

Technical Memorandum

February 23, 2023

Project# 27003.011

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Project: City of Reedsport Rail Crossing Study and Refinement Plan

Subject: Tech Memo #1: City of Reedsport Plan, Policy, Code Review & Port of Coos Bay Expansion Review

OVERVIEW

This memorandum presents a review of existing plans and policies that affect transportation planning in the City of Reedsport. The review explains the relationship between the documents and the current planning process, identifying key issues that will factor into the Reedsport Rail Crossing Study. The following documents were reviewed:

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Statewide Planning Documents

Oregon Transportation Plan (2006)

The Oregon Transportation Plan (OTP) is the state's long-range multi-modal transportation plan that addresses the future transportation needs of the State of Oregon through the year 2030. The primary function of the OTP is to establish goals, policies, strategies, and initiatives that are translated into a series of modal plans, such as the Oregon Highway Plan. The OTP considers all modes of Oregon's transportation system, including Oregon's airports, bicycle and pedestrian facilities, highways and roadways, pipelines, ports and waterway facilities, public transportation, and railroads. It assesses state, regional, and local public and private transportation facilities. In addition, the OTP provides the framework for prioritizing transportation improvements based on varied future revenue conditions, but it does not identify specific projects for development.

The OTP provides broad policy guidance and sets seven overarching goals for the state.¹ Through these goals and associated policies and strategies, the OTP emphasizes:

- Maintaining and maximizing the assets in place.
- Optimizing the performance of the existing system through technology.
- Integrating transportation, land use, economic development, and the environment.
- Integrating the transportation system across jurisdictions, ownerships, and modes.
- Creating sustainable funding.
- Investing in strategic capacity enhancements.

The Implementation Framework section of the OTP describes the implementation process and how state multimodal, modal/topic plans, regional and local transportation system plans (TSPs), and master plans will further refine the OTP's broad policies and investment levels. Local TSPs can further OTP implementation by defining standards, instituting performance measures, and requiring that operational strategies be developed.

The last chapter of the OTP provides implementation and investment frameworks and key initiatives to be consulted in developing TSP projects and implementation measures.

Project Relevance: The OTP's key initiatives will guide the development of the Reedsport Rail Crossing Study and Refinement Plan, specifically in the areas of system management, maximizing performance of the existing transportation system using technology and creative design solutions, pursuing sustainable funding sources, and investing strategically in capacity projects. Consistent with a central OTP policy, the Reedsport Rail Crossing Study and Refinement Plan will seek to maximize the performance of the existing local transportation system by the use of technology and system management before considering larger and costlier additions to the system.

Oregon Highway Plan (1999)

The Oregon Highway Plan (OHP) is a modal plan of the OTP that guides planning, operations, and financing for the Oregon Department of Transportation (ODOT) Highway Division. Policies in the OHP emphasize the efficient management of the highway system to increase safety and to extend highway capacity, to establish partnerships with other agencies and local governments, and to use new techniques

¹ The seven goals are Goal 1 – Mobility and Accessibility; Goal 2 – Management of the System; Goal 3 – Economic Vitality; Goal 4 – Sustainability; Goal 5 – Safety and Security; Goal 6 – Funding the Transportation System; and Goal 7 – Coordination, Communication, and Cooperation.

to improve road safety and capacity. These policies also link land use and transportation; set standards for highway performance and access management; and emphasize the relationship between state highways and local road, bicycle, pedestrian, transit, rail, and air systems. The following policies are relevant to the Reedsport Rail Crossing Study and Refinement Plan process.

Policy 1A: State Highway Classification System

The OHP classifies the state highway system into four levels of importance: Interstate, Statewide, Regional, and District. ODOT uses this classification system to guide management and investment decisions regarding state highway facilities. The system guides the development of the facility plans, as well as ODOT's review of local plan and zoning amendments, highway project selection, design and development, and facility management decisions including road approach permits.

The Oregon Coast Highway (US 101) and the Umpqua Highway (OR 38) are classified as statewide highways in the state classification system. The purpose and management objectives of these highways are provided in Policy 1A and summarized below.

- Statewide Highways typically provide inter-urban and inter-regional mobility and provide connections to larger urban areas, ports, and major 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 and efficient, high-speed, continuous-flow operation. In constrained and urban areas, interruptions to flow should be minimal.

Policy 1C: State Highway Freight System

The primary purpose of the State Highway Freight System is to facilitate efficient and reliable interstate, intrastate, and regional truck movement through a designated freight system. This freight system, which is made up of the Interstate highways and select Statewide, Regional, and District highways, includes routes that carry significant tonnage of freight by truck and that serve as the primary Interstate and intrastate highway freight connection to ports, intermodal terminals, and urban areas. Highways included in this designation have higher highway mobility standards than other Statewide highways. US 101 and OR 38 are designated freight routes in Reedsport.

Policy 1F: Highway Mobility Standards Access Management Policy

Policy 1F sets mobility standards for ensuring a reliable and acceptable level of mobility on the state highway system. The standards are used to assess system needs as part of long-range, comprehensive planning for transportation projects, during development review, and to demonstrate compliance with the Transportation Planning Rule. Significant amendments to Policy 1F were adopted in 2011 to address concerns that state transportation policy and requirements have led to unintended consequences and inhibited economic development. Policy 1F now provides a clearer policy framework for considering measures other than volume-to-capacity (v/c) ratios for evaluating mobility performance.

Table 1 presents mobility targets for the state facilities in the project area. As indicated above, US 101 and OR 38 are classified as Statewide highways and designated freight routes within the Reedsport urban growth boundary. The posted speed limits on US 101 and OR 38 vary significantly throughout the project area, so the v/c ratios will also vary. It is important to note that achieving the v/c ratios in Table 1 for the state highway approaches to unsignalized intersection indicates that state mobility targets are being met. However, to maintain safe operations, non-state highway approaches are expected to achieve the v/c ratios for district/local interest roads.

Table 1. V/C Ratio Targets for Peak Hour Operating Conditions (OHP Table 6)

VOLUME TO CAPACITY RATIO TARGETS OUTSIDE METRO ^{17A, B, C, D}							
Highway Category	Inside Urban Growth Boundary					Outside Urban Growth Boundary	
	STA ^E	MPO	Non-MPO Outside of STAs where non-freeway posted speed ≤ 35 mph, or a Designated UBA	Non-MPO outside of STAs where non-freeway speed > 35 mph but < 45 mph	Non-MPO where non-freeway speed limit ≥ 45 mph	Unincorporated Communities ^F	Rural Lands
Interstate Highways	N/A	0.85	N/A	N/A	0.80	0.70	0.70
Statewide Expressways	N/A	0.85	0.85	0.80	0.80	0.70	0.70
Freight Route on a Statewide Highway	0.90	0.85	0.85	0.80	0.80	0.70	0.70
Statewide (not a Freight Route)	0.95	0.90	0.90	0.85	0.80	0.75	0.70
Freight Route on a regional or District Highway	0.95	0.90	0.90	0.85	0.85	0.75	0.70
Expressway on a Regional or District Highway	N/A	0.90	N/A	0.85	0.85	0.75	0.70
Regional Highways	1.0	0.95	0.90	0.85	0.85	0.75	0.70
District/Local Interest Roads	1.0	0.95	0.95	0.90	0.90	0.80	0.75

^A Unless the Oregon Transportation Commission has adopted an alternative mobility target for the impacted facility, the mobility targets in Tables 6 are considered standards for purposes of determining compliance with OAR 660-012, the Transportation Planning Rule.

^B For the purposes of this policy, the peak hour shall be the 30th highest annual hour. This approximates weekday peak hour traffic in larger urban areas. Alternatives to the 30th highest annual hour may be considered and established through alternative mobility target processes.

^C Highway design requirements are addressed in the Highway Design Manual (HDM).

^D See Action 1F.1 for additional technical details.

^E Interstates and Expressways shall not be identified as Special Transportation Areas.

^F For unincorporated communities inside MPO boundaries, MPO mobility targets shall apply.

Policy 1G: Major Improvements

This policy requires maintaining performance and improving safety on the highway system by improving efficiency and management on the existing roadway network before adding capacity. The state's highest priority is to preserve the functionality of the existing highway system. Tools that are employed to improve the function of the state highway system include access management, transportation demand management, traffic operations modifications, and changes to local land use designations or development regulations.

After existing system preservation, the second priority is to make minor improvements to existing highway facilities, such as making improvements to the local street network to minimize local trips on the state facility. The third priority is to make major roadway improvements such as adding lanes to increase capacity on existing roadways. As part of this process, ODOT will work with the City of Reedsport and other stakeholders to determine appropriate strategies and tools that can be implemented at the local level that are consistent with this policy.

Policy 2B: Off-System Improvements

This policy recognizes that the state may provide financial assistance to local jurisdictions to make improvements to local transportation systems if the improvements would provide a cost-effective means of improving the operations of the state highway system. As part of this process, ODOT will work with the City of Reedsport and other stakeholders to identify improvements to the local road system that support the planned increases in rail activity and that will help preserve capacity and ensure the long-term efficient and effective operation of high functional class facilities.

Policy 2G: Rail and Highway Compatibility

This policy seeks to increase safety and transportation efficiency through the reduction and prevention of conflicts between railroad and highway users. Actions include eliminating crossings at grade wherever possible; designing highway projects to avoid or reduce rail crossings at grade; cooperating with railroads and local governments to target resources that increase safety through automated devices and enforcement at specific crossings; coordinating highway design, construction, resurfacing and traffic signals affecting rail crossings with the ODOT Rail Division and the railroads; and addressing pedestrian and bicycle access issues and design concerns when designing grade-separated crossings.

Policy 3A: Classification and Spacing Standards

This policy seeks to manage the location, spacing, and type of road intersections on state highways in a manner that ensures the safe and efficient operation of state highways consistent with their highway classification. Action 3A.2 calls for spacing standards to be established for state highways based on highway classification, type of area, and posted speed. Tables in OHP Appendix C present access spacing standards that consider urban and rural highway classification, traffic volumes, speed, safety, and operational needs. The access management spacing standards established in the OHP are implemented by OAR 734, Division 51, and are addressed later in this technical memorandum.

Policy 4A: Efficiency of Freight Movement

This policy emphasizes the need to maintain and improve the efficiency of freight movement on the state highway system. It seeks to balance the needs of long distance and through-freight movements with local transportation needs on highway facilities in both urban and rural areas. As indicated above, US 101 and OR 38 are designated freight routes.

Project Relevance: OHP policies provide guidance related to the accessibility, mobility, and function of state highways. The Reedsport Rail Crossing Study and Refinement Plan will consider policies in the OHP to guide proposed improvements, modifications, or local policies that could affect any of the state facilities in the city. The Refinement Plan is being developed in coordination with ODOT so that projects, policies, and regulations proposed as part of the Plan will be consistent with the standards and targets established in the OHP related to safety, access, and mobility.

Oregon Rail Plan (2020)

The Oregon State Rail Plan is a state modal plan under the OTP that addresses long-term freight and passenger rail planning in Oregon. The plan provides a comprehensive assessment of the state's rail planning, freight rail, and passenger rail systems. It identifies specific policies concerning rail in the state; establishes a system of integration between freight and passenger elements into the land use and transportation planning process; and calls for cooperation between state, regional, and local jurisdictions in planning for rail.

The Coos Bay Rail (CBR) Line travels through the eastern portion of Reedsport, crossing Winchester Avenue and OR 38. Both crossings are at-grade and include signs, pavement markings, flashing lights, and gates. There are also two over-crossings in Reedsport, one north of OR 38 and the other adjacent to the Umpqua River. The CBR Line is classified as a Non-Class I freight line and provides no passenger service.

Project Relevance: The Reedsport Rail Crossing Study and Refinement Plan will focus on the needs of the freight and modal connections to the rail system within the project area while developing recommended policies and projects related to improving safety, mobility, and freight efficiency.

Oregon Freight Plan (2017)

The Oregon Freight Plan (OFP) is the modal plan that guides the movement of goods and commodities on the state highway system. Its purpose statement identifies the intent to "improve freight connections to local, Native American, state, regional, national and global markets in order to increase trade-related jobs and income for workers and businesses." The objectives of the plan include prioritizing and facilitating investments in freight facilities (including rail, marine, air, and pipeline infrastructure) and adopting strategies to maintain and improve the freight transportation system.

The plan defines a statewide strategic freight network. US 101 and OR 38 are designated as strategic corridors among the Western Corridor Freight Facilities in the OFP. The following policy and strategic direction provided in the OFP prioritizes preservation of strategic corridors. It also prioritizes improvements to the supply chain through the coordination of freight and system management planning.

- Strategy 1.2: Support freight access to the Strategic Freight System. This includes proactively protecting and preserving corridors designated as strategic.
- Action 1.2.1: Preserve freight facilities included as part of the Strategic Freight System from changes that would significantly reduce the ability of these facilities to operate as efficient components of the freight system unless alternate facilities are identified or a safety-related need arises.
- Strategy 2.4: Coordinate freight improvements and system management plans on corridors comprising the Strategic Freight System with the intent to improve supply chain performance.

The OFP is currently undergoing an update, with amendments anticipated for adoption in 2023.

Project Relevance: Maintaining and enhancing efficiency of the truck freight system in the project area will be an objective of the plan. The project advisory committee will include members that represent freight interests.

Oregon Revised Statute 366.215

Oregon Revised Statute (ORS) 366.215 identifies the Oregon Transportation Commission's (OTC's) authority to build and modify state highways. The statute states that the Commission may not permanently reduce the "vehicle-carrying capacity" of an identified freight route (a.k.a. Reduction Review Route) unless safety or access considerations require the reduction, or a local government requests an exemption, and the Commission determines it is in the best interest of the state and freight movement is not unreasonably impeded.

In the context of this statute, “vehicle-carrying capacity” refers to the vertical and horizontal clearance of a highway section that can physically carry motor vehicles. A reduction of vehicle-carrying capacity means a permanent reduction in the horizontal or vertical clearance of a highway section, by a permanent physical obstruction to motor vehicles located on useable right-of-way subject to OTC jurisdiction, unless such changes are supported by the Stakeholder Forum.

Examples of permanent structures that can result in a reduction in vehicle-carrying capacity could include bridge structures, traffic signals, signposts, stationary bollards, curbs, bulb-outs, trees, raised or depressed medians, pedestrian refuge islands, traffic separators, roundabouts, streetlights, and overhead wiring. Street markings such as bike lane striping or on-street parking are not considered reductions of vehicle-carrying capacity.

Project Relevance: US 101 and OR 38 are Reduction Review Routes. Therefore, any features included in the final plan that could reduce vehicle-carrying capacity must comply with the statute. Where necessary for safety or access considerations, the plan may identify a need to obtain approval for proposed future actions by following the ORS 366.215 Review Process.

ODOT Blueprint for Urban Design

The ODOT Blueprint for Urban Design (BUD) was a bridging document that established the criteria to be used when designing urban projects on the state highway system. The BUD follows federal guidelines and principles utilizing a performance based, context sensitive, practical design approach to provide flexibility where warranted to produce appropriate designs to accommodate all modes of transportation affecting all urban roadway users. Tradeoffs between design elements in urban cross-sections are inevitable when working within the built environment. The BUD provides information and criteria to aid project teams to make appropriate choices when developing final project designs to meet established project goals and create the expected outcomes. Every urban project has unique opportunities and the six urban contexts portrayed in the BUD, along with their respective design criteria, allow project teams to better align ODOTs transportation needs with local community aspirations. The BUD was recently incorporated into the ODOT Highway Design Manual (HDM) as described below.

Project Relevance: While the BUD was recently incorporated into the HDM, the BUD includes some unique criteria such as designating the roadway’s classification at the end of the 20-year planning period. This is important for roadways that are in transition from rural to urban fringe to urban, and therefore will be considered in identifying the context and developing the alternatives for the Reedsport Rail Crossing Study and Refinement Plan.

ODOT Highway Design Manual

The HDM provides ODOT with uniform standards and procedures for planning studies and project development for the state’s roadways. It is intended to provide guidance for the design of all projects on the state’s highways.² It generally agrees with the American Association of State Highway and Transportation Officials (AASHTO) Policy on Geometric Design of Highways and Streets (2018) but anticipates that sound engineering judgment will continue to be a vital part of applying the design criteria to individual projects. The flexibility contained in the 2023 HDM supports the use of Performance-based Practical Design concepts and Context Sensitive Design practices.

State and local planners use the manual to determine design requirements as they relate to the state highways in Transportation System Plans, Corridor Plans, and Refinement Plans. Some projects under ODOT

² National Highway System or Federal-aid projects on roadways that are under the jurisdiction of cities or counties will typically use the 2018 AASHTO design standards or ODOT 3R design standards. Use of the 2023 Highway Design Manual is required on all projects with the Plans, Specifications, and Estimates (PS&E) milestone on and after January 1, 2023.

roadway jurisdiction traverse across local agency boundaries; for such facilities, local agencies may have adopted design standards and guidelines that differ from ODOT design standards. Although the appropriate ODOT design standards are to be applied on ODOT roadway jurisdiction facilities, local agency publications and design practices can also provide additional guidance, concepts, and strategies related to roadway design. When determining the appropriate design standard for use in project development, work types can be divided into the categories listed in Table 2. Funding may come from a number of programs, but it is the type of work that determines the design standard to use.

Table 2. Potential Applicable Design Standards (HDM Table 100-2)

Work Type	Roadway Project Types			
	1R Resurfacing	3R Resurfacing, Restoration, and Rehabilitation	4R Resurfacing, Restoration, Rehabilitation, and Reconstruction	AASHTO
Modernization			✓	
Preservation: Resurfacing	✓	✓		
Preservation: Interstate Maintenance	✓	✓		
Safety Improvements		✓	✓	
Operations		✓	✓	
Maintenance	✓	✓	✓	
Misc./Special Programs: Grant Project			✓	✓
Misc./Special Programs: Project Development Permit Projects		✓	✓	
Misc./Special Programs: Emergency/Natural Disaster		✓*		
Local Programs			✓**	✓

* Emergency/Natural Disaster projects may not be required to comply with all 3R design standards, as the main goal of these projects is to reopen compromised sections of highway, and projects are often designed to, at a minimum, meet design standards of the pre-emergency condition. However, it is important that permanent repairs should incorporate current design standards that do not materially change the function or character of the facility.

**On or along the state highway.

AASHTO = American Association of State Highway and Transportation Officials.

The HDM includes mobility standards related to project development and design that are applicable to all modernization projects, except for development review projects (see Table 3). The v/c ratios in the HDM are different than those shown in the Oregon Highway Plan (OHP). The v/c ratio values in the OHP are used to assist in the planning phase to identify future system deficiencies; the HDM v/c ratio values provide a mobility solution that corrects those previously identified deficiencies and provides the best investment for the state over a 20-year design life.

Table 3. 20-Year Design Mobility Standards (Volume/Capacity [V/C] Ratio) (HDM Table 1200-1)

Highway Category	Land Use Type/Speed Limits					
	Inside Urban Growth Boundary				Outside Urban Growth Boundary	
	STAs	MPO	Non-MPO Outside of STAs Where Non-freeway Speed Limit <45 MPH	Non-MPO Where Non-freeway Speed Limit ≥45 MPH	Unincorporated Communities	Rural Lands
Interstate Highways and Statewide (NHS) Expressways	N/A	0.75	0.70	0.65	0.60	0.60
Statewide (NHS) Freight Routes	0.85	0.75	0.70	0.70	0.60	0.60
Statewide (NHS) Non-Freight Routes and Regional or District Expressways	0.90	0.80	0.75	0.70	0.60	0.60
Regional Highways	0.95	0.85	0.75	0.75	0.70	0.65
District/Local Interest Roads	0.95	0.85	0.80	0.75	0.75	0.70

MPO = Metropolitan Planning Organization; N/A = not applicable; NHS = National Highway System; STA = Special Transportation Area.

Originally developed in 2020 as a standalone document, the Blueprint for Urban Design, or BUD, has now been incorporated into the HDM. The HDM now includes the six urban contexts that were established to provide design flexibility. The key concepts introduced by the BUD are that urban design:

- includes urban context in addition to the existing highway classification;
- highlights and provides flexibility;
- introduces performance concepts with practical design as performance-based, practical design;
- starts at the highest level of protection for pedestrians, bicyclists, and other users of the pedestrian and transition cross-section realms; and
- provides a focused design documentation process.

Urban contexts as defined in the HDM are based on existing and future land use characteristics, development patterns, roadway classification and connectivity, along with overall community goals and aspirations. The HDM describes ODOT's Urban Design Initiative, which provides principles and guidance that can be used for both planners and engineers "to allow flexibility to meet the modal needs of the users in urban communities."

Project Relevance: The ODOT HDM and BUD provide design standards and guidance applicable to US 101 and OR 38. Proposed improvements on these state facilities will be informed by the HDM.

Local Plans and Ordinances

Reedsport Comprehensive Plan

The Reedsport Comprehensive Plan presents the goals and policies that guide development within the city. The plan includes elements related to citizen involvement, natural features, community services, economic development, housing and population, land use and urbanization, and coastal resources. The community services element includes the goals and policies for public facilities, including the following goals for transportation.

- Goal #1: Develop a transportation system to enhance Reedsport's livability and meet federal, state, and local requirements.
- Goal #2: Create a balanced transportation system.
- Goal #3: Improve the safety of the transportation system.
- Goal #4: Develop an efficient transportation system that will handle future traffic growth.
- Goal #5: Provide a transportation system that is accessible to all members of the community.
- Goal #6: Develop a transportation system to provide for efficient freight movement.
- Goal #7: Create a funding system to implement the recommended transportation system improvement projects.

These goals, and their related policies and action items, are generally consist with those shown in the Reedsport Transportation System Plan (TSP; see below). The only exception is Goal #7 in the Comprehensive Plan above, which includes an additional policy related to the funding and implementation recommendations in the Reedsport Waterfront and Downtown Plan.

Project Relevance: The goals and policies of the Comprehensive Plan will be used to guide the development of goals and policies for the Reedsport Rail Crossing Study and Refinement Plan.

Reedsport Zoning and Land Division Code

The Reedsport Zoning Map shows that most property within the study area is zoned residential, commercial, and industrial, with some public/semi-public land and urban conservation land. The residential uses include a mix of rural suburban, single-family, and multi-family properties and are generally located behind the commercial uses. The commercial uses include a mix of transitional, commercial, and water-related properties and are generally located along US 101, OR 38, and Winchester Avenue. The industrial uses include a mix of light, heavy, and water-dependent properties and are generally located along the Coos Bay Rail Line and the west bank of the Umpqua River. Exhibit 1 illustrates a subset of the zoning map for the study area. Table 4 summarizes the zoning designations and descriptions for study area property.

Exhibit 1. Subset of City Zoning Map

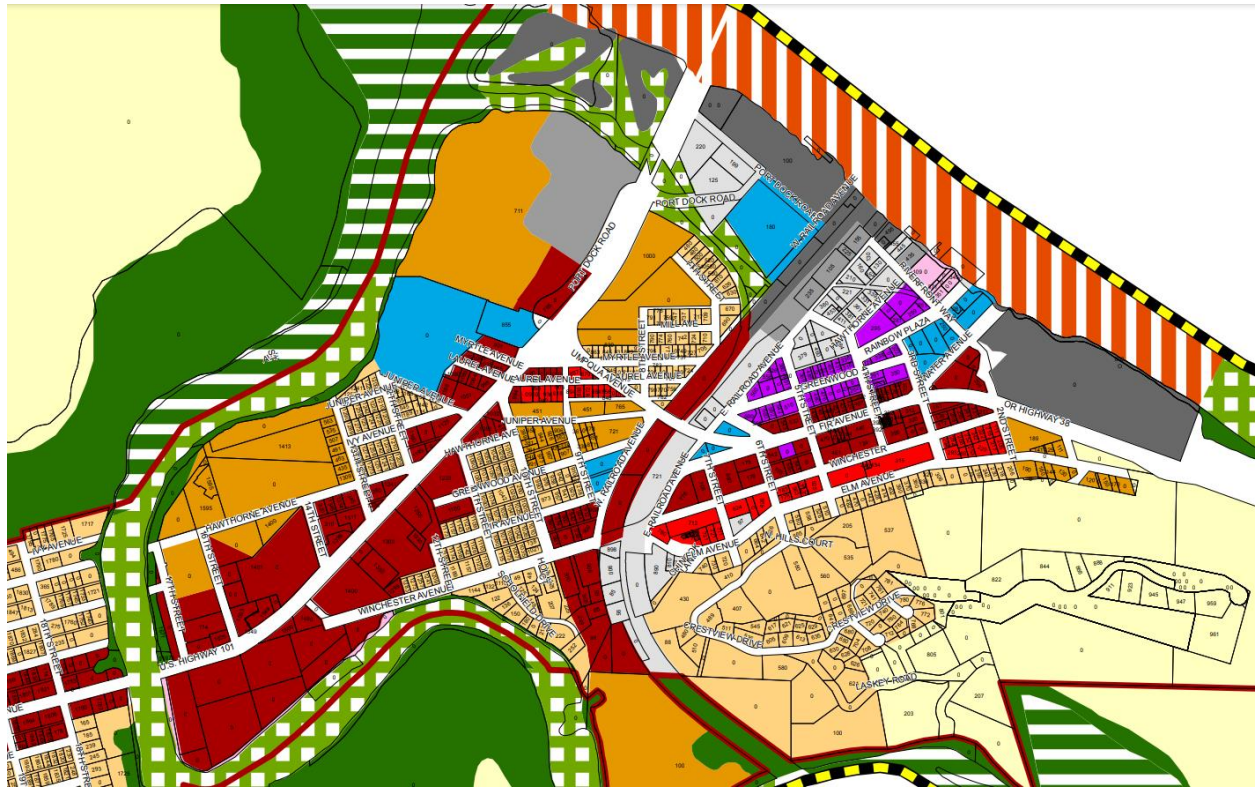


Table 4. Zoning Designation and Descriptions

Zoning Designation	Zoning Code	Description
Rural Suburban (Low-Density)	R-A	To provide low-density larger suburban-type residential developments.
Single Family Residential (Medium Density)	R-1	To provide a quality environment for medium-density single family residences, duplexes, and other compatible land uses determined to be desirable and/or necessary.
Multi-Family Residential (High Density)	R-2	To provide suitable high-density residential developments while preserving the residential character of the area.
Commercial Transitional	C-1	To provide a desirable mixing of residential land uses with limited commercial land uses in close proximity to adjacent residential districts. The zone is also intended to serve local neighborhood needs rather than provide a full commercial area for an entire community. The limited commercial uses allowed in this district are selected for their compatibility to meet frequently recurring needs of the neighborhood.
Commercial	C-2	To provide areas suitable and desirable within which a wide range of retail sales and business may occur.
Marine Commercial (Water-Related)	C-3	To provide shoreland areas suitable and desirable for water-dependent, water-related/oriented retail business activities. Intended to provide areas for attractive development of tourist, lodging, restaurants, and related facilities.
Light Industrial	M-1	To provide areas suitable and desirable for secondary manufacturing and related establishments and more intense commercial use with limited external impact.

Industrial	M-2	To provide areas suitable and desirable for medium and heavy industrial development and uses free from conflict with commercial, residential, and other noncompatible land uses.
Marine Industrial Zone (Water-Dependent)	M-3	To provide shoreland areas suitable for water-dependent manufacturing, industrial, and other compatible land uses.

Project Relevance: Property located within the vicinity of US 101, OR 38, and/or Winchester Avenue will likely be impacted by recommendations identified in the Reedsport Rail Crossing Study and Refinement Plan. The zoning designation of the property will be considered when developing the recommendations along with the review procedures and approval process for potential land divisions.

Reedsport Transportation System Plan (2006, Amended 2015)

The Reedsport TSP identifies projects and programs needed to support growth over a 20-year period. The TSP presents the investments and priorities for the pedestrian, bicycle, and motor vehicle systems along with new transportation programs to correct existing shortfalls and enhance critical services. For each travel mode, a master plan project map and list are identified to support the City's transportation goals and policies. The most critical elements of these master plans are referred to as "action plans." The final chapter of the TSP identifies the estimated plan costs and makes recommendations about potential new funding sources to support the plan.

The TSP includes a summary of existing conditions and future needs within the project area. The TSP projects emphasize pedestrian, bicycle, and safety improvements along US 101 and OR 38. The following summarizes projects that could influence the development of the plan:

- Fill in sidewalk gaps on both sides of US 101, OR 38, and Winchester Avenue – many of the gaps on US 101 and OR 38 have been filled since adoption of the TSP.
- Install enhanced pedestrian crossings on US 101 at Juniper Avenue, OR 38 at Railroad Avenue and Riverfront Way, and Winchester Avenue at 4th Street.
- Install a multi-use path from OR 38 to the Coho RV Marina along the waterfront.
- Provide bike lanes on both sides of OR 38, west of 6th Street, and on US 101, west of 13th Street – the bike lanes on OR 38 are largely complete.
- Provide shared roadway along Winchester Avenue from US 101 to OR 38 – there are currently wide shoulders on both sides of Winchester Avenue that are used for on-street parking; however, there are no signs or pavement marking that indicate it is a shared street.
- Develop an access management plan for US 101 and OR 38 to increase safety and mobility as properties are redeveloped.

Project Relevance: The project team will consider and incorporate information from the TSP on existing conditions and future needs within the project area. The team will also consider the projects identified for US 101, OR 38, and Winchester Avenue.

Reedsport Waterfront and Downtown Plan

The Reedsport Waterfront and Downtown Plan defines the desired character of the waterfront and downtown areas with an overall vision supported by a future development strategy. The plan recommends specific land use changes and transportation improvements for downtown revitalization and waterfront development. The plan includes streetscape plans for five roadway segments within the study area, including Port Dock Road in the Scholfield Slough Area, Umpqua Avenue (OR 38) in the Central Area, East Railroad Avenue in the Old Town/Waterfront Area, Umpqua Avenue (OR 38) in the Old Town/Waterfront

Area, and River Front Way in the Old Town/Waterfront Area. The streetscape plans are intended to create streets that safely accommodate motor vehicles, pedestrians, and bicyclists, while making the downtown more attractive to visitors, residents, businesses, and potential investors. The plan also includes a transportation plan that identifies transportation improvements needed to support land use changes in the study area, including:

1. Laurel Avenue traffic calming
2. Levee Loop Trail: bike/pedestrian path along levee and connecting multiple streets
3. OR 38/Winchester Avenue traffic signal or similar capacity improvement
4. Railroad landscape buffer
5. OR 38 from 6th Avenue to US 101 – full improvements per ODOT plans
6. Gateways (three landscape features)
7. Bulb-outs (five standard and one with Rectangular Rapid Flash Beacon (RRFB) or similar device at OR 38 and 3rd)
8. Disconnect 2nd Street from Winchester
9. New OR 38 eastern access at Knife River/Gate 6 as right in/right out
10. Realign Elm at Winchester at a right angle
11. OR 38 wayfinding and street furniture
12. East Railroad Avenue from OR 38 to River Front Avenue (full local street with sidewalks)
13. Riverfront boardwalk extension: Umpqua Discovery Center west to the railroad and east to the Knife River site
14. US 101/OR 38 intersection improvements
15. Realign 2nd Street north into the Knife River site
16. Connect Elm to OR 38 at Gate 6
17. Extend River Front Way to Gate 6
18. Install a multi-use path under railroad at Laurel

Project Relevance: The project team will consider and incorporate information from the Reedsport Waterfront and Downtown plan in the Reedsport Rail Crossing Study and Refinement Plan, particularly elements of the streetscape plans and transportation improvement projects.

Port of Coos Bay New Multi-modal Container Facility

Draft Program

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. The container facility will be designed to accommodate 1 million in-bound and 1 million out-bound 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. The Port expects six unit trains emanating from the container terminal daily, with the same number returning. The unit trains will travel from the Eco Port on the North Spit to Eugene and back. The unit trains will travel through the eastern part of Reedsport, crossing OR 38 (Umpqua Highway) and Winchester Avenue.

Project Relance: The increase in train activity is expected to impact traffic operations and safety on OR 38 and Winchester Avenue as well as throughout the eastern part of the city. The Reedsport Rail Crossing Study and Refinement Plan will evaluate the impacts and identify improvements to the transportation system to mitigate the impacts.

Rail and Truck Program

The proposed container facility will be one of the only ship-to-rail container facilities in the United States and the only fully ship-to-rail facility on the west coast. By removing trucks from the equation, the proposed container facility will provide additional port capacity without a corresponding increase in greenhouse gas emissions. Using the Coos Bay Rail Line to transportation containers instead of trucks will reduce overall emissions generated by the port by up to 75%.

Project Relevance: The Reedsport Rail Crossing Analysis and Refinement Plan will focus on the impacts associated with increased rail activity on traffic operations and safety within Reedsport. Given the reliance on rail, the analysis will not address potential increases in truck traffic.

Other Applicable Documents

Manual on Uniform Traffic Control Devices Part 8 (Traffic Control for Railroad and Light Trail Transit Grade Crossings)

Part 8 of the Manual on Uniform Traffic Control Devices (MUTCD – Reference 1) describes the traffic control devices that are used at railroad grade crossings, including all signs, signals, markings, other warning devices, and their supports along highways approaching and at grade crossings. The function of the traffic control devices is to promote safety and provide effective operation of rail and highway traffic at grade crossings. The highway agency or authority with jurisdiction and the regulatory agency with statutory authority, if applicable, jointly determine the need and selection of devices at grade crossings.

In Part 8, the combination of devices selected or installed at a specific grade crossing is referred to as a "traffic control system." Per the MUTCD, the appropriate traffic control system to be used at a grade crossing should be determined by an engineering study involving both the highway agency and the railroad company. Also, before any traffic control system is installed or before modifications are made to an existing system, approval shall be obtained from the highway agency with the jurisdictional and/or statutory authority, and from the railroad company. The traffic control devices, systems, and practices described in the MUTCD shall be used at all grade crossings open to public travel, consistent with federal, state, and local laws and regulations.

Project Relevance: Part 8 of the MUTCD contains four sections with information on general provisions, signs and pavement markings, flashing lights, gates, traffic signals, and pathways. This information will be used to identify the types of traffic control devices needed at the grade crossings.