

Technical Memorandum

February 9, 2024

Project# 27003.011

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

From: Matt Bell and Marc Butorac, PE, PTOE

Project: City of Reedsport Rail Crossing Study and Refinement Plan

RE: Tech Memorandum #8: Amendments and Implementing Measures

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INTRODUCTION

This memorandum discusses amendments to the City of Reedsport Transportation System Plan (TSP) to incorporate the findings and recommendations of the Reedsport Rail Crossing Study.

The purpose of the Reedsport Rail Crossing Study was to evaluate the impacts of anticipated increases in rail activity along the Coos Bay Rail Line and identify improvement projects needed to maintain acceptable traffic operations and safety within the community.

The study recommends a grade-separated rail crossing on OR 38 and an enhanced four-quadrant gated at-grade rail crossing on Winchester Avenue. The study also recommends several improvements to the multimodal transportation system.

Following adoption of the Reedsport Rail Crossing Study by Reedsport City Council, the TSP will be amended to incorporate the findings of the rail crossing study. The amendments will stipulate certain pedestrian, bicycle, and motor vehicle projects which shall be constructed prior to the Port of Coos Bay completing their planned multi-modal container facility.

BACKGROUND

The Oregon International Port of Coos Bay is planning to construct a multi-modal container facility on the North Spit in Coos County. The container facility will be designed to accommodate 1.2 million twenty-foot equivalent unit (TEU) containers per year, which equates to approximately 600,000 containers per year. These containers will be received in the first carbon-free marine terminal in the United States, as well as one of the only direct ship-to-rail container facilities in the United States. Depending on the operational length of trains that serve the container facility, as well as several other factors, the number of trains traveling through downtown Reedsport could vary; the current estimate is 10 to 12 per day.

The trains will travel from the North Spit to Eugene and back. The trains will travel through downtown Reedsport, crossing OR 38 and Winchester Avenue. The increase in train activity at these crossings is expected to negatively impact traffic operations and safety on OR 38 and Winchester Avenue as well as throughout the Reedsport community.

IMPLEMENTING ORDINANCES AND MEASURES

An ordinance amending sections of the Reedsport Transportation System Plan.

Whereas, the Department of Land Conservation and Development adopted the Transportation Planning Rule to implement Statewide Planning Goal 12 and;

Whereas, the Transportation Planning Rule is implemented by Oregon Administrative Rule (OAR) 660-12 and;

Whereas, the OAR requires all Cities to have an approved Transportation System Plan and;

Whereas, the City of Reedsport is responsible for periodically reviewing and updating its Transportation System Plan to ensure that the plan remains contemporary and;

Whereas, the City partnered with the Oregon Department of Transportation (ODOT) to conduct a rail crossing study to develop and evaluate solutions to address anticipated increases in rail activity along the Coos Bay Rail Line and;

Whereas, in order to mitigate future increased rail activity associated with the proposed Port of Coos Bay Pacific Coast Intermodal Port, the Reedsport Rail Crossing Study must be adopted by reference into the Reedsport Transportation System Plan and;

Whereas, in order to implement the identified projects identified in the Reedsport Rail Crossing Study certain sections of the Reedsport Transportation System Plan must be amended.

Now, therefore, the City of Reedsport ordains as follows:

PROPOSED AMENDMENTS TO THE TSP

The proposed amendments to the TSP are organized by reference to the applicable chapters of the TSP. There are no underline or ~~strike through~~ text shown below as amendments to the TSP are expected to occur with the next TSP update.

These Pacific Coast Multimodal Port mitigation projects will be clearly identified as only to be implemented if the multi-modal container facility is developed.

5. Pedestrian Plan

Amendments to Chapter 5 of the TSP include the addition of sidewalk and multi-use path projects to the Pedestrian Plan Projects (Pages 5-8); these projects should be clearly identified as Pacific Coast Multimodal Port mitigations or as pedestrian system enhancements. Tables 1 and 2 summarize the pedestrian plan projects as identified in the Reedsport Rail Crossing Study.

The projects shown in Table 1 are part of the Pacific Coast Multimodal Port mitigations and intended to improve pedestrian access and circulation with implementation of the OR 38 overcrossing. All the projects shown in Table 1 should be incorporated into the TSP as an amendment or with the next TSP update. *Attachment A contains a redlined version of Figure 5-1 that shows the amendments in red.*

Table 1. Pedestrian Plan Projects – Pacific Coast Multimodal Port Mitigations

Location	Side	From	To	Estimated Cost (\$1,000)
Sidewalks				
Myrtle Avenue	Both	OR 38	8th Street	\$0 ¹
Laurel Avenue	Both	9th Street	8th Street	\$0 ¹
W Railroad Avenue	Both	OR 38 ROW (south)	OR 38 ROW (north)	\$0 ¹
E Railroad Avenue	East	OR 38 ROW (south)	OR 38 ROW (north)	\$0 ¹
Winchester Avenue	Both	E Railroad Avenue	W Railroad Avenue	\$0 ¹
OR 38	Both	US 101	N 5th Street	\$0 ¹
N 6th Street	Both	OR 38	Approx 100-feet south	\$0 ¹
Fir Avenue	South	N 6th Street	Approx 200-feet west	\$0 ¹
Multi-Use Path				
E Railroad Avenue	West	OR 38 ROW (south)	OR 38 ROW (north)	\$0 ¹

1. Project is part of the Pacific Coast Multimodal Port mitigations, as such the project cost is included in the OR 38 overcrossing identified in the Motor Vehicle Plan.

The projects shown in Table 2 are intended to complement the mitigations and further improve pedestrian access and circulation in downtown Reedsport. All the projects shown in Table 2 should be incorporated into the TSP as an amendment or with the next TSP update. At that time, the City should determine if any of the projects should be included in the Pedestrian Action Plan. *Attachment A contains a redlined version of Figure 5-1 that shows the amendments in blue.*

Table 2. Pedestrian Plan Projects

Location	Side	From	To	Estimated Cost (\$1,000)
Sidewalks				
Juniper Way	North	End of existing sidewalk	W Railroad Avenue	\$15,000
Multi-Use Path				
E Railroad Avenue	West	Winchester Ave	OR 38 ROW (south)	\$110,000
E Railroad Avenue	West	OR 38 ROW (north)	Riverfront Way	\$395,000
Greenwood Avenue (RRCS-4)	N/A	E Railroad Avenue	W Railroad Avenue	\$85,000

6. Bicycle Plan

Amendments to Chapter 6 of the TSP include the addition of multi-use path projects to the Bicycle Plan Projects (Pages 6-7); these projects should be clearly identified as Pacific Coast Multimodal Port mitigations or as bicycle system enhancements. Tables 3 and 4 summarize the bicycle plan projects as identified in the Reedsport Rail Crossing Study.

The projects shown in Table 3 are part of the Pacific Coast Multimodal Port mitigations and intended to improve bicycle access and circulation with implementation of the OR 38 overcrossing. All the projects shown in Table 3 should be incorporated into the TSP as an amendment or with the next TSP update. *Attachment A contains a redlined version of Figure 5-2 of that shows the amendments in red.*

Table 3. Bicycle Plan Projects – Pacific Coast Multimodal Port Mitigations

Location	Side	From	To	Estimated Cost (\$1,000)
Bike Lanes				
OR 38	Both	US 101	N 5th Street	\$0 ¹
Multi-Use Path				
E Railroad Avenue	West	OR 38 ROW (south)	OR 38 ROW (north)	\$0 ¹

1. Project is part of the Pacific Coast Multimodal Port mitigations, as such the project cost is included in the OR 38 overcrossing identified in the Motor Vehicle Plan.

The projects shown in Table 4 are intended to complement the Pacific Cost Multimodal Port mitigations and further improve bicycle access and circulation in downtown Reedsport. All the projects shown in Table 4 should be incorporated into the TSP as an amendment or with the next TSP update. At that time, the City should determine if any of the projects should be included in the Bicycle Action Plan. *Attachment A contains a redlined version of Figure 5-2 that shows the amendments in blue.*

Table 4. Bicycle Plan Projects

Location	Side	From	To	Estimated Cost (\$1,000)
Multi-Use Path				
E Railroad Avenue	West	Winchester Ave	OR 38 ROW (south)	\$0 ¹
E Railroad Avenue	West	OR 38 ROW (north)	Riverfront Way	\$0 ¹
Greenwood Avenue (RRCS-4)	N/A	E Railroad Avenue	W Railroad Avenue	\$0 ¹

1. Cost accounted for in Pedestrian Master Plan

7. Motor Vehicles

Amendments to Chapter 7 of the TSP include the additional of the OR 38 and Winchester Avenue rail crossing improvements and a refinement plan for US 101 to the Proposed Motor Vehicle Projects (Pages 7-31); these projects should be clearly identified as Pacific Coast Multimodal Port mitigations. Table 3 summarizes the motor vehicle plan projects as identified in the Reedsport Rail Crossing Study. The projects shown in Table 3 should be incorporated into the TSP as an amendment or with the next TSP update. At that time, the City should determine if any of the projects should be included in the Motor Vehicle Action Plan. *Attachment A contains a redlined version of Figure 7-9 of that shows the amendments.*

Table 5. Motor Vehicle Master Plan Projects

Location	Project	Estimated Cost (\$1,000)
Winchester Avenue At-Grade Crossing (RRCS-1)	Install a four-quadrant gated rail crossing on Winchester Avenue at the existing at-grade rail crossing. Also, work with ODOT to install a dynamic train activity warning sign on US 101, south of Winchester Avenue (See RRCS-1 Project Sheet).	\$0 ¹ (\$335,000)

OR 38 Overcrossing (RRCS-2)	Install a grade-separated rail crossing (overcrossing) with retaining walls on OR 38 and reconfigure the US 101/OR 38-Port Dock Road intersection (see RRCS-2 Project Sheet).	\$34,700,000 (\$34,215,000)
US 101 Refinement Plan (RRCS-3)	Conduct a refinement plan for US 101 from the Umpqua River to Scholfield Creek to evaluate access management and, at a minimum, potential modifications to the US 101/OR 38-Port Dock Road intersection (See RRCS-3 Project Sheet).	\$0 ¹ (\$150,000)

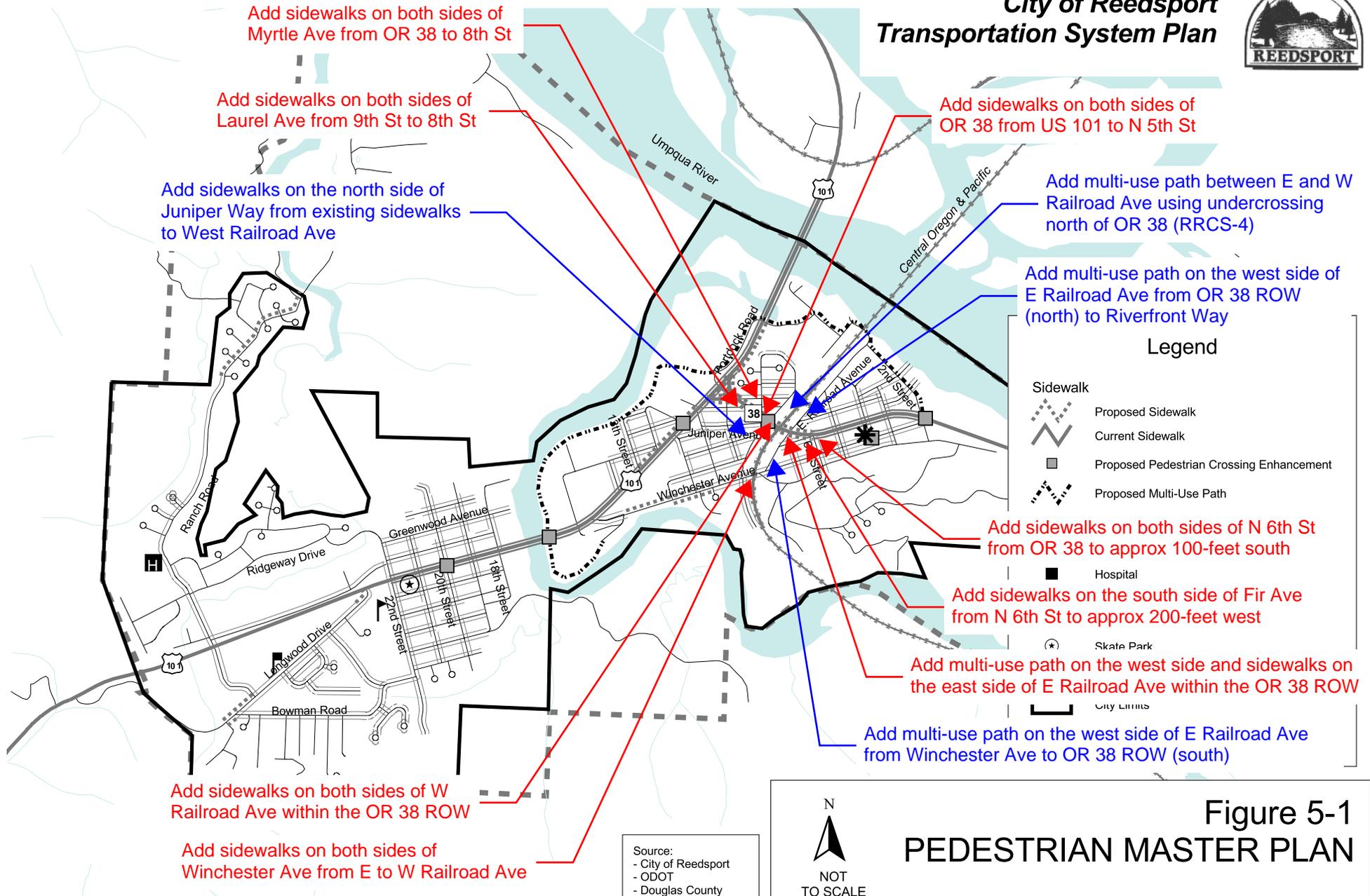
1. Project is part of the Pacific Coast Multimodal Port mitigations, as such the project cost is included in the OR 38 overcrossing.

ATTACHMENTS

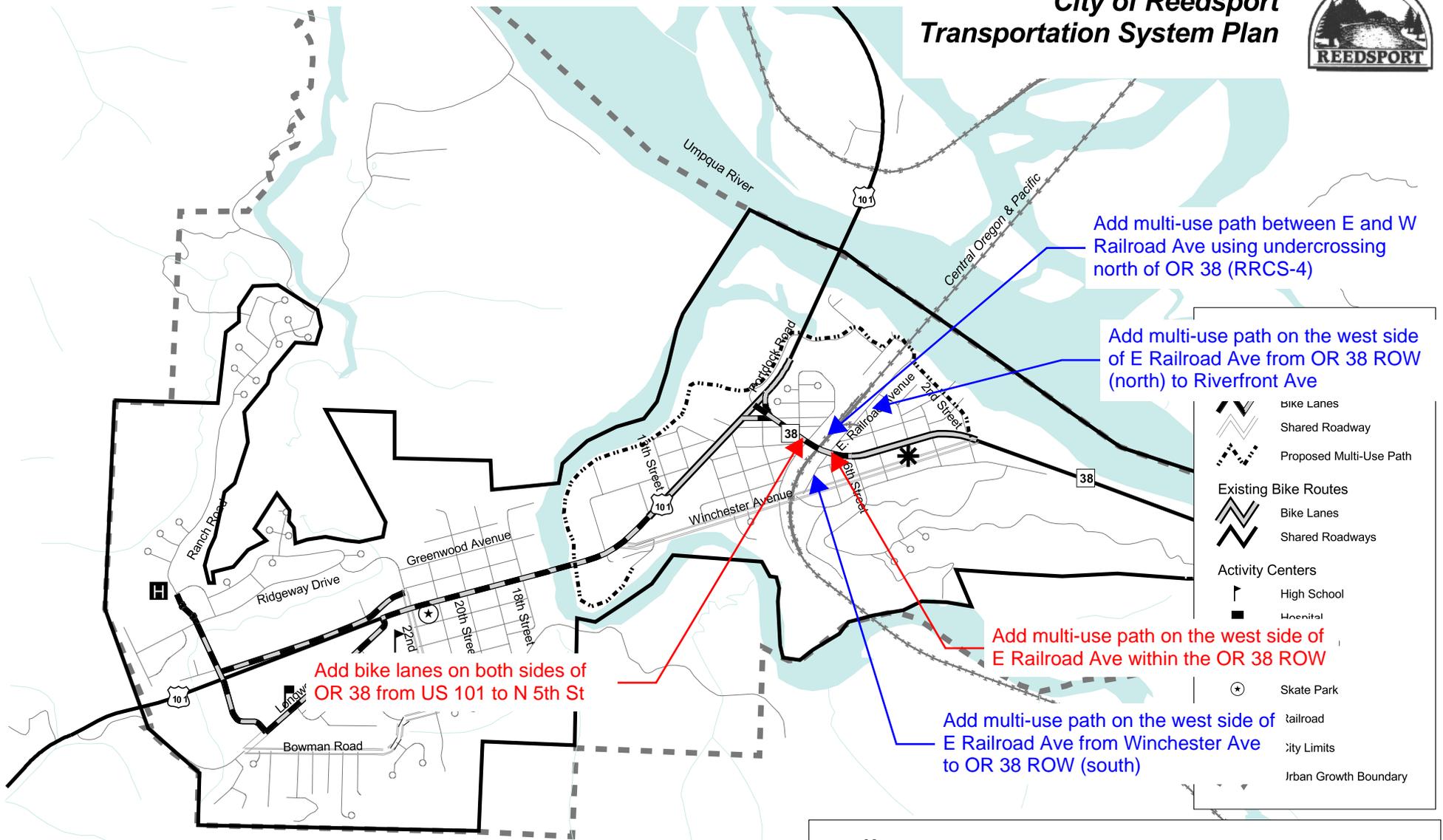
- A. Redlined TSP Modal Maps
- B. Project Sheet

Attachment A: Redlines TSP Figures

**City of Reedsport
Transportation System Plan**



**City of Reedsport
Transportation System Plan**



Add multi-use path between E and W Railroad Ave using undercrossing north of OR 38 (RRCS-4)

Add multi-use path on the west side of E Railroad Ave from OR 38 ROW (north) to Riverfront Ave

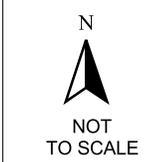
Add bike lanes on both sides of OR 38 from US 101 to N 5th St

Add multi-use path on the west side of E Railroad Ave within the OR 38 ROW

Add multi-use path on the west side of E Railroad Ave from Winchester Ave to OR 38 ROW (south)

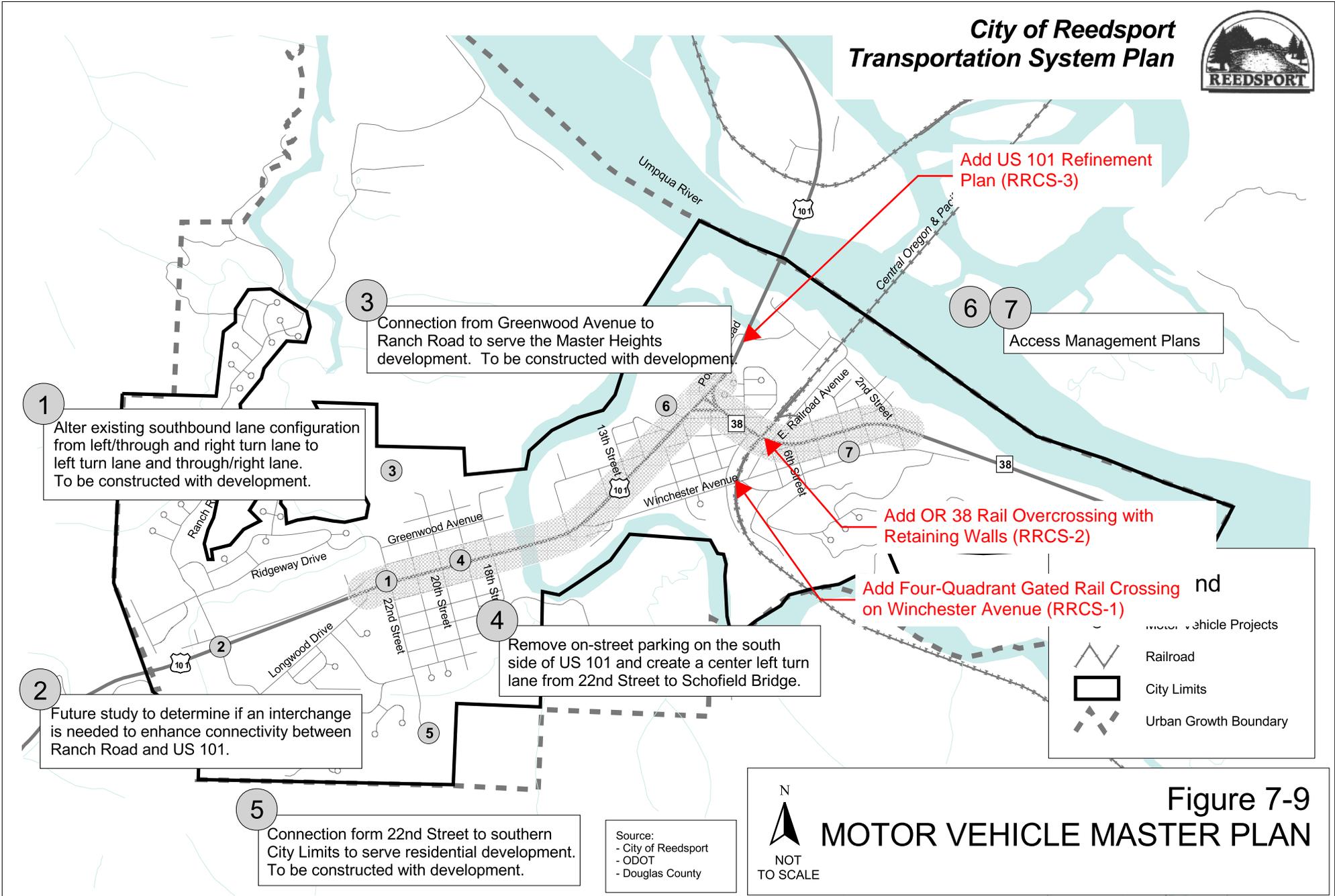
- Bike Lanes
- Shared Roadway
- Proposed Multi-Use Path
- Existing Bike Routes**
- Bike Lanes
- Shared Roadways
- Activity Centers**
- High School
- Hospital
- Skate Park
- railroad
- City Limits
- Urban Growth Boundary

Source:
- City of Reedsport
- ODOT
- Douglas County



**Figure 6-1
BICYCLE MASTER PLAN**

**City of Reedsport
Transportation System Plan**



Attachment B: Project Sheets



<p>Purpose</p>	<p>This project is intended to address the transportation-related impacts associated with the Port of Coos Bay's Pacific Coast Intermodal Port project and the anticipated increases in rail activity along the Coos Bay Rail Line and in downtown Reedsport.</p>	
<p>Description</p>	<p>This project will involve installation of a grade-separated rail crossing (overcrossing) with retaining walls on OR 38, reconfiguration of the US 101/OR 38 intersection, as well as other intersections on OR 38 from US 101 to N 6th Street, and installation of pedestrian and bicycle facilities on OR 38 and the surrounding local street network as necessary to maintain connectivity for people walking and biking.</p>	
<p>Location</p>	<p>OR 38 from north of Laurel Street to east of N 6th Street.</p>	
<p>Roadway Characteristics</p>	<ul style="list-style-type: none"> – Jurisdiction: ODOT – Functional Classification: Other Principal Arterial (Federal), Statewide Highway (State), Arterial (City) – Freight Route Designation: OHP Freight Route; Reduction Review Route – Existing AADT: 4,886 (Source: ODOT) – Forecast AADT: 5,600 (Source: ODOT) 	<ul style="list-style-type: none"> – Posted Speed: 25 mph – Pavement Width: 34' – Travel Lanes: 2 (12' each way) – Pedestrian Facilities: Sidewalks (6' both sides) – Bike Facilities: Bike lanes (5' both sides) – Transit Facilities: None – On-Street Parking: None
<p>How Improvement Addresses Deficiencies</p>	<p>Existing/Future Need:</p> <ul style="list-style-type: none"> – The existing at-grade rail crossing on OR 38 is controlled by a two-quadrant gate system with flashing lights and cross buck "rail crossing" warning signs. – The Port project is expected to increase rail activity along the CBRL, including the frequency, length, and speed of trains. – The increase in rail activity will increase delays at the at-grade crossing as well as motor vehicle queues on OR 38 that block side streets and create access/circulation issues in downtown Reedsport. 	<p>With Improvement:</p> <ul style="list-style-type: none"> – Addresses delays and access/circulation issues. – Addresses increased train activity issues. – Addresses queuing-related impacts to upstream and downstream cross-streets on OR 38. – Partially addresses queuing-related impacts to upstream and downstream cross-streets on Winchester Avenue. – Addresses noise-related issues with increased train activity at OR 38 by eliminating the need for train horn warnings at the crossing.
<p>Additional Considerations</p>	<p>Further refinements are needed to minimize potential right-of-way and/or environmental impacts, address visual impacts associated with the vertical elements of the overcrossing structures, and identify local roadway and driveway tie-ins to the modified roadway. ODOT should also consider installing a multi-use path on the south side of OR 38 from Laurel Avenue to Juniper Avenue.</p>	
<p>Cost Opinions</p>	<p>\$34,215,000 (assumes retaining walls, embankment support, and bridges; 39,415,000 (assumes viaduct between east and west Railroad Avenue)</p>	
<p>Implementation</p>	<p>Implementation of this project will require closing OR 38 and re-routing traffic along Winchester Avenue during construction. Winchester Avenue will likely need to be upgraded before construction to accommodate the increase in traffic, including heavy vehicles.</p>	

AADT = annual average daily traffic; CBRL = Coos Bay Rail Line; ODOT = Oregon Department of Transportation.



Purpose	This project will improve the safety of the existing at-grade rail crossing on Winchester Avenue as well as support implementation of a quiet zone through downtown Reedsport.	
Description	This project will provide a four-quadrant gated rail crossing on Winchester Avenue. The crossing would include two gate arms and flashers on both sides of the rail line and in both directions. The crossing would also include gate arms and flashers across the pedestrian facilities (sidewalks). This type of crossing prevents motorists from driving around the lowered gates. With this type of crossing, the entry gates will close before the exit gates to allow motorists to clear the rail line. The gates also lower long before the train arrives.	
Location	Winchester Avenue at-grade rail crossing.	
Roadway Characteristics	<ul style="list-style-type: none"> – Jurisdiction: City of Reedsport – Functional Classification: Rural Major Collector (Federal), Arterial (City) – Freight Route Designation: None – Existing AADT: 2,111 (Source: ODOT) – Forecast AADT: NA 	<ul style="list-style-type: none"> – Posted Speed: 25 mph – Pavement Width: 40' – Travel Lanes: 2 (12' each way) – Pedestrian Facilities: Sidewalks (5' both sides) – Bike Facilities: None – Transit Facilities: None – On-Street Parking: (8' both sides)
How Improvement Addresses Deficiencies	<p>Existing/Future Need:</p> <ul style="list-style-type: none"> – The existing at-grade rail crossing on Winchester Avenue is controlled by a two-quadrant gate system with flashing lights and cross buck "rail crossing" warning signs. – The Port project is expected to increase rail activity along the CBRL, including the frequency, length, and speed of trains. – The increase in rail activity will increase delays at the at-grade crossing (OR 38 and Winchester Avenue). 	<p>With Improvement:</p> <ul style="list-style-type: none"> – Addresses noise-related Issues with train activity at Winchester Avenue by eliminating the need for train horn warnings at the crossing. – Feasible to construct with minimal to potential zero right-of-way or environmental impacts. – Economically feasible at a magnitude cost of \$285,000. – Requires grade-separated improvements on OR 38 to meet all identified needs.
Additional Considerations	The City should work with ODOT to install a dynamic train activity warning sign on US 101, south of Winchester Avenue, to alert northbound motorists that a train is approaching or present at the at-grade rail crossing on Winchester Avenue allowing them to re-route to OR 38.	
Cost Opinions	\$335,000	
Implementation	This project may be implemented in tandem with Railroad Crossing Study-1: OR 38 Overcrossing with Retaining Walls.	

AADT = annual average daily traffic; CBRL = Coos Bay Rail Line; ODOT = Oregon Department of Transportation.



Purpose	This project will provide further evaluation of intersection improvements along US 101 from the Umpqua River to Scholfield Creek and access management improvements along OR 38 from Laurel Avenue to US 101.	
Description	The project will involve a refinement plan for US 101 from the Umpqua River to Scholfield Creek. The study should include, at a minimum, an evaluation of potential modifications to the US 101/OR 38-Port Dock Road intersection, including additional lanes at the intersection to provide additional capacity and future signal timing and phasing flexibility.	
Location	US 101 from Umpqua River to Scholfield Creek and OR 38 from Laurel Avenue to US 101	
Roadway Characteristics	<ul style="list-style-type: none"> - Jurisdiction: ODOT - Functional Classification: Other Principal Arterial (Federal), Statewide Highway (State), Arterial (City) - Freight Route Designation: OHP Freight Route; Reduction Review Route - Existing AADT: 13,926 (Source: ODOT) - Forecast AADT: 13,000 (Source: ODOT) 	<ul style="list-style-type: none"> - Posted Speed: 25 mph - Pavement Width: 71' - Travel Lanes: 5 (12' travel lane, 12' median) - Ped Facilities: Sidewalks (5' east side, 6' west) - Bike Facilities: Bike lanes (5' east side, 6' west) - Transit Facilities: Yes - On-Street Parking: None
How Improvement Addresses Deficiencies	<p>Existing/Future Need:</p> <ul style="list-style-type: none"> - The US 101/OR 38-Port Dock Road intersection currently experiences congestion during the summer peak weekend and is anticipated to worsen over time. - The westbound left/through queue on OR 38 is also projected to extend past the right-turn slip lane at the west approach. - There are multiple access points along OR 38 from Laurel Avenue to US 101 	<p>With Project:</p> <ul style="list-style-type: none"> - Further evaluation of intersection operations and safety at the US 101/OR 38-Port Dock Road intersection and identification of preferred improvements for implementation. - Further evaluation of access management opportunities along OR 38 and identification of a preferred strategy for implementation.
Additional Considerations	None	
Cost Opinions	\$150,000	
Implementation	This project may be implemented at any time.	

AADT = annual average daily traffic; ODOT = Oregon Department of Transportation.



Purpose	This project is needed to maintain pedestrian and bicycle connectivity between areas north and south of the Coos Bay Rail Line with implementation of the OR 38 rail overcrossing.	
Description	This project will involve installation of a multi-use path north of OR 38 and between E and W Railroad Avenues. The multi-use path will follow the former Greenwood Avenue right-of-way and utilize the existing northerly OR 38 rail undercrossing.	
Location	The multi-use path will be located north of OR 38 and between E and W Railroad Avenues.	
Roadway Characteristics	<ul style="list-style-type: none"> - Jurisdiction: N/A - Functional Classification: N/A - Freight Route Designation: N/A - Existing AADT: 0 - Forecast AADT: 0 	<ul style="list-style-type: none"> - Posted Speed: N/A - Pavement Width: 0' - Travel Lanes: 0 - Ped Facilities: None - Bike Facilities: None - Transit Facilities: None - On-Street Parking: None
How Improvement Addresses Deficiencies	<p>Existing/Future Need:</p> <ul style="list-style-type: none"> - Currently, pedestrians and bicyclists may use OR 38 to travel between E and W Railroad Avenues and between areas north and south of the Coos Bay Rail Line - Implementation of the OR 38 rail overcrossing will grade-separate OR 38 and require pedestrians and bicyclists traveling between areas north and south to travel up and over the overcrossing. 	<p>With Project:</p> <ul style="list-style-type: none"> - The Multi-use path will maintain pedestrian and bicycle connectivity between E and W Railroad Avenue and between areas north and south of the Coos Bay Rail Line.
Additional Considerations	The former Greenwood Avenue right-of way was abandoned by the City and the rail crossing was closed. Implementation of the project would require acquiring the right-of-way and gaining approval from the rail line to install the crossing.	
Cost Opinions	\$85,000	
Implementation	This project may be implemented at any time.	

AADT = annual average daily traffic; ODOT = Oregon Department of Transportation.