

Technical Memorandum #2: Existing Conditions

Dean to Dunes Trail Plan
City of Reedsport/ODOT



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SCJ ALLIANCE
CONSULTING SERVICES

Final Technical Memorandum #2: Existing Conditions

Project Information

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Reviewing Agency

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1. INTRODUCTION

1.1 PROJECT OVERVIEW

The Dean to Dunes Trail Plan (DDTP) is intended to lay the groundwork for a recreational trail that will connect the City of Reedsport (City) to surrounding natural resources and activity centers, including the Dean Creek Elk Viewing Area to the east on Oregon Highway 38, and the Oregon Dunes off US 101 near Winchester Bay to the south and west. The DDTP will build upon other trail planning efforts within the City, including the *Waterfront and Downtown Plan*, the *Levee Loop Trail System Plan*, and the *Pedestrian Safety Study*.

Once constructed, the Dean to Dunes Trail (DDT) will provide a safe, convenient, and continuous non-automobile transportation alternative for trips within and external to the community. The project is anticipated to support and encourage recreation and tourist activities, both locally and over longer distances including the US 101 Oregon Coast Bicycle Route, which traverses the entire length of the state and passes through the study area. The project supports goals of the two designated scenic byways that meet in Reedsport—US 101, which is a nationally-designated All America Scenic Byway, and OR 38, the state-designated Umpqua River Scenic Byway. The project will also expand commuting options in the region.

1.2 STUDY AREA

The DDT will roughly parallel OR 38 and US 101, extending from the Dean Creek Elk Viewing Area to the Oregon Dunes, traveling through the City of Reedsport utilizing the future Levee Loop Trail (LLT). This plan identifies seven primary segments of the trail as presented in Table 1-1 and illustrated in Figure 1-1.

Table 1-1. Preliminary Trail Segments

Segment	Start	End	Length (mi)
<i>Segment A</i>	OR 38 at Dean Creek Elk Viewing Area	OR 38 at Riverfront Way	2.9
<i>Segment B*</i>	OR 38 at Riverfront Way	US 101 at Scholfield River Bridge	1.2
<i>Segment C</i>	US 101 at Scholfield River Bridge	US 101 at S 22 nd Street	0.5
<i>Segment D</i>	US 101 at S 22 nd Street	US 101 at Longwood Drive	1.0
<i>Segment E</i>	US 101 at Longwood Drive	US 101 at Salmon Harbor Drive	2.2
<i>Segment F</i>	US 101 at Salmon Harbor Drive	Salmon Harbor Drive at Discovery Point Lane	1.3
<i>Segment G</i>	Salmon Harbor Drive at Discovery Point Lane	Umpqua South Jetty Beach Access Parking Area	0.8

*The limits of Segment B match the Levee Loop Trail study area. This plan will reference the findings of the Levee Loop Trail System Plan as appropriate.

1.3 PURPOSE OF THIS REPORT

Technical Memorandum #2 inventories and summarizes existing conditions of the DDT study area that are relevant to the development of the DDTP. The following report documents and describes:

- Existing local, state and federal plans, policies and regulations
- Transportation and land use features in the study area
- Natural and cultural resource features
- Community demographics that may relevant to the development of the DDT

This memorandum evaluates potential opportunities and constraints associated with these factors that will influence trail siting and project development. Information included in this technical memorandum will be incorporated into the DDTP as appropriate.

1.4 REPORT ORGANIZATION AND CONTEXT

This report is divided into five chapters, with Chapter 1 being this Introduction.

Chapter 2 provides a review of the existing laws, rules, and regulations on the local, state, and federal level that pertain to the DDT to identify opportunities as well as potential conflicts and propose resolution strategies.

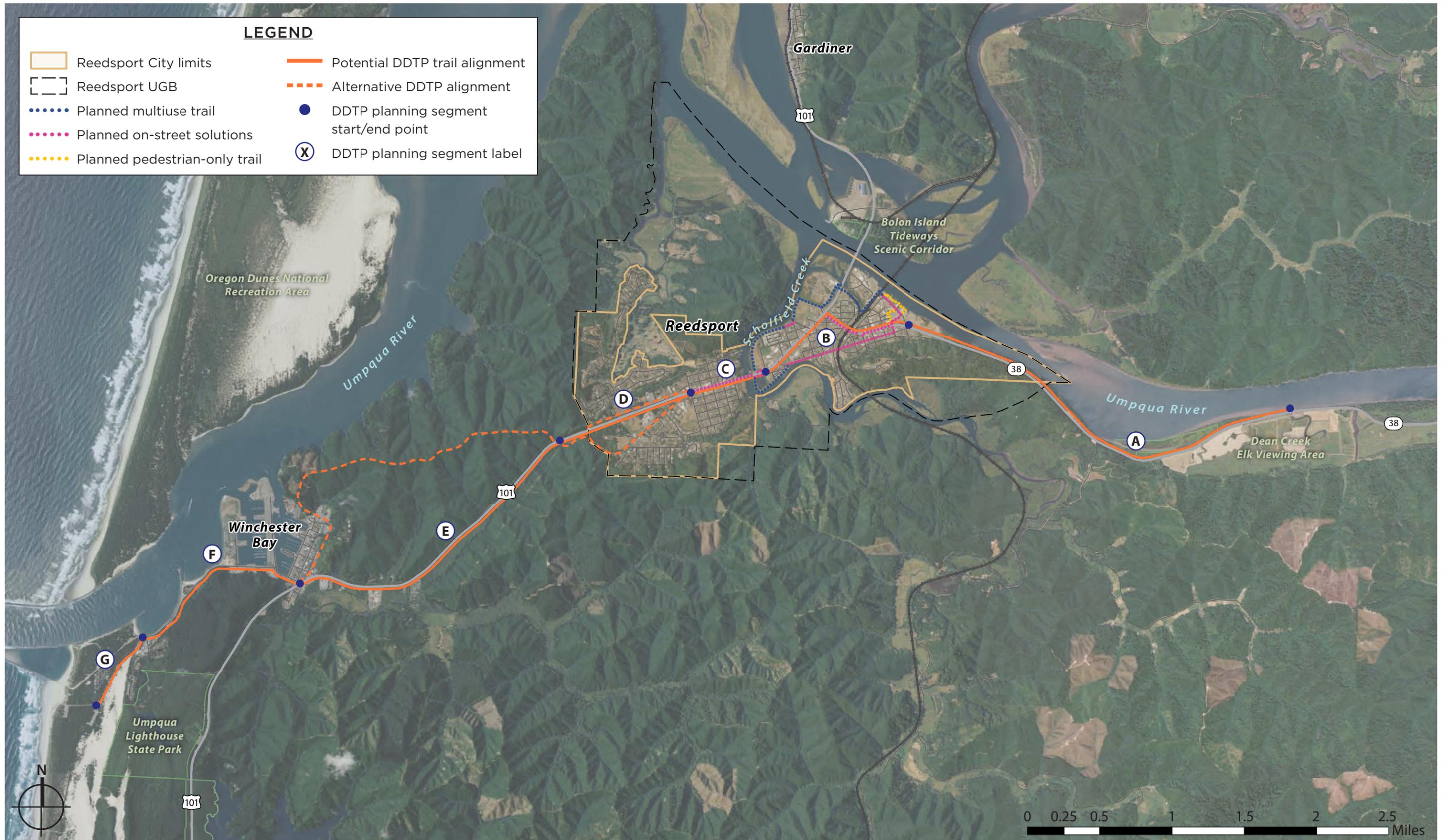
Chapter 3 identifies key transportation and land use features that provide a physical context for the trail and potential trail alignment alternatives.

Chapter 4 inventories critical natural and cultural resources within the study area which present potential opportunities and constraints.

Chapter 5 assesses the socio-economic and demographic information of residents that could potentially benefit or be impacted by the project.

In addition, the following five base maps have been produced to support the written content of this report:

- **Dean to Dunes Trail Study Area** – Shows the DDT trail planning segments, including alternative alignments, planned non-motorized improvements, and an aerial of the study area (Figure 1-1).
- **Transportation Features** – Shows the functional classification of existing roadways, railroads, and key transportation structures (i.e. bridges and culverts) (Figure 3-1).
- **Land Use Features** – Shows the location of the 1968 levee, existing land use zoning, parcel boundaries, publicly-owned parcels, key activity centers, and right of way limitations (Figure 3-11).
- **Natural and Cultural Resources** – Shows nationally-designated wetlands, estuarine resource zones, cultural and historic resources, and critical wildlife habitat (Figure 4-1).
- **Natural Hazards** – Shows FEMA flood hazard areas, tsunami evacuation zones, and steep slopes (Figure 4-2).



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2. EXISTING LAWS, RULES, AND REGULATIONS

Planning and construction of the Dean to Dunes Trail (DDT) involves many different stakeholders and agencies. The proposed trail will pass through Douglas County and the City of Reedsport utilizing local, state, and federal roadways. The purpose of this section is to document the existing laws, rules, and regulations of each entity that affect development of the Dean to Dunes Trail Plan (DDTP). The value of this review is to ensure that the final Plan addresses the requirements of each influencing document or regulation in order to harnesses all potential opportunities for trail development and implementation.

2.1 CITY OF REEDSPORT POLICIES, PLANS, AND STUDIES

The City of Reedsport has published a number of plans and studies that provide support for improving the network of bicycle and pedestrian facilities and developing a trail system. The following is a summary of these previous planning efforts and their relationship to or influence on the DDTP. The policies outlined in this section will apply to all of Segment B in the study area and to portions of Segments A and C within the city limits.

2.1.1 Reedsport Comprehensive Plan

The City of Reedsport *Comprehensive Plan* was first acknowledged by the State of Oregon in 1994 and has been periodically updated since. The most recent update was completed in 2013. The document consists of a series of elements with associated goals and policies to guide development and growth within the City.

Transportation guidance is provided within the *Community Services Element*. The City of Reedsport supports transportation and land use that increases accessibility for pedestrians and bicyclists. Goal 2 aims to “create a balanced transportation system”. Policies under this Goal address the development of pedestrian and bicycle systems that allow users to “travel from residential areas to schools, parks, commercial areas, and major employment centers”.

The City requires capital facilities projects to develop design plans and conduct impact analyses as specified in the Development Code and stipulates that all newly constructed transportation facilities must meet the requirements of the Americans with Disabilities Act.

The *Comprehensive Plan* includes an extensive *Coastal Resources Element* which recognizes the environmental, economic, and cultural importance of the Umpqua River Estuary and associated wetlands to the region. The chapter identifies estuarine and shoreline planning areas which are included in the Natural and Cultural Resources map (Figure 4-1). Any trail development within these subareas will have to satisfy coastal resource protection and restoration goals and management policies.

2.1.2 Reedsport Transportation System Plan

Reedsport Transportation System Plan (TSP) identifies projects and programs needed to support the City’s Goals and Policies and to serve planned growth over the next 20 years. The TSP has been incorporated by reference into the Reedsport *Comprehensive Plan*. The current City TSP was adopted in 2006.

The TSP provides specific policy guidance on developing the transportation system including auto, freight, bicycle, pedestrian and other travel modes. Relevant goals and policies include:

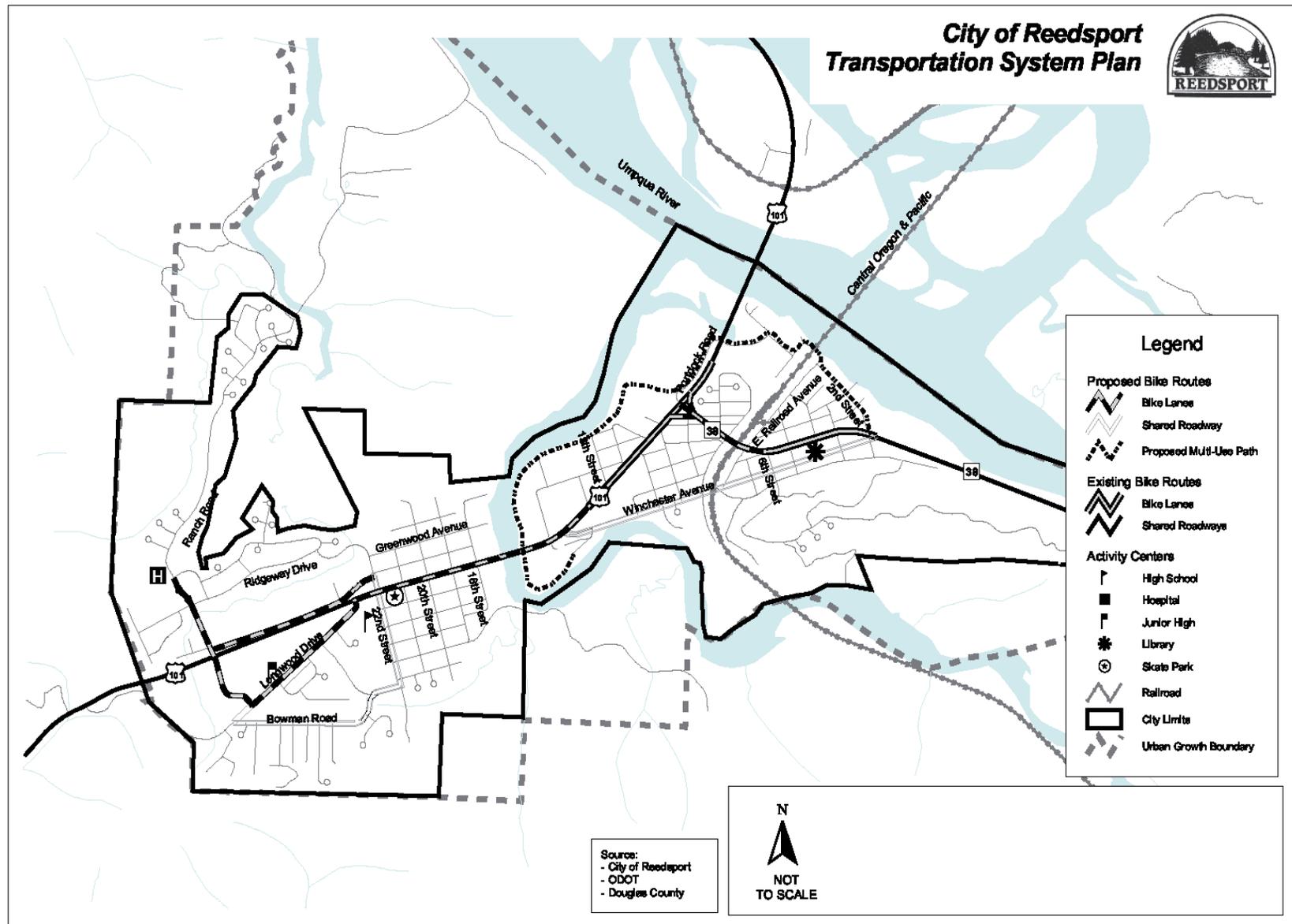
- Goal 1: *“Develop a transportation system to enhance Reedsport’s livability and meeting federal, state and local requirements”*. Policies speak to maintaining community livability, protecting neighborhoods, and working with ODOT to maintain and improve US 101 and OR 38.
- Goal 2: *“Create a balanced transportation system”*. Policies address developing street standards to accommodate all travel modes, improving connectivity to major destinations, creating a pedestrian system of sidewalks and pathways, and creating a bikeway system including lanes, shared roadways, and multi-use paths.
- Goal 3: *“Improve the safety of the transportation system”*. Policies include identifying parallel routes for bicycle and pedestrian circulation where safe facilities cannot reasonably be provided on highways and arterials.
- Goal 4: *“ Develop an efficient transportation system that will handle future traffic growth”*. Policies include implementing bicycle, pedestrian, and vehicle improvements to create a multimodal transportation system.
- Goal 5: *“ Provide a transportation system that is accessible to all members of the community”*. Policies speak to the need to construct transportation facilities to meet the requirements of the Americans with Disabilities Act (ADA).
- Goal 7: *“Create a funding system to implement the recommended transportation system improvement projects”*. Policies identify the desirability of partnering with other jurisdictions to create a long-range financial strategy.

The TSP documents existing conditions for the pedestrian, bicycle, and motor vehicle transportation systems. The TSP also provides Action Plans for each travel mode which identify projects and programs to correct existing shortfalls and enhance critical services in support of the city’s transportation goals and policies. These improvements are expected to be implemented in the 20-year planning horizon.

Many of the pedestrian and bicycle improvement projects identified in the Action Plans align with DDTP’s Segment B (see Figure 1-1) and within the limits of the LLTP study area. These improvements and opportunities are discussed in more detail in the LLTP and are shown in Figure 2-1 which is excerpted from the TSP. In addition, the TSP’s pedestrian and bicycle plans include the following projects that align with the DDTP’s Segment C:

- Parallel bicycle route on US 101 between the Scholfield River Bridge to Longwood Drive
- Bike lanes on Longwood Drive between US 101 to Ranch Road
- Bike lanes on Frontage Road between 22nd Street and Ranch Road
- Sidewalk on Longwood Road between US 101 and High Street and between Maple Drive and Ranch Road
- Pedestrian crossing at US 101 and 20th Street
- Study for pedestrian crossing options at the Scholfield River Bridge

Figure 2-1. Reedsport Bicycle Master Plan



The TSP also includes recommended cross-sections for primary and feeder trails within the city. A primary trail would be built within a 24-foot right of way including a 12-foot wide travel surface and two 6-foot buffers on either side. A feeder trail would be built within a 20 to 22-foot right of way with two 6-foot buffers and an 8 to 10-foot travel surface.

2.1.3 Reedsport Pedestrian Safety Study

Published in 2015, the *Pedestrian Safety Study* addresses safety concerns along the US 101 and OR 38 corridors in Reedsport. The study focused on improving safety for all modes of travel, with an emphasis on the provision of safe bicycle and pedestrian crossings along these busy corridors. Toward this end, the study report provided a number of recommended safety projects to be implemented along these corridors—including some improvements that are currently planned for construction by ODOT in 2018.

Within the DDTP study area, the intersection of OR 38 and N 3rd Street was identified as a priority location in the *Pedestrian Safety Study* (located in Segment B). The study recommended installation of curb extensions at the crosswalk location, additional street lighting, and pedestrian warning signage at the crosswalk. In response to observed speeding on OR 38, the study also recommended a speed feedback sign in the westbound direction. This sign has been installed.

2.1.4 Reedsport Waterfront and Downtown Plan

The Reedsport *Waterfront and Downtown Plan* (RWDP), adopted in 2013, defines the desired character of the city's waterfront and downtown areas with an overall vision supported by a future development strategy. The plan recommends specific economic development strategies, land use changes, and transportation improvements for downtown revitalization and waterfront redevelopment.

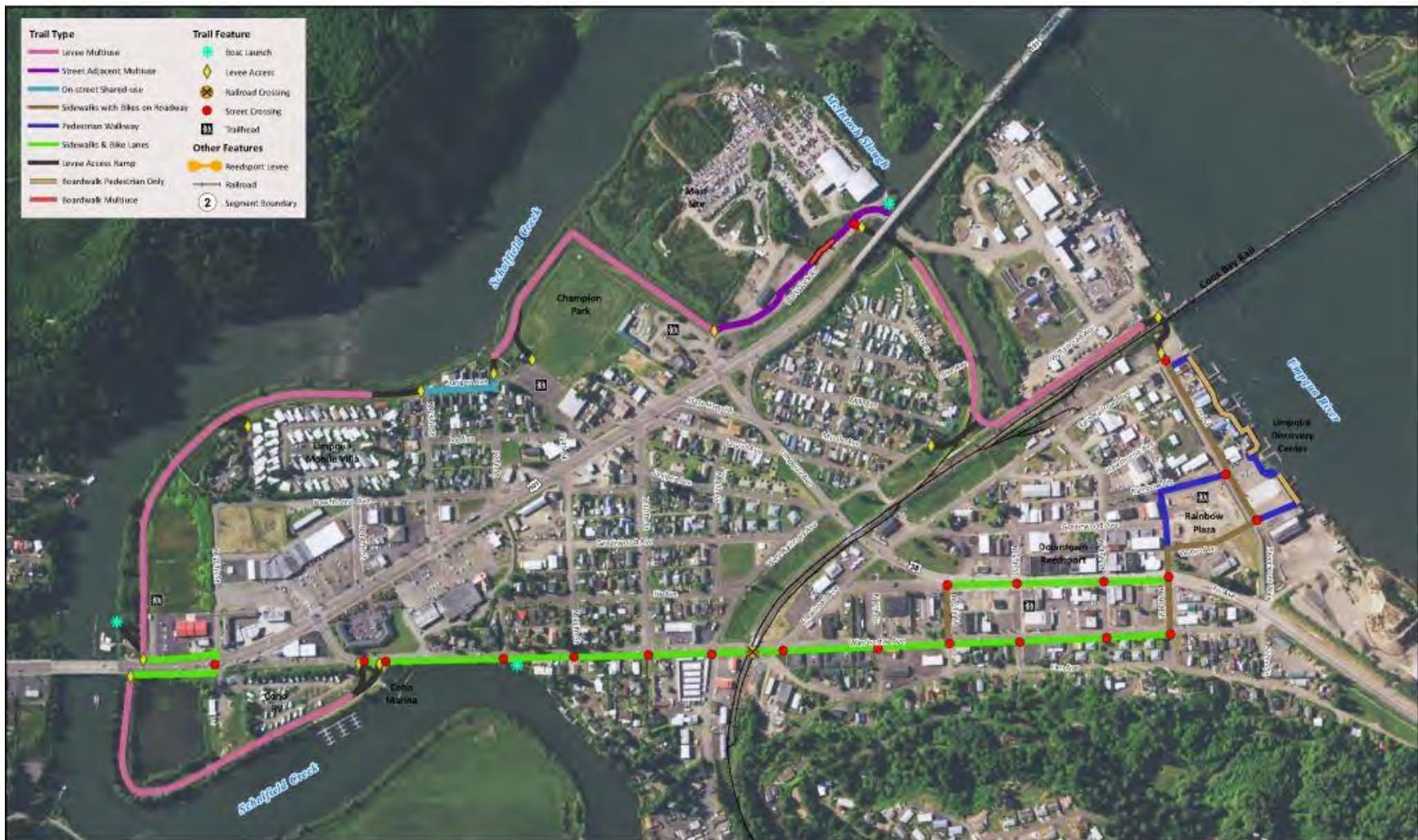
As part of the overall development strategy, the RWDP recommends a number of transportation system improvements, including facilities for automobiles, pedestrians, and bicyclists. The RWDP makes several recommendations for streetscape and transportation improvements along US 38 within Reedsport including gateway treatments, a new roadway profile including bike lanes and sidewalks, and enhanced pedestrian crossings at key locations including US 38 and N 3rd Street.

2.1.5 Levee Loop Trail System Plan

The need for the Levee Loop Trail (LLT) was identified in the City of Reedsport's 2006 *Transportation System Plan* (TSP) and further described in the *Waterfront and Downtown Development Plan*. The *Levee Loop Trail System Plan* (LLTP) identifies a trail alignment that primarily follows the existing levee system within the City of Reedsport and provides non-motorized access to key attractions and destinations in the city. The LLT is intended to address the lack of an integrated bicycle and pedestrian network within the City's commercial and waterfront core, especially near and between US 101 and OR 38. The *Levee Loop Trail System Plan* provides a detailed analysis of near-term and long-term trail alignment options, trail standards and design elements, trailhead locations, levee ramp accesses, key road and rail crossing options, regulatory requirements, cost estimates, and sources of funding.

The DDTP will reference the LLTP for the portions of the trail systems that overlap within the City of Reedsport (Segment B). An illustration of LLTP recommendations is presented in Figure 2-2.

Figure 2-2. Preferred Levee Loop Trail Option



2.1.6 Reedsport Main Street Program

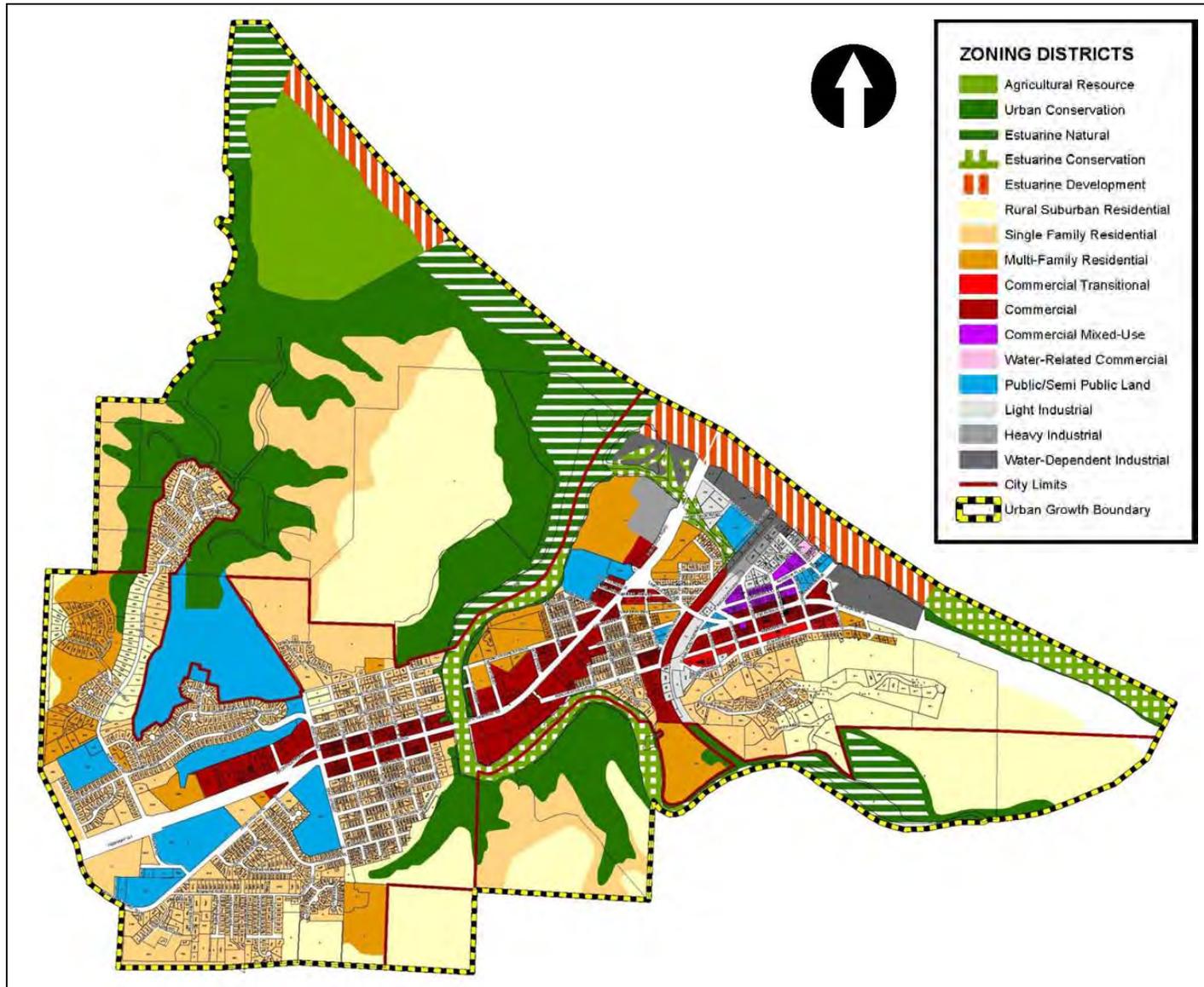
The Reedsport Main Street Program (RMSP) was established in 2014 to engage volunteers in making Reedsport a livable, sustainable community with a strong sense of place. The program covers the downtown, midtown, and uptown main streets of the City which would be connected through beautiful landscaping, wayfinding signage, and streetscape improvements that reflect the City's history and enhance the community's character. Current initiatives include making full use of the improved Rainbow Plaza, administering Bike Friendly Program for local businesses, and creating the Reedsport Cycle Stop at US 101 and Winchester Avenue which provides amenities for cyclists like a bike tool stand, bike parking, and seating.

2.1.7 The City of Reedsport Zoning Map and Land Use Ordinance

A review of the City's current (2015) Land Use Code and Zoning Map (Figure 2-3) found no significant conflicts or impediments to developing a multiuse trail system within the DDTP study area and connecting to the Levee Loop Trail system. Code sections that may influence trail development are:

- **Transportation Standards (10.76.026):** This section outlines which type of transportation facilities are permitted outright including those projects identified in the adopted transportation system plan and consistent with street standards. It states that transportation facilities or improvements subject to additional standards, such as flood hazard, steep slope hazards, significant natural resources, or estuarine and coastal shoreline areas, shall require permit approval of the planning department.
- **Estuarine Zones:** These land use zones are intended to preserve and protect areas containing significant natural and cultural resources as well as critical habitat located along the Umpqua River and Scholfield Creek waterfronts. Estuarine Conservation (10.72.150), Estuarine Natural (10.72.140), and Estuarine Development (10.72.160) zones are found within Segments A, B, and C. These zones are presented in Figure 2-3.
- **Flood Hazard Areas (10.76.010):** This section regulates development in the 100-year floodplain. Impacts of roadways or trails are not mentioned in this section. 100-year floodplain maps were most recently updated in 2016.
- **Public/Semipublic Lands (10.72.120):** These lands are intended to provide and preserve desirable areas for public recreational activities and a variety of public service activities. As such, it may be beneficial and reduce costs to site trail segments along or within parcels designated as Public/Semipublic Lands where feasible.
- **General Development Standards (Section IV, B1):** This section specifies the City's policy on the construction of streets, roads, or paths within riparian and riparian related wetlands which are identified in the Significant Natural Resource Overlay Zone.
- **Signs (10.76.040):** This section is intended to provide a process for sign placement and design and establish clear definitions of sign types and uniform standards. Interpretive signs often used for education purposes along multi-use trail systems are defined as non-regulated signs and do not require a permit.

Figure 2-3. Reedsport Zoning Map



- Steep Slope Hazard (10.76.130): This section applies to projects that include any excavation or change in topography in areas identified as subject to steep slope hazards in the Reedsport Comprehensive Plan. Any proposed project in an identified hazard area shall be preceded by a written report by an engineering geologist or an engineer certified to evaluate soils for suitability and conditions, as outlined in this section, may be imposed at the time of approval.
- Significant Natural Resources Overlay Zone (10.76.150): In accordance with Statewide Planning Goals 5 and 17, this section designates Significant Wetlands and Riparian Corridors and Major Marshes and Riparian Vegetation to ensure reasonable economic use of property while protecting valuable natural resources.

2.2 DOUGLAS COUNTY PLANS AND STUDIES

2.2.1 County Comprehensive Plan

Douglas County's *Comprehensive Plan* was first acknowledged in 1983 and was most recently updated in 2015. The *Comprehensive Plan* establishes policy guidance for the development of transportation system improvements in the unincorporated areas of the County. Goals, objectives and policies that are relevant to the DDTP include:

- General Transportation Goal: *"To develop a transportation system plan that establishes a system of transportation facilities and services adequate to meet identified needs."*

Supportive objectives and policies speak to the need to:

- Provide bicycle and/or pedestrian ways to accommodate access from commercial or high density residential development, transit stops or activity centers within ½ mile of UGBs where agreements require improvements.
- Bicycle Transportation Goal: *"To provide a safe, convenient, and efficient bikeway network for Douglas County which addresses both transportation concerns and recreation needs."*

Supportive objectives and policies include:

- Developing a system of bikeways throughout the County that meets the needs for all types of users consistent with the demand for each. A particular focus is on satisfying long-distance and local recreational needs, utilitarian needs in developed areas and connecting communities.
- Providing safe and cost-effective bikeway routes that consider potential usage, directness of connections, continuity, grades and aesthetic qualities.
- Identifies classes of bikeways including:
 - Class I – A separate trail for joint use of bicyclists and pedestrians. It may be entirely independent of other transportation facilities.
 - Class II – A bikeway that is adjacent to the travel lane of motorized traffic, but provides a physically separated through lane for bicycles and pedestrians.

- Class III – A bikeway that shares the roadway with motor vehicles. Class III routes are designated by signing, striping, and other visual markings. A Bicycle Lane is a Class III Bikeway.
- Class IIIs – A Class III bikeway which is signed only and does not include striping. A Bicycle Route is a Class IIIs Bikeway.

Class III and IIIs would be emphasized where practicable due to high cost of constructing Class I and relatively undesirable aspects of Class II.

- Coordinate development of a system of bikeways across jurisdictional boundaries, particularly within UGBs
- Emphasizes safety as the primary consideration in designation of bikeways—particularly for recreational and school use.

Some policies in the *Comprehensive Plan* related to parks are also relevant to the DDTP. It is noted that the Oregon Parks and Recreation Department prepared a master plan for the Umpqua Lighthouse State Park and that this plan is incorporated into the County's *Comprehensive Plan* and *Coastal Resources Plan*. The Plan also notes that bicycling for recreation or utilitarian purposes is a popular form of transportation and supports the provision of biking lanes and wide shoulders to improve safety.

2.2.2 County Transportation System Plan

The Douglas County *Transportation System Plan* (TSP) is a long-range planning document that evaluates the County's current transportation system and outlines policies and actions necessary to preserve and enhance that system. A TSP is required by the State of Oregon to help integrate the County's transportation investment plans into the statewide transportation system and to ensure consistency with Statewide Planning Goals (in particular, Goal 12: Transportation). The County most recently updated its TSP in 2004, and has incorporated it into the overall *Comprehensive Plan* by reference. The TSP is published separately because of its specialized scope and size.

Key Study Area Roadways

A key element of the County's TSP is the functional classification of the street and highway system. US 101 and OR 38 are both classified as Principal Highways while Salmon Harbor Drive in Winchester Bay is classified as a Major Collector. All highways in Douglas County that are under ODOT's jurisdiction are considered Principal Arterials and "*the management of these facilities is outlined in the Oregon Highway Plan*". Major Collectors "*provide for the connection of major residential and activity centers. Such roads primarily accommodate through traffic and channel traffic from local and minor collectors onto streets of higher classification*".

Running parallel to the coast, US Highway 101 goes north and south through Gardiner, Reedsport, and Winchester Bay, linking destinations in Lane County to the north and Coos County to the south. Oregon Highway 38 (the Umpqua Highway) runs from the Pacific coastline to I-5 and is located entirely within Douglas County.

Bikeways

Consistent with the County's *Comprehensive Plan*, the TSP defines a bikeway classification system. The County classifies US 101 and Salmon Harbor Drive as Class III bicycle lanes which share the roadway with motor vehicles, designated by signage and striping. US 38 is classified as a Class III's bicycle route which shares the roadway with motor vehicles, designated by signage only. The TSP also states that bicycle facilities should be provided on OR 38 east of Reedsport (Section 225) which aligns with Segment A of the DDT.

Designated Bikeway routes include:

- US Hwy 101 from the northern County limits to the southern County limits – Class III, under ODOT jurisdiction (approximately 22 miles in length)
- Salmon Harbor Drive (Road 251) from US Hwy 101 to end (beaches) – Class III, under County, State & Federal control (approximately 4 miles in length)
- Lighthouse Road (Road 87) from US Hwy 101 to Salmon Harbor Drive – Class I or III's, under County, State & Federal control (approximately 1.5 miles in length)
- Oregon Highway 38 (Reedsport to Sutherlin Route) from Reedsport city limits to Elkton city limits – Class III's, under ODOT jurisdiction (approximately 35 miles in length)

The TSP also addresses Bikeway Design standards, and notes, in general, that bikeway improvements in Douglas County shall conform to standards set forth in the American Association of State Highway and Transportation Officials' (AASHTO) Guide for Development of New Bicycle Facilities.

Pedestrian System

The TSP notes that the use of footpaths and bicycle paths as a means of transportation is more effective in urban areas and within Urban Growth Boundaries rather than rural areas.

2.2.3 Bikeway Master Plan

Recognizing the rising popularity of bicycling and the need to provide a countywide bikeway system, Douglas County adopted a *Bikeway Master Plan* in June of 1983 and revised the Plan in 1997. The Plan was adopted as a supplement to the Transportation Chapter of the Douglas County *Comprehensive Plan*.

2.2.4 Development Ordinances and Overlay Zones

Douglas County Land Use and Development Ordinance (LUDO)

The purpose of this Ordinance is “to provide and coordinate regulations in Douglas County governing the development and use of lands and to implement the Douglas County *Comprehensive Plan*” (Section 1.025). Among the many specific objectives of this ordinance is the goal to “provide for and encourage a safe, convenient, and economic transportation system within the County”.

Transportation uses are generally permitted in most zones identified within the LUDO—particularly those related to urban scale development. Potential zones addressing natural resource protection and preservation that may have relevance to the development of portions of the DDT include the following:

- Article 24 – Estuarine Natural (EN), Section 3.24: *“The Estuarine Natural classification is intended to preserve and protect areas containing significant natural resources in the estuary. The classification provides for uses of designated natural resource areas which are consistent with the natural management unit designation of the Comprehensive Plan and its objective to protect significant habitats, biological productivity and scientific, research and educational values.”* Transportation uses are not specifically identified as a permitted use in this zone.
- Article 25 – Estuarine Conservation (EC), Section 3.25: *“The Estuarine Conservation classification is intended to establish and protect areas of the estuary for the long term use of renewable resources. The classification is intended to apply to an area designated in the Comprehensive Plan as a conservation management unit and to be managed for uses of low to moderate intensity that do not require a major alteration of the estuary. Areas included in the classification have less biological significance than areas classified as Estuarine Natural.”* Transportation uses are not specifically identified as a permitted use in this zone.
- Article 26 – Estuarine Development (ED), Section 3.26: *“The Estuarine Development classification is intended to establish and preserve adequate area for navigation and other public, commercial and industrial water dependent uses. This classification is intended to apply to an area designated in the Comprehensive Plan as a Development Management Unit and to be managed for uses of high intensity which may significantly alter the estuarine resource.”* Transportation uses are not specifically identified as a permitted use in this zone.
- Article 27 – Conservation Shorelands (CS), Section 3.27: *“The Conservation Shorelands classification is intended to preserve and protect shoreland areas containing major freshwater Resource Conservation Shorelands in the Comprehensive Plan shall be included in this classification.”* Transportation facilities are permitted uses in this zone. These uses are subject to conformance with applicable standards and criteria set for in Article 36 – “Supplementary Provisions” of this LUDO chapter.
- Article 32 – Supplementary Provisions for Natural Resource Areas, Section 3.32: *“This article is designed to provide protection for a number of natural resource areas throughout Douglas County. The article consists of several overlay districts that provide additional development standards or special processes for development in protected areas. The overlay districts are designed to minimize uses which conflict with the resource values being protected and manage the resource areas so as to preserve their original character.”* Potentially relevant to the DDT are:
 - Section 3.32.200 – Riparian Vegetation Corridor Overlay (RVCO) – This overlay zone applies to all properties and land use designations within 50 feet of the bank-line of all perennial and intermittent waterways in the County as identified on the Plan map. All uses allowed in the underlying zone may be permitted or conditionally permitted in this corridor overlay.
 - Section 3.32.600 – Natural Area Overlay (NAO) – This overlay zone is intended to avoid conflicting uses in areas of significant natural value as identified in the Comprehensive Plan. Land uses that are allowed in the underlying zoning will be subject to conditional review. Only uses that will not permanently destroy natural value will be allowed.

- Article 34 – **Shorelands Overlay (SO)**, Section 3.34: “*The Shorelands Overlay district shall apply in designated "Urban-Other", "Rural-Conservation" and "Rural-Other" shoreland areas in the Comprehensive Plan. Where the requirements of the SO overlay conflict with the requirements of the underlying zone(s), the more restrictive requirements shall apply.*” Included on the list of permitted uses is the “*formation, construction, maintenance or rehabilitation of County, state or federal parks, historical monuments and other forms of public access*”.
- Article 36 – **Supplementary Provisions for Estuarine and Shoreland Areas**, Section 3.36: These provisions identify standards and criteria for development in Shoreland Zones and, among other uses, are generally applicable to bridges, roads and railroads, airports and other means of transportation if they are found to be consistent with the resources of the area, the objectives of the zoning classification and the *Transportation Element* of the *Comprehensive Plan*, and if they are essential to serving permitted or coordinated uses.

2.3 STATE PLANS, POLICIES, AND GUIDELINES

State plans, policies and guidelines which may have relevance to the DDT include:

- Oregon Highway Plan
- Oregon Transportation Options Plan
- Oregon Bicycle and Pedestrian Plan
- Oregon Statewide Planning Goals
- Oregon State Transportation Improvement Program
- Oregon Design Manual
- Oregon Traffic Manual

Each of these references is briefly discussed below.

2.3.1 Oregon Highway Plan (1999-2015)

The Oregon Highway Plan (OHP), first published in 1999, was most recently reissued with amendments through 2015. The OHP takes the directives of the Oregon Transportation Plan—to develop a transportation system marked by modal balance, efficiency, accessibility, environmental responsibility, connectivity among places, connectivity among modes and carriers, safety, and financial stability—and applies them to the state highway system.

The DDT system will interface significantly with two state highways—US 101 and OR 38. Based on conceptual trail alignment options and potential crossing treatment to be identified in following phases of the DDTP, a number of state highway standards may come into play and the development of trail options and concepts will be influenced by the following OHP goals.

- **Goal 1: System Definition** – This goal classifies the state highway system into five categories based on function. It also designates four special purpose classifications. These classifications define management policies, goals, and objectives for each highway category and designation. Both US 101 and OR 38 are classified as Statewide Highways (included in the National Highway System) and designated Freight Routes. US 101 is additionally designated as a Scenic Byway and has received national All American Road status making it one of the truly special highway corridors in the United States.

- **Goal 2: System Management** – This goal establishes the need to integrate state and local policies and standards in developing, operating, and maintaining the transportation system. The development of the DDT will require the City of Reedsport and Douglas County to coordinate closely with ODOT in determining trail alignments and design standards, identifying on- and off-system improvement funding, engaging the public, and addressing traffic safety.
- **Goal 3: Access Management** – This goal aims to balance highway access and economic development with the safe and efficient movement of traffic. While it does not directly address the provision of access for trail connections and crossings, many access management strategies may be relevant to the DDTP such as signalization and/or the development of medians or pedestrian refuges. This goal also provides guidance on applying for a deviation from access management standards.
- **Goal 4: Travel Alternatives** – This goal aims at optimizing the efficiency and utility of the state highway system by accommodating alternate (non single-occupant vehicular) modes. This goal largely speaks to reducing single-occupancy trips through measures like accommodation of transit and high-occupancy vehicle lanes. Bicycle and pedestrian facilities are only addressed to a very limited extent under this goal.
- **Goal 5: Environmental and Scenic Resources** – This goal is concerned with the protection and enhancement of the natural and built environment. The resources and associated actions outlined in this goal will be addressed during the state and federal environmental documentation permitting processes required for the DDT project.

2.3.2 Oregon Transportation Options Plan (2015)

The *Oregon Transportation Options Plan* (OTOP) is a topic plan that establishes policies, strategies, and programs to promote efficient use of existing transportation system investments, thereby reducing reliance on the single-occupancy vehicle and facilitating use of walking, biking, transit, and rideshare travel modes.

Adoption of this plan established a statewide vision for transportation options (TO) in Oregon to provide travelers of all ages and abilities with choices in how they can access goods, services, and opportunities across the State. TO strategies and programs do not address capital infrastructure investments, but rather they provide information and resources to allow people to bike, walk, take transit, drive, share rides, and telecommute.

2.3.3 Oregon Bicycle and Pedestrian Plan (2016)

The *Oregon Bicycle and Pedestrian Plan* (OBPP) establishes policy guidance on the importance of walking and bicycling as transportation modes in the State of Oregon, it identifies funding resources and opportunities, implementation roles and responsibilities and partnership opportunities, and discusses implementation considerations. The OBPP also establishes performance measures to evaluate the effectiveness of plan implementation.

2.3.4 Oregon Statewide Planning Goals – Transportation Planning Rule

Statewide Planning Goal 12 (Transportation) provides for and encourages a safe, convenient and economic transportation system. The Transportation Planning Rule (OAR 660-012-0000) implements

Goal 12, and “supports the availability of a variety of transportation choices for moving people that balance vehicular use with other transportation modes, including walking and bicycling.” The rule cites the need and requirement for bicycle and pedestrian facilities in numerous sections.

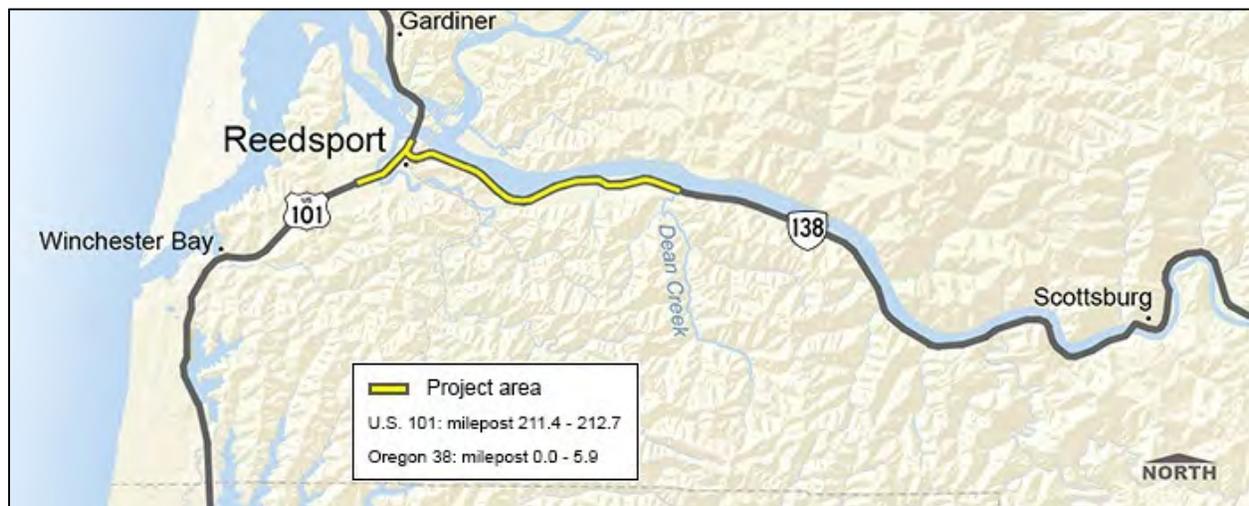
2.3.5 Statewide Transportation Improvement Program

The Statewide Transportation Improvement Program (STIP) is the Oregon Department of Transportation’s short-term capital improvement program for state and regional transportation projects. The Oregon Transportation Commission (OTC) and ODOT develop the STIP in coordination with federal and local governments, Area Commissions on Transportation ACTs), Metropolitan Planning Organizations (MPOs), tribal governments, and the public. The funded projects fall into five major categories: preservation, enhancement or expansion, safety improvement, non-highway (pedestrian, bicycle, and transit), and local government priorities. The STIP provides project scheduling and resource allocation information for most state and federally funding system improvements that have been approved and are expected to begin during the next four-year period.

The current 2018-2021 STIP includes one project which will be constructed in DDT Segment A, the **OR 38 (US 101 to Dean Creek) Paving and Pedestrian Improvement Project**. As described in the STIP, this project will create a bicycle and pedestrian-friendly environment by improving safety and connecting bicycle and pedestrian facilities on US 101 with the historic downtown Reedsport area. The project will also pave several miles of highway (generally along OR 38 from US 101 to Dean Creek at milepost 5.9), replace guardrail at various locations, and introduce features to encourage traffic calming. In addition to repaving on OR 38, this project will focus on:

- Making bicycle and pedestrian improvements along two four-block areas in Reedsport: US 101 between 18th and 22nd Street, and the Old Town area of OR 38, from Railroad Street to 3rd Street. Curb extensions will be constructed at 3rd, 4th, 5th and 6th Streets to assist pedestrians and calm traffic.
- Adding crosswalk striping, a stop bar, streetlights and signs at 3rd Street.
- Converting the four-lane section between 16th and 22nd Street to three-lanes (commonly called a Road Diet), including one lane of travel in each direction, a center turn lane, two bicycle lanes and space for on-street parking.
- Modifying the traffic signals at 19th Street and 22nd Street to match the three-lane conversion and upgrade pedestrian countdown timers (additional hardware upgrades will depend on funding).
- Adding and adjusting streetlights at 20th, 21st and 22nd Streets.
- Building curb extensions and a pedestrian island with flashing pedestrian beacons (RRFB) at 20th Street.
- Replacing damaged asphalt sidewalks and ramps along the west side of US 101 between the Umpqua River Bridge and 13th Street (pending approval).

Per the STIP, the project is currently in design with bids expected in early spring of 2018. Construction is expected from spring through fall of 2018. The project is expected to cost \$7.2 million. Figure 2-4 illustrates the project area.

Figure 2-4. US 101 and OR 38 Pedestrian and Paving Improvements

2.3.6 Oregon Highway Design Manual

The ODOT Highway Design Manual (HDM) establishes policies, processes, procedures and design standards/guidelines for transportation projects. The HDM provides guidance for the design of new construction, major reconstruction, resurfacing and restoration/rehabilitation on state highways in Oregon. Among the many chapters in the HDM, there are several with key relevance to the DDTP including:

- Cross Section Elements
- Urban Highway Design (Non-Freeway)
- Rural Highway Design (Non-Freeway)
- Intersections
- Special Design Elements
- Pedestrian and Bicycle

The HDM adopts the AASHTO's "A Policy on Geometric Design of Highway and Streets" and previous design guides to provide designers with background information to assist in applying the proper standards. Current urban and rural design guidance in the HDM also follows context sensitive design practices and the flexibility of guidance documents such as FHWA's "Flexibility in Highway Design" and AASHTO's "A Guide for Achieving Flexibility in Highway Design". With the use of multidisciplinary project teams and application of its Practical Design process, ODOT relies on a collaborative effort to produce efficient and effective projects that are flexible and sensitive to the context of the project and its surrounding environment.

As noted in the HDM, "Practical Design is a philosophy and strategy in establishing appropriate project scopes fitted to specific project purpose and need. Critical elements of Practical Design use a systematic approach in efficiently using limited resource dollars to optimize the transportation system using a prioritized management approach. Practical Design requires use of engineering judgment, focusing on the project purpose, evaluating the safety and operations of design tradeoffs, and documenting those design decisions."

There are five key values that help form the foundation of Practical Design including:

- *Safety* – Making the system as safe as practical including high value add-ins with minimal cost
- *Corridor Context* – Taking into account the character of the community, land uses and project features to develop and apply consistent design criteria throughout the corridor such that the project “fits” into its natural and built environment
- *Optimize the System* – Developing specific maintenance, repair, rehabilitation and replacement strategies that optimize the life-cycle investment in the highway and balance trade-offs between competing goals related to safety, mobility and financial investment
- *Public Support* – Shaping a chosen improvement(s) in collaboration with the community and considering the needs of all users (pedestrians, bicyclists, freight, mobility, etc.)
- *Efficient Cost* – Stretching limited funding as much as possible to meet project purpose and benefit the overall system

2.3.7 Oregon Bicycle and Pedestrian Design Guide

The Oregon Bicycle and Pedestrian Design Guide (OBPDG) provides design standards for use on Oregon highways in the development of bicycle and pedestrian system improvements. To establish primary design practices, ODOT has adopted the American Association of State Highway and Transportation Officials (AASHTO) guidelines including the “Guide for the Development of Bicycle Facilities,” and the “Guide for the Planning, Design and Operation of Pedestrian Facilities.” In some instances the standards in this design guide exceed the practices identified in the AASHTO guidance. Additionally, these guidelines include some situations that are not covered by AASHTO or the HDM. Standards established in the HDM must be met at a minimum in the application of OBPDG design guidance.

Walkway design standards in the OBPDG are also compatible with the minimums set by the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and the proposed Public Right of Way Accessibility Guidelines (PROWAG), and conform to the “Manual on Uniform Traffic Control Devices” (MUTCD) as supplemented and adopted by the Oregon Transportation Commission.

Specific guidance presented in the OBPDG includes:

- Design of on-road bikeways including shared roadways, bicycle boulevards, shoulder bikeways, and bike lanes, and address surface treatments, signing/stripping, and practices to be avoided
- Road diets that involve restriping roadways to reduce the number of vehicle travel lanes while adding bike lanes
- Bicycle parking
- Walkways including sidewalks, paths, ADA requirements, ramps and other features or considerations
- Street crossings including levels of services, crossing solutions and innovative design
- Intersections including crosswalks, traffic control, islands/refuges, and other considerations
- Shared use paths including those next to roadways with detailed design standards, signing and striping, and safety considerations

Table 2-1 summarizes standards related to the width of shared use paths or trails based on the OBPDG.

Table 2-1. ODOT Trail Width Standards

<i>Two-Way Bike/Pedestrian Facility (unless otherwise noted)</i>	<i>Trail Width</i>
One-way cyclist or pedestrian	6 feet
Few users and/or space constraints	8 feet
Typical minimum in rural area	10 feet
Urban and suburban mixed use	12 feet
High mixed use, faster/commuting bicyclists	12+ feet

The planning and conceptual design of the DDTP is anticipated to be consistent with the applicable goals and policies of the Oregon Highway Plan, Bicycle and Pedestrian Plan, Highway Design Manual and Bicycle and Pedestrian Design Guide. Any variations from this guidance will be subject to ODOT concurrence.

2.3.8 Oregon Traffic Manual

The Traffic Manual focuses on ODOT traffic engineering policies and practices. The manual also clarifies roles and responsibilities, as well as providing information that may be required when considering traffic control changes.

2.3.9 ODOT Right-of-Way Manual

This document provides guidance for the administration of ODOT's right-of-way acquisition program and policies. In cooperation with the Federal Highway Administration (FHWA), this manual guides ODOT staff, local public agencies and consultants on the implementation of Public Law 91-646, the Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970, as amended, and all ODOT eminent domain policy. Right-of-way activities can include, but not be limited to, real property appraisal, property acquisition, occupant relocation and project-related property management.

2.4 FEDERAL REGULATIONS AND GUIDELINES

2.4.1 Americans with Disabilities Act (ADA)

The Americans with Disabilities Act (ADA) prohibits state and local governments from discriminating against people with disabilities in all programs, services, and activities. Under the ADA, the US Access Board has developed and continues to maintain design guidelines for accessible buildings and facilities known as the ADA Accessibility Guidelines (ADAAG). These guidelines were adopted by United States Department of Transportation (USDOT) and are published as the ADA Standards for Accessible Design for transportation facilities. These guidelines are enforceable under the ADA.

Relevant to the development of pedestrian and bicycle facilities on US 101 or OR 38 is the requirement that public and private entities use available guidance from the ADAAG to design and construct sidewalks and trails to make them accessible to and usable by people with disabilities. Relevant sections include:

- Walking Surfaces (ADAAG Section 403)

- Ramps (ADAAG Section 405)
- Curb Ramps (ADAAG Section 406)¹

USDOT Guidance

The US Department of Transportation published *ADA Standards for Transportation Facilities* in 2006. These standards were based on the 2004 US Access Board *Accessibility Guidelines*. Together with the 2010 US Department of Justice *ADA Standards for Accessible Design*, these documents form the basis for compliance with the ADA and the associated Architectural Barriers Act.

AASHTO Guidance

ODOT suggests consulting AASHTO's *Designing Sidewalks and Trails for Access*. AASHTO recommends a maximum grade of 5 percent for bicyclists, with steeper grades allowable for up to 500 feet, provided there is good horizontal alignment and sight distance. The recommended standard cross-slope grade is 2 percent.

ADA Flexibility

Variations to ADA standards are possible. For instance, the US Forest Service has standards for steeper areas where outright compliance with the 5 percent grade maximum proves environmentally damaging. Flexibility is also possible if local jurisdictions have ADA compliance review processes. The City of Portland has well developed variance procedures that could be consulted. If local jurisdictions use their own funds for trail construction, the degree of ADA compliance is a matter of local policy.

2.4.2 AASHTO Geometric Design of Highways and Streets

The American Association of State Highway and Transportation Officials (AASHTO) publishes and periodically updates guidance on research and practices for highway and street geometric design. Known as *A Policy on Geometric Design of Highways and Streets*, this document includes design guidance for freeways, arterials, collectors, and local roads, in both urban and rural locations, based on the functional classification of these facilities. The book is organized into the following functional chapters to stress the relationship between highway design and function: Highway Functions, Design Controls and Criteria, Elements of Design, Cross-Section Elements, Local Roads and Streets, Collector Roads and Streets, Rural and Urban Arterials, Freeways, Intersections, and Grade Separations and Interchanges. The current version of this publication is the 6th Edition, published in 2011.

2.4.3 Manual on Uniform Traffic Control Devices (MUTCD)

Traffic control devices installed on streets and highways within the State of Oregon are required to conform to the Manual on Uniform Traffic Control Devices (MUTCD), published by the Federal Highway Administration (FHWA). The MUTCD sets minimum standards and provides guidance to ensure uniformity of these devices (such as signs, signals and pavement markings) across the US. The use of uniform devices helps to reduce crashes and congestion, and improves the efficiency of the transportation system by providing clear and unambiguous guidance to motorists, bicyclists and pedestrians alike.

¹ US Department of Justice, 2010 ADA Standards for Accessible Design, September 15, 2010.

2.4.4 State Tsunami Inundation Zones

The Oregon Department of Geology and Mineral Industries (DOGAMI) the National Tsunami Hazard Mitigation Program which has been administered by the National Oceanic and Atmospheric Administration (NOAA) since 1995. DOGAMI's work is designed to help cities and counties in coastal areas reduce the potential for disastrous tsunami related consequences. Using the data provided by DOGAMI, both the City of Reedsport and Douglas County publish maps of tsunami inundation areas and evacuation routes, and related emergency response information.

Tsunami evacuation areas are mapped on the Natural Hazards map (Figure 4-2) and discussed further in Chapter 4 of this memorandum.

2.4.5 FEMA Floodplain Mapping

The Federal Emergency Management Agency (FEMA) uses their Risk Mapping, Assessment, and Planning (Risk MAP) program to provide accurate flood hazard and risk data to state and community partners and guide them to mitigation actions. Flood hazard mapping is an important part of the National Flood Insurance Program (NFIP) which provides the basis of the NFIP regulations and flood insurance requirements. FEMA maintains and updates data through Flood Insurance Rate Maps (FIRMs) and risk assessments. FIRMs include statistical information such as data for river flow, storm tides, hydrologic/hydraulic analyses and rainfall and topographic surveys.

The 100-year flood or base flood is the flood that has a one-percent chance of occurring in any given year. Based on expected base flood rates, flood water levels are mapped as areas of inundation referred to as the 100-year floodplain. The 100-year floodplain is the standard used by most federal and state agencies, including Oregon, as the standard for floodplain management and to determine the need for flood insurance. Locating development within the 100-year floodplain can impact environmental documentation, permitting, and eligibility for insurance.

FEMA's 100-year and 500-year floodplains within the DDTP study area are mapped on the Natural Hazards map (Figure 4-2) and discussed further in Chapter 4 of this memorandum.

2.4.6 USACE and FEMA Levee Requirements

While a discussion of US Army Corps of Engineers (USACE) and Federal Emergency Management Agency (FEMA) jurisdiction and requirements for levees in the study area is most pertinent to the Levee Loop Trail Plan (LLTP), these requirements are referenced here for completeness as there may be interface between the DDTP and the levees in the Reedsport area. The following text is taken from the LLTP.

"The US Army Corps of Engineers (USACE) has jurisdiction over potential encroachments upon the 1968 levee, including those envisioned by the LLT such as paved trail pathways, access ramps, storm water collection and conveyance, other utilities, and potentially even trail amenities such as signing, interpretive facilities, benches, etc. Any potential impacts to existing levees may require either major or minor permitting under 33 US Code, Section 408.

Minor 408 Permitting

In accordance with 33 U.S.C. 408, any levee encroachments or mitigation will minimally need to be addressed under a Section 408 Minor Permit approved by the Portland (Oregon) USACE District. Minor

408 permits apply to projects that result in “temporary impacts to levees or are within the critical area of the levee, but do not permanently change key physical characteristics or hydraulic conditions.” Minor 408 reviews typically take 30 days and can be approved at the District level. Probable LLT improvements should not adversely impact key levee characteristics or conditions. In fact, asphaltic trail paving on the top of the levee will reduce levee permeability, which should be found by USACE to improve levee function and structural integrity by reducing water infiltration.

Major 408 Permitting

A Major 408 permit could be required if early consultation with USACE or a Minor 408 review finds that planned LLT improvements or features could result in significant adverse and permanent impacts on levee function and integrity. Major 408 permit applications potentially include complex evaluations of hydrologic, hydraulic, environmental, structural, and geotechnical impacts; and if not outright denial, significant mitigation measures. The Major 408 permit is initially submitted to the Portland District but requires additional review and approval above District level. Major 408 permit approvals may take nine months or longer.”

3. TRANSPORTATION AND LAND USE FEATURES

3.1 TRANSPORTATION NETWORK

This section is supported by the Transportation Features map (Figure 3-1), which illustrates the functional classification of roadways within the DDT study area and public right of way (ROW) limits as well as the location of railroads, bridges, and culverts. Further details about the roadway characteristics, non-motorized network, the levee, and transit services are discussed below.

3.1.1 Vehicular Roadways

State of Oregon

The DDT will follow and possibly cross both OR 38 and US 101. Both highways are under State of Oregon (ODOT) jurisdiction, recognized as a part of the National Highway System, and designated as statewide freight routes. These highways are classified as rural Principal Arterials. Any new highway crossings or other trail improvements impacting state roadways will have to be reviewed and approved by ODOT.

US 101 is a popular route for bicycle touring along the Oregon Coast. In the City of Reedsport, OR 38 serves as the 'main street' through downtown. OR 38 is named Umpqua Avenue from US 101 to East Railroad Avenue in town, and Fir Avenue from East Railroad Avenue to 2nd Street.

Douglas County

The portion of Salmon Harbor Drive included in the DDTP study area connects Winchester Bay to the Ziolkouski Beach Park and the Oregon Dunes. Salmon Harbor Drive is classified as a major collector from US 101 to Discovery Point Lane (Segment F) and a minor collector from Discovery Point Lane to the Umpqua South Jetty Beach Access parking area (Segment G). In rural areas, collector roadways connect communities, provide secondary access between larger communities, and provide access to major employment, recreational, and rural residential areas.

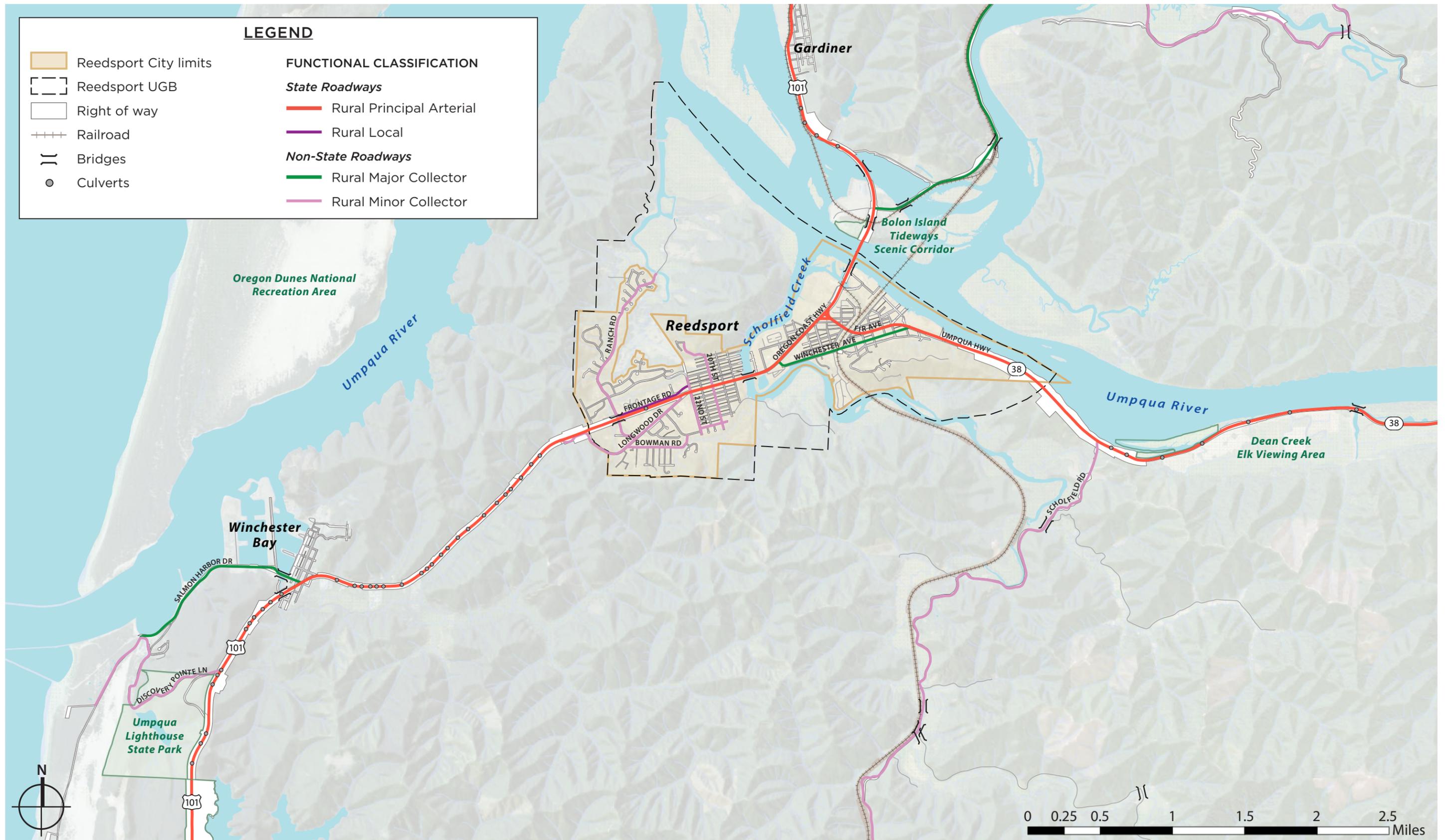
City of Reedsport

Within the City of Reedsport, the trail will likely follow the route identified in the LLTP and take advantage of upcoming ODOT projects with bicycle and pedestrian facilities on US 101 and OR 38. The DDT may also utilize other streets, such as Frontage Road and Longwood Drive, as necessary to provide the safest route alignment.

3.1.2 Roadway Characteristics by DDT Planning Segment

Each of the DDT planning segments, including alternative alignments, are described on the following pages in greater detail, with maps illustrating the extent of existing right-of-way (ROW), the number of travel lanes, posted speed limits, and the location of existing or planned traffic signals in each segment. Figure 1-1 illustrates the entire corridor and shows the general location and limits of each segment. Figures 3-2 through 3-8 show roadway characteristics information for each segment.

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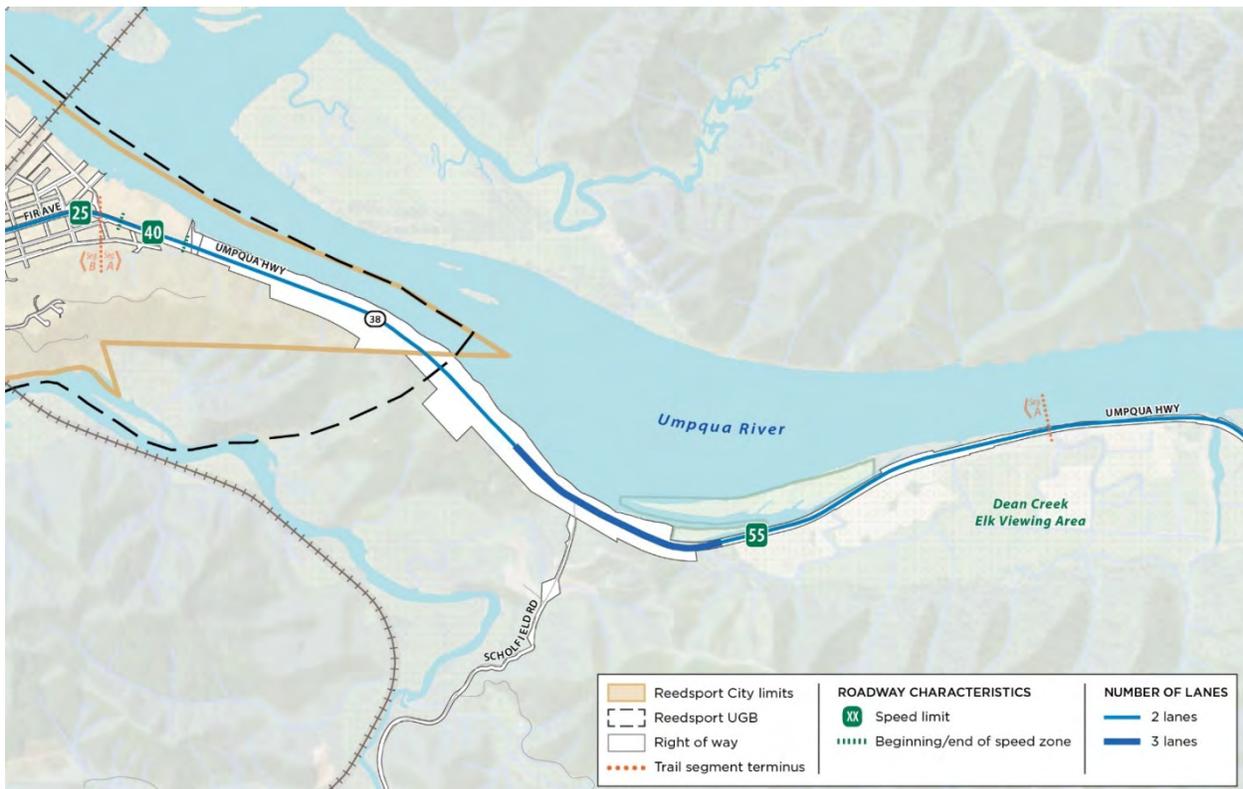
Segment A

Table 3-1 presents a summary of key roadway characteristics for Segment A including location and limits of the segment, jurisdiction, pavement width, number of travel lanes, lane width, speed limit, the width of parking lanes, bike lanes and sidewalks where applicable (none in this segment). The western portion of this segment is located within the City of Reedsport while the eastern portion is located within unincorporated Douglas County. Speeds along the eastern portion of the segment are 55 mph which is typically uncomfortable for bicyclists or pedestrians using the existing highway shoulder.

Table 3-1. Segment A – Roadway Characteristics

<i>Street Name</i>	<i>OR 38 Dean Creek Elk Viewing Area to Elm Avenue</i>	<i>OR 38 Elm Avenue to Riverfront Way</i>
<i>Limits</i>		
<i>Jurisdiction</i>	<i>State</i>	<i>State</i>
<i>Pavement Width</i>	34 to 46	52
<i>Number of Lanes</i>	2 to 3	3
<i>Lane Width</i>	12	14
<i>Speed Limit</i>	55	40
<i>Parking Width</i>	-	-
<i>Bike Lane Width</i>	-	-
<i>Sidewalk Width</i>	-	-

Figure 3-2. Segment A – Roadway Characteristics



Segment B

Table 3-2 summarizes roadway characteristics in Segment B which is located entirely within the City of Reedsport. Portions of this segment include on-street parking, bicycle lanes and sidewalks. Improvements in this segment will not be identified as part of the DDTP as it was fully addressed in the LLTP and in the pending ODOT highway improvement project described in Chapter 2.

Table 3-2. Segment B - Roadway Characteristics

Street Name	OR 38	OR 38	US 101
	Riverfront Way to N 5 th		
Limits	Street	N 5 th Street to US 101	OR 38 to 16 th Street
Jurisdiction	State	State	State
Pavement Width	54	36	68
Number of Lanes	2	2	5
Lane Width	13	12	12
Speed Limit	25	25	30
Parking Width	9	-	-
Bike Lane Width	6	-	5
Sidewalk Width	10	-	5

Figure 3-3. Segment B - Roadway Characteristics



Segment C

This segment is located within the City of Reedsport but largely outside the area previously addressed in the LLTP. This segment includes bicycle lanes and sidewalks and the speed is 30 mph which is relatively comfortable for many bicyclists.

Table 3-3. Segment C – Roadway Characteristics

Street Name	US 101
Limits	16 th St to S 22 nd St
Jurisdiction	State
Pavement Width	64
Number of Lanes	4
Lane Width	12
Speed Limit	30
Parking Width	-
Bike Lane Width	8
Sidewalk Width	6

Figure 3-4. Segment C – Roadway Characteristics



Segment D

Most of this segment is located within the City of Reedsport except for the far southern end which is located in unincorporated Douglas County. Some on-street parking and sidewalks are provided in this segment.

Table 3-4. Segment D – Roadway Characteristics

Street Name	US 101	Longwood Drive (Alternative)	Frontage Road (Alternative)	Ranch Road (Alternative)
Limits	S 22 nd Street to Longwood Drive (west)	US 101 (east) to US 101 (west)	S 22 nd Street to Ranch Road	Frontage Road to Longwood Drive
Jurisdiction	State	City	City	City
Pavement Width	42	20 to 58	21	34
Number of Lanes	2	2	2	2
Lane Width	14	12	10	17
Speed Limit	40-55	25	25	25
Parking Width	-	Varies	-	-
Bike Lane Width	-	-	-	-
Sidewalk Width	-	Varies	-	-

Figure 3-5. Segment D – Roadway Characteristics



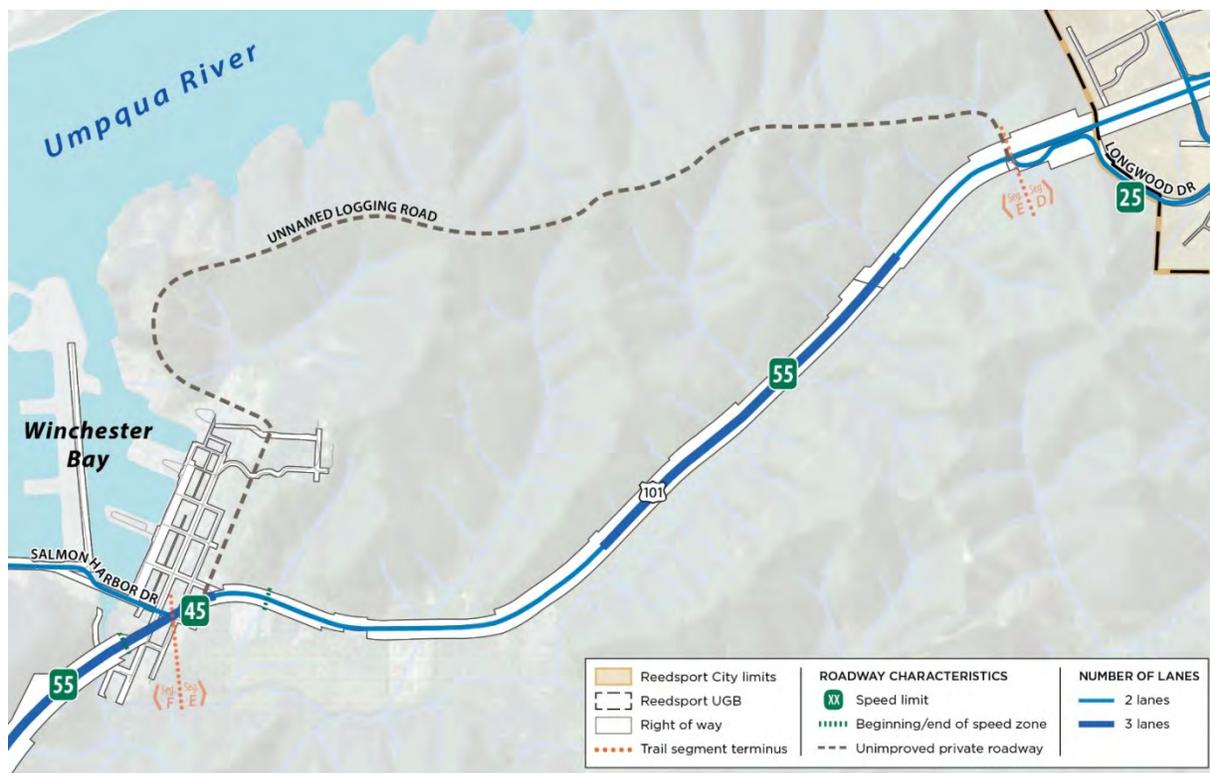
Segment E

Segment E is entirely located within unincorporated Douglas County and the highway generally has one travel lane in each direction with a southbound left turn at the Oregon Coast RV Resort and a northbound passing lane that begins to the north of the RV Resort access road and extending to just south of Longwood Drive. The speed is 55 mph through this segment which makes for a challenging and uncomfortable bicycle riding or walking environmental along existing shoulders.

Table 3-5. Segment E – Roadway Characteristics

<i>Street Name</i>	<i>US 101</i>	<i>Unnamed Logging Road (Alternative)</i>
<i>Limits</i>	<i>Longwood Drive to Salmon Harbor Drive</i>	<i>US 101 to Salmon Harbor Drive</i>
<i>Jurisdiction</i>	<i>State</i>	<i>Private</i>
<i>Pavement Width</i>	34 to 48	-
<i>Number of Lanes</i>	2 to 3	2
<i>Lane Width</i>	13	-
<i>Speed Limit</i>	55	-
<i>Parking Width</i>	-	-
<i>Bike Lane Width</i>	-	-
<i>Sidewalk Width</i>	-	-

Figure 3-6. Segment E – Roadway Characteristics



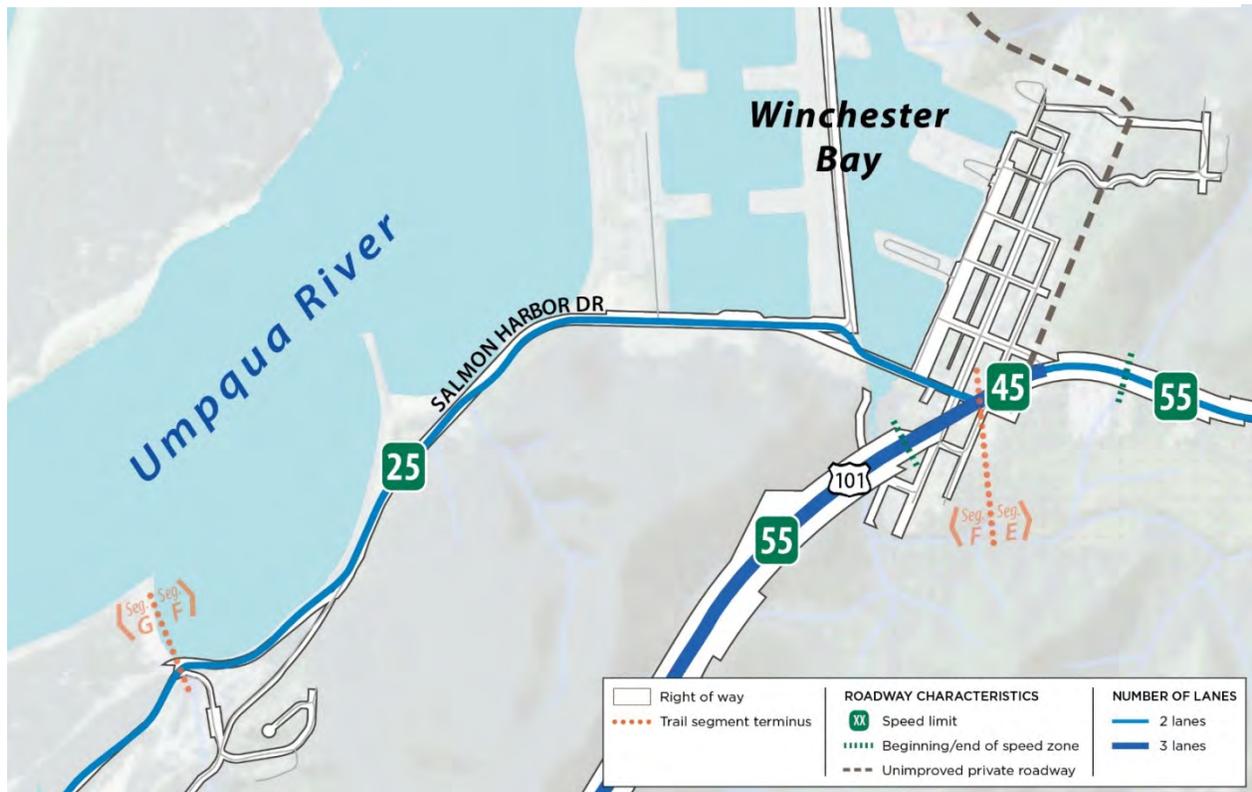
Segment F

Segment F is a two lane county road with a 25 mph speed limit. Portions of the existing shoulder along the north and west side of this road are signed at 15 mph for ATV use which represent a potential conflict with bicycle and pedestrian users.

Table 3-6. Segment F – Roadway Characteristics

<i>Street Name</i>	<i>Salmon Harbor Drive</i>
<i>Limits</i>	<i>US 101 to Discovery Point Lane</i>
<i>Jurisdiction</i>	<i>County</i>
<i>Pavement Width</i>	34
<i>Number of Lanes</i>	2
<i>Lane Width</i>	12
<i>Speed Limit</i>	25
<i>Parking Width</i>	-
<i>Bike Lane Width</i>	-
<i>Sidewalk Width</i>	-

Figure 3-7. Segment F – Roadway Characteristics



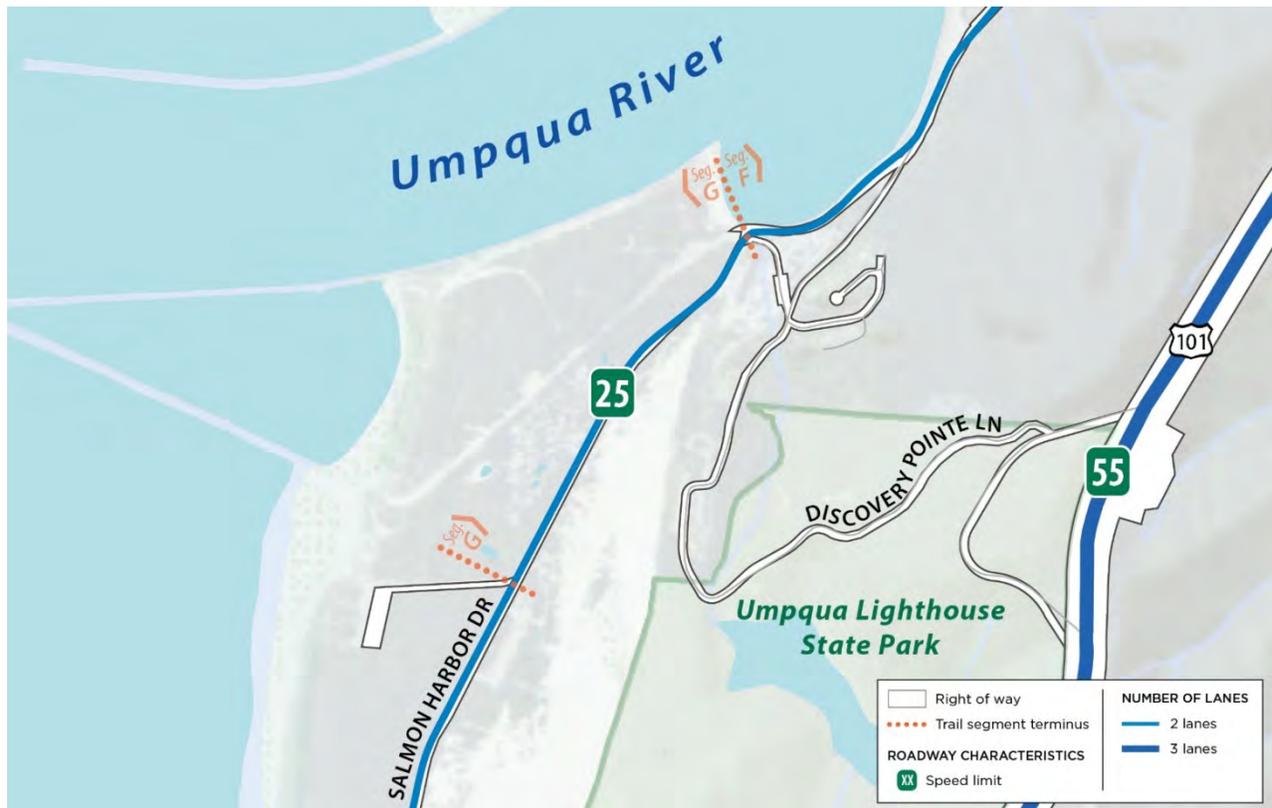
Segment G

This final segment provides direct access to the Oregon Dunes and is heavily used by ATVs and other recreational users.

Table 3-7. Segment G – Roadway Characteristics

Street Name	Salmon Harbor Drive
Limits	Discovery Point Ln to Umpqua South Jetty Beach Access Parking Area
Jurisdiction	County
Pavement Width	25
Number of Lanes	2
Lane Width	11
Speed Limit	25
Parking Width	-
Bike Lane Width	-
Sidewalk Width	-

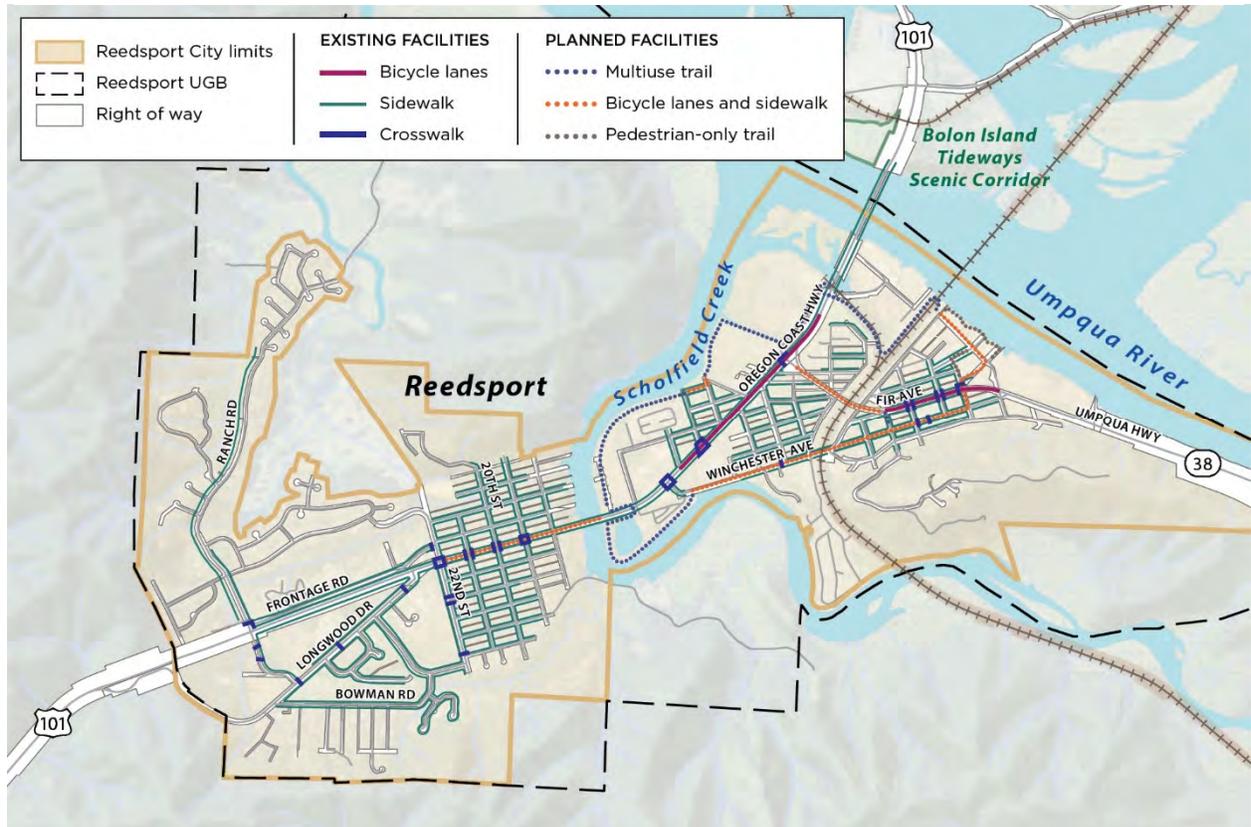
Figure 3-8. Segment G – Roadway Characteristics



3.1.3 Bicycle and Pedestrian Network

The majority of the available pedestrian and bicycle facilities found within the DDT study area are located within the City of Reedsport. The existing and planned non-motorized network within Reedsport, including crossing locations, is illustrated in Figure 3-9. This information was excerpted from the City's *Transportation System Plan* and other data resources.

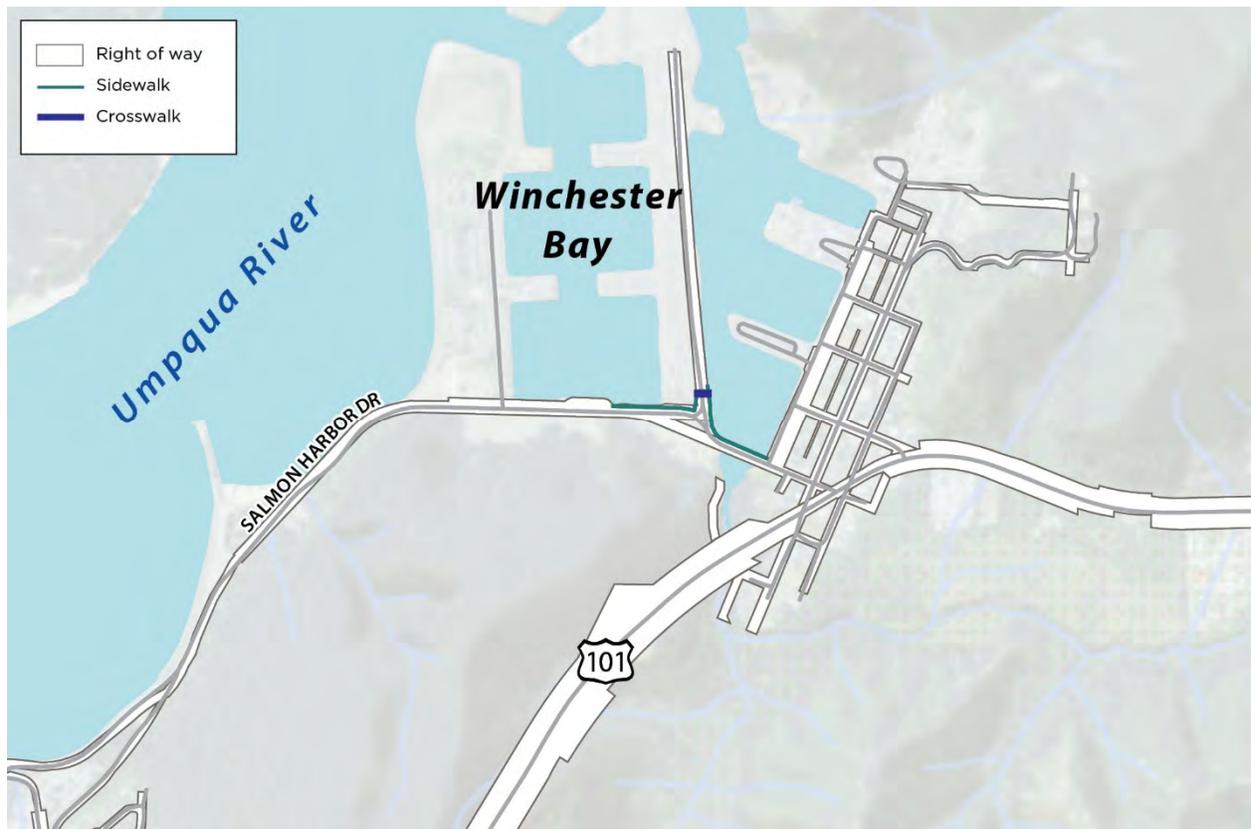
Figure 3-9. Reedsport Existing and Planned Non-motorized Network



Outside of the City of Reedsport, most of the DDT study area lacks formal pedestrian and bicycle facilities. There is a small segment of sidewalk on the north side of Salmon Harbor Drive between Beach Boulevard and the Salmon Harbor Marina which includes a separated bridge facility (8' wide) over Winchester Creek which is illustrated in Figure 3-10.

Along US 101 and US 38, bicyclists currently use the shoulder which varies in width along the corridors. Between Winchester Bay and the Dunes, all-terrain vehicles (ATVs) use the shoulder of Salmon Harbor Drive

Figure 3-10. Winchester Bay Existing and Planned Non-motorized Network



3.1.4 Levee Systems

The Reedsport Levee is included in the Land Use Features map (Figure 3-11). The levee system that surrounds Reedsport was built in 1968 to protect the City from flooding. The top height of the levee varies between 15 and 18-feet above the high-water mark of the Umpqua River and Scholfield Creek. The top of the levee must be kept clear of deeply-rooted vegetation and burrowing mammals that may compromise its structural integrity. The width at the top of the berm ranges from 10 to 12 feet wide and shows signs of informal use by bicyclists, pedestrians, and maintenance vehicles.

3.1.5 Transit Service

There are no scheduled public transit services in the DDTP study area. Douglas Rides Community Transportation (a service of Douglas County Health and Social Services) provides a Dial-a-Ride service within an approximately five-mile radius of Reedsport, including the Winchester Bay area. This service is open to anyone but primarily accommodates elderly and disabled patrons. Pacific Crest Bus Lines, a partner with Amtrak, provides daily bus service from Winchester Avenue and N 20th Street to Eugene and other coastal communities.

3.2 EXISTING AND PLANNED LAND USE PATTERNS

3.2.1 Existing Land Uses and Vacant Land

Land use within the DDT study area is illustrated in the DDT Study Area map (Figure 1-1) which includes an aerial image showing which parcels have been developed and which are vacant. In addition, the Land Use Features map (Figure 3-11) shows the property parcel boundaries and calling attention to the publicly-owned parcels.

The land adjacent to Segments B, C, and D, which are located within the City of Reedsport, is almost entirely subdivided and developed. Segments A, E, F, and G are predominantly surrounded by undeveloped timberland resources, agricultural resources, or public reserve lands. In the area near Winchester Bay and Discovery Point, there are some developed lands with residential and commercial uses.

3.2.2 Zoning

Current City and County zoning designations are shown in the Land Use Features map (Figure 3-11). Zoning areas specific to estuarine and shoreland resources are also included in the Natural and Cultural Resources map (Figure 4-1).

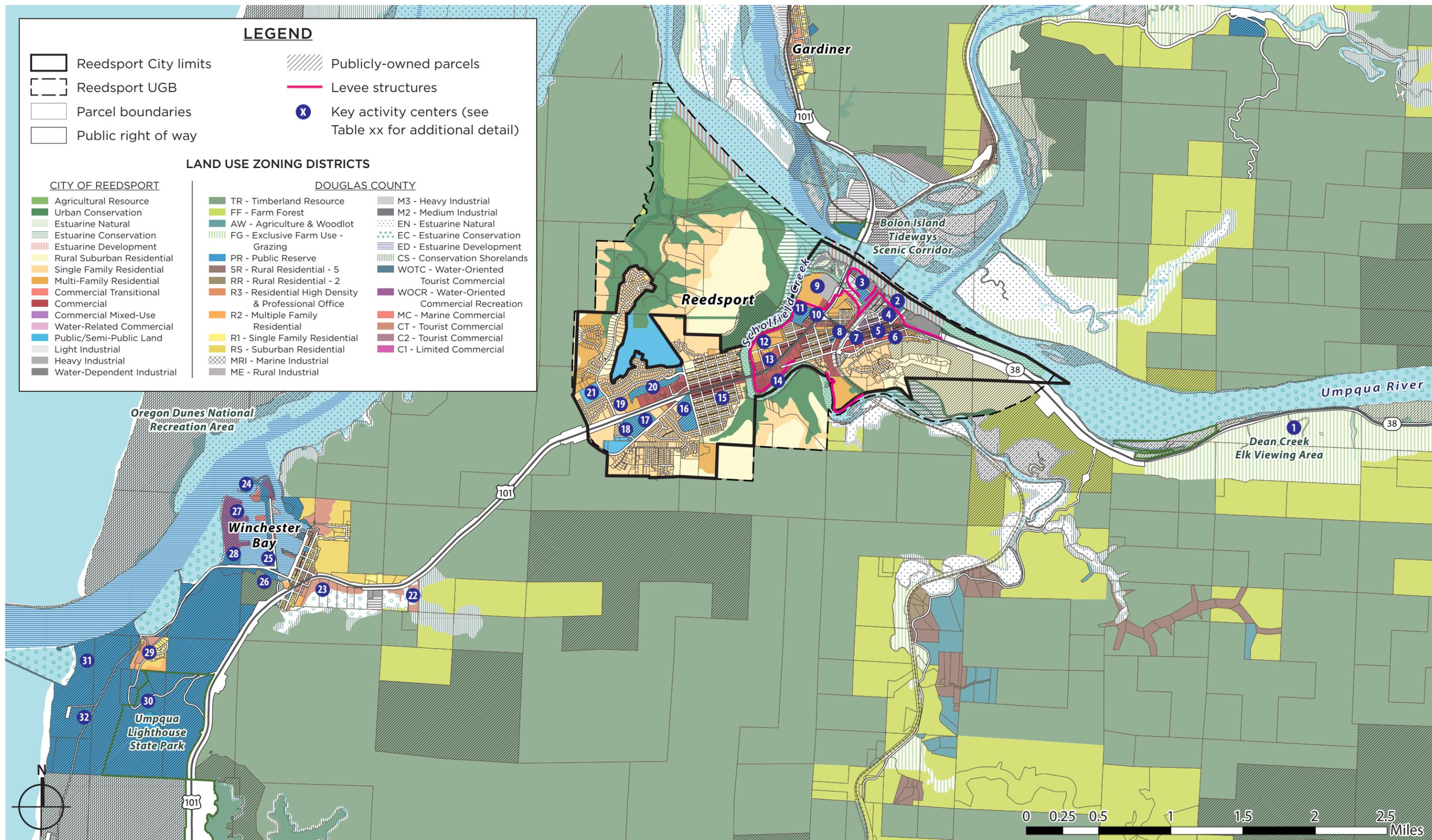
3.2.3 Activity Centers

There are a number of destinations within the DDT study area that will either generate or draw trail users. These facilities include schools, parks or recreation areas, job centers, retail facilities, and residential complexes. Table 3-8 identifies key activity centers by segment as identified on the Land Use Features map (Figure 3-11).

Table 3-8. Key Activity Centers

Segment A	
1	Dean Creek Elk Viewing Area
Segment B	
2	Umpqua Discovery Center and Rainbow Boat Launch
3	Reedsport Industrial Area
4	Rainbow Plaza and US Post Office
5	Reedsport City Offices, Library, and Fire Department
6	Douglas County Housing Authority - Housing
7	Douglas County Justice Court
8	Douglas County Housing Authority - Housing
9	Mast Redevelopment Site
10	Oregon Dunes Visitor Center
11	Champion Park
12	Umpqua Mobile Villa
13	Umpqua Shopping Center and Cycle Stop
14	Coho RV and Marina
Segment C	
15	Lions Park
Segment D	
16	Reedsport Junior and Senior High School
17	Highland Elementary School
18	Highland Park
19	Highland Mobile Park
20	Bicentennial Park
21	Lower Umpqua Hospital
Segment E	
22	Oregon Coast RV Resort
23	Salmon Harbor RV Park
Segment F	
24	Oak Rock County Park
25	Salmon Harbor Marina
26	Windy Cove A RV Park and Campground
27	Marina Activity Center
28	Winchester Bay RV Resort
Segment G	
29	Discovery Point Resort and RV
30	Ziolkouski Beach Park
31	Umpqua River Lighthouse and Museum
32	Umpqua Beach Day Use Area

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4. NATURAL AND CULTURAL RESOURCES

4.1 OREGON GOAL 5 RESOURCES

The Oregon Statewide Planning Goal 5 (OAR 66-015-0000[5]) specifies that local governments shall adopt programs to protect natural resources, as well as conserve scenic and historic areas and open spaces resources for present and future generations. Goal 5 (adopted in 1982 and updated in 1996) provides a five-step planning process to address these resources during a planning process:

1. Inventory local occurrences of resources listed in Goal 5, and decide which ones are important.
2. Identify potential land uses on or near each resource site and any conflicts that might result.
3. Analyze economic, social, environmental, and energy (ESEE) consequences of such conflicts.
4. Decide whether the resource should be fully or partially protected, and justify the decision.
5. Adopt measures such as zoning to put that policy into effect

Under GOAL 5 guidance, the following resources are to be inventoried:

1. Riparian corridors, including water and riparian areas and fish habitat
2. Wetlands
3. Wildlife Habitat
4. Federal Wild and Scenic Rivers
5. State Scenic Waterways
6. Groundwater Resources
7. Approved Oregon Recreation Trails
8. Natural Areas
9. Wilderness Areas
10. Mineral and Aggregate Resources
11. Energy Sources
12. Cultural Areas

In addition, local governments and state agencies are encouraged to maintain current inventories of the following resources:

1. Historic Resources
2. Open Space
3. Scenic Views and Sites

The City of Reedsport has inventoried these resources and identified locally significant wetlands and riparian corridors. The City adopted a Significant Natural Resources Overlay Zone as a part of its *Comprehensive Plan* and an ordinance to establish clear and objective standards to protect these resources. The City Zoning Code (Section 4.160) includes general development standards which outline provisions for the construction of paths within a Significant Natural Resource area.

Douglas County has also inventoried Goal 5 resources and has identified bird and big game habitat, riparian areas (mapped by centerline), significant wetlands, mineral resources, recreation areas, and cultural and historic resources.

4.2 GOAL 5 SUMMARY

4.2.1 GOAL 5 Resources not in the Corridor

The following GOAL 5 Resources either do not exist in the DDTP planning area, or are not discussed in this chapter:

- Oregon Scenic Waterways and Federal Wild and Scenic Rivers: No local rivers are designated as wild and/or scenic in the planning area.
- Groundwater Resources: These are not expected to be affected as part of the DDTP.
- Oregon Recreation Trails: No state designated recreational trails have been identified.
- Natural Areas: These are not expected to be affected as part of the DDTP.
- Wilderness Areas: No wilderness areas are located near the DDTP planning area. They occur in the Cascade Range and within other sections of the Oregon Coastline.
- Mineral and Aggregate Resources: These are not expected to be affected as part of the DDTP.
- Energy Sources: This is predominantly focused on large-scale wind, geothermal or water energy facilities, although there may be issues associated with powerline transmission corridors within the DDTP. These will be addressed if pertinent when the project advances to a finer level of detail as part of conceptual trail planning. No new energy facility sites are located in or near Reedsport.

4.2.2 Existing Goal 5 Resources in the Corridor

The following GOAL 5 Resources do exist in or near the DDTP planning area, and will be characterized in the report below:

- Riparian Corridors
- Wetlands
- Wildlife Habitat
- Cultural Areas

Each of these resources is discussed below in relation to the DDT corridor.

4.2.3 Riparian Corridors

The boundaries of riparian corridors in the vicinity of US 101 and DDTP alternatives are very similar to the existing designated wetlands in the corridor and shown in Figure 4-1. They have not been separately mapped.

4.2.4 Wetlands

Wetlands and non-wetland waters within the DDTP study area are mapped on Figure 4-1, the Natural and Cultural Resources map. The DDT will have a close relationship with the water. Portions of the trail will follow the Umpqua River and cross Scholfield Creek and Winchester Creek, providing scenic views, water-based recreational activities, and bird and wildlife viewing opportunities. The following segments will run along or cross a wetland area:

- **Segment A:** Following the Umpqua River, there are wetlands located at the Dean Creek Viewing Area and near the border of the City of Reedsport
- **Segment B:** Areas of wetlands are located at the railroad crossing and between the Coho RV Park and Marina and Schofield Creek.
- **Segment C:** Schofield Creek crosses Segment C under US 101. There are some wetlands adjacent to the creek in the area which are not expected to be affected by the DDTP.
- **Segment D:** There is a creek with an associated wetland that runs just west of Ranch Road
- **Segment E:** There are a number of wetland areas that run along and either side of US 101 along this segment. They are especially present on the south side of the corridor.
- **Segment F:** There is a wetland area associated with Winchester Creek at Salmon Harbor Marina. Winchester Creek crosses Segment F and then runs parallel to US 101 in Segment E.
- **Segment G:** There is a few wetland areas located on either side of Salmon Harbor Drive at Ziolkouski Beach Park

4.2.5 Wildlife Habitat

Douglas County has conducted an inventory and published a Goal 5 Inventory Areas map which identifies sensitive areas and wildlife habitats. Based on this map, the entire DDTP study area is outside of sensitive Big Game Habitat areas. The alignment of a trail alternative to US 101 within of Segment E falls within designated Bald Eagle Habitat and a nesting site has been identified in Figure 4-1. There is Osprey habitat and nesting sites also shown in this figure, but these are located south of the project area.

Both Winchester Creek and Schofield Creek are located within the DDTP corridor and these are also shown in Figure 4-1. Both creeks are fish-bearing streams. Schofield Creek and its associated wetlands serve as summer rearing and winter refuge for threatened Coho salmon, spring Chinook salmon and sea-run cutthroat trout. Chinook salmon is the largest salmon and is regularly found in the Pacific Ocean, off the mouth of the Umpqua River at Winchester Bay, and in the Umpqua River and its tributary streams. Coho salmon is smaller than Chinook and is abundant throughout most of the summer off the mouth of the Umpqua River near Winchester Bay.² Watershed health and water quality in Schofield and Winchester Creeks will be important to ongoing salmon restoration and recovery efforts. Winchester Bay is also an important shellfish area on the Oregon Coast.

4.2.6 Historic and Cultural Resources

According to the Oregon Department of Parks and Recreation's Historic Sites database, there are no registered historic or cultural resources within the DDTP study area. However, there are two sites located adjacent to the project, which are included in Figure 4-1, the Natural and Cultural Resources map:

- The Umpqua River Lighthouse, located in Umpqua Lighthouse State Park in Douglas County, was originally built in 1855 and lit in 1857 only to collapse six years later in 1863. The lighthouse was reconstructed in 1892 and lit in 1894. In 1977, the structure was listed on the National Register

² Information obtained from Douglas County website at: <http://www.co.douglas.or.us/countyinfo/fish.html>

of Historic Places. Now managed by the US Coast Guard, visitors can tour the lighthouse and the Coastal History Museum from May to September.

- While there are a number of eligible sites within the City of Reedsport, the only officially registered historic site is the US 101 Umpqua River Bridge which is addressed in the LLTP.

4.3 OTHER RESOURCES AND NATURAL FEATURES

4.3.1 Floodplains

Floodplain standards are described in the Existing Laws, Rules, and Regulations chapter of this Technical Memorandum #2. The 100-year and 500-year floodplains are mapped in Figure 4-2. DDTP trail planning segments that are located partially within FEMA-designated floodplain areas include:

- Segment A: The eastern portion adjacent to the Dean Creek Elk Viewing Area is located within the 100-year floodplain
- Segment B: Due to the construction of the levee system in Reedsport, most of this segment is located within the 500-year floodplain, which is eligible for flood insurance
- Segment G: A portion of Salmon Harbor Drive at Winchester Creek is located within the 100-year floodplain

4.3.2 Hazardous Materials

The Oregon Department of Environmental Quality (DEQ) lists seven Reedsport sites and two Winchester Bay sites in its Environmental Cleanup Site Information (ECSI) database. Both Winchester Bay sites and four of the Reedsport sites were determined to require no further State action. Of the remaining three Reedsport sites, only one is within the DDTP study area (Segment B) near where it meets the Levee Loop Trail (LLT) and has been addressed in the Levee Loop Trail Plan (LLTP).

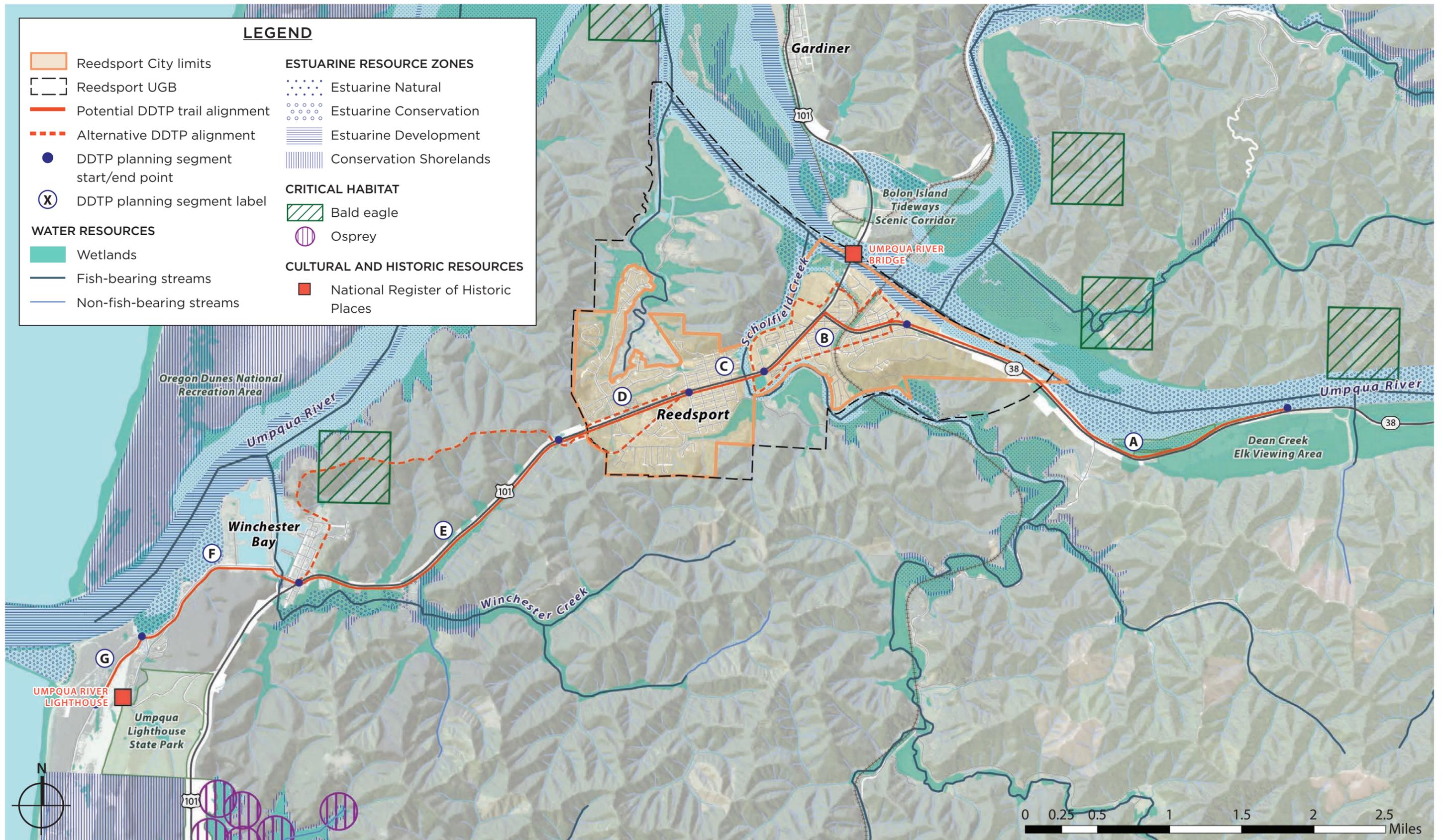
4.3.3 Topography

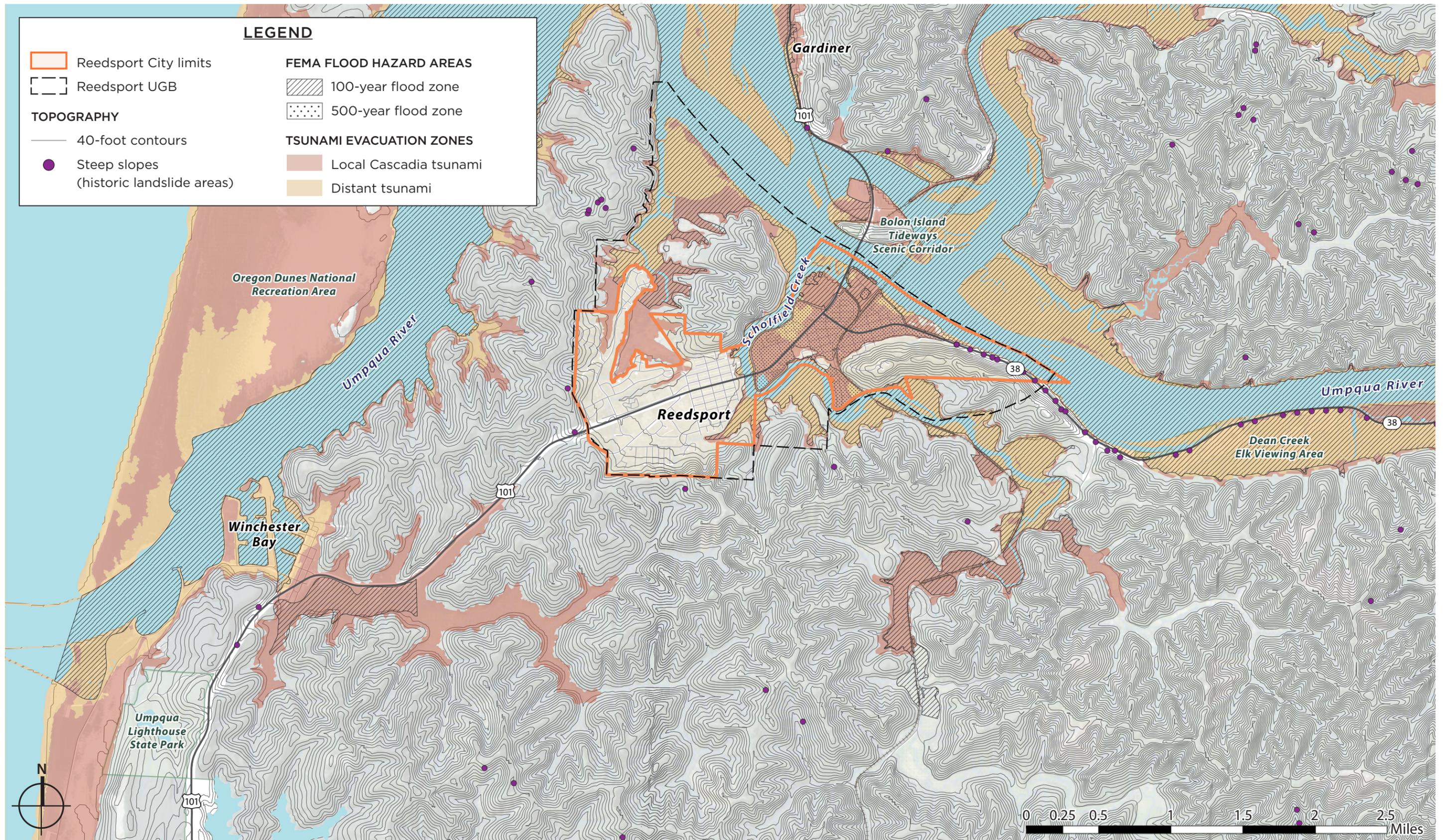
In addition to floodplains discussed under Section 4.3.1 above, Figure 4-2 illustrates topographic information for that the DDTP study area and vicinity. Topography (or the relative steepness of slopes) is shown by the contour lines on this graphic each of which represents a specific elevation above sea level. Where contour lines are closer together, slopes are steeper. Where they are farther apart, the slope is more gentle. While in this map contour lines represent a 40-foot change in elevation from one to the next (describes as a “contour interval”, mapping that shows 2-foot contour intervals is also available to the project team and will be used during the conceptual trail planning phase of DDTP study.

In addition to topographic information, the map shows historic or potential landslide slide areas (areas with unstable slopes) as identified by Oregon Department of Geology and Mineral Industries (DOGAMI). Segments A and D have areas adjacent to the roadway with steep topography and potentially unstable slopes.

4.3.4 Tsunami Evacuation Zones

Based on the tsunami inundation area maps provided by both the City of Reedsport and Douglas County, some portion of every DDT segment is within the evacuation area except for Segments C and D.





5. DEMOGRAPHICS

5.1 TITLE VI AND ENVIRONMENTAL JUSTICE GUIDANCE

Title VI and Environmental Justice (EJ) refers to the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin by any agency receiving federal funds. Title VI and EJ federal regulations are supported by the Statewide Planning Goals in Oregon (Goal 1), which aims to make participation in transportation planning and project development more inclusive of diverse communities. ODOT has developed a comprehensive document, *Guidelines for Addressing Title VI and EJ in Transportation Planning* (2015), which is a useful resource for the DDTP planning process.

5.2 KEY POPULATION CHARACTERISTICS

There are two US Census designated places within the study area, the City of Reedsport and Winchester Bay. Table 5-1 summarizes some of the population and demographic characteristics of these two communities based on the 2011-2015 American Community Survey 5-Year Estimates.

Table 5-1. Key Population Characteristics

	<i>Reedsport</i>	<i>Winchester Bay</i>
<i>Population</i>	4,111	316
<i>Under 18</i>	828	4
<i>18 to 64</i>	2,122	127
<i>65 and older</i>	1,161	185
<i>Median Age</i>	48.3	74.1
<i>Median Household Income</i>	\$31,935	\$56,198
<i>Population over 18 below poverty level</i>	24.8%	6.0%
<i>Population with a disability</i>	21.5%	35.9%
<i>Population over 5 with low English proficiency</i>	3.4%	0.0%
<i>Population non-white</i>	7.0%	3.2%

Based on these data, minorities and people with limited English proficiency do not make up a large portion of the population within the study area. However, nearly 60 percent of the residents in Winchester Bay are older than 65 years, and nearly 25 percent of the adult population in Reedsport is below the poverty level. Additionally, both areas have a relatively high percentage of residents with a disability.

5.3 TITLE VI AND ENVIRONMENTAL JUSTICE (EJ) POPULATION CONCENTRATIONS

The high percentage of adults living below the poverty level in Reedsport, as well as the large segments of the population over the age of 65 or living with a disability, indicate there is likely a significant Title VI and EJ population in the area.

During the Levee Loop Trail planning process, the City identified a number of housing sites in the area with the potential for higher percentages of elderly, handicapped, or lower income residents. These sites—all located in DDT planning segment B—are:

- The Douglas County Housing Authority-owned Griffith Park Senior and Elderly Housing development between Winchester Street and Elm Avenue, just south of US 38 (Fir Avenue) in downtown Reedsport.
- The Douglas County Housing Authority development along Juniper Avenue, between 10th Street and Railroad Avenue, just south of the US 101/OR 38 intersection.
- Umpqua Mobile Villa, located at the intersection of Hawthorne Avenue and 14th Street, just north of US 101 and adjacent to Scholfield Creek.
- Coho RV Park and Marina, just south of the US 101/Winchester Avenue intersection.

In addition to the sites identified in the LLTP, analysis of the available population data has identified a few other potential Title VI sites in the study area:

- The Douglas County Housing Authority-owned Forest Village Apartments on Frontage Road in Reedsport (located in trail segment D).
- Highland Mobile Park on Frontage Road, near its intersection with Ranch Road, in Reedsport (located in trail segment D).
- Timber Ridge Retirement Center, an affordable housing retirement community on Ranch Road, adjacent to Lower Umpqua Hospital, in Reedsport (located in trail segment D).
- Salmon Harbor RV Park, on US 101 just east of the Salmon Harbor Drive intersection in Winchester Bay (located in trail segment E).

5.4 PROJECT BENEFITS AND CONSIDERATIONS

In general, people with disabilities, limited income, and advanced age benefit from trail systems that provides alternative means of commuting and getting places safely without needing to own or operate a vehicle. While such a trail system would certainly benefit the DDTP study area population at large, specific care should be taken during the planning and construction phases to create an inclusive process and address the needs of these more vulnerable populations. During the planning phases, efforts should be made to include and accommodate these residents through engagement and outreach. During the design and construction phases, special attention should be given toward limiting the impact on these housing sites and providing them with adequate access to the trail.

The DDTP planning team may wish to direct specific outreach toward the populations identified in Section 5.3, and seek their input as conceptual trail options are evaluated. In particular, effort should be made to reach out to these communities in advance of the first DDTP open house, where conceptual trail options will be discussed and communitywide feedback sought. Because these populations are likely concentrated in the areas identified above, mailing outreach materials to each housing community's resident association would be likely to reach a large segment of the Title VI population while also being reasonably cost effective.