3	0	2	17	20	226	5	1	268	1
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	1	1	0	1	5	6	63	1	0	74	0
Total Analysis Volume [veh/h]	0	3	3	0	2	19	22	251	6	1	298	1
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	14.27	13.87	9.63	14.07	13.99	9.99	7.88	0.00	0.00	7.73	0.00	0.00
Movement LOS	B	B	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.03	0.03	0.03	0.09	0.09	0.09	0.05	0.05	0.05	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	0.84	0.84	0.84	2.35	2.35	2.35	1.32	1.32	1.32	0.06	0.06	0.06
d_A, Approach Delay [s/veh]	11.75			10.37			0.62			0.03		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]	0.77											
Intersection LOS	B											

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Intersection Level Of Service Report
Intersection 4: OR 38 / N 6th St

Control Type:	Two-way stop	Delay (sec / veh):	13.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.027

Intersection Setup

Name	S 6th St		OR 38		OR 38	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	S 6th St		OR 38		OR 38	
Base Volume Input [veh/h]	11	8	287	13	9	269
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	8.00	38.00	0.00	7.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	8	287	13	9	269
Peak Hour Factor	0.9200	0.9200	0.9200	0.9200	0.9200	0.9200
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	2	78	4	2	73
Total Analysis Volume [veh/h]	12	9	312	14	10	292
Pedestrian Volume [ped/h]	0		0		0	

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Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.01	0.00	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	13.39	10.23	0.00	0.00	7.91	0.00
Movement LOS	B	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.12	0.12	0.00	0.00	0.02	0.02
95th-Percentile Queue Length [ft/ln]	3.07	3.07	0.00	0.00	0.61	0.61
d_A, Approach Delay [s/veh]	12.04		0.00		0.26	
Approach LOS	B		A		A	
d_I, Intersection Delay [s/veh]	0.51					
Intersection LOS	B					

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Intersection Level Of Service Report
Intersection 5: OR 38 / Riverfront Way / Winchester

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.092

Intersection Setup

Name	Winchester Ave			Riverfront Way			OR 38			OR 38		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	1	0	0	0	0	0	1	1	0	0
Entry Pocket Length [ft]	100.00	100.00	50.00	100.00	100.00	100.00	100.00	100.00	450.00	250.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Winchester Ave			Riverfront Way			OR 38			OR 38		
Base Volume Input [veh/h]	28	6	1	3	2	15	5	214	5	25	208	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.00	20.00	4.00	12.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	28	6	1	3	2	15	5	214	5	25	208	6
Peak Hour Factor	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900	0.7900
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	9	2	0	1	1	5	2	68	2	8	66	2
Total Analysis Volume [veh/h]	35	8	1	4	3	19	6	271	6	32	263	8
Pedestrian Volume [ped/h]	0			0			0			0		

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27003 Reedsport Rail Crossing Study

Existing Traffic Conditions

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane		No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.09	0.02	0.00	0.01	0.01	0.02	0.00	0.00	0.00	0.03	0.00	0.00
d_M, Delay for Movement [s/veh]	15.69	15.30	9.67	14.58	14.39	9.90	7.77	0.00	0.00	7.90	0.00	0.00
Movement LOS	C	C	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.38	0.38	0.00	0.13	0.13	0.13	0.01	0.01	0.00	0.08	0.00	0.00
95th-Percentile Queue Length [ft/ln]	9.43	9.43	0.10	3.32	3.32	3.32	0.35	0.35	0.00	1.93	0.00	0.00
d_A, Approach Delay [s/veh]	15.48			11.14			0.16			0.83		
Approach LOS	C			B			A			A		
d_I, Intersection Delay [s/veh]	1.94											
Intersection LOS	C											

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Intersection Level Of Service Report
Intersection 6: US 101 / Winchester Ave

Control Type:	Signalized	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.522

Intersection Setup

Name	US 101			US 101			Winchester Ave			Winchester Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	1	0	0	1	0	0	0	0	1	0	0	0
Entry Pocket Length [ft]	125.00	100.00	100.00	75.00	100.00	100.00	100.00	100.00	75.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			30.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

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Volumes

Name	US 101			US 101			Winchester Ave			Winchester Ave		
Base Volume Input [veh/h]	47	489	80	13	545	23	24	5	56	78	16	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	6.00	2.00	8.00	7.00	4.00	8.00	0.00	2.00	1.00	0.00	13.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	47	489	80	13	545	23	24	5	56	78	16	15
Peak Hour Factor	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300	0.9300
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	131	22	3	147	6	6	1	15	21	4	4
Total Analysis Volume [veh/h]	51	526	86	14	586	25	26	5	60	84	17	16
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	2			1			0			1		
v_di, Inbound Pedestrian Volume crossing m	0			1			2			1		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			7			0			0		

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Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Free Running
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	Lead Green - Beginning of First Green
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	ProtPer	Permiss	Permiss	ProtPer	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss	Permiss
Signal Group	5	2	0	1	6	0	0	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	-	-	-	-	-	-
Minimum Green [s]	5	10	0	3	10	0	0	5	0	0	5	0
Maximum Green [s]	20	45	0	20	45	0	0	30	0	0	30	0
Amber [s]	3.5	3.8	0.0	3.5	3.8	0.0	0.0	3.5	0.0	0.0	3.5	0.0
All red [s]	1.6	1.3	0.0	1.6	1.6	0.0	0.0	2.0	0.0	0.0	2.0	0.0
Split [s]	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Extension [s]	3.0	3.0	0.0	2.5	4.5	0.0	0.0	2.5	0.0	0.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	15	0	0	16	0	0	18	0	0	19	0
Delayed Vehicle Green [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	3.1	3.1	0.0	3.1	3.4	0.0	0.0	3.5	0.0	0.0	3.5	0.0
Minimum Recall	No	No		No	No			No			No	
Maximum Recall	No	No		No	No			No			No	
Pedestrian Recall	No	No			No			No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	R	C
C, Cycle Length [s]	33	33	33	33	33	33	33	33	33
L, Total Lost Time per Cycle [s]	5.10	5.10	5.10	5.40	5.40	5.40	5.50	5.50	5.50
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	2.00
l2, Clearance Lost Time [s]	0.00	3.10	3.10	0.00	3.40	3.40	3.50	3.50	3.50
g_i, Effective Green Time [s]	18	12	12	17	10	10	5	5	5
g / C, Green / Cycle	0.53	0.37	0.37	0.52	0.31	0.31	0.15	0.15	0.15
(v / s)_i Volume / Saturation Flow Rate	0.03	0.17	0.17	0.01	0.17	0.17	0.02	0.04	0.14
s, saturation flow rate [veh/h]	1781	1810	1723	957	1795	1764	1772	1583	815
c, Capacity [veh/h]	1041	666	634	729	560	551	457	229	305
d1, Uniform Delay [s]	4.00	7.98	7.98	4.00	9.42	9.43	12.27	12.55	14.84
k, delay calibration	0.11	0.11	0.11	0.08	0.19	0.19	0.08	0.08	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.02	0.52	0.55	0.01	1.44	1.48	0.05	0.45	0.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.05	0.47	0.47	0.02	0.55	0.55	0.07	0.26	0.38
d, Delay for Lane Group [s/veh]	4.02	8.49	8.53	4.01	10.86	10.91	12.32	12.99	15.63
Lane Group LOS	A	A	A	A	B	B	B	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.08	1.20	1.16	0.02	1.50	1.49	0.17	0.35	0.80
50th-Percentile Queue Length [ft/ln]	1.99	30.11	28.95	0.57	37.48	37.17	4.21	8.76	19.94
95th-Percentile Queue Length [veh/ln]	0.14	2.17	2.08	0.04	2.70	2.68	0.30	0.63	1.44
95th-Percentile Queue Length [ft/ln]	3.58	54.20	52.12	1.02	67.47	66.90	7.58	15.76	35.90

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.02	8.51	8.53	4.01	10.88	10.91	12.32	12.32	12.99	15.63	15.63	15.63
Movement LOS	A	A	A	A	B	B	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	8.17			10.73			12.76			15.63		
Approach LOS	A			B			B			B		
d_I, Intersection Delay [s/veh]	10.10											
Intersection LOS	B											
Intersection V/C	0.522											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	7.34	7.34	7.34	7.34
I_p,int, Pedestrian LOS Score for Intersection	2.628	2.621	1.958	1.751
Crosswalk LOS	B	B	A	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	2726	2726	1817	1817
d_b, Bicycle Delay [s]	2.18	2.18	0.14	0.14
I_b,int, Bicycle LOS Score for Intersection	2.107	2.075	1.710	1.753
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Intersection Level Of Service Report
Intersection 7: Winchester Ave / W Railroad Ave

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.001

Intersection Setup

Name	River Bend Rd			W Railroad Ave			Winchester Ave			Winchester Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	✚			✚			✚			✚		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	River Bend Rd			W Railroad Ave			Winchester Ave			Winchester Ave		
Base Volume Input [veh/h]	12	0	4	2	1	4	1	92	21	3	83	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	0	4	2	1	4	1	92	21	3	83	0
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	0	1	1	0	1	0	26	6	1	24	0
Total Analysis Volume [veh/h]	14	0	5	2	1	5	1	106	24	3	95	0
Pedestrian Volume [ped/h]	0			0			0			0		

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Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.05	10.42	8.95	9.97	10.42	8.76	7.38	0.00	0.00	7.46	0.00	0.00
Movement LOS	B	B	A	A	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.08	0.08	0.08	0.03	0.03	0.03	0.00	0.00	0.00	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	1.88	1.88	1.88	0.71	0.71	0.71	0.05	0.05	0.05	0.15	0.15	0.15
d_A, Approach Delay [s/veh]	9.76			9.27			0.06			0.23		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.13											
Intersection LOS	B											

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Intersection Level Of Service Report
Intersection 8: Winchester Ave / Elm Ave

Control Type:	Two-way stop	Delay (sec / veh):	9.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Elm Ave		Winchester Ave		Winchester Ave	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [ft]	11.00	11.00	11.00	11.00	11.00	11.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Elm Ave		Winchester Ave		Winchester Ave	
Base Volume Input [veh/h]	9	4	99	5	2	101
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	3.00	0.00	0.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	9	4	99	5	2	101
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	1	28	1	1	28
Total Analysis Volume [veh/h]	10	4	110	6	2	112
Pedestrian Volume [ped/h]	0		0		0	

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Weekday PM Peak Hour

Intersection Settings

Priority Scheme	Stop		Free		Free	
Flared Lane	No					
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance	No					
Number of Storage Spaces in Median	0		0		0	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.80	8.89	0.00	0.00	7.43	0.00
Movement LOS	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.32	1.32	0.00	0.00	0.10	0.10
d_A, Approach Delay [s/veh]	9.54		0.00		0.13	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	0.61					
Intersection LOS	A					

Generated with **PTV VISTRO**
Version 2022 (SP 0-0)

27003 Reedsport Rail Crossing Study
Existing Traffic Conditions

HCM 6th Edition
Weekday PM Peak Hour

Intersection Level Of Service Report
Intersection 9: Winchester Ave / E Railroad Ave

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Private Dwy			E Railroad Ave			Winchester Ave			Winchester Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	✚			✚			✚			✚		
Turning Movement	Left	Right	Right2	Left2	Left	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	30.00			25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Private Dwy			E Railroad Ave			Winchester Ave			Winchester Ave		
Base Volume Input [veh/h]	8	3	0	1	1	22	14	86	5	2	79	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	0.00	0.00	2.00	0.00	0.00	0.00	7.00	0.00	0.00	0.00	1.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	8	3	0	1	1	22	14	86	5	2	79	2
Peak Hour Factor	0.8800	0.8800	1.0000	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	0	0	0	6	4	24	1	1	22	1
Total Analysis Volume [veh/h]	9	3	0	1	1	25	16	98	6	2	90	2
Pedestrian Volume [ped/h]	0			0			0			0		

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Version 2022 (SP 0-0)

27003 Reedsport Rail Crossing Study

Existing Traffic Conditions

HCM 6th Edition

Weekday PM Peak Hour

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.40	8.88	8.85	10.10	10.10	8.81	7.47	0.00	0.00	7.40	0.00	0.00
Movement LOS	B	A	A	B	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.09	0.09	0.09	0.03	0.03	0.03	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.25	1.25	1.25	2.20	2.20	2.20	0.82	0.82	0.82	0.10	0.10	0.10
d_A, Approach Delay [s/veh]	10.02			8.91			1.00			0.16		
Approach LOS	B			A			A			A		
d_I, Intersection Delay [s/veh]	1.96											
Intersection LOS	B											

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Version 2022 (SP 0-0)

27003 Reedsport Rail Crossing Study

Existing Traffic Conditions

HCM 6th Edition

Weekday PM Peak Hour

Intersection Level Of Service Report
Intersection 10: Winchester Ave / S 6th St

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.011

Intersection Setup

Name	S 6th St			S 6th St			Winchester Ave			Winchester Ave		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration		✝			✝			✝			✝	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
No. of Lanes in Entry Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
No. of Lanes in Exit Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Speed [mph]	20.00			25.00			25.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	S 6th St			S 6th St			Winchester Ave			Winchester Ave		
Base Volume Input [veh/h]	6	3	1	1	6	7	5	66	11	0	56	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	17.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	6	3	1	1	6	7	5	66	11	0	56	0
Peak Hour Factor	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800	0.7800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	2	1	0	0	2	2	2	21	4	0	18	0
Total Analysis Volume [veh/h]	8	4	1	1	8	9	6	85	14	0	72	0
Pedestrian Volume [ped/h]	0			0			0			0		

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Version 2022 (SP 0-0)

27003 Reedsport Rail Crossing Study

Existing Traffic Conditions

HCM 6th Edition

Weekday PM Peak Hour

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane	No	No		
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.01	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	10.02	10.10	8.80	9.70	10.15	8.71	7.35	0.00	0.00	7.39	0.00	0.00
Movement LOS	B	B	A	A	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.05	0.05	0.05	0.07	0.07	0.07	0.01	0.01	0.01	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	1.34	1.34	1.34	1.65	1.65	1.65	0.29	0.29	0.29	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	9.95			9.41			0.42			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	1.65											
Intersection LOS	B											

Attachment B: Train Event
Queueing Calculations

Existing OR 38 Train Event

PM	EB		Existing		PM	WB		Existing
3 minutes/train					3 minutes/train			
250 vehicles/hour					285 vehicles/hour			
13 vehicles/train					14 vehicles/train			
475 95% queue length					525 95% queue length			

k	P	Cumulative		k	P	Cumulative
0	0.0%	0.0%		0	0.0%	0.0%
1	0.0%	0.0%		1	0.0%	0.0%
2	0.0%	0.0%		2	0.0%	0.0%
3	0.1%	0.2%		3	0.0%	0.0%
4	0.4%	0.5%		4	0.1%	0.2%
5	0.9%	1.5%		5	0.3%	0.5%
6	2.0%	3.5%		6	0.8%	1.2%
7	3.5%	7.0%		7	1.5%	2.8%
8	5.5%	12.5%		8	2.7%	5.5%
9	7.7%	20.1%		9	4.3%	9.8%
10	9.6%	29.7%		10	6.2%	16.0%
11	10.9%	40.6%		11	8.0%	24.0%
12	11.3%	51.9%		12	9.5%	33.4%
13	10.9%	62.8%		13	10.4%	43.8%
14	9.7%	72.5%		14	10.6%	54.4%
15	8.1%	80.6%		15	10.0%	64.4%
16	6.3%	86.9%		16	8.9%	73.4%
17	4.7%	91.6%		17	7.5%	80.9%
18	3.2%	94.8%		18	5.9%	86.8%
19	2.1%	96.9%		19	4.5%	91.3%
20	1.3%	98.3%		20	3.2%	94.5%
21	0.8%	99.1%		21	2.2%	96.6%
22	0.4%	99.5%		22	1.4%	98.0%
23	0.2%	99.8%		23	0.9%	98.9%
24	0.1%	99.9%		24	0.5%	99.4%
25	0.1%	99.9%		25	0.3%	99.7%
26	0.0%	100.0%		26	0.2%	99.8%
27	0.0%	100.0%		27	0.1%	99.9%
28	0.0%	100.0%		28	0.0%	100.0%
29	0.0%	100.0%		29	0.0%	100.0%
30	0.0%	100.0%		30	0.0%	100.0%
31	0.0%	100.0%		31	0.0%	100.0%
32	0.0%	100.0%		32	0.0%	100.0%
33	0.0%	100.0%		33	0.0%	100.0%
34	0.0%	100.0%		34	0.0%	100.0%
35	0.0%	100.0%		35	0.0%	100.0%
36	0.0%	100.0%		36	0.0%	100.0%
37	0.0%	100.0%		37	0.0%	100.0%
38	0.0%	100.0%		38	0.0%	100.0%
39	0.0%	100.0%		39	0.0%	100.0%

40	0.0%	100.0%	40	0.0%	100.0%
41	0.0%	100.0%	41	0.0%	100.0%
42	0.0%	100.0%	42	0.0%	100.0%
43	0.0%	100.0%	43	0.0%	100.0%
44	0.0%	100.0%	44	0.0%	100.0%
45	0.0%	100.0%	45	0.0%	100.0%
46	0.0%	100.0%	46	0.0%	100.0%
47	0.0%	100.0%	47	0.0%	100.0%
48	0.0%	100.0%	48	0.0%	100.0%
49	0.0%	100.0%	49	0.0%	100.0%
50	0.0%	100.0%	50	0.0%	100.0%
51	0.0%	100.0%	51	0.0%	100.0%
52	0.0%	100.0%	52	0.0%	100.0%
53	0.0%	100.0%	53	0.0%	100.0%
54	0.0%	100.0%	54	0.0%	100.0%
55	0.0%	100.0%	55	0.0%	100.0%
56	0.0%	100.0%	56	0.0%	100.0%
57	0.0%	100.0%	57	0.0%	100.0%
58	0.0%	100.0%	58	0.0%	100.0%
59	0.0%	100.0%	59	0.0%	100.0%
60	0.0%	100.0%	60	0.0%	100.0%
61	0.0%	100.0%	61	0.0%	100.0%
62	0.0%	100.0%	62	0.0%	100.0%
63	0.0%	100.0%	63	0.0%	100.0%
64	0.0%	100.0%	64	0.0%	100.0%
65	0.0%	100.0%	65	0.0%	100.0%
66	0.0%	100.0%	66	0.0%	100.0%
67	0.0%	100.0%	67	0.0%	100.0%
68	0.0%	100.0%	68	0.0%	100.0%
69	0.0%	100.0%	69	0.0%	100.0%
70	0.0%	100.0%	70	0.0%	100.0%
71	0.0%	100.0%	71	0.0%	100.0%
72	0.0%	100.0%	72	0.0%	100.0%
73	0.0%	100.0%	73	0.0%	100.0%
74	0.0%	100.0%	74	0.0%	100.0%
75	0.0%	100.0%	75	0.0%	100.0%
76	0.0%	100.0%	76	0.0%	100.0%
77	0.0%	100.0%	77	0.0%	100.0%
78	0.0%	100.0%	78	0.0%	100.0%
79	0.0%	100.0%	79	0.0%	100.0%
80	0.0%	100.0%	80	0.0%	100.0%
81	0.0%	100.0%	81	0.0%	100.0%
82	0.0%	100.0%	82	0.0%	100.0%
83	0.0%	100.0%	83	0.0%	100.0%
84	0.0%	100.0%	84	0.0%	100.0%
85	0.0%	100.0%	85	0.0%	100.0%
86	0.0%	100.0%	86	0.0%	100.0%

87	0.0%	100.0%	87	0.0%	100.0%
88	0.0%	100.0%	88	0.0%	100.0%
89	0.0%	100.0%	89	0.0%	100.0%
90	0.0%	100.0%	90	0.0%	100.0%
91	0.0%	100.0%	91	0.0%	100.0%
92	0.0%	100.0%	92	0.0%	100.0%
93	0.0%	100.0%	93	0.0%	100.0%
94	0.0%	100.0%	94	0.0%	100.0%
95	0.0%	100.0%	95	0.0%	100.0%
96	0.0%	100.0%	96	0.0%	100.0%
97	0.0%	100.0%	97	0.0%	100.0%
98	0.0%	100.0%	98	0.0%	100.0%
99	0.0%	100.0%	99	0.0%	100.0%
100	0.0%	100.0%	100	0.0%	100.0%
101	0.0%	100.0%	101	0.0%	100.0%
102	0.0%	100.0%	102	0.0%	100.0%
103	0.0%	100.0%	103	0.0%	100.0%
104	0.0%	100.0%	104	0.0%	100.0%
105	0.0%	100.0%	105	0.0%	100.0%
106	0.0%	100.0%	106	0.0%	100.0%
107	0.0%	100.0%	107	0.0%	100.0%
108	0.0%	100.0%	108	0.0%	100.0%
109	0.0%	100.0%	109	0.0%	100.0%
110	0.0%	100.0%	110	0.0%	100.0%
111	0.0%	100.0%	111	0.0%	100.0%
112	0.0%	100.0%	112	0.0%	100.0%
113	0.0%	100.0%	113	0.0%	100.0%
114	0.0%	100.0%	114	0.0%	100.0%
115	0.0%	100.0%	115	0.0%	100.0%
116	0.0%	100.0%	116	0.0%	100.0%
117	0.0%	100.0%	117	0.0%	100.0%
118	0.0%	100.0%	118	0.0%	100.0%
119	0.0%	100.0%	119	0.0%	100.0%
120	0.0%	100.0%	120	0.0%	100.0%
121	0.0%	100.0%	121	0.0%	100.0%
122	0.0%	100.0%	122	0.0%	100.0%
123	0.0%	100.0%	123	0.0%	100.0%
124	0.0%	100.0%	124	0.0%	100.0%
125	0.0%	100.0%	125	0.0%	100.0%
126	0.0%	100.0%	126	0.0%	100.0%
127	0.0%	100.0%	127	0.0%	100.0%
128	0.0%	100.0%	128	0.0%	100.0%
129	0.0%	100.0%	129	0.0%	100.0%
130	0.0%	100.0%	130	0.0%	100.0%
131	0.0%	100.0%	131	0.0%	100.0%
132	0.0%	100.0%	132	0.0%	100.0%
133	0.0%	100.0%	133	0.0%	100.0%

134	0.0%	100.0%	134	0.0%	100.0%
135	0.0%	100.0%	135	0.0%	100.0%
136	0.0%	100.0%	136	0.0%	100.0%
137	0.0%	100.0%	137	0.0%	100.0%
138	0.0%	100.0%	138	0.0%	100.0%
139	0.0%	100.0%	139	0.0%	100.0%
140	0.0%	100.0%	140	0.0%	100.0%
141	0.0%	100.0%	141	0.0%	100.0%
142	0.0%	100.0%	142	0.0%	100.0%
143	0.0%	100.0%	143	0.0%	100.0%
144	0.0%	100.0%	144	0.0%	100.0%
145	0.0%	100.0%	145	0.0%	100.0%
146	0.0%	100.0%	146	0.0%	100.0%
147	0.0%	100.0%	147	0.0%	100.0%
148	0.0%	100.0%	148	0.0%	100.0%
149	0.0%	100.0%	149	0.0%	100.0%
150	0.0%	100.0%	150	0.0%	100.0%

Existing Winchester Train Event

PM	EB		Existing
3	minutes/train		
98	vehicles/hour		
5	vehicles/train		
225	95% queue length		

k	P		Cumulative
0	0.7%		0.7%
1	3.6%		4.4%
2	8.9%		13.3%
3	14.6%		27.9%
4	17.9%		45.8%
5	17.5%		63.4%
6	14.3%		77.7%
7	10.0%		87.7%
8	6.1%		93.8%
9	3.3%		97.2%
10	1.6%		98.8%
11	0.7%		99.5%
12	0.3%		99.8%
13	0.1%		99.9%
14	0.0%		100.0%
15	0.0%		100.0%
16	0.0%		100.0%
17	0.0%		100.0%
18	0.0%		100.0%
19	0.0%		100.0%
20	0.0%		100.0%
21	0.0%		100.0%
22	0.0%		100.0%
23	0.0%		100.0%
24	0.0%		100.0%
25	0.0%		100.0%
26	0.0%		100.0%
27	0.0%		100.0%
28	0.0%		100.0%
29	0.0%		100.0%
30	0.0%		100.0%
31	0.0%		100.0%
32	0.0%		100.0%
33	0.0%		100.0%
34	0.0%		100.0%
35	0.0%		100.0%
36	0.0%		100.0%
37	0.0%		100.0%
38	0.0%		100.0%
39	0.0%		100.0%

PM	WB		Existing
3	minutes/train		
110	vehicles/hour		
6	vehicles/train		
250	95% queue length		

k	P		Cumulative
0	0.4%		0.4%
1	2.2%		2.7%
2	6.2%		8.8%
3	11.3%		20.2%
4	15.6%		35.8%
5	17.1%		52.9%
6	15.7%		68.6%
7	12.3%		80.9%
8	8.5%		89.4%
9	5.2%		94.6%
10	2.9%		97.5%
11	1.4%		98.9%
12	0.7%		99.6%
13	0.3%		99.8%
14	0.1%		99.9%
15	0.0%		100.0%
16	0.0%		100.0%
17	0.0%		100.0%
18	0.0%		100.0%
19	0.0%		100.0%
20	0.0%		100.0%
21	0.0%		100.0%
22	0.0%		100.0%
23	0.0%		100.0%
24	0.0%		100.0%
25	0.0%		100.0%
26	0.0%		100.0%
27	0.0%		100.0%
28	0.0%		100.0%
29	0.0%		100.0%
30	0.0%		100.0%
31	0.0%		100.0%
32	0.0%		100.0%
33	0.0%		100.0%
34	0.0%		100.0%
35	0.0%		100.0%
36	0.0%		100.0%
37	0.0%		100.0%
38	0.0%		100.0%
39	0.0%		100.0%

40	0.0%	100.0%	40	0.0%	100.0%
41	0.0%	100.0%	41	0.0%	100.0%
42	0.0%	100.0%	42	0.0%	100.0%
43	0.0%	100.0%	43	0.0%	100.0%
44	0.0%	100.0%	44	0.0%	100.0%
45	0.0%	100.0%	45	0.0%	100.0%
46	0.0%	100.0%	46	0.0%	100.0%
47	0.0%	100.0%	47	0.0%	100.0%
48	0.0%	100.0%	48	0.0%	100.0%
49	0.0%	100.0%	49	0.0%	100.0%
50	0.0%	100.0%	50	0.0%	100.0%
51	0.0%	100.0%	51	0.0%	100.0%
52	0.0%	100.0%	52	0.0%	100.0%
53	0.0%	100.0%	53	0.0%	100.0%
54	0.0%	100.0%	54	0.0%	100.0%
55	0.0%	100.0%	55	0.0%	100.0%
56	0.0%	100.0%	56	0.0%	100.0%
57	0.0%	100.0%	57	0.0%	100.0%
58	0.0%	100.0%	58	0.0%	100.0%
59	0.0%	100.0%	59	0.0%	100.0%
60	0.0%	100.0%	60	0.0%	100.0%
61	0.0%	100.0%	61	0.0%	100.0%
62	0.0%	100.0%	62	0.0%	100.0%
63	0.0%	100.0%	63	0.0%	100.0%
64	0.0%	100.0%	64	0.0%	100.0%
65	0.0%	100.0%	65	0.0%	100.0%
66	0.0%	100.0%	66	0.0%	100.0%
67	0.0%	100.0%	67	0.0%	100.0%
68	0.0%	100.0%	68	0.0%	100.0%
69	0.0%	100.0%	69	0.0%	100.0%
70	0.0%	100.0%	70	0.0%	100.0%
71	0.0%	100.0%	71	0.0%	100.0%
72	0.0%	100.0%	72	0.0%	100.0%
73	0.0%	100.0%	73	0.0%	100.0%
74	0.0%	100.0%	74	0.0%	100.0%
75	0.0%	100.0%	75	0.0%	100.0%
76	0.0%	100.0%	76	0.0%	100.0%
77	0.0%	100.0%	77	0.0%	100.0%
78	0.0%	100.0%	78	0.0%	100.0%
79	0.0%	100.0%	79	0.0%	100.0%
80	0.0%	100.0%	80	0.0%	100.0%
81	0.0%	100.0%	81	0.0%	100.0%
82	0.0%	100.0%	82	0.0%	100.0%
83	0.0%	100.0%	83	0.0%	100.0%
84	0.0%	100.0%	84	0.0%	100.0%
85	0.0%	100.0%	85	0.0%	100.0%
86	0.0%	100.0%	86	0.0%	100.0%

87	0.0%	100.0%	87	0.0%	100.0%
88	0.0%	100.0%	88	0.0%	100.0%
89	0.0%	100.0%	89	0.0%	100.0%
90	0.0%	100.0%	90	0.0%	100.0%
91	0.0%	100.0%	91	0.0%	100.0%
92	0.0%	100.0%	92	0.0%	100.0%
93	0.0%	100.0%	93	0.0%	100.0%
94	0.0%	100.0%	94	0.0%	100.0%
95	0.0%	100.0%	95	0.0%	100.0%
96	0.0%	100.0%	96	0.0%	100.0%
97	0.0%	100.0%	97	0.0%	100.0%
98	0.0%	100.0%	98	0.0%	100.0%
99	0.0%	100.0%	99	0.0%	100.0%
100	0.0%	100.0%	100	0.0%	100.0%
101	0.0%	100.0%	101	0.0%	100.0%
102	0.0%	100.0%	102	0.0%	100.0%
103	0.0%	100.0%	103	0.0%	100.0%
104	0.0%	100.0%	104	0.0%	100.0%
105	0.0%	100.0%	105	0.0%	100.0%
106	0.0%	100.0%	106	0.0%	100.0%
107	0.0%	100.0%	107	0.0%	100.0%
108	0.0%	100.0%	108	0.0%	100.0%
109	0.0%	100.0%	109	0.0%	100.0%
110	0.0%	100.0%	110	0.0%	100.0%
111	0.0%	100.0%	111	0.0%	100.0%
112	0.0%	100.0%	112	0.0%	100.0%
113	0.0%	100.0%	113	0.0%	100.0%
114	0.0%	100.0%	114	0.0%	100.0%
115	0.0%	100.0%	115	0.0%	100.0%
116	0.0%	100.0%	116	0.0%	100.0%
117	0.0%	100.0%	117	0.0%	100.0%
118	0.0%	100.0%	118	0.0%	100.0%
119	0.0%	100.0%	119	0.0%	100.0%
120	0.0%	100.0%	120	0.0%	100.0%
121	0.0%	100.0%	121	0.0%	100.0%
122	0.0%	100.0%	122	0.0%	100.0%
123	0.0%	100.0%	123	0.0%	100.0%
124	0.0%	100.0%	124	0.0%	100.0%
125	0.0%	100.0%	125	0.0%	100.0%
126	0.0%	100.0%	126	0.0%	100.0%
127	0.0%	100.0%	127	0.0%	100.0%
128	0.0%	100.0%	128	0.0%	100.0%
129	0.0%	100.0%	129	0.0%	100.0%
130	0.0%	100.0%	130	0.0%	100.0%
131	0.0%	100.0%	131	0.0%	100.0%
132	0.0%	100.0%	132	0.0%	100.0%
133	0.0%	100.0%	133	0.0%	100.0%

134	0.0%	100.0%	134	0.0%	100.0%
135	0.0%	100.0%	135	0.0%	100.0%
136	0.0%	100.0%	136	0.0%	100.0%
137	0.0%	100.0%	137	0.0%	100.0%
138	0.0%	100.0%	138	0.0%	100.0%
139	0.0%	100.0%	139	0.0%	100.0%
140	0.0%	100.0%	140	0.0%	100.0%
141	0.0%	100.0%	141	0.0%	100.0%
142	0.0%	100.0%	142	0.0%	100.0%
143	0.0%	100.0%	143	0.0%	100.0%
144	0.0%	100.0%	144	0.0%	100.0%
145	0.0%	100.0%	145	0.0%	100.0%
146	0.0%	100.0%	146	0.0%	100.0%
147	0.0%	100.0%	147	0.0%	100.0%
148	0.0%	100.0%	148	0.0%	100.0%
149	0.0%	100.0%	149	0.0%	100.0%
150	0.0%	100.0%	150	0.0%	100.0%

Attachment C: ODOT Crash Data

Intersectional Crashes at OR-38, Umpqua Hwy (#045) & 2nd St / Riverfront Wy in Reedsport, OR.
January 1, 2015 through December 31, 2020

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: 2019														
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2019 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

Disclaimers: *Effective 2016, **collection of "Property Damage Only" (PDO) crash data elements was reduced for vehicles and participants.** Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.*

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf.

045 UMPQUA   Intersectional Crashes at OR-38, Umpqua Hwy (#045) & 2nd St / Riverfront Wy in Reedsport, OR.
        D   January 1, 2015 through December 31, 2020
        R
     S U
     P G S W   RD# FC CONN #   INT-TYP   SPCL USE
                                           CMPT/MLG FIRST STREET   RD CHAR (MEDIAN) INT-REL OFFRD WTHR CRASH TYP TRLR QTY MOVE
SER#   E A / C O DATE   COUNTY   CMPT/MLG FIRST STREET   RD CHAR (MEDIAN) INT-REL OFFRD WTHR CRASH TYP TRLR QTY MOVE   PRTC INJ   A S
INVEST E L M H R DAY/TIME CITY   MILEPNT SECOND STREET   DIRECT   LEGS   TRAF- RNDBT SURF COLL TYP   OWNER   FROM   PRTC INJ   G E LICNS PED
UNLOC? D C J L K LAT/LONG URBAN AREA   LRS   INTERSECTION SEQ# LOCTN (#LANES) CNTL   DRVWY LIGHT SVRTY   V# VEH TYPE TO   P# TYPE SVRTY E X RES   LOC ERROR   ACTN EVENT   CAUSE
───
00431   N N N   05/08/2019 DOUGLAS   1   02   INTER   3-LEG N   N CLR ANGL-OTH 01 NONE   9 TURN-R   02
CITY   N   Wed   1P REEDSPORT   MN   0 FIR AVE   CN   STOP SIGN N DRY TURN   N/A   SW E   015   00
                0.63   WINCHESTER AVE   04   0   N DAY PDO   PSNGR CAR   01 DRVR NONE 00 U UNK   000   000   00
No   43 42   9.58 -124 5   36.92   004500100S00   1   UNK

                                                                                             02 NONE   9 STRGHT   000   00
                                                                                                N/A   W E   000   00
                                                                                             PSNGR CAR   01 DRVR NONE 00 U UNK   000   000   00
                                                                                                             UNK

Intersectional Crashes at OR-38, Umpqua Hwy (#045) & E Railroad Ave in Reedsport, OR.
January 1, 2015 through December 31, 2020

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: 2016														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2016 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

Disclaimers: *Effective 2016,* **collection of "Property Damage Only" (PDO) crash data elements was reduced for vehicles and participants.** *Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.*

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf.

045 UMPQUA   Intersectional Crashes at OR-38, Umpqua Hwy (#045) & E Railroad Ave in Reedsport, OR.
         D   January 1, 2015 through December 31, 2020
         R
       S   U
       P   G S W   RD# FC CONN #   INT-TYP   SPCL USE
       E A / C O DATE   COUNTY   CMPT/MLG FIRST   STREET   RD CHAR   (MEDIAN) INT-REL OFFRD WTHR CRASH TYP   TRLR QTY MOVE   A S
SER#   E L M H R DAY/TIME CITY   MILEPNT SECOND STREET   DIRECT   LEGS   TRAF-   RNDBT SURF COLL TYP   OWNER   FROM   PRTC INJ   G E LICNS PED
UNLOC? D C J L K LAT/LONG URBAN AREA LRS   INTERSECTION SEQ# LOCTN   (#LANES) CNTL   DRVWY LIGHT SVRTY   V# VEH TYPE TO   P# TYPE SVRTY   E X RES LOC ERROR   ACTN EVENT   CAUSE
──

00465 N N N 05/13/2016 DOUGLAS   1   02   INTER   CROSS N   N CLR S-1STOP   01 NONE   9 STRGHT   07,29
CITY   N   Fri   1P REEDSPORT MN   0   E RAILROAD AVE   NW   NONE   N DRY REAR   N/A   NW SE   000   00

                  0.24   UMPQUA AVE   06   0   N DAY PDO   PSNGR CAR   01 DRVR NONE 00 U UNK   000   000   00
No   43 42   6.61 -124 6   4.03 004500100S00   1   UNK

                                                                                               02 NONE   9 STOP
                                                                                                  N/A   NW SE   012   00

                                                                                                  PSNGR CAR   01 DRVR NONE 00 U UNK   000   000   00
                                                                                                                                   UNK

Intersectional Crashes at OR-38, Umpqua Hwy (#045) & W Railroad Ave in Reedsport, OR.
January 1, 2015 through December 31, 2020

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: 2016														
ANGLE	0	1	0	1	0	2	0	1	0	1	0	1	0	0
2016 TOTAL	0	1	0	1	0	2	0	1	0	1	0	1	0	0
FINAL TOTAL	0	1	0	1	0	2	0	1	0	1	0	1	0	0

Disclaimers: *Effective 2016,* **collection of "Property Damage Only" (PDO) crash data elements was reduced for vehicles and participants.** *Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.*

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf.

045 UMPQUA   Intersectional Crashes at OR-38, Umpqua Hwy (#045) & W Railroad Ave in Reedsport, OR.
         D   January 1, 2015 through December 31, 2020
         R
       S U
       P G S W   RD# FC CONN #   INT-TYP   SPCL USE
       E A / C O DATE   COUNTY   CMPT/MLG FIRST STREET   RD CHAR (MEDIAN) INT-REL OFFRD WTHR CRASH TYP TRLR QTY MOVE   A S
SER#   E L M H R DAY/TIME   CITY   MILEPNT SECOND STREET   DIRECT   LEGS TRAF- RNDBT SURF COLL TYP   OWNER   FROM   PRTC INJ   G E LICNS PED
UNLOC? D C J L K LAT/LONG   URBAN AREA   LRS   INTERSECTION SEQ# LOCTN   (#LANES) CNTL   DRVWY LIGHT SVRTY V# VEH TYPE TO   P# TYPE SVRTY E X RES   LOC ERROR   ACTN EVENT   CAUSE
_____

00832 N N N N N 06/03/2016 DOUGLAS   1   02   INTER   CROSS N   N CLR ANGL-OTH 01 NONE   STRGHT   02
CITY   N   Fri   9A REEDSPORT   MN   0   UMPQUA AVE   CN   STOP SIGN   N DRY ANGL   PRVTE   NE SW   015   00
                          0.17 W RAILROAD AVE   03   0   N DAY INJ   PSNGR CAR   01 DRVR NONE 75 M OR-Y   028   000   02
No   43 42   8.04 -124 6   8.36   004500100S00   1   OR<25

                                                                                                                  02 NONE   STRGHT
                                                                                                                      PRVTE   NW SE   000   00

                                                                                                                      PSNGR CAR   01 DRVR INJC 65 F OTH-Y   000   000   00
                                                                                                                                                           N-RES
                                                                                                                                        02 PSNG INJC 66 M   000   000   00

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Intersectional Crashes at US-101, Oregon Coast Hwy (#009) & Winchester Ave in Reedsport, OR.
January 1, 2015 through December 31, 2020

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: 2020														
TURNING MOVEMENTS	0	1	1	2	0	1	0	1	1	2	0	2	0	0
2020 TOTAL	0	1	1	2	0	1	0	1	1	2	0	2	0	0
YEAR: 2019														
ANGLE	0	1	1	2	0	2	0	2	0	1	1	2	0	0
2019 TOTAL	0	1	1	2	0	2	0	2	0	1	1	2	0	0
YEAR: 2018														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2018 TOTAL	0	1	2	3	0	1	0	3	0	3	0	3	0	0
FINAL TOTAL	0	3	4	7	0	4	0	6	1	6	1	7	0	0

Disclaimers: *Effective 2016,* **collection of "Property Damage Only" (PDO) crash data elements was reduced for vehicles and participants.** *Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.*

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf.

009 OREGON COAST   Intersectional Crashes at US-101, Oregon Coast Hwy (#009) & Winchester Ave in Reedsport, OR.
         D   January 1, 2015 through December 31, 2020
         R
         S U
         P G S W   RD# FC CONN #   INT-TYP   SPCL USE
SER#   E A / C O DATE   COUNTY   CMPT/MLG FIRST STREET   RD CHAR (MEDIAN) INT-REL OFFRD WTHR CRASH TYP   TRLR QTY MOVE   A S
INVEST   E L M H R DAY/TIME CITY   MILEPNT SECOND STREET   DIRECT   LEGS   TRAF-   RNDBT SURF   COLL TYP   OWNER   FROM   PRTC INJ   G E LICNS PED
UNLOC?   D C J L K LAT/LONG URBAN AREA LRS   INTERSECTION SEQ# LOCTN   (#LANES) CNTL   DRVWY LIGHT SVRTY   V# VEH TYPE   TO   P# TYPE SVRTY   E X RES   LOC ERROR   ACTN EVENT   CAUSE

00236	N N N	03/18/2018 DOUGLAS	1 02		INTER	3-LEG	N		N CLR	S-1STOP	01 NONE	STRGHT						013	32,07,29
NO RPT	N	Sun 11A REEDSPORT	MN 0	OREGON COAST HY	NE		TRF SIGNAL	N DRY	REAR		PRVTE	NE SW					000		00
			212.05	WINCHESTER AVE	06	0		Y DAY	INJ		PSNGR CAR		01 DRVR NONE	21 M	OR-Y	043,052	000		32,07,29
No	43 41 54.77 -124 6 40.18		000900100S00	1											OR>25				
										02 NONE	STOP							
										PRVTE	NE SW					011 013	00
										PSNGR CAR		01 DRVR INJC	47 M	OR-Y	000	000	00
														OR>25				
										03 NONE	STOP							
										PRVTE	NE SW					011	00
										PSNGR CAR		01 DRVR NONE	60 M	OR-Y	000	000	00
														OR<25				

00029	N N N	01/11/2019 DOUGLAS	1 02		INTER	3-LEG	N		N CLR	ANGL-OTH	01 NONE	9 STRGHT							04
NO RPT	N	Fri 10A REEDSPORT	MN 0	OREGON COAST HY	CN		TRF SIGNAL	N DRY	ANGL		N/A	NE SW					000		00
			212.05	WINCHESTER AVE	01	0		Y DAY	PDO		PSNGR CAR		01 DRVR NONE	00 U	UNK	000	000	00
No	43 41 54.76 -124 6 40.18		000900100S00	1											UNK				
										02 NONE	9 STRGHT							
										N/A	SE NW					019	00
										PSNGR CAR		01 DRVR NONE	00 U	UNK	000	000	00
														UNK				

01017	N N N	11/23/2020 DOUGLAS	1 02		INTER	3-LEG	N		N CLD	O-1 L-TURN	01 NONE	9 STRGHT							02,08
NO RPT	N	Mon 12P REEDSPORT	MN 0	OREGON COAST HY	CN		TRF SIGNAL	N WET	TURN		N/A	SE NW					000		00
			212.05	WINCHESTER AVE	02	0		Y DAY	PDO		PSNGR CAR		01 DRVR NONE	00 U	UNK	000	000	00
No	43 41 54.77 -124 6 40.18		000900100S00	1											UNK				
										02 NONE	9 TURN-L							
										N/A	NW NE					018	00
										PSNGR CAR		01 DRVR NONE	00 U	UNK	000	000	00
														UNK				

00151	N N N	02/23/2018 DOUGLAS	1 02		INTER	3-LEG	N		N CLR	O-1 L-TURN	01 NONE	9 STRGHT							02,08
NO RPT	N	Fri 3P REEDSPORT	MN 0	OREGON COAST HY	CN		TRF SIGNAL	N DRY	TURN		N/A	NW SE					000		00
			212.05	WINCHESTER AVE	03	0		Y DAY	PDO		PSNGR CAR		01 DRVR NONE	00 U	UNK	000	000	00
No	43 41 54.77 -124 6 40.18		000900100S00	1											UNK				
										02 NONE	9 TURN-L							
										N/A	SE SW					000	00
										PSNGR CAR		01 DRVR NONE	00 U	UNK	000	000	00
														UNK				

009 OREGON COAST   Intersectional Crashes at US-101, Oregon Coast Hwy (#009) & Winchester Ave in Reedsport, OR.
        D   January 1, 2015 through December 31, 2020
        R
      S U
      P G S W   RD# FC CONN #   INT-TYP   SPCL USE
SER#   E A / C O DATE   COUNTY   CMPT/MLG FIRST STREET   RD CHAR   (MEDIAN) INT-REL OFFRD WTHR CRASH TYP TRLR QTY MOVE   A S
INVEST E L M H R DAY/TIME CITY   MILEPNT SECOND STREET   DIRECT   LEGS   TRAF-   RNDBT SURF COLL TYP   OWNER   FROM   PRTC INJ   G E LICNS PED
UNLOC? D C J L K LAT/LONG URBAN AREA LRS   INTERSECTION SEQ# LOCTN   (#LANES) CNTL   DRVWY LIGHT SVRTY   V# VEH TYPE TO   P# TYPE SVRTY   E X RES   LOC ERROR   ACTN EVENT   CAUSE

00575 N N N   07/24/2020 DOUGLAS   1   02   INTER   3-LEG N   N CLR O-1 L-TURN 01 NONE   STRGHT   04
NO RPT   N   Fri   12P REEDSPORT   MN   0   OREGON COAST HY   CN   TRF SIGNAL N DRY TURN   PRVTE   NW SE   000   00
                                      212.05   WINCHESTER AVE   03   0   Y DAY INJ   PSNGR CAR   01 DRVR NONE 51 M OR-Y   020   000   04
No   43 41 54.78 -124 6 40.14   000900100S00   1   OR>25
                                                                                                               02 NONE   TURN-L
                                                                                                                  PRVTE   SE SW   000   00
                                                                                                                  PSNGR CAR   01 DRVR INJB 68 F OR-Y   000   000   00
                                                                                                                                             OR>25

00113 N N N   02/09/2018 DOUGLAS   1   02   INTER   3-LEG N   N CLR ANGL-OTH 01 NONE   9 STRGHT   04
NO RPT   N   Fri   3P   REEDSPORT   MN   0   OREGON COAST HY   CN   TRF SIGNAL N DRY ANGL   N/A   NW SE   000   00
                                      212.05   WINCHESTER AVE   04   0   N DAY PDO   PSNGR CAR   01 DRVR NONE 00 U UNK   000   000   00
No   43 41 54.76 -124 6 40.17   000900100S00   1   UNK
                                                                                                               02 NONE   9 STRGHT
                                                                                                                  N/A   SW NE   000   00
                                                                                                                  PSNGR CAR   01 DRVR NONE 00 U UNK   000   000   00
                                                                                                                                             UNK

00077 N N N N N 01/24/2019 DOUGLAS   1   02   INTER   3-LEG N   N CLR ANGL-OTH 01 NONE   STRGHT   04
CITY   N   Thu   7P   REEDSPORT   MN   0   OREGON COAST HY   CN   TRF SIGNAL N DRY ANGL   PRVTE   SW NE   000   00
                                      212.05   WINCHESTER AVE   04   0   Y DLIT INJ   PSNGR CAR   01 DRVR NONE 89 M OR-Y   020   000   04
No   43 41 54.76 -124 6 40.17   000900100S00   1   OR<25
                                                                                                               02 NONE   STRGHT
                                                                                                                  PRVTE   NW SE   018   00
                                                                                                                  PSNGR CAR   01 DRVR INJC 62 F OR-Y   000   000   00
                                                                                                                                             OR<25
                                                                                                                                 02 PSNG INJC 33 F   000   000   00

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Intersectional Crashes at Winchester Ave & 6th St in Reedsport, OR.
January 1, 2015 through December 31, 2020

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														
REAR-END	0	1	0	1	0	1	0	1	0	1	0	1	0	0
2018 TOTAL	0	1	0	1	0	1	0	1	0	1	0	1	0	0
FINAL TOTAL	0	1	0	1	0	1	0	1	0	1	0	1	0	0

Disclaimers: *Effective 2016, **collection of "Property Damage Only" (PDO) crash data elements was reduced for vehicles and participants.** Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.*

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf.

CITY OF REEDSPORT, DOUGLAS COUNTY

Intersectional Crashes at Winchester Ave & 6th St in Reedsport, OR.
January 1, 2015 through December 31, 2020

											CITY STREET		INT-TYP					SPCL							A S					
SER#	S P E	D R U G A /	S G C	W O	DATE		FC	FIRST STREET		RD CHAR	(MEDIAN)	INT-REL	OFF-RD	WTHR	CRASH TYP		USE	MOVE					G E	S E	LICNS	PED				
INVEST	E L	A L M J	H R L K		DAY/TIME			SECOND STREET		DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL TYP	V#	TRLR QTY	FROM		PRTC	INJ				RES	LOC	ERROR	ACTN	EVENT	CAUSE
UNLOC?	D C				LAT/LONG		DISTNC	INTERSECTION SEQ #		LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY		OWNER	TO	P#	TYPE	SVRTY									

00403	N N N				03/10/2018	09		WINCHESTER AVE		INTER	CROSS	N		N	CLR	S-1STOP	01	NONE	STRGHT											07,29
NONE		N			Sat 10A	0		6TH ST		SE		STOP SIGN	N	DRY	REAR		PRVTE	SE NW								000			00
No	43 42	3.51		-124	5 57.89			1		06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	24	M	OR-Y		026		000	07,29
																								OR>25					
																02	NONE	STOP											
																	PRVTE	SE NW									011		00
																	PSNGR CAR		01	DRVR	INJC	65	F	OR-Y		000		000	00
																								OR>25					

OREGON DEPARTMENT OF TRANSPORTATION - POLICY, DATA AND ANALYSIS DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Intersectional Crashes at Winchester Ave & W Railroad Ave / Riverbend Rd in Reedsport, OR.
January 1, 2015 through December 31, 2020

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: 2019														
ANGLE	0	1	0	1	0	2	0	0	1	1	0	1	0	1
2019 TOTAL	0	1	0	1	0	2	0	0	1	1	0	1	0	1
FINAL TOTAL	0	1	0	1	0	2	0	0	1	1	0	1	0	1

Disclaimers: *Effective 2016, **collection of "Property Damage Only" (PDO) crash data elements was reduced for vehicles and participants.** Age, Gender, License, Error and other elements are no longer available for PDO crash reporting. Please keep this in mind when comparing 2016 PDO crash data to prior years.*

A higher number of crashes may be reported as of 2011 compared to prior years. This does not necessarily reflect an increase in annual crashes. The higher numbers may result from a change to an internal departmental process that allows the Crash Analysis and Reporting Unit to add previously unavailable, non-fatal crash reports to the annual data file. Please be aware of this change when comparing pre-2011 crash statistics. For all disclaimers, see https://www.oregon.gov/ODOT/Data/documents/Crash_Data_Disclaimers.pdf.

CITY OF REEDSPORT, DOUGLAS COUNTY   Intersectional Crashes at Winchester Ave & W Railroad Ave / Riverbend Rd in Reedsport, OR.
                                                                      January 1, 2015 through December 31, 2020

```
              D
              R
       S      U
       P    G S W                            CITY STREET              INT-TYP                          SPCL
       E A  / C O   DATE                     FIRST STREET             (MEDIAN)  INT-REL OFF-RD WTHR  CRASH TYP      USE      MOVE                    A S
SER#   E L  M H R   DAY/TIME      FC         SECOND STREET   RD CHAR   LEGS     TRAF-   RNDBT  SURF  COLL TYP       TRLR QTY FROM       PRTC INJ    G E LICNS  PED
INVEST E L  M H R   DAY/TIME      FC         SECOND STREET   DIRECT    LEGS     TRAF-   RNDBT  SURF  COLL TYP    V# OWNER    TO      P# TYPE SVRTY  E X RES    LOC ERROR     ACTN EVENT      CAUSE
UNLOC? D C  J L K   LAT/LONG      DISTNC     INTERSECTION SEQ # LOCTN  (#LANES) CONTL   DRVWY  LIGHT SVRTY
```

SER# INVEST UNLOC?	PEA/DC	GML/JL	SWHR/OK	DATE DAY/TIME LAT/LONG	FC DISTNC	CITY STREET / FIRST / SECOND / SEQ#	RD CHAR DIRECT LOCTN	INT-TYP (MEDIAN) LEGS (#LANES)	INT-REL TRAF-CONTL	OFF-RD RNDBT DRVWY	WTHR SURF LIGHT	CRASH TYP COLL TYP SVRTY	V#	SPCL USE TRLR QTY OWNER	MOVE FROM TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
00299	N N	N	N	03/27/2019	07	RIVERBEND RD	INTER	CROSS	N		Y CLD	ANGL-OTH	01	NONE 0	STRGHT										129,084,040	03,02
CITY			N	Wed 2P	0	WINCHESTER AVE	CN		STOP SIGN	N	WET	ANGL		PRVTE	NW SE									000	129	00
No	43 41 59.58		-124 6 13.22			1	04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	36	M	OR-Y OR<25		021,028	000	084	03,02
													02	NONE 0	STRGHT									000	040,079	00
														PRVTE	SW NE									000		00
														PSNGR CAR		01	DRVR	INJB	79	F	OR-Y OR<25		000	000		00

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          ACTION CODE TRANSLATION LIST
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ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
000	NONE	NO ACTION OR NON-WARRANTED
001	SKIDDED	SKIDDED
002	ON/OFF V	GETTING ON OR OFF STOPPED OR PARKED VEHICLE
003	LOAD OVR	OVERHANGING LOAD STRUCK ANOTHER VEHICLE, ETC.
006	SLOW DN	SLOWED DOWN
007	AVOIDING	AVOIDING MANEUVER
008	PAR PARK	PARALLEL PARKING
009	ANG PARK	ANGLE PARKING
010	INTERFERE	PASSENGER INTERFERING WITH DRIVER
011	STOPPED	STOPPED IN TRAFFIC NOT WAITING TO MAKE A LEFT TURN
012	STP/L TRN	STOPPED BECAUSE OF LEFT TURN SIGNAL OR WAITING, ETC.
013	STP TURN	STOPPED WHILE EXECUTING A TURN
014	EMR V PKD	EMERGENCY VEHICLE LEGALLY PARKED IN THE ROADWAY
015	GO A/STOP	PROCEED AFTER STOPPING FOR A STOP SIGN/FLASHING RED.
016	TRN A/RED	TURNED ON RED AFTER STOPPING
017	LOSTCTRL	LOST CONTROL OF VEHICLE
018	EXIT DWY	ENTERING STREET OR HIGHWAY FROM ALLEY OR DRIVEWAY
019	ENTR DWY	ENTERING ALLEY OR DRIVEWAY FROM STREET OR HIGHWAY
020	STR ENTR	BEFORE ENTERING ROADWAY, STRUCK PEDESTRIAN, ETC. ON SIDEWALK OR SHOULDER
021	NO DRVR	CAR RAN AWAY - NO DRIVER
022	PREV COL	STRUCK, OR WAS STRUCK BY, VEHICLE OR PEDESTRIAN IN PRIOR COLLISION BEFORE ACC. STABILIZED
023	STALLED	VEHICLE STALLED OR DISABLED
024	DRVR DEAD	DEAD BY UNASSOCIATED CAUSE
025	FATIGUE	FATIGUED, SLEEPY, ASLEEP
026	SUN	DRIVER BLINDED BY SUN
027	HDLGHTS	DRIVER BLINDED BY HEADLIGHTS
028	ILLNESS	PHYSICALLY ILL
029	THRU MED	VEHICLE CROSSED, PLUNGED OVER, OR THROUGH MEDIAN BARRIER
030	PURSUIT	PURSUING OR ATTEMPTING TO STOP A VEHICLE
031	PASSING	PASSING SITUATION
032	PRKOFFRD	VEHICLE PARKED BEYOND CURB OR SHOULDER
033	CROS MED	VEHICLE CROSSED EARTH OR GRASS MEDIAN
034	X N/SGNL	CROSSING AT INTERSECTION - NO TRAFFIC SIGNAL PRESENT
035	X W/ SGNL	CROSSING AT INTERSECTION - TRAFFIC SIGNAL PRESENT
036	DIAGONAL	CROSSING AT INTERSECTION - DIAGONALLY
037	BTWN INT	CROSSING BETWEEN INTERSECTIONS
038	DISTRACT	DRIVER'S ATTENTION DISTRACTED
039	W/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC
040	A/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC
041	W/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC
042	A/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC
043	PLAYINRD	PLAYING IN STREET OR ROAD
044	PUSH MV	PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER
045	WORK ON	WORKING IN ROADWAY OR ALONG SHOULDER
046	W/ TRAFIC	NON-MOTORIST WALKING, RUNNING, RIDING, ETC. WITH TRAFFIC
047	A/ TRAFIC	NON-MOTORIST WALKING, RUNNING, RIDING, ETC. FACING TRAFFIC
050	LAY ON RD	STANDING OR LYING IN ROADWAY
051	ENT OFFRD	ENTERING / STARTING IN TRAFFIC LANE FROM OFF ROAD
052	MERGING	MERGING

ACTION CODE TRANSLATION LIST

ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
055	SPRAY	BLINDED BY WATER SPRAY
088	OTHER	OTHER ACTION
099	UNK	UNKNOWN ACTION

CAUSE CODE TRANSLATION LIST

CAUSE CODE	SHORT DESCRIPTION	LONG DESCRIPTION
00	NO CODE	NO CAUSE ASSOCIATED AT THIS LEVEL
01	TOO-FAST	TOO FAST FOR CONDITIONS (NOT EXCEED POSTED SPEED
02	NO-YIELD	DID NOT YIELD RIGHT-OF-WAY
03	PAS-STOP	PASSED STOP SIGN OR RED FLASHER
04	DIS SIG	DISREGARDED TRAFFIC SIGNAL
05	LEFT-CTR	DROVE LEFT OF CENTER ON TWO-WAY ROAD; STRADDLING
06	IMP-OVER	IMPROPER OVERTAKING
07	TOO-CLOS	FOLLOWED TOO CLOSELY
08	IMP-TURN	MADE IMPROPER TURN
09	DRINKING	ALCOHOL OR DRUG INVOLVED
10	OTHR-IMP	OTHER IMPROPER DRIVING
11	MECH-DEF	MECHANICAL DEFECT
12	OTHER	OTHER (NOT IMPROPER DRIVING)
13	IMP LN C	IMPROPER CHANGE OF TRAFFIC LANES
14	DIS TCD	DISREGARDED OTHER TRAFFIC CONTROL DEVICE
15	WRNG WAY	WRONG WAY ON ONE-WAY ROAD; WRONG SIDE DIVIDED RO
16	FATIGUE	DRIVER DROWSY/FATIGUED/SLEEPY
17	ILLNESS	PHYSICAL ILLNESS
18	IN RDWY	NON-MOTORIST ILLEGALLY IN ROADWAY
19	NT VISBL	NON-MOTORIST NOT VISIBLE; NON-REFLECTIVE CLOTHIN
20	IMP PKNG	VEHICLE IMPROPERLY PARKED
21	DEF STER	DEFECTIVE STEERING MECHANISM
22	DEF BRKE	INADEQUATE OR NO BRAKES
24	LOADSHFT	VEHICLE LOST LOAD OR LOAD SHIFTED
25	TIREFAIL	TIRE FAILURE
26	PHANTOM	PHANTOM / NON-CONTACT VEHICLE
27	INATTENT	INATTENTION
28	NM INATT	NON-MOTORIST INATTENTION
29	F AVOID	FAILED TO AVOID VEHICLE AHEAD
30	SPEED	DRIVING IN EXCESS OF POSTED SPEED
31	RACING	SPEED RACING (PER PAR)
32	CARELESS	CARELESS DRIVING (PER PAR)
33	RECKLESS	RECKLESS DRIVING (PER PAR)
34	AGGRESV	AGGRESSIVE DRIVING (PER PAR)
35	RD RAGE	ROAD RAGE (PER PAR)
40	VIEW OBS	VIEW OBSCURED
50	USED MDN	IMPROPER USE OF MEDIAN OR SHOULDER
51	FAIL LN	FAILED TO MAINTAIN LANE
52	OFF RD	RAN OFF ROAD

COLLISION TYPE CODE TRANSLATION LIST

COLL CODE	SHORT DESCRIPTION	LONG DESCRIPTION
&	OTH	MISCELLANEOUS
-	BACK	BACKING
0	PED	PEDESTRIAN
1	ANGL	ANGLE
2	HEAD	HEAD-ON
3	REAR	REAR-END
4	SS-M	SIDESWIPE - MEETING
5	SS-O	SIDESWIPE - OVERTAKING
6	TURN	TURNING MOVEMENT
7	PARK	PARKING MANEUVER
8	NCOL	NON-COLLISION
9	FIX	FIXED OBJECT OR OTHER OBJECT

CRASH TYPE CODE TRANSLATION LIST

CRASH TYPE	SHORT DESCRIPTION	LONG DESCRIPTION
&	OVERTURN	OVERTURNED
0	NON-COLL	OTHER NON-COLLISION
1	OTH RDWY	MOTOR VEHICLE ON OTHER ROADWAY
2	PRKD MV	PARKED MOTOR VEHICLE
3	PED	PEDESTRIAN
4	TRAIN	RAILWAY TRAIN
6	BIKE	PEDALCYCLIST
7	ANIMAL	ANIMAL
8	FIX OBJ	FIXED OBJECT
9	OTH OBJ	OTHER OBJECT
A	ANGL-STP	ENTERING AT ANGLE - ONE VEHICLE STOPPED
B	ANGL-OTH	ENTERING AT ANGLE - ALL OTHERS
C	S-STRGHT	FROM SAME DIRECTION - BOTH GOING STRAIGHT
D	S-1TURN	FROM SAME DIRECTION - ONE TURN, ONE STRAIGHT
E	S-1STOP	FROM SAME DIRECTION - ONE STOPPED
F	S-OTHER	FROM SAME DIRECTION-ALL OTHERS, INCLUDING PARKING
G	O-STRGHT	FROM OPPOSITE DIRECTION - BOTH GOING STRAIGHT
H	O-1 L-TURN	FROM OPPOSITE DIRECTION-ONE LEFT TURN,ONE STRAIGHT
I	O-1STOP	FROM OPPOSITE DIRECTION - ONE STOPPED
J	O-OTHER	FROM OPPOSITE DIRECTION-ALL OTHERS INCL. PARKING

DRIVER LICENSE CODE TRANSLATION LIST

LIC CODE	SHORT DESC	LONG DESCRIPTION
0	NONE	NOT LICENSED (HAD NEVER BEEN LICENSED)
1	OR-Y	VALID OREGON LICENSE
2	OTH-Y	VALID LICENSE, OTHER STATE OR COUNTRY
3	SUSP	SUSPENDED/REVOKED
4	EXP	EXPIRED
8	N-VAL	OTHER NON-VALID LICENSE
9	UNK	UNKNOWN IF DRIVER WAS LICENSED AT TIME OF CRASH

DRIVER RESIDENCE CODE TRANSLATION LIST

RES CODE	SHORT DESC	LONG DESCRIPTION
1	OR<25	OREGON RESIDENT WITHIN 25 MILE OF HOME
2	OR>25	OREGON RESIDENT 25 OR MORE MILES FROM HOME
3	OR-?	OREGON RESIDENT - UNKNOWN DISTANCE FROM HOME
4	N-RES	NON-RESIDENT
9	UNK	UNKNOWN IF OREGON RESIDENT

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
000	NONE	NO ERROR
001	WIDE TRN	WIDE TURN
002	CUT CORN	CUT CORNER ON TURN
003	FAIL TRN	FAILED TO OBEY MANDATORY TRAFFIC TURN SIGNAL, SIGN OR LANE MARKINGS
004	L IN TRF	LEFT TURN IN FRONT OF ONCOMING TRAFFIC
005	L PROHIB	LEFT TURN WHERE PROHIBITED
006	FRM WRNG	TURNED FROM WRONG LANE
007	TO WRONG	TURNED INTO WRONG LANE
008	ILLEG U	U-TURNED ILLEGALLY
009	IMP STOP	IMPROPERLY STOPPED IN TRAFFIC LANE
010	IMP SIG	IMPROPER SIGNAL OR FAILURE TO SIGNAL
011	IMP BACK	BACKING IMPROPERLY (NOT PARKING)
012	IMP PARK	IMPROPERLY PARKED
013	UNPARK	IMPROPER START LEAVING PARKED POSITION
014	IMP STRT	IMPROPER START FROM STOPPED POSITION
015	IMP LGHT	IMPROPER OR NO LIGHTS (VEHICLE IN TRAFFIC)
016	INATTENT	INATTENTION (FAILURE TO DIM LIGHTS PRIOR TO 4/1/97)
017	UNSF VEH	DRIVING UNSAFE VEHICLE (NO OTHER ERROR APPARENT)
018	OTH PARK	ENTERING/EXITING PARKED POSITION W/ INSUFFICIENT CLEARANCE; OTHER IMPROPER PARKING MANEUVER
019	DIS DRIV	DISREGARDED OTHER DRIVER'S SIGNAL
020	DIS SGNL	DISREGARDED TRAFFIC SIGNAL
021	RAN STOP	DISREGARDED STOP SIGN OR FLASHING RED
022	DIS SIGN	DISREGARDED WARNING SIGN, FLARES OR FLASHING AMBER
023	DIS OFCR	DISREGARDED POLICE OFFICER OR FLAGMAN
024	DIS EMER	DISREGARDED SIREN OR WARNING OF EMERGENCY VEHICLE
025	DIS RR	DISREGARDED RR SIGNAL, RR SIGN, OR RR FLAGMAN
026	REAR-END	FAILED TO AVOID STOPPED OR PARKED VEHICLE AHEAD OTHER THAN SCHOOL BUS
027	BIKE ROW	DID NOT HAVE RIGHT-OF-WAY OVER PEDALCYCLIST
028	NO ROW	DID NOT HAVE RIGHT-OF-WAY
029	PED ROW	FAILED TO YIELD RIGHT-OF-WAY TO PEDESTRIAN
030	PAS CURV	PASSING ON A CURVE
031	PAS WRNG	PASSING ON THE WRONG SIDE
032	PAS TANG	PASSING ON STRAIGHT ROAD UNDER UNSAFE CONDITIONS
033	PAS X-WK	PASSED VEHICLE STOPPED AT CROSSWALK FOR PEDESTRIAN
034	PAS INTR	PASSING AT INTERSECTION
035	PAS HILL	PASSING ON CREST OF HILL
036	N/PAS ZN	PASSING IN "NO PASSING" ZONE
037	PAS TRAF	PASSING IN FRONT OF ONCOMING TRAFFIC
038	CUT-IN	CUTTING IN (TWO LANES - TWO WAY ONLY)
039	WRNGSIDE	DRIVING ON WRONG SIDE OF THE ROAD (2-WAY UNDIVIDED ROADWAYS)

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            ERROR CODE TRANSLATION LIST


ERROR   SHORT
CODE    DESCRIPTION   FULL DESCRIPTION

040     THRU MED      DRIVING THROUGH SAFETY ZONE OR OVER ISLAND
041     F/ST BUS      FAILED TO STOP FOR SCHOOL BUS
042     F/SLO MV      FAILED TO DECREASE SPEED FOR SLOWER MOVING VEHICLE
043     TOO CLOSE     FOLLOWING TOO CLOSELY (MUST BE ON OFFICER'S REPORT)
044     STRDL LN      STRADDLING OR DRIVING ON WRONG LANES
045     IMP CHG       IMPROPER CHANGE OF TRAFFIC LANES
046     WRNG WAY      WRONG WAY ON ONE-WAY ROADWAY; WRONG SIDE DIVIDED ROAD
047     BASCRULE      DRIVING TOO FAST FOR CONDITIONS (NOT EXCEEDING POSTED SPEED)
048     OPN DOOR      OPENED DOOR INTO ADJACENT TRAFFIC LANE
049     IMPEDING      IMPEDING TRAFFIC
050     SPEED         DRIVING IN EXCESS OF POSTED SPEED
051     RECKLESS      RECKLESS DRIVING (PER PAR)
052     CARELESS      CARELESS DRIVING (PER PAR)
053     RACING        SPEED RACING (PER PAR)
054     X N/SGNL      CROSSING AT INTERSECTION, NO TRAFFIC SIGNAL PRESENT
055     X W/SGNL      CROSSING AT INTERSECTION, TRAFFIC SIGNAL PRESENT
056     DIAGONAL      CROSSING AT INTERSECTION - DIAGONALLY
057     BTWN INT      CROSSING BETWEEN INTERSECTIONS
059     W/TRAF-S      WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC
060     A/TRAF-S      WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC
061     W/TRAF-P      WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC
062     A/TRAF-P      WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC
063     PLAYINRD      PLAYING IN STREET OR ROAD
064     PUSH MV       PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER
065     WORK IN RD    WORKING IN ROADWAY OR ALONG SHOULDER
070     LAY ON RD     STANDING OR LYING IN ROADWAY
071     NM IMP USE    IMPROPER USE OF TRAFFIC LANE BY NON-MOTORIST
073     ELUDING       ELUDING / ATTEMPT TO ELUDE
079     F NEG CURV    FAILED TO NEGOTIATE A CURVE
080     FAIL LN       FAILED TO MAINTAIN LANE
081     OFF RD        RAN OFF ROAD
082     NO CLEAR      DRIVER MISJUDGED CLEARANCE
083     OVRSTEER      OVER-CORRECTING
084     NOT USED      CODE NOT IN USE
085     OVRLOAD       OVERLOADING OR IMPROPER LOADING OF VEHICLE WITH CARGO OR PASSENGERS
097     UNA DIS TC    UNABLE TO DETERMINE WHICH DRIVER DISREGARDED TRAFFIC CONTROL DEVICE
```

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
001	FEL/JUMP	OCCUPANT FELL, JUMPED OR WAS EJECTED FROM MOVING VEHICLE
002	INTERFER	PASSENGER INTERFERED WITH DRIVER
003	BUG INTF	ANIMAL OR INSECT IN VEHICLE INTERFERED WITH DRIVER
004	INDRCT PED	PEDESTRIAN INDIRECTLY INVOLVED (NOT STRUCK)
005	SUB-PED	"SUB-PED": PEDESTRIAN INJURED SUBSEQUENT TO COLLISION, ETC.
006	INDRCT BIK	PEDALCYCLIST INDIRECTLY INVOLVED (NOT STRUCK)
007	HITCHIKR	HITCHHIKER (SOLICITING A RIDE)
008	PSNGR TOW	PASSENGER OR NON-MOTORIST BEING TOWED OR PUSHED ON CONVEYANCE
009	ON/OFF V	GETTING ON/OFF STOPPED/PARKED VEHICLE (OCCUPANTS ONLY; MUST HAVE PHYSICAL CONTACT W/ VEHIC
010	SUB OTRN	OVERTURNED AFTER FIRST HARMFUL EVENT
011	MV PUSHD	VEHICLE BEING PUSHED
012	MV TOWED	VEHICLE TOWED OR HAD BEEN TOWING ANOTHER VEHICLE
013	FORCED	VEHICLE FORCED BY IMPACT INTO ANOTHER VEHICLE, PEDALCYCLIST OR PEDESTRIAN
014	SET MOTN	VEHICLE SET IN MOTION BY NON-DRIVER (CHILD RELEASED BRAKES, ETC.)
015	RR ROW	AT OR ON RAILROAD RIGHT-OF-WAY (NOT LIGHT RAIL)
016	LT RL ROW	AT OR ON LIGHT-RAIL RIGHT-OF-WAY
017	RR HIT V	TRAIN STRUCK VEHICLE
018	V HIT RR	VEHICLE STRUCK TRAIN
019	HIT RR CAR	VEHICLE STRUCK RAILROAD CAR ON ROADWAY
020	JACKNIFE	JACKKNIFE; TRAILER OR TOWED VEHICLE STRUCK TOWING VEHICLE
021	TRL OTRN	TRAILER OR TOWED VEHICLE OVERTURNED
022	CN BROKE	TRAILER CONNECTION BROKE
023	DETACH TRL	DETACHED TRAILING OBJECT STRUCK OTHER VEHICLE, NON-MOTORIST, OR OBJECT
024	V DOOR OPN	VEHICLE DOOR OPENED INTO ADJACENT TRAFFIC LANE
025	WHEELOFF	WHEEL CAME OFF
026	HOOD UP	HOOD FLEW UP
028	LOAD SHIFT	LOST LOAD, LOAD MOVED OR SHIFTED
029	TIREFAIL	TIRE FAILURE
030	PET	PET: CAT, DOG AND SIMILAR
031	LVSTOCK	STOCK: COW, CALF, BULL, STEER, SHEEP, ETC.
032	HORSE	HORSE, MULE, OR DONKEY
033	HRSE&RID	HORSE AND RIDER
034	GAME	WILD ANIMAL, GAME (INCLUDES BIRDS; NOT DEER OR ELK)
035	DEER ELK	DEER OR ELK, WAPITI
036	ANML VEH	ANIMAL-DRAWN VEHICLE
037	CULVERT	CULVERT, OPEN LOW OR HIGH MANHOLE
038	ATENUATN	IMPACT ATTENUATOR
039	PK METER	PARKING METER
040	CURB	CURB (ALSO NARROW SIDEWALKS ON BRIDGES)
041	JIGGLE	JIGGLE BAR OR TRAFFIC SNAKE FOR CHANNELIZATION
042	GDRL END	LEADING EDGE OF GUARDRAIL
043	GARDRAIL	GUARD RAIL (NOT METAL MEDIAN BARRIER)
044	BARRIER	MEDIAN BARRIER (RAISED OR METAL)
045	WALL	RETAINING WALL OR TUNNEL WALL
046	BR RAIL	BRIDGE RAILING OR PARAPET (ON BRIDGE OR APPROACH)
047	BR ABUTMNT	BRIDGE ABUTMENT (INCLUDED "APPROACH END" THRU 2013)
048	BR COLMN	BRIDGE PILLAR OR COLUMN
049	BR GIRDR	BRIDGE GIRDER (HORIZONTAL BRIDGE STRUCTURE OVERHEAD)
050	ISLAND	TRAFFIC RAISED ISLAND
051	GORE	GORE
052	POLE UNK	POLE - TYPE UNKNOWN
053	POLE UTL	POLE - POWER OR TELEPHONE
054	ST LIGHT	POLE - STREET LIGHT ONLY
055	TRF SGNL	POLE - TRAFFIC SIGNAL AND PED SIGNAL ONLY
056	SGN BRDG	POLE - SIGN BRIDGE
057	STOPSIGN	STOP OR YIELD SIGN

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
058	OTH SIGN	OTHER SIGN, INCLUDING STREET SIGNS
059	HYDRANT	HYDRANT
060	MARKER	DELINEATOR OR MARKER (REFLECTOR POSTS)
061	MAILBOX	MAILBOX
062	TREE	TREE, STUMP OR SHRUBS
063	VEG OHED	TREE BRANCH OR OTHER VEGETATION OVERHEAD, ETC.
064	WIRE/CBL	WIRE OR CABLE ACROSS OR OVER THE ROAD
065	TEMP SGN	TEMPORARY SIGN OR BARRICADE IN ROAD, ETC.
066	PERM SGN	PERMANENT SIGN OR BARRICADE IN/OFF ROAD
067	SLIDE	SLIDES, FALLEN OR FALLING ROCKS
068	FRGN OBJ	FOREIGN OBSTRUCTION/DEBRIS IN ROAD (NOT GRAVEL)
069	EQP WORK	EQUIPMENT WORKING IN/OFF ROAD
070	OTH EQP	OTHER EQUIPMENT IN OR OFF ROAD (INCLUDES PARKED TRAILER, BOAT)
071	MAIN EQP	WRECKER, STREET SWEEPER, SNOW PLOW OR SANDING EQUIPMENT
072	OTHER WALL	ROCK, BRICK OR OTHER SOLID WALL
073	IRRGL PVMT	OTHER BUMP (NOT SPEED BUMP), POTHOLE OR PAVEMENT IRREGULARITY (PER PAR)
074	OVERHD OBJ	OTHER OVERHEAD OBJECT (HIGHWAY SIGN, SIGNAL HEAD, ETC.); NOT BRIDGE
075	CAVE IN	BRIDGE OR ROAD CAVE IN
076	HI WATER	HIGH WATER
077	SNO BANK	SNOW BANK
078	LO-HI EDGE	LOW OR HIGH SHOULDER AT PAVEMENT EDGE
079	DITCH	CUT SLOPE OR DITCH EMBANKMENT
080	OBJ FRM MV	STRUCK BY ROCK OR OTHER OBJECT SET IN MOTION BY OTHER VEHICLE (INCL. LOST LOADS)
081	FLY-OBJ	STRUCK BY ROCK OR OTHER MOVING OR FLYING OBJECT (NOT SET IN MOTION BY VEHICLE)
082	VEH HID	VEHICLE OBSCURED VIEW
083	VEG HID	VEGETATION OBSCURED VIEW
084	BLDG HID	VIEW OBSCURED BY FENCE, SIGN, PHONE BOOTH, ETC.
085	WIND GUST	WIND GUST
086	IMMERSED	VEHICLE IMMERSED IN BODY OF WATER
087	FIRE/EXP	FIRE OR EXPLOSION
088	FENC/BLD	FENCE OR BUILDING, ETC.
089	OTHR CRASH	CRASH RELATED TO ANOTHER SEPARATE CRASH
090	TO 1 SIDE	TWO-WAY TRAFFIC ON DIVIDED ROADWAY ALL ROUTED TO ONE SIDE
091	BUILDING	BUILDING OR OTHER STRUCTURE
092	PHANTOM	OTHER (PHANTOM) NON-CONTACT VEHICLE
093	CELL PHONE	CELL PHONE (ON PAR OR DRIVER IN USE)
094	VIOL GDL	TEENAGE DRIVER IN VIOLATION OF GRADUATED LICENSE PGM
095	GUY WIRE	GUY WIRE
096	BERM	BERM (EARTHEN OR GRAVEL MOUND)
097	GRAVEL	GRAVEL IN ROADWAY
098	ABR EDGE	ABRUPT EDGE
099	CELL WTNSD	CELL PHONE USE WITNESSED BY OTHER PARTICIPANT
100	UNK FIXD	FIXED OBJECT, UNKNOWN TYPE.
101	OTHER OBJ	NON-FIXED OBJECT, OTHER OR UNKNOWN TYPE
102	TEXTING	TEXTING
103	WZ WORKER	WORK ZONE WORKER
104	ON VEHICLE	PASSENGER RIDING ON VEHICLE EXTERIOR
105	PEDAL PSGR	PASSENGER RIDING ON PEDALCYCLE
106	MAN WHLCHR	PEDESTRIAN IN NON-MOTORIZED WHEELCHAIR
107	MTR WHLCHR	PEDESTRIAN IN MOTORIZED WHELCHAIR
108	OFFICER	LAW ENFORCEMENT / POLICE OFFICER
109	SUB-BIKE	"SUB-BIKE": PEDALCYCLIST INJURED SUBSEQUENT TO COLLISION, ETC.
110	N-MTR	NON-MOTORIST STRUCK VEHICLE
111	S CAR VS V	STREET CAR/TROLLEY (ON RAILS OR OVERHEAD WIRE SYSTEM) STRUCK VEHICLE
112	V VS S CAR	VEHICLE STRUCK STREET CAR/TROLLEY (ON RAILS OR OVERHEAD WIRE SYSTEM)
113	S CAR ROW	AT OR ON STREET CAR OR TROLLEY RIGHT-OF-WAY

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
114	RR EQUIP	VEHICLE STRUCK RAILROAD EQUIPMENT (NOT TRAIN) ON TRACKS
115	DSTRCT GPS	DISTRACTED BY NAVIGATION SYSTEM OR GPS DEVICE
116	DSTRCT OTH	DISTRACTED BY OTHER ELECTRONIC DEVICE
117	RR GATE	RAIL CROSSING DROP-ARM GATE
118	EXPNSN JNT	EXPANSION JOINT
119	JERSEY BAR	JERSEY BARRIER
120	WIRE BAR	WIRE OR CABLE MEDIAN BARRIER
121	FENCE	FENCE
123	OBJ IN VEH	LOOSE OBJECT IN VEHICLE STRUCK OCCUPANT
124	SLIPPERY	SLIDING OR SWERVING DUE TO WET, ICY, SLIPPERY OR LOOSE SURFACE (NOT GRAVEL)
125	SHLDR	SHOULDER GAVE WAY
126	BOULDER	ROCK(S), BOULDER (NOT GRAVEL; NOT ROCK SLIDE)
127	LAND SLIDE	ROCK SLIDE OR LAND SLIDE
128	CURVE INV	CURVE PRESENT AT CRASH LOCATION
129	HILL INV	VERTICAL GRADE / HILL PRESENT AT CRASH LOCATION
130	CURVE HID	VIEW OBSCURED BY CURVE
131	HILL HID	VIEW OBSCURED BY VERTICAL GRADE / HILL
132	WINDOW HID	VIEW OBSCURED BY VEHICLE WINDOW CONDITIONS
133	SPRAY HID	VIEW OBSCURED BY WATER SPRAY
134	TORRENTIAL	TORRENTIAL RAIN (EXCEPTIONALLY HEAVY RAIN)
135	RAIL OCC	INJURED OCCUPANT OF RAILWAY TRAIN, LIGHT RAIL, STREET CAR OR CABLE CAR

FUNCTIONAL CLASSIFICATION TRANSLATION LIST

FUNC CLASS	DESCRIPTION
01	RURAL PRINCIPAL ARTERIAL - INTERSTATE
02	RURAL PRINCIPAL ARTERIAL - OTHER
06	RURAL MINOR ARTERIAL
07	RURAL MAJOR COLLECTOR
08	RURAL MINOR COLLECTOR
09	RURAL LOCAL
11	URBAN PRINCIPAL ARTERIAL - INTERSTATE
12	URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXP
14	URBAN PRINCIPAL ARTERIAL - OTHER
16	URBAN MINOR ARTERIAL
17	URBAN MAJOR COLLECTOR
18	URBAN MINOR COLLECTOR
19	URBAN LOCAL
78	UNKNOWN RURAL SYSTEM
79	UNKNOWN RURAL NON-SYSTEM
98	UNKNOWN URBAN SYSTEM
99	UNKNOWN URBAN NON-SYSTEM

HIGHWAY COMPONENT TRANSLATION LIST

CODE	DESCRIPTION
0	MAINLINE STATE HIGHWAY
1	COUPLET
3	FRONTAGE ROAD
6	CONNECTION
8	HIGHWAY - OTHER

INJURY SEVERITY CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
1	KILL	FATAL INJURY (K)
2	INJA	SUSPECTED SERIOUS INJURY (A)
3	INJB	SUSPECTED MINOR INJURY (B)
4	INJC	POSSIBLE INJURY (C)
5	PRI	DIED PRIOR TO CRASH
7	NO<5	NO INJURY - 0 TO 4 YEARS OF AGE
9	NONE	NO APPARENT INJURY (O)

LIGHT CONDITION CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	DAY	DAYLIGHT
2	DLIT	DARKNESS - WITH STREET LIGHTS
3	DARK	DARKNESS - NO STREET LIGHTS
4	DAWN	DAWN (TWILIGHT)
5	DUSK	DUSK (TWILIGHT)

MEDIAN TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	NONE	NO MEDIAN
1	RSDMD	SOLID MEDIAN BARRIER
2	DIVMD	EARTH, GRASS OR PAVED MEDIAN

MILEAGE TYPE CODE TRANSLATION LIST

CODE	LONG DESCRIPTION
0	REGULAR MILEAGE
T	TEMPORARY
Y	SPUR
Z	OVERLAPPING

MOVEMENT TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	STRGHT	STRAIGHT AHEAD
2	TURN-R	TURNING RIGHT
3	TURN-L	TURNING LEFT
4	U-TURN	MAKING A U-TURN
5	BACK	BACKING
6	STOP	STOPPED IN TRAFFIC
7	PRKD-P	PARKED - PROPERLY
8	PRKD-I	PARKED - IMPROPERLY
9	PARKNG	PARKING MANEUVER

NON-MOTORIST LOCATION CODE TRANSLATION LIST

CODE	LONG DESCRIPTION
00	AT INTERSECTION - NOT IN ROADWAY
01	AT INTERSECTION - INSIDE CROSSWALK
02	AT INTERSECTION - IN ROADWAY, OUTSIDE CROSSWALK
03	AT INTERSECTION - IN ROADWAY, XWALK AVAIL UNKNWN
04	NOT AT INTERSECTION - IN ROADWAY
05	NOT AT INTERSECTION - ON SHOULDER
06	NOT AT INTERSECTION - ON MEDIAN
07	NOT AT INTERSECTION - WITHIN TRAFFIC RIGHT-OF-WAY
08	NOT AT INTERSECTION - IN BIKE PATH OR PARKING LANE
09	NOT-AT INTERSECTION - ON SIDEWALK
10	OUTSIDE TRAFFICWAY BOUNDARIES
13	AT INTERSECTION - IN BIKE LANE
14	NOT AT INTERSECTION - IN BIKE LANE
15	NOT AT INTERSECTION - INSIDE MID-BLOCK CROSSWALK
16	NOT AT INTERSECTION - IN PARKING LANE
18	OTHER, NOT IN ROADWAY
99	UNKNOWN LOCATION

ROAD CHARACTER CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	INTER	INTERSECTION
2	ALLEY	DRIVEWAY OR ALLEY
3	STRGHT	STRAIGHT ROADWAY
4	TRANS	TRANSITION
5	CURVE	CURVE (HORIZONTAL CURVE)
6	OPENAC	OPEN ACCESS OR TURNOUT
7	GRADE	GRADE (VERTICAL CURVE)
8	BRIDGE	BRIDGE STRUCTURE
9	TUNNEL	TUNNEL

PARTICIPANT TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	OCC	UNKNOWN OCCUPANT TYPE
1	DRVR	DRIVER
2	PSNG	PASSENGER
3	PED	PEDESTRIAN
4	CONV	PEDESTRIAN USING A PEDESTRIAN CONVEYAN
5	PTOW	PEDESTRIAN TOWING OR TRAILERING AN OB
6	BIKE	PEDALCYCLIST
7	BTOW	PEDALCYCLIST TOWING OR TRAILERING AN
8	PRKD	OCCUPANT OF A PARKED MOTOR VEHICLE
9	OTHR	OTHER TYPE OF NON-MOTORIST

TRAFFIC CONTROL DEVICE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
000	NONE	NO CONTROL
001	TRF SIGNAL	TRAFFIC SIGNALS
002	FLASHBCN-R	FLASHING BEACON - RED (STOP)
003	FLASHBCN-A	FLASHING BEACON - AMBER (SLOW)
004	STOP SIGN	STOP SIGN
005	SLOW SIGN	SLOW SIGN
006	REG-SIGN	REGULATORY SIGN
007	YIELD	YIELD SIGN
008	WARNING	WARNING SIGN
009	CURVE	CURVE SIGN
010	SCHL X-ING	SCHOOL CROSSING SIGN OR SPECIAL SIGNAL
011	OFCR/FLAG	POLICE OFFICER, FLAGMAN - SCHOOL PATROL
012	BRDG-GATE	BRIDGE GATE - BARRIER
013	TEMP-BARR	TEMPORARY BARRIER
014	NO-PASS-ZN	NO PASSING ZONE
015	ONE-WAY	ONE-WAY STREET
016	CHANNEL	CHANNELIZATION
017	MEDIAN BAR	MEDIAN BARRIER
018	PILOT CAR	PILOT CAR
019	SP PED SIG	SPECIAL PEDESTRIAN SIGNAL
020	X-BUCK	CROSSBUCK
021	THR-GN-SIG	THROUGH GREEN ARROW OR SIGNAL
022	L-GRN-SIG	LEFT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
023	R-GRN-SIG	RIGHT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
024	WIGWAG	WIGWAG OR FLASHING LIGHTS W/O DROP-ARM GATE
025	X-BUCK WRN	CROSSBUCK AND ADVANCE WARNING
026	WW W/ GATE	FLASHING LIGHTS WITH DROP-ARM GATES
027	OVRHD SGNL	SUPPLEMENTAL OVERHEAD SIGNAL (RR XING ONLY)
028	SP RR STOP	SPECIAL RR STOP SIGN
029	ILUM GRD X	ILLUMINATED GRADE CROSSING
037	RAMP METER	METERED RAMPS
038	RUMBLE STR	RUMBLE STRIP
040	AUTO. FLAG	AUTOMATED FLAGGER ASSISTANCE DEVICE
090	L-TURN REF	LEFT TURN REFUGE (WHEN REFUGE IS INVOLVED)
091	R-TURN ALL	RIGHT TURN AT ALL TIMES SIGN, ETC.
092	EMR SGN/FL	EMERGENCY SIGNS OR FLARES
093	ACCEL LANE	ACCELERATION OR DECELERATION LANES
094	R-TURN PRO	RIGHT TURN PROHIBITED ON RED AFTER STOPPING
095	BUS STPSGN	BUS STOP SIGN AND RED LIGHTS

VEHICLE TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
00	PDO	NOT COLLECTED FOR PDO CRASHES
01	PSNGR CAR	PASSENGER CAR, PICKUP, LIGHT DELIVERY, ETC.
02	BOBTAIL	TRUCK TRACTOR WITH NO TRAILERS (BOBTAIL)
03	FARM TRCTR	FARM TRACTOR OR SELF-PROPELLED FARM EQUIPMENT
04	SEMI TOW	TRUCK TRACTOR WITH TRAILER/MOBILE HOME IN TOW
05	TRUCK	TRUCK WITH NON-DETACHABLE BED, PANEL, ETC.
06	MOPED	MOPED, MINIBIKE, SEATED MOTOR SCOOTER, MOTOR BIKE
07	SCHL BUS	SCHOOL BUS (INCLUDES VAN)
08	OTH BUS	OTHER BUS
09	MTRCYCLE	MOTORCYCLE, DIRT BIKE
10	OTHER	OTHER: FORKLIFT, BACKHOE, ETC.
11	MOTRHOME	MOTORHOME
12	TROLLEY	MOTORIZED STREET CAR/TROLLEY (NO RAILS/WIRES)
13	ATV	ATV
14	MTRSCTR	MOTORIZED SCOOTER (STANDING)
15	SNOWMOBILE	SNOWMOBILE
99	UNKNOWN	UNKNOWN VEHICLE TYPE

WEATHER CONDITION CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	CLR	CLEAR
2	CLD	CLOUDY
3	RAIN	RAIN
4	SLT	SLEET
5	FOG	FOG
6	SNOW	SNOW
7	DUST	DUST
8	SMOK	SMOKE
9	ASH	ASH

Attachment D: Crash Rate
Analysis Worksheets

Crash Rate Analysis

#	Location	Angle	Head-on	Turn	Rear-End	Sideswipes/ Overtaking	Others?	PDO	Injury	Fatal	Total Crashes	Observed Crash Rate	Critical Crash Rate by Intersection Type	Observed Crash Rate > Critical Crash Rate by Intersection	Critical Crash Rate by Volume	Observed Crash Rate > Critical Crash Rate by Volume	90th Percentile Rate by Intersection Type	Observed Crash Rate > 90th Percentile Rate
1	US 101 / OR 38 (No Crashes)				3			2	1		3	0.15	0.56	No	0.46	No	0.86	No
2	W Railroad Avenue/ OR 38	1							1		1	0.10	0.82	No	0.62	No	0.41	No
3	E Railroad Avenue/ OR 38			1				1			1	0.10	0.83	No	0.62	No	0.41	No
4	N 6th Street/ Fir / OR 38 (No Crashes)										0	0.00	0.46	No	0.60	No	0.29	No
5	OR 38/Riverfront Way/2nd/Winchester Avenue			1				1			1	0.11	0.84	No	0.63	No	0.41	No
6	US 101/Winchester Avenue	3		3	1			4	3		7	0.28	0.53	No	0.44	No	0.86	No
7	W Railroad Avenue/ Winchester Avenue	1							1		1	0.25	1.09	No	0.85	No	0.41	No
8	Elm Avenue/Winchester Avenue (intersection combined with #9 in ODOT database) - No Crahses										0	0.00	0.68	No	0.85	No	0.29	No
9	E Railroad Avenue/Winchester Avenue - No Crashes										0	0.00	0.68	No	0.85	No	0.29	No
10	South 6th Street/Winchester Avenue			1					1		1	0.34	1.23	No	0.97	No	0.41	No
11											0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.51	#DIV/0!
12											0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.86	#DIV/0!
13											0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.86	#DIV/0!
14											0	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.51	#DIV/0!

Peak hour volumes					Intersection Type (Drop-down menu)	Intersection Class	Ra	K	M	Rc	AADT Class	Ra	K	M	Rc
AM Peak	PM Peak	EST AADT	EST 5Y TEV	Crash Rate											
	1123	11,230	20,494,750	0.15		4 SG	0.324	1.645	20	0.56	7,500<x<15,000	0.25	1.645	20	0.46
	554	5,540	10,110,500	0.10		4 ST	0.434	1.645	10	0.82	x<7,500	0.29	1.645	10	0.62
	546	5,460	9,964,500	0.10		4 ST	0.434	1.645	10	0.83	x<7,500	0.29	1.645	10	0.62
	597	5,970	10,895,250	0.00		3 ST	0.196	1.645	11	0.46	x<7,500	0.29	1.645	11	0.60
	518	5,180	9,453,500	0.11		4 ST	0.434	1.645	9	0.84	x<7,500	0.29	1.645	9	0.63
	1391	13,910	25,385,750	0.28		4 SG	0.324	1.645	25	0.53	7,500<x<15,000	0.25	1.645	25	0.44
	223	2,230	4,069,750	0.25	Rural	4 ST	0.434	1.645	4	1.09	x<7,500	0.29	1.645	4	0.85
	220	2,200	4,015,000	0.00		3 ST	0.196	1.645	4	0.68	x<7,500	0.29	1.645	4	0.85
	223	2,230	4,069,750	0.00		3 ST	0.196	1.645	4	0.68	x<7,500	0.29	1.645	4	0.85
	162	1,620	2,956,500	0.34		4 ST	0.434	1.645	3	1.23	x<7,500	0.29	1.645	3	0.97
		-	-	#DIV/0!		3 SG	0.226	1.645	0	#DIV/0!	x<7,500	0.29	1.645	0	#DIV/0!
		-	-	#DIV/0!		4 SG	0.324	1.645	0	#DIV/0!	x<7,500	0.29	1.645	0	#DIV/0!
		-	-	#DIV/0!		4 SG	0.324	1.645	0	#DIV/0!	x<7,500	0.29	1.645	0	#DIV/0!
		-	-	#DIV/0!		3 SG	0.226	1.645	0	#DIV/0!	x<7,500	0.29	1.645	0	#DIV/0!

Critical Crash Rate Analysis

General & Site Information	
Analyst:	MAR
Agency/Company:	KAI
Date:	2/16/2023
Project Name:	Reedsport Study

Intersection Crash Data

Intersection	Intersection Type	Year 2016	2017	2018	2019	2020	Total
US 101 / OR 38 (No Crashes)	Rural 4SG	1	1			1	3
W Railroad Avenue/ OR 38	Rural 4ST	1					1
E Railroad Avenue/ OR 38	Rural 4ST	1					1
N 6th Street/ Fir / OR 38 (No Crashes)	Rural 3ST						0
OR 38/Riverfront Way/2nd/Winchester Avenue	Rural 4ST				1		1
US 101/Winchester Avenue	Rural 4SG			3	2	2	7
W Railroad Avenue/ Winchester Avenue	Rural 3ST				1		1
Elm Avenue/Winchester Avenue (intersection combined with #9 in ODOT database) - No Crashes	Rural 3ST						0
E Railroad Avenue/Winchester Avenue - No Crashes	Rural 3ST						0
South 6th Street/Winchester Avenue	Rural 4ST			1			1
Total		3	1	4	4	3	15

Intersection Population Type Crash Rate
Average Crash Rate per intersection type

Intersection Pop. Type	Sum of Crashes	Sum of 5-year MEV	Avg Crash Rate for Ref Pop.	INT in Pop
Rural 3SG	0	0		
Rural 3ST	1	23	0.0434	4
Rural 4SG	10	46	0.2180	2
Rural 4ST	4	32	0.1231	4
Urban 3ST	0	0		
Urban 3SG	0	0		
Urban 4ST	0	0		
Urban 4SG	0	0		

Critical Rate Calculation

Intersection	AADT Entering Intersection	5-year MEV	Crash Total	Intersection Population Type	Intersection Crash Rate	Reference Population Crash Rate	Critical Rate	Over Critical
US 101 / OR 38 (No Crashes)	11,230	20.5	3	Rural 4SG	0.15	APM Exhibit 4-1		
W Railroad Avenue/ OR 38	5,540	10.1	1	Rural 4ST	0.10	APM Exhibit 4-1		
E Railroad Avenue/ OR 38	5,460	10.0	1	Rural 4ST	0.10	APM Exhibit 4-1		
N 6th Street/ Fir / OR 38 (No Crashes)	5,970	10.9	0	Rural 3ST	0.00	APM Exhibit 4-1		
OR 38/Riverfront Way/2nd/Winchester Avenue	5,180	9.5	1	Rural 4ST	0.11	APM Exhibit 4-1		
US 101/Winchester Avenue	13,910	25.4	7	Rural 4SG	0.28	APM Exhibit 4-1		
W Railroad Avenue/ Winchester Avenue	2,230	4.1	1	Rural 3ST	0.25	APM Exhibit 4-1		
Elm Avenue/Winchester Avenue (intersection combined with #9 in ODOT database) - No Crashes	2,200	4.0	0	Rural 3ST	0.00	APM Exhibit 4-1		
E Railroad Avenue/Winchester Avenue - No Crashes	2,230	4.1	0	Rural 3ST	0.00	APM Exhibit 4-1		
South 6th Street/Winchester Avenue	1,620	3.0	1	Rural 4ST	0.34	APM Exhibit 4-1		

Excess Proportions

General & Site Information

Analyst:	MAR
Agency/Company:	KAI
Date:	3/23/23
Project Name:	Reedsport Rail Crossing
Highway Number and Name:	US 101 OR OR 38
Mile Points:	
Crash Years Pulled:	2016-2020

Intersection Population Type Crash Rate

Total Crash Types

Reference Population	Angle	Back	Bike	Fix	Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear	Total
3ST	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3SG	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4ST	2	0	0	0	0	0	0	0	0	0	0	0	1	2	5
4SG	3	0	0	0	0	0	0	0	0	0	0	0	3	4	10

Threshold Proportions

	Angle	Back	Bike	Fix	Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear
3ST	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3SG	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4ST	0.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.400
4SG	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.300	0.400

Sample Variance

	Angle	Back	Bike	Fix	Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear
3ST	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
3SG	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
4ST	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
4SG	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Observed Proportions

Type of Crash   30.85714286

Hwy	MP	Reference Pop	Street 1	Street 2	Angle	Back	Bike	Fix	Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear	
1	0.00	4SG	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1.00	
2	0.00	4ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	0.00	4ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
4	0.00	3ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	0.00	4ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
6	0.00	4SG	1	2	0.43	0	0	0	0	0	0	0	0	0	0	0.43	0	0.857142857
7	0.00	4ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
8	0.00	3ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
9	0.00	3ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
10	0.00	4ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
																		0
																		0

Intersection Crash Data

Type of Crash   15

Hwy	MP	Reference Pop	Street 1	Street 2	Angle	Back	Bike	Fix	Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear	Total
1	0.00	4SG	1	2													3	3
2	0.00	4ST	1	2	1													1
3	0.00	4ST	1	2												1		1
4	0.00	3ST	1	2														0
5	0.00	4ST	1	2														1
6	0.00	4SG	1	2	3											3	1	7
7	0.00	4ST	1	2	1													1
8	0.00	3ST	1	2														0
9	0.00	3ST	1	2														0
10	0.00	4ST	1	2													1	1

Side tables

	Angle	Back	Bike	Fix
3ST	N/A	N/A	N/A	N/A
3SG	N/A	N/A	N/A	N/A
4ST	N/A	N/A	N/A	N/A
4SG	N/A	N/A	N/A	N/A

	Angle	Back	Bike	Fix
3ST	N/A	N/A	N/A	N/A
3SG	N/A	N/A	N/A	N/A
4ST	N/A	N/A	N/A	N/A
4SG	N/A	N/A	N/A	N/A

	Angle	Back	Bike	Fix
3ST	N/A	N/A	N/A	N/A
3SG	N/A	N/A	N/A	N/A
4ST	N/A	N/A	N/A	N/A
4SG	N/A	N/A	N/A	N/A

Sample Alpha								
Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Sample Beta								
Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

p^*_4 (bar)								
Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

General & Site Information

Field	Value
Analyst:	MAR
Agency/Company:	KAI
Date:	3/23/23
Project Name:	Reedsport Rail Crossing
Highway Number and Name:	US 101 OR OR 38
Mile Points:	
Crash Years Pulled:	2016-2020

Sample Alpha

	Angle	Back	Bike	Fix	Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear
3ST	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3SG	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4ST	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4SG	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Sample Beta

	Angle	Back	Bike	Fix	Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear
3ST	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3SG	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4ST	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4SG	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Threshold Proportions

	Angle	Back	Bike	Fix	Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear
3ST	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
3SG	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
4ST	0.400	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.200	0.400
4SG	0.300	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.300	0.400

Excess Proportion with a probability of greater than 0.9

123.4285714

Type of Crash

Hwy	MP	Reference Pop	Street 1	Street 2	Angle	Back	Bike	Fix	Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear	
1	0.00	4SG	1	2														
2	0.00	4ST	1	2														
3	0.00	4ST	1	2														0
4	0.00	3ST	1	2														0
5	0.00	4ST	1	2														0
6	0.00	4SG	1	2														0
7	0.00	4ST	1	2														0
8	0.00	3ST	1	2														0
9	0.00	3ST	1	2														0
10	0.00	4ST	1	2														0

Probability

61.71428571

Type of Crash

Hwy	MP	Reference Pop	Street 1	Street 2	Angle	Back	Bike	Fix	Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear	
1	0.00	4SG	1	2														
2	0.00	4ST	1	2														
3	0.00	4ST	1	2														0
4	0.00	3ST	1	2														0
5	0.00	4ST	1	2														0
6	0.00	4SG	1	2														0
7	0.00	4ST	1	2														0
8	0.00	3ST	1	2														0
9	0.00	3ST	1	2														0
10	0.00	4ST	1	2														0

Observed Proportions

30.85714286

Type of Crash

Hwy	MP	Reference Pop	Street 1	Street 2	Angle	Back	Bike	Fix	Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear	
1	0.00	4SG	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1.00	
2	0.00	4ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	
3	0.00	4ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0.00	3ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0.00	4ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0.00	4SG	1	2	0.43	0	0	0	0	0	0	0	0	0	0	0.43	0	0.857142857
7	0.00	4ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0.00	3ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0.00	3ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0.00	4ST	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
																		0
																		0

Intersection Crash Data

15

Type of Crash

Hwy	MP	Reference Pop	Street 1	Street 2	Angle	Back	Bike	Fix	Head	NonCol	OTH	Park	Ped	SS-M	SS-O	Turn	Rear	Total
1	0.00	4SG	1	2													3	3
2	0.00	4ST	1	2	1													1
3	0.00	4ST	1	2													1	1
4	0.00	3ST	1	2														0
5	0.00	4ST	1	2												1		1
6	0.00	4SG	1	2	3											3	1	7
7	0.00	4ST	1	2	1													1
8	0.00	3ST	1	2														0
9	0.00	3ST	1	2														0
10	0.00	4ST	1	2													1	1

Attachment E: Crossing Key Data

Crossing Key Data

Street Name	Winchester Ave
County	Polk
Crossing ID	CO-740.50
Active	☐
Latitude	43.70003
Longitude	-124.103
USDOT NO	756507K
Line No	CO
Milepost	740.5
Milepost Text	740.5
ROW Owner	Oregon International Port of Coos Bay
Track Owner	Oregon International Port of Coos Bay
Operator	Coos Bay Rail Line
Segment Name	Mainline

qryCrossingDevices2 subform

DEVICE_ID	DEVICE_NM	QUAD_NM
1	Advance Warning Pavement Markings	LR
1	Advance Warning Pavement Markings	RR
2	Stop Clearance Line/Crosswalk Marking	LR
2	Stop Clearance Line/Crosswalk Marking	RR
3	Advance Warning Sign	LR
3	Advance Warning Sign	RR
4	Standard Curb	RR
13	Flashing-Light Signal	LR
13	Flashing-Light Signal	RR
15	Automatic Gate <= 26 Ft In Length	LR
15	Automatic Gate <= 26 Ft In Length	RR
29	Railroad STOP sign	RL
29	Railroad STOP sign	RR

Crossing Key Data

Street Name	Umpqua Ave (Hwy 38)
County	Douglas
Crossing ID	CO-740.30
Active	☐
Latitude	43.702
Longitude	-124.1018
USDOT NO	756506D
Line No	CO
Milepost	740.3
ROW Owner	Oregon International Port of Coos Bay
Track Owner	Oregon International Port of Coos Bay
Operator	Coos Bay Rail Line
Segment Name	Mainline

DEVICE_ID	DEVICE_NM	QUAD_NM
1	Advance Warning Pavement Markings	LR
1	Advance Warning Pavement Markings	RR
2	Stop Clearance Line/Crosswalk Marking	LR
2	Stop Clearance Line/Crosswalk Marking	RR
3	Advance Warning Sign	LR
3	Advance Warning Sign	RR
4	Standard Curb	LR
4	Standard Curb	RR
6	Number of Tracks Sign	LR
6	Number of Tracks Sign	RR
13	Flashing-Light Signal	LR
13	Flashing-Light Signal	RR
15	Automatic Gate <= 26 Ft In Length	LR
15	Automatic Gate <= 26 Ft In Length	RR
19	Guardrail	LR
29	Railroad STOP sign	LL
29	Railroad STOP sign	LR