

CITY OF ROSEBURG

Transportation System Plan Update

Volume 1



Prepared for

City of Roseburg
900 SE Douglas Avenue
Roseburg, Oregon 97470

Prepared by

David Evans and Associates, Inc.
2100 SW River Parkway
Portland, Oregon 97201

2019

ACKNOWLEDGEMENTS

PROJECT TEAM

City of Roseburg

Nikki Messenger, City Manager
John Lazur, Associate Planner
Stuart Cowie, Community Development Director

Oregon Department of Transportation

Thomas Guevara, Jr., Contract Manager

David Evans and Associates, Inc.

Michelle Alexander, Project Manager
Angela Rogge, Deputy Project Manager

Angelo Planning Group

Darci Rudzinski
Shayna Rehberg
Clinton Doxsee

i.e. Engineering

Alex Palm

Department of Land Conservation and Development

Josh LeBombard

Public Advisory Committee (PAC)

Denny Austin	Gary Garrisi
Cheryl Cheas	Jeff Eichenbusch
Merten Bangemann-Johnson	Steve Kaser
Dick Dolgonas	Shelby Osborn
Heather Albers	Tim Allen
Doug Feldcamp	Stuart Leibowitz
Jenny Carloni	Loree Pryce
David Price	Matt Droscher
Bob Dannenhoffer	Jessica Hand
Marjan Coester	Shawn Tyson
John McCafferty	Joshua Shaklee
Josh Heacock	Bob Cotterell
Lance Colley	

TABLE OF CONTENTS

- Executive Summary1
- Background and Process4
 - Purpose and Introduction.....4
 - A Comprehensive, Citywide Assessment.....4
 - Why Update the TSP?.....5
 - Public Involvement5
- Goals and Objectives8
- Roseburg Today 11
 - Getting around in Roseburg 11
 - Demographics..... 13
 - Transportation Network Deficiencies..... 15
- Roseburg’s Future Needs 17
 - Forecasted Population and Employment 17
 - Future Estimates of Walking, Biking, and Transit..... 18
 - Future Driving Conditions..... 19
- Modal Plans 20
 - Pedestrian..... 20
 - Bicycle..... 23
 - Transit..... 28
 - Roadway 31
 - Air, Water, Rail, and Pipeline..... 34
- Standards and Guidelines..... 36
 - Typical Roadway Cross-Section Guidelines 36
 - Potential Management Actions and Ordinance Revisions 40
- Funding..... 47
 - Revenue Sources 47
 - Funding Forecast 48
- The Projects 51
 - Tier 1: Financially Constrained Project List..... 53
 - Tier 2: Needed but Unfunded..... 69

Figure 1. TSP Development Process5

Figure 2. TSP Stakeholder Meetings.....7

Figure 3. Study Area 12

Figure 4. Roseburg Population 13

Figure 5. Pedestrian System 21

Figure 6. Bicycle Network..... 25

Figure 7. Bicycle Level of Traffic Stress (BLTS)..... 26

Figure 8. Transit Network..... 29

Figure 9. Street Functional Classification 33

Figure 10. Transportation Funding Revenue and Expense Estimate: 2018–2040 (dollars in millions)..... 49

Figure 11. Tier 1 TSP Projects 52

Figure 12. Tier 2 TSP Projects 70

Table 1. Summary of Tier 1 (Financially Constrained) Improvements2

Table 2. Inflow/Outflow Job Counts..... 13

Table 3. Summary of Age Groups..... 14

Table 4. Race and Ethnicity Population 14

Table 5. Low-income Population..... 15

Table 6. Roseburg Travel Demand Model Summary (2010–2040) 18

Table 7. Study Intersections Expected to Exceed Mobility Targets in 2040..... 19

Table 8: Transit Service Summary 28

Table 9. Transit Enhancements and Responsible Agencies..... 30

Table 10. Street Cross-section Minimums..... 36

Table 11. Roseburg Driveway Spacing Standards..... 41

Table 12. TSP Recommended Revisions for IAMPs 44

Table 13. TSP Recommended Revisions for the Diamond Lake Boulevard AMP 45

Table 14. Total Revenue 48

Table 15. Total Expenses 49

Table 16. Tier 1 (Financially Constrained) Projects 53

Table 17. Tier 1 Projects: Benefits/Impacts..... 56

Table 18. Tier 2 (Needed but Unfunded) Projects..... 71

VOLUME 2

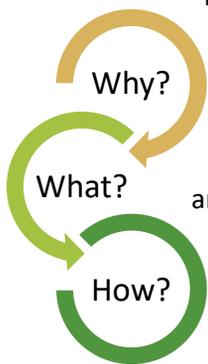
- Public and Agency Involvement Plan
- Public Meetings Summary
- Technical Memorandum #1: Goals and Objectives/Review of Plans and Policy
- Technical Memorandum #1, Appendix A: Methodology and Assumptions Memorandum
- Technical Memorandum #2: Transportation System Inventory
- Technical Memorandum #3: Current System Operations
- Technical Memorandum #4: Future Transportation Operations
- Technical Memorandum #5: Multimodal System Project Concepts
- Technical Memorandum #6: Implementing Ordinances and Code Changes

The inclusion of an improvement in the TSP does not represent a commitment by the City of Roseburg or ODOT to fund, allow, or construct the project. Projects on the state highway system that are contained in the TSP are not considered “planned” projects until they are programmed into the Statewide Transportation Improvement Program (STIP). As such, projects proposed in the TSP that are located on a State highway cannot be considered for future development or land use actions until they are programmed into the STIP, or ODOT provides written statement that a project is Reasonably Likely to be funded in the STIP. Highway projects that are programmed to be constructed may have to be altered or cancelled at a later time to meet changing budgets or unanticipated conditions such as environmental constraints.

EXECUTIVE SUMMARY

The Roseburg Transportation System Plan (TSP) details projects and policies that address transportation facilities and the community's goals in the City of Roseburg. This document serves as a vision for the community by providing a 20-year list of improvement projects and a plan for implementing those projects. The project team developed a TSP consistent with state, regional, and local plans and in compliance with the requirements of the state Transportation Planning Rule (TPR).

Why Have a TSP?



The purpose of the TSP is to guide the maintenance, development, and implementation of the transportation system, to accommodate 20 years of growth in population and employment, and to implement the plans and regulations of the regional government and the State of Oregon, including the Oregon TPR. The TSP will serve as the transportation element of the Roseburg Comprehensive Plan. The Comprehensive Plan guides a community's land use, conservation of natural resources, economic development and public facilities.

What is a TSP?

A TSP provides a long-term guide for investments in the transportation network that improve existing facilities and plan for future growth. At the most basic level, it provides a blueprint for all modes of travel: vehicle (both personal and freight), bicycle, pedestrian, transit, air, water, rail and pipeline. It is also an opportunity to build on community values and protect what makes Roseburg a great place to live, work, and visit.

The Roseburg TSP contains goals, objectives, projects, and implementation guidelines needed to provide mobility for all users, now and in the future. It examines current transportation conditions and looks ahead 20

years at what may be needed to accommodate planned growth in the city and surrounding communities. Elements of the plan can be implemented by agencies (city, state, or federal) as well as private developers.

What Are the Planned Improvements?

The TSP includes a process for selecting and prioritizing transportation improvements. Table 1 summarizes the preferred improvements list resulting from this process. These improvements could be as simple as adding a sidewalk to one side of the street or could involve a complete roadway upgrade to improve the quality of a facility for a combination of roadway users, including vehicle users, bicyclists, and pedestrians. All new street construction would meet the city standards.

How Will Improvements Get Funded and Implemented?

Assuming that the current trend in Roseburg's funding revenue and expenses continues, Roseburg's transportation revenue could total \$66 million by 2040. This TSP offers a menu of projects that can be selected as funding sources become available or as adjacent improvements are made. Recognizing that current funding resources are not sufficient for implementing all of the city improvements, the project list was further divided into *Tier 1: Financially Constrained Improvements* (see Table 1), which are reasonably likely to be funded with existing sources, and *Tier 2: Needed but Unfunded*, which would require new funding sources for implementation (e.g., grants, new local revenue streams, and private development).

There are 28 projects identified as Tier 1, totaling just under \$6.5 million in city-funded improvements, which includes projects already funded within the Capital Improvement Plan and Diamond Lake Urban Renewal Plan. The total is within the forecast of city revenue for transportation projects, based on recent trends. The remaining revenue is programmed for maintenance and upgrades of the existing system.

Table 1. Summary of Tier 1 (Financially Constrained) Improvements

Type	Source ¹	Project Name/Description	Funding Source ²	Total Cost (2019 \$)	City Contribution ³ (2019 \$)
Multimodal	TSP, DLURP, CIP	Douglas Ave Bike Facilities and Sidewalks	UR, City	\$3.2 million	\$75,000
Multimodal	DLURP, CIP	Rifle Range St North of Diamond Lake Blvd	UR, City, LID	\$2.25 million	\$300,000
Wayfinding	TSP, CIP	Citywide Bicycle Wayfinding	City	\$25,000	\$25,000
Bridge	TSP, DLURP, CIP	ODOT Bridge Replacement Matches: Douglas Ave (Preliminary Engineering)	City, ODOT	\$1.55 million	\$159,185
Bridge	TSP, CIP	ODOT Bridge Replacement Matches: Stewart Park Dr	City, ODOT	\$4.78 million	\$491,132
Bridge	TSP, CIP	ODOT Bridge Replacement Matches: Parker Rd	City, ODOT	\$4 million	\$362,000
Roadway	CIP	Stewart Park Bridge Approaches	City	\$300,000	\$300,000
Multimodal	TSP, CIP	Stewart Pkwy - Harvey South Design	City	\$1 million	\$1 million
Multimodal	TSP, CIP	Valley View Dr Improvements	City, LID	\$TBD	\$100,000
Intersection	TSP, DLURP	Winchester St/Stephens St Intersection	UR, City	\$4 million	\$357,143
Signal	TSP, DLURP	Fulton St or Lake St Traffic Control	City, UR, ODOT	\$2.25 million	\$156,250
Multimodal, Roadway	TSP, DLURP	Commercial Ave Extension	UR	\$500,000	\$0
Multimodal, Roadway	TSP, DLURP	Champion Site Connection to Diamond Lake (Klamath Ave Extension)	City, UR	\$2 million	\$200,000
Multimodal	TSP, DLURP	Diamond Lake Blvd Sidewalks, power poles, easements	City, UR, ODOT	\$2 million	\$0
Multi-use Path	DLURP	DLURP Pathway improvements	UR	\$1 million	\$250,000
Pedestrian	DLURP	Safe Routes to School Diamond Lake Blvd to Douglas Ave (includes pedestrian bridge)	UR, City, ODOT	\$3 million	\$875,000
Multimodal	TSP	Main Street Sidewalks and Bike Facility	City	\$1 million	\$1 million
Multimodal	TSP	Pine Street Sidewalks	City	\$165,000	\$165,000
Multi-use Path	TSP	Fir Grove Park to Stewart Pkwy New Multi-Use Paths	City	\$640,000	\$640,000
Multimodal	ODOT	OR 138E Design Concept Plan	ODOT	TBD	\$0
Transit	TSP	Purchase of Additional Buses	Transit District	TBD	N/A
Transit	TSP	New Transit Center	Transit District	TBD	N/A
Transit	TSP	New Maintenance Facility	Transit District	TBD	N/A

Type	Source ¹	Project Name/Description	Funding Source ²	Total Cost (2019 \$)	City Contribution ³ (2019 \$)
Transit	TSP	Stop Amenities and Accessibility	Transit District	TBD	N/A
Transit	TSP	Increased Frequencies	Transit District	TBD	N/A
Transit	TSP	New Routes	Transit District	TBD	N/A
Transit	TSP	Transit ITS	Transit District	TBD	N/A
Transit	TSP	Increased Dial-a-Ride Service	Transit District	TBD	N/A
				Total	\$6.5 million

Notes:

1. Source = Source of Project; TSP = Transportation System Plan, DLURP = Diamond Lake Urban Renewal Plan, CIP = Capital Improvement Plan
2. Funding Source = Likely funding source/revenue streams; City = City of Roseburg, UR = Urban Renewal, ODOT = Oregon Department of Transportation, LID = Local Improvement District, Transit District = Douglas County Transit District
3. Estimated contributed from City within the 20-year planning horizon

Ongoing Planning Process

There are ongoing planning processes related to transportation within and through Roseburg. During the development of this TSP, the process avoided duplicating analysis efforts of facilities included in the other studies. The full impact of these planning processes is undetermined at this time, as such, there may be projects identified in the future that could influence how Roseburg chooses to fund improvements to its transportation system.

The I-5: Roseburg Bottleneck Corridor Segment Plan and the Interchange Area Management Plans (IAMPs) for I-5 Exit 124 and Exit 125 are tied to the future of Roseburg's transportation system. The I-5: Roseburg Bottleneck Corridor Segment Plan seeks low cost potential improvements to the interchange corridor, including ramps and bridges, to improve safety and congestion. The development of the IAMPs is expected to identify preferred solutions within a 20-year planning horizon in order to maintain the integrity of the interchanges and the roads that serve them.

The TSP expects the outcome of these other planning studies to identify potential solutions that could benefit city facilities, specifically Garden Valley Boulevard. Although not included in the Tier 1 project list, the Tier 2 list notes the importance of upgrading key transportation corridors such as Garden Valley Boulevard, Harvard Avenue and Diamond Lake Boulevard to improve connectivity and operations for all modes.

BACKGROUND AND PROCESS

PURPOSE AND INTRODUCTION

The City of Roseburg (the City) is located in southern Oregon on Interstate 5 (I-5), and serves as the county seat and regional center of Douglas County. The planning area includes all of the transportation facilities within the City's Urban Growth Boundary (UGB).

The Transportation System Plan (TSP) serves as the Transportation Element of the City's Comprehensive Plan. It provides guidance and regulatory tools so that the City can develop its transportation system to meet community goals and aspirations through the 20-year planning horizon. It also identifies planned transportation facilities in a manner consistent with the Transportation Planning Rule (TPR) (Oregon Administrative Rules [OAR] 660-012) and the Oregon Transportation Plan. More generally, the TSP helps to accomplish the following goals:

- Create a transportation system that helps make Roseburg a safer, more attractive, healthy, and prosperous community
- Ensure adequate planned multimodal transportation facilities to support planned uses over the next 20 years
- Provide certainty and predictability for improving city streets, county roads, state highways, and other planned transportation improvements
- Provide predictability for land development
- Help reduce the costs and maximize the efficiency of public spending on transportation facilities and services by coordinating land use and transportation decisions

From a legal perspective, Oregon State law (Statewide Planning Goal 12, Transportation) requires that all Oregon communities prepare a transportation plan to address existing and future access and circulation needs of the community.

The transportation modes addressed in a TSP include:



A COMPREHENSIVE, CITYWIDE ASSESSMENT

A TSP examines the City's multimodal transportation system as a whole, and considers planning for street maintenance, connectivity, access, safety, and the impact of future growth throughout the network. To review the system that is most likely to affect an average Roseburg citizen or visitor, and to efficiently use time and resources, TSPs generally focus on the higher-order arterial and collector street system. Arterials and collectors, by definition, are meant to provide connections across a city and between neighborhoods and activity centers. As such, Roseburg's arterial and collector street intersections and corridors are the focus of the TSP, with consideration given to utilizing the local street system to further enhance and connect the bicycle and pedestrian networks.

WHY UPDATE THE TSP?

Since the adoption of the previous TSP, the City of Roseburg has experienced significant changes: an increase in employment, population changes, shifting trends in travel choices, acute funding challenges, and revised data sources.

Revisiting the TSP project list through the lens of current funding constraints is essential and provides an opportunity for the public to play a role in developing the vision for their community and transportation system.

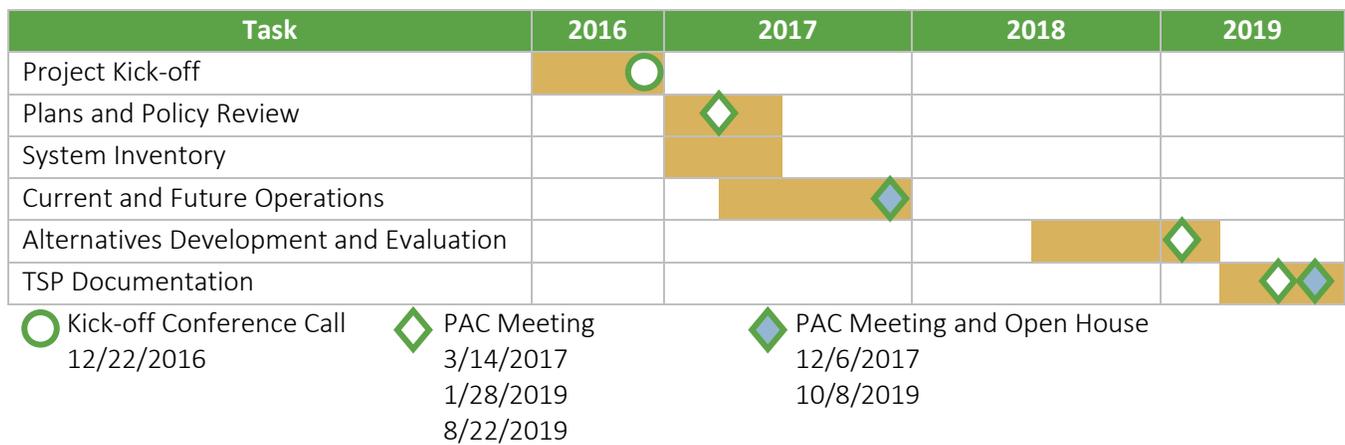
These reasons for updating the TSP, in conjunction with community desires and expectations for a multi-modal transportation system, serve as a basis for the development and evaluation of concepts, and ultimately the selection of preferred improvements.

PUBLIC INVOLVEMENT

In planning for and implementing a multi-modal transportation system, the City values the opportunity to be open and transparent, recognizing that successful public involvement leads to more sustainable decisions. The public involvement process for this TSP update allowed community members and interested parties to voice their concerns and contribute their input, helping to shape the goals and outcomes of the TSP. Collaboration among the community, the City, various additional public agencies, stakeholders, and consultants ensured that multiple points of view were considered and understood. The process included meetings with a public advisory committee (PAC) and general public outreach in the form of public open houses.

Through the PAC and community events, the public shaped the content, organization, and priorities of the plan (see Figure 1 for a summary of the TSP development process, durations of tasks, and information on public involvement).

Figure 1. TSP Development Process



City Outreach

City staff oversaw the public outreach and coordination and the formation of the PAC. The public and stakeholder involvement efforts sought participation of all potentially affected and/or interested individuals, communities, and organizations. When selecting representation for the PAC, the City identified a number of stakeholders and a number of types and groups of stakeholders to engage in the process. Consideration will be given to outreach needs and reporting requirements consistent with the provisions of federal and ODOT Region 3 Title VI Program

and Environmental Justice Executive Order (EJEO) to ensure full and fair participation by all potentially affected community members, including historically underrepresented populations, in the decision-making process.

Additional public outreach consisted of creating and distributing news releases via media outlets including the City's online community forum, radio, a newspaper of general circulation, social media posts, stakeholder emails; and holding meetings and briefings with committees and groups. City staff also served as the primary point of contact for public comments, questions and concerns throughout the project and provided summaries at City Council and Planning Commission meetings.

The City of Roseburg involved the public and stakeholders primarily through a series of PAC meetings and public open houses, in addition to the distribution of project information through a variety of media, including a project website. The City emailed project work products directly to PAC members, and posted them to the project website for access by the general public. PAC members were able to comment directly through regular committee meetings and through staff for the duration of the project. The general public was able to comment during the public comment period at the end of PAC meetings, at public open houses, through the project website, through the City's online community forum or directly to staff throughout the duration of the project.

Public Advisory Committee

The PAC provided stakeholder input and offered recommendations to the technical project team. The committee was composed of interested citizens, property owners, business representatives, and other stakeholders as identified by City of Roseburg staff. Members of the PAC represented the following groups:

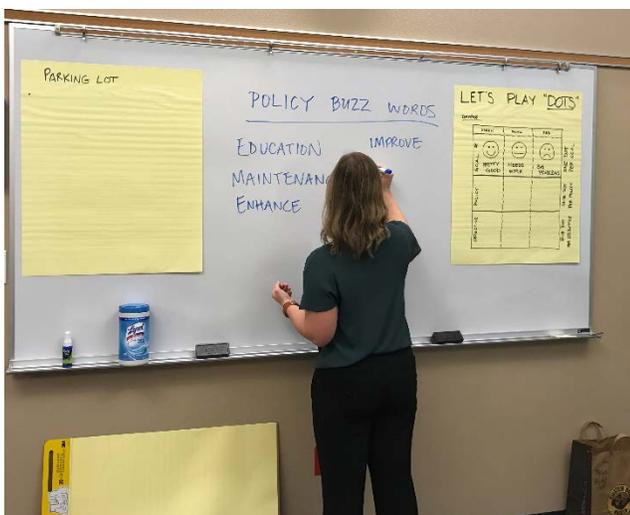
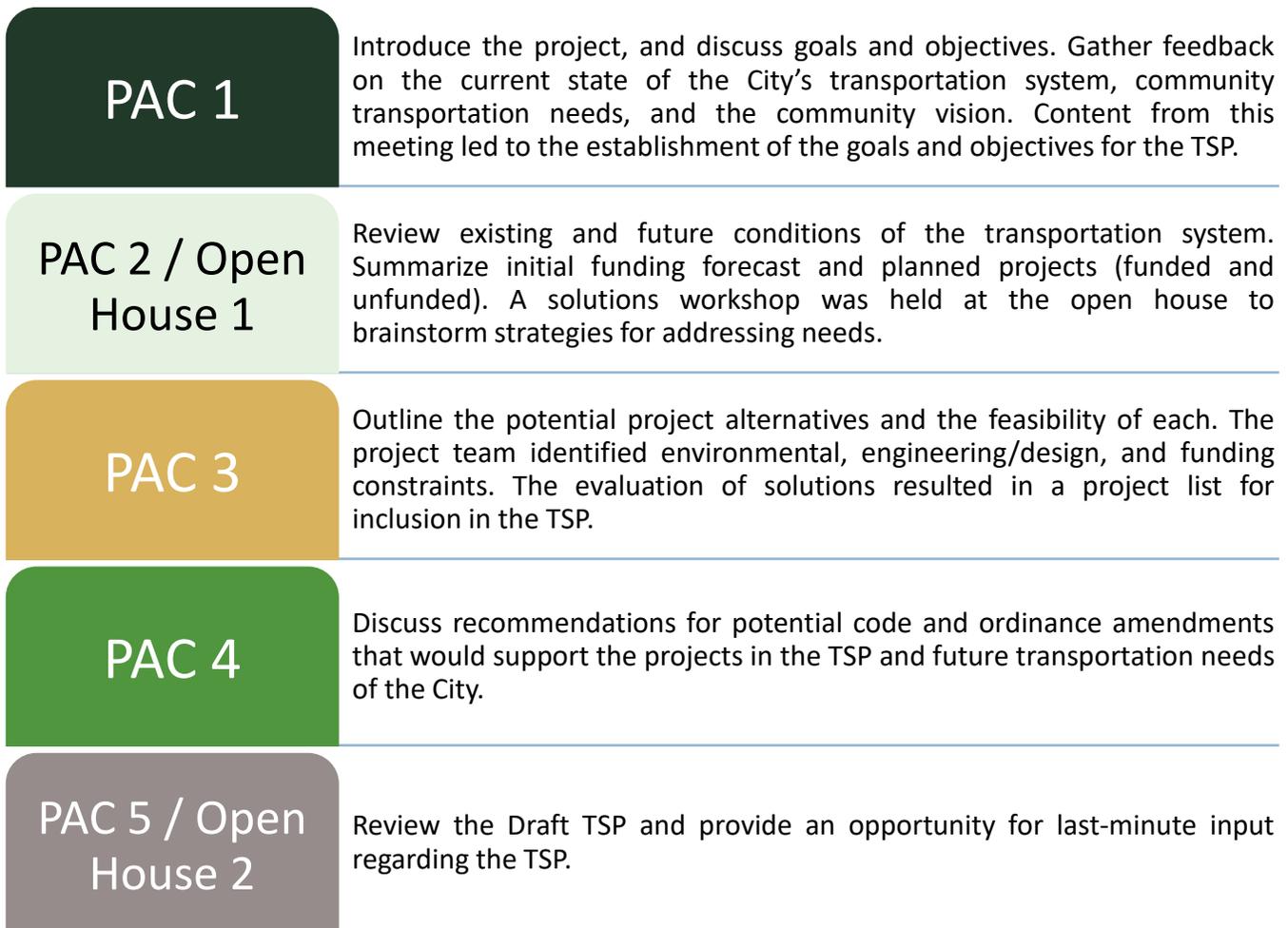
- Roseburg Public Schools
- UCAN transit (UTrans)
- NeighborWorks Umpqua
- Bike/Walk Roseburg
- Umpqua Valley DisAbilities
- Freight (Umpqua Dairy)
- League of Women Voters
- CHI Mercy Hospital
- Douglas County Public Health
- Umpqua Community College
- Cow Creek Tribal Administration
- Douglas County Public Works
- Douglas County Planning
- ODOT
- Department of Land Conservation and Development (DLCD)
- City of Roseburg:
 - Public Works
 - Community Development
 - Administration
 - Fire Department
 - Police Department
 - City Council
 - Planning Commission
 - Economic Development Commission
 - Public Works Commission

PAC meetings were held during development of the TSP (see Figure 2 for summaries). Members of the PAC were invited to attend the open houses or submit input using other opportunities that were provided, such as through the Roseburg website.

Open Houses

General public outreach included materials posted on Roseburg's website and two public open houses. The content of each open house is discussed on the following page.

Figure 2. TSP Stakeholder Meetings



GOALS AND OBJECTIVES

This section introduces the transportation-related goals, along with supporting policies and objectives, used to evaluate the Roseburg TSP. The goals were crafted from feedback and input received from the PAC. As part of an adopted TSP, they will become part of Roseburg’s Comprehensive Plan.

Goals are broad statements of philosophy that describe the hopes of the community for the future, as it relates to transportation. A goal may never be completely attainable, but it is used as a point towards which to strive. Pursuit of these goals underpins all of the TSP’s objectives, policies, and projects.

Policies are statements adopted to provide a consistent course of action, moving the community towards attainment of its goals.

Objectives are attainable targets that the community attempts to reach in striving to meet a goal. An objective may also be considered as an intermediate point that will help fulfill the overall goal.



Mobility and Accessibility

Goal 1. Provide a comfortable, reliable, and accessible transportation system that ensures safety and mobility for all members of the community.

Policies

- Provide mobility and accessibility for all transportation modes where feasible while continuing to preserve the intended function of existing transportation assets.
- Support multimodal access, with a focus on youth, seniors, persons with disabilities, and other disadvantaged populations.
- Support paratransit¹ or alternative services where development patterns do not support fixed-route transit.
- Increase access to the transportation system for all modes regardless of age, ability, income, and geographic location.
- Improve pedestrian and bicycle circulation within and between neighborhoods and commercial centers.
- Coordinate with law enforcement and emergency response agencies in the planning and design of transportation facilities and emergency response operations.
- Enhance safety by prioritizing and mitigating high collision locations within Roseburg.

Objectives

- Continue to modernize existing streets and transportation facilities within the Roseburg UGB to current design standards.
- Increase annual transit ridership by improving frequency and reliability.
- Increase Americans with Disabilities Act (ADA)-compliant sidewalks and intersection curb ramps.
- Maintain or improve emergency vehicle access.
- Reduce overall traffic-related fatalities and serious injury collisions.

¹ Paratransit is special transportation service for people with disabilities, often provided as a supplement to fixed-route transit.



Vibrant Community

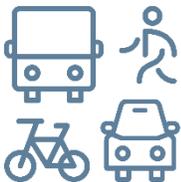
Goal 2. Create an integrated multimodal transportation system that enhances community livability.

Policies

- Coordinate transportation and land use decision-making to maximize the effectiveness of Roseburg's transportation system.
- Design access points along major arterials to reduce conflicts among vehicles and other modes.
- Continue to develop safe, connected pedestrian and bicycle facilities near schools, residential districts, downtown, employment centers, and riverfront areas.
- Improve pedestrian facilities, bikeways, and trails as well as directional signs to points of interest.
- Explore opportunities to utilize and enhance access to riverfronts and other attractive natural features.
- Encourage use of the transportation system to improve community health.
- Provide pedestrian and bicycle amenities downtown and at social spaces.
- Improve access to educational facilities for all students within the UGB.

Objectives

- Consider appropriate traffic-calming measures in school zones.
- Improve quality of existing infrastructure to be in alignment with current design standards.
- Provide multimodal connections to social spaces and schools.



Transportation Options

Goal 3. Provide for a multimodal transportation system that enhances connectivity.

Policies

- Continue to develop a multimodal transportation system that integrates all modes and addresses system gaps or deficiencies.
- As development occurs, maintain a network of arterials, collectors, local streets, and paths that are interconnected, appropriately spaced, and reasonably direct.
- Ensure neighborhood and local connections provide adequate circulation into and out of neighborhoods.
- Provide appropriate multimodal links to schools, commercial areas, and tourist destinations.

Objectives

- Improve cross-town connectivity where feasible considering environmental, land use, and topographical factors.
- Develop unused rights-of-way for pedestrian facilities and bike ways or trails where appropriate.



Economic Vitality

Goal 4. Advance regional sustainability by providing a transportation system that improves economic vitality and facilitates the local and regional movement of people, goods, and services.

Policies

- Support transportation system management (TSM) including intersection improvements, Intelligent Transportation Systems (ITS), and other strategies to improve traffic flow.
- Support the economic development of regionally defined economic activity centers.
- Facilitate access to local businesses and business districts by all modes of transportation.
- Facilitate efficient freight movement.
- Engage in public-private partnerships to address barriers to efficient development.
- Facilitate development or redevelopment on sites that are supported by the overall transportation system.
- Facilitate the through-movement of goods and services along city arterial streets and state highways.

Objectives

- Focus potential capacity improvements on routes accessing major employment areas.
- Design elements of the transportation system to be aesthetically pleasing to through travelers, residents, tourists, and users of adjoining land.
- Provide wayfinding signage to community attractions.
- Support truck access to industrial and manufacturing sites, including turn and acceleration/deceleration lanes where appropriate.
- Proactively identify and correct roadway design, safety, and operations deficiencies on designated freight routes.
- Protect active freight railroads, and appropriate abandoned railroads that connect to active lines, from encroachment and/or reversion to other land uses.



Implementation

Goal 5. Provide a sustainable transportation system through responsible stewardship of financial and environmental resources.

Policies

- Support community education and involvement in transportation planning.
- Encourage preservation of the existing transportation system.
- Plan for an economically viable and cost-effective transportation system.

Objectives

- Adequately fund and maintain the existing transportation system.
- Implement new sources of funding to increase local transportation dollars.
- Prioritize funding of projects that are most effective at meeting the goals and policies of the TSP.
- Ensure open communication and collaboration across agencies.

ROSEBURG TODAY

Roseburg is located in the heart of the land of Umpqua, an area famous for fishing, rafting, and waterfalls. The city itself offers accessible parks, historic districts, museums, and even historic wineries. Roseburg boasts a small-town feel with a historic downtown that is home to unique shops and restaurants. The city also serves as a resource for employment, shopping, and city services to the smaller surrounding communities in the region.

I-5 and the South Umpqua River bisect Roseburg. I-5 generally runs in a north-south direction through town and connects to OR 138E and Old Highway 99. Through Roseburg, the South Umpqua River generally runs east to west (see Figure 3). The study area for the Roseburg TSP includes the area within the UGB. The street network and development in the Roseburg area must conform to constraints caused by the extreme topology (steep slopes) and the river and its banks.

GETTING AROUND IN ROSEBURG

Five I-5 interchanges serve Roseburg: Exits 123, 124, 125, 127, and 129. Old Highway 99 parallels I-5 through Roseburg's UGB and runs north/south through town. Old Highway 99 serves as a connection to I-5 and OR 138, and to OR 42 southwest of Roseburg. OR 138E runs north/south as a shared route with I-5 from Sutherlin to Exit 124, east to Oak Avenue/Washington Avenue, and north on Stephens Street, where it then runs east through town as Diamond Lake Boulevard and exits the UGB in the east. OR 138E connects to Old Highway 99 and I-5. OR 138E is a Freight Reduction Route subject to Oregon Revised Statutes (ORS) 366.215(2), which prevents the permanent reduction of vehicle-carrying capacity.

The local street system in Roseburg largely consists of a two-way street grid system. Roseburg west of I-5 is predominantly residential, except for some concentrated commercial development on Garden Valley Boulevard, Stewart Parkway, and Harvard Avenue. The east side of Roseburg is the oldest part of the city, is a mix of residential and commercial areas, and houses the government center (county seat) and its supporting offices.

Roseburg has east/west connectivity by way of several routes that cross the I-5 barrier. Roads such as Harvard Avenue, Garden Valley Boulevard, Edenbower Boulevard, and Stewart Parkway allow traffic to navigate past the physical barrier of I-5. The multi-use path also provides an east/west connection for pedestrians and bicyclists under I-5 and a north/south crossing of the South Umpqua River.



Commute Patterns

Roseburg has its own unique transportation identity, although it is important to recognize its connection to the region; many people live in one community and work in another. Table 2 summarizes the year 2017 employment destinations for people who lived within the city limits of Roseburg; 2017 is the most recent year of available data. The majority of Roseburg workers actually live outside of the city, which increases dependence on the transportation network to get from home to work and back.

Table 2. Inflow/Outflow Job Counts

Condition	Count	Share
Living and employed within Roseburg city limits	3,645	26.8%
Commuting to Roseburg city limits from elsewhere	9,946	73.2%

Source: U.S. Census Bureau. 2019. OnTheMap Application. Longitudinal-Employer Household Dynamics Program.

<http://onthemap.ces.census.gov/>

Key Destinations

Connecting residents and workers to services they use on a daily basis can be accomplished by well-considered land use planning. Listed below are activity centers where the transportation network should support multimodal and accessible public transportation. Key community features, activity centers, and destinations within Roseburg include:

- Schools (Elementary, Junior, and Senior)
- Umpqua Community College
- Public Parks (e.g., Sunshine Park, Stewart Park, and Fir Grove Park)
- Mercy Medical Center
- U.S. Forest Service Office
- Bureau of Land Management Office
- Veteran Affairs (VA) Medical Center
- Douglas County Fairgrounds
- Roseburg Airport
- Douglas County Courthouse
- City Hall
- Historic Downtown Roseburg
- Garden Valley Shopping Center
- Roseburg Valley Mall
- United Community Action Network (UCAN)
- State Department of Human Services
- YMCA

DEMOGRAPHICS

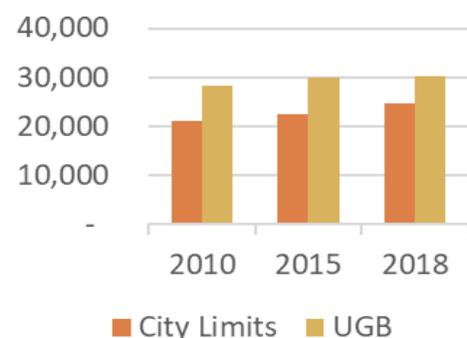
Population and Employment

As shown in Figure 4, the most recent (2018) population estimate for Roseburg within the city limits was 24,820. Within the larger UGB area, the 2018 population estimate was 30,092. This represents a modest increase from the 2010 census data for the population in both the city limits and UGB.^{2,3}

Transportation Disadvantaged Summary

A community’s transportation system should provide efficient and accessible transportation that serves the daily transportation needs of all its citizens. To achieve this goal, it is important to know where

Figure 4. Roseburg Population



² Roseburg Certified Population Estimates, Portland State University Population Research Center, June 2019.

³ Coordinated Population Forecast for Douglas County, its Urban Growth Boundaries (UGB), and Area Outside UGBs (2015-2065 and 2018-2068), Portland State University Population Research Center.

the transportation disadvantaged (Title VI) communities are, and to accommodate these populations through improved multimodal connectivity to community activity centers and key destinations.⁴

The TSP update process inventoried the transportation-disadvantaged communities and used this information to notify Title VI populations and evaluate potential projects based on their benefits or impacts to these communities.

ELDERLY AND YOUTH POPULATION

Age is a key factor in determining mode choice decisions. Roseburg's oldest residents are less likely to drive. Similarly, most of Roseburg's youngest population, those under 18 years old, are heavily dependent on active transportation modes such as walking, biking, and transit. Table 3 compares Roseburg's population of various age groups to those of Douglas County and Oregon.

Table 3. Summary of Age Groups

Age	Roseburg		Douglas County		Oregon	
Total Population	21,181		107,667		3,831,074	
Under 18 Years	4,591	21.7%	22,094	20.5%	866,453	22.6%
18 to 64 Years	12,541	59.2%	63,003	58.5%	2,431,088	63.5%
65 Years and Over	4,049	19.1%	22,570	21.0%	533,533	13.9%
Median Age (Years)	41.1		46.1		38.4	

Source: U.S. Census Bureau, 2010, 2010 Census Summary File 1, Tables P12, P13, and PCT12: Age Groups

MINORITY POPULATION

Roseburg is slightly more diverse than Douglas County, but less diverse than the state as a whole.⁵ As shown in Table 4, the Hispanic/Latino population comprises the largest minority group at approximately 5.5% of the population. The second largest minority population group, at 2.9% of the population, identifies as two or more races. Compared to the state, all minority groups are underrepresented in Roseburg, with the exception of American Indian and Alaskan Natives, which are slightly more represented.

Table 4. Race and Ethnicity Population

Race and Ethnicity	Roseburg		Douglas County		Oregon	
Total:	21,181		107,667		3,831,074	
Hispanic or Latino	1,155	5.5%	5,055	4.7%	450,062	11.7%
Not Hispanic or Latino:	20,026	94.5%	102,612	95.3%	3,381,012	88.3%
White alone	18,578	87.7%	96,343	89.5%	3,005,848	78.5%
Black or African American alone	86	0.4%	279	0.3%	64,984	1.7%
American Indian and Alaska Native alone	341	1.6%	1,799	1.7%	42,706	1.1%
Asian alone	334	1.6%	1,008	0.9%	139,436	3.6%
Native Hawaiian and Other Pacific Islander alone	46	0.2%	110	0.1%	12,697	0.3%
Some other race alone	27	0.1%	154	0.1%	5,502	0.1%
Two or More Races	614	2.9%	2,919	2.7%	109,839	2.9%

Source: U.S. Census Bureau, 2010, 2010 Census Summary File 1, P9: Hispanic or Latino, and Not Hispanic or Latino by Race

⁴ Federal regulations require that any agency receiving federal funding comply with Title VI requirements during transportation planning activities. The purpose of the Title VI and related statutes and policies is to ensure that public funds are not spent in a way that encourages, subsidizes or results in discrimination.

⁵ Source: U.S. Census Bureau, 2010, 2010 Census Summary File 1, P9: Hispanic or Latino, and Not Hispanic or Latino by Race.

LOW-INCOME POPULATION

Vehicle ownership has a strong impact on mode choice, and lower-income residents are less likely to own one or more vehicles. A larger population of low-income residents is more likely to be reliant on non-automotive forms of transportation.

The Census Bureau uses a set of money income thresholds that vary by family size and composition to determine who is in poverty. If a family’s total income is less than the family’s threshold, then that family and every individual in it is considered to be in poverty. Table 5 compares the low-income populations within Roseburg, Douglas County, and Oregon.

Table 5. Low-income Population

Roseburg		Douglas County		Oregon	
Estimate	Margin of Error	Estimate	Margin of Error	Estimate	Margin of Error
9,019	+/-843	42,806	+/-2,022	1,337,713	+/-14,663

Source: Low-income population data: U.S. Census Bureau, 2013-2017 American Community Survey 5-Year Estimates, C17002: Ratio of Income to Poverty Level in the Past 12 Months.

TRANSPORTATION NETWORK DEFICIENCIES

Roseburg’s current transportation network presents concerns for all users, as summarized below.

Pedestrians

Roseburg has made strides in providing sidewalks on nearly all of their arterial and collector system. However, the existing pedestrian network on the local system includes network gaps and missing sidewalks in some areas, decreasing overall connectivity and making it difficult for pedestrians to move safely throughout the city. As a result, convenience and accessibility are limited.

The safety and attractiveness of pedestrian routes along busy corridors could be improved, including providing buffers on high-speed roadways between pedestrians and vehicles, such as planters, which would increase safety and the user’s experience. Priority should be given to improving connectivity and providing safe crossings along routes to schools, particularly near the corridors of Harvard Avenue and Diamond Lake Boulevard.

Bicyclists

The existing bicycle network includes network gaps as well. Although bicycle lanes and multi-use paths do exist throughout parts of the city, the overall lack of connectivity discourages those who may be interested from choosing bicycling as a form of transportation, because they would be forced to share the road with vehicular traffic at times.



Above: Stephens St near Odessa Ln will undergo pedestrian and safety improvements in the near future.

Below: Roseburg hopes to continue to expand and improve their existing multi-use path network.



It can be uncomfortable to ride alongside traffic on the arterial roadway system, and the bicycle network is not set up to serve users of all abilities. Filling the network gaps and improving the safety of existing facilities would be the first steps toward creating a more safe and welcoming experience for bicyclists of all abilities.

Transit Users

Transit routes are limited and fixed, and transit services are low frequency and have limited reliability. Limited route choices mean that many potential transit users have to use another form of transportation to start and end their trips, further increasing travel time and decreasing convenience. Transit users sometimes choose a different form of transportation that is more flexible and predictable.

Drivers

Though the level of service meets current mobility targets at most intersections throughout the city, the lack of a complete grid system and adequate route choices for east/west and north/south travel creates congestion on high-volume corridors such as Garden Valley Boulevard, Stephens Street, and Harvard Avenue.

Delays appear to be increasing along certain segments and intersections, which will lead to operational issues in the future unless changes are made to modify these current trends. Intersections such as Garden Valley Boulevard at Stewart Parkway or Stephens Street are increasingly congested, however adding more capacity may not be financially feasible or practical. Increasing or improving multimodal options and connectivity across the city may help reduce vehicular demand in these areas.

Safety

A review of the crash history within Roseburg was completed to identify trends and determine general strategies for improving overall safety. This analysis includes a review of crash records, crash rates, and ODOT Safety Priority Index System (SPIS) data. Supporting documentation for the safety analysis is found in Volume II of this plan.

The corridors of Garden Valley Boulevard and Stephens Street have sections that have been flagged as top 10% SPIS sites. The other main arterials (Harvard Avenue, Stewart Parkway and Diamond Lake Boulevard) also experience more collisions than other roadways, especially near commercial areas and the I-5 interchanges.

Upgrades to existing roadways will consider the movements and safety of all users.

Top to bottom: Stephens St near Garden Valley Blvd, Downtown Roseburg Douglas Ave pedestrian pavement treatments, bicycle facilities alongside vehicular travel lanes on Stewart Pkwy, Garden Valley Blvd at Stewart Pkwy



ROSEBURG'S FUTURE NEEDS

This chapter summarizes the future baseline conditions of Roseburg's transportation system through the year 2040 planning horizon. Included are summaries of the forecasts for Roseburg's population and employment, how future transportation needs are determined, and future transportation demand, and a description of what Roseburg's transportation system is expected to look like in 2040.

FORECASTED POPULATION AND EMPLOYMENT

According to Portland State University's population forecast for the area, Roseburg's population is expected to grow to 39,239 by the year 2035, and to 46,805 by the year 2065. These estimates represent an average annual growth rate of 1.4% through 2035, and an average annual growth rate of 0.6% between 2035 and 2065. In comparison, the average annual growth rate for Douglas County is expected to be 0.9% (20-year rate) and 0.5% (30-year rate). Roseburg encompasses the county's largest urban area and is expected to capture the largest share of total countywide population growth during the 20-year forecast period.⁶

The number of people living and working in Roseburg and the surrounding communities will impact the future of the transportation system. Assumptions about land use also have an impact on transportation planning; for example, retail land uses generate more trips than residential. Balancing the locations of different land use types can reduce the need for residents to travel long distances, thus reducing stress on the transportation network.

Roseburg Travel Demand Model

The Roseburg Travel Demand Model is the primary tool used to determine future traffic volumes in Roseburg and the surrounding region. Travel demand models are tools used to help predict the patterns of future commuters, school traffic, and recreational traffic. The model relies on socioeconomic data (e.g., households and employment) to determine the travel demand and system attributes (e.g., roadway capacity, speeds, and distances) to represent the transportation supply. The long-range regional growth forecasts are consistent with current land use zoning and State-approved population forecasts for the Roseburg urban area.

EMPLOYMENT GROWTH

Within its boundary, the Roseburg Travel Demand Model estimates that, between 2017 and 2040, the number of jobs is expected to increase by 37% and the number of households is expected to increase by 41% (Table 6). This high rate of growth, along with increased tourism activity, will greatly increase traffic demand on Roseburg's transportation network through the year 2040 planning horizon.

The areas of highest employment growth are anticipated in commercial and industrial lands within the area bounded by Stewart Parkway (west and north), Stephens Street (east), and Harvard Avenue (south). Employment growth is also expected in East Roseburg along the Diamond Lake Corridor; the Roseburg City Council has voted to work toward creating a new urban renewal area that could encourage development along the corridor.

⁶ Coordinated Population Forecast for Douglas County, its Urban Growth Boundaries (UGB), and Area Outside UGBs 2015-2065, Portland State University Population Research Center.

Table 6. Roseburg Travel Demand Model Summary (2010–2040)

Description	2010	2017 ¹	2035	2040 ¹	Percent Change (2017–2040)
Household	19,651	22,486	29,778	31,803	41%
Employment	24,315	27,381	35,263	37,453	37%

Source: Base Year 2010 and Future Year 2035 Scenario Travel Demand Forecasting Model Documentation, ODOT TPAU

¹ Year 2017 and year 2040 values were calculated using a linear growth equation.

HOUSING GROWTH

Significant housing growth is expected in several Roseburg subareas (currently zoned for residential development):

- Northwest Roseburg off of Troost Street and south of Edenbower Boulevard
- Southwest Roseburg near Lookingglass Road
- Ramp Canyon south of Douglas Avenue
- Charter Oaks
- Riversdale (Del Rio Road)
- Green (Outside UGB)
- Melrose (Outside UGB)
- Winston (Outside UGB)

FUTURE ESTIMATES OF WALKING, BIKING, AND TRANSIT

While there is great interest in developing forecasting models for bicycles and pedestrians, the traditional travel demand methodology used for estimating motor vehicle activity does not easily apply to bicycle and pedestrian travel for a number of reasons, including:

- Data on walking and biking is too limited or inaccurate to develop accurate models.
- The nature of bicycle and pedestrian travel and decision-making is not easily quantified, and the cost to analyze and develop walk and bike models is prohibitive.

As such, the future needs for walking, biking, and transit in Roseburg are determined by reviewing areas of future growth in the city, how well the city is served by existing facilities, and how planned/funded projects might improve future systems. Key destinations in Roseburg (such as schools, parks, transit stops, shopping, and employment) will likely attract future walking and biking trips.

FUTURE DRIVING CONDITIONS

With new development and increased employment opportunities, the transportation system must accommodate more people trying to get around. In addition to commuting trips, the region is expected to experience more tourism traffic, as well as increased congestion in neighboring communities. Table 7 lists the intersections that would fail to meet their mobility targets in the year 2040 if no improvements are made and driving trends continue as forecasted.

Table 7. Study Intersections Expected to Exceed Mobility Targets in 2040

Intersection	Traffic Signal
Garden Valley Blvd at Melrose Rd	
Garden Valley Blvd at Roseburg Valley Mall (Middle Entrance)	
Stewart Pkwy at Aviation Dr/Mulholland Dr	✓
Garden Valley Blvd at Stewart Pkwy	✓
Stewart Pkwy at Valley View Dr	
Stewart Pkwy at Stephens St	✓
Garden Valley Blvd at Garden Valley Shopping Center**	✓
I-5 Exit 125 NB Ramps at Garden Valley Blvd at Mulholland Dr**	✓
Garden Valley Blvd at Stephens St	✓
Harvard Ave at W Broccoli St	
Harvard Ave at Centennial Dr	✓
I-5 Exit 124 SB Ramps at Harvard Ave**	✓
I-5 Exit 124 NB On-ramps at Harvard Ave**	
I-5 Exit 124 NB Off-ramp at Harvard Ave**	✓
Diamond Lake Blvd at Stephens St	✓
Washington Ave at Spruce St	

Notes:

** Intersection analyzed in Interchange Area Management Plans (IAMPs) 124/125 (October 2013) for year 2035.

NB = northbound; SB = southbound.

MODAL PLANS

PEDESTRIAN

Walking is the most affordable and accessible of all transportation modes. It is also clean, low-impact on the City's infrastructure, healthy for the individual, and integral to community livability. A walkable environment integrated with other modes of transportation is essential to creating a multimodal transportation system. It is also a key component to reducing reliance on automobiles. Whether a trip is on foot or a mobility device is used, people must walk for at least part of every trip, even when the trip takes place on transit, in an automobile, or on a bicycle.

Pedestrian Network

This section provides an inventory overview of the pedestrian network within the Roseburg UGB. Please see Roseburg's *Bicycle and Pedestrian Plan* (completed in 2009) or Volume II of this TSP for background and definitions of typical facilities, types of users, and barriers to travel.

Roseburg's pedestrian system includes sidewalks, stairs, ramps, trails, multi-use paths, crosswalks at intersections, and midblock crossings, as well as the amenities that enhance them (e.g., illumination and benches). In addition to improvements made by the City, private development is required to implement pedestrian system improvements and/or sidewalks along new collector and arterial facilities adjacent to newly constructed developments. The City's current requirements for sidewalks meet or exceed both the TPR requirement and the recommended sidewalk standards of the Oregon Bicycle and Pedestrian Plan.

CRITICAL PEDESTRIAN ROUTES

There are critical routes in Roseburg for bicycle and pedestrians that connect important and desirable destinations. The list below summarizes the known routes; in some cases, the route is not formalized.

Critical Route	Route Limits
NW Calkins Ave	Troost St to NW Keasey St
W Harvard Ave	I-5 to Lookingglass Rd
NW Garden Valley Blvd	Entire length
NW Highland St/NW Fairmount St	Stewart Pkwy to Gaddis Park
Washington/Oak Bridges	Washington Ave and Oak Ave
NE Douglas Ave	Spruce St to OR 138 to Sunshine Park
Duck Pond Path	I-5 to the Duck Pond
Hwy 99 Trail	Edenbower Blvd to North Umpqua River
NE Vine St	Alameda Ave to Meadows Ave
NE Stephens St/NE Winchester St	Garden Valley Blvd to Diamond Lake Blvd

A pedestrian facility inventory was completed as part of the *Bicycle and Pedestrian Plan* to determine the existence of sidewalks. Figure 5 shows locations within the city where sidewalks are missing on one or both sides of the street along arterials and collectors. Although the focus of the TSP is on the arterial and collector network, the local system provides a critical opportunity to provide additional connectivity throughout the city. In addition to sidewalks, pedestrians can utilize multi-use paths, which are shared facilities with bicyclists, and are concentrated in the parks and golf course near the South Umpqua River.

Figure 5. Pedestrian System



Pedestrian Plan

Roseburg is working to complete and maintain a connected pedestrian network by providing sidewalks on at least one side of the street on its arterial and collector system, as well as by filling gaps near schools and activity centers. The locations with missing sidewalks on both sides (as identified in Figure 5) all have projects identified in the TSP to create or fill in sidewalks. The projects vary by location and type, with facilities planned as a stand-alone sidewalk/multi-use project or as part of a larger roadway improvement.

ADA TRANSITION PLAN

Roseburg developed an ADA Transition plan in 2018. The document presents the City of Roseburg's plan for removing barriers and providing access to all individuals, including those with disabilities, for pedestrian facilities within the public right-of-way. Specifically, this report focuses on the evaluation of curb ramps, signalized intersections and transit bus stops.

The City's ADA Transition Plan includes, per the requirements of the ADA, a clear identification of insufficient conditions of facilities, policies and procedures. In addition to the removal of physical barriers, the City will make the following process changes to respond to community equal access needs and ensure future improvements within the public right-of-way are free of barriers. These process changes include the following:

- Develop design and inspection process and checklists for all pedestrian facilities within the public right-of-way (or adopt the checklists of a known qualified source)
- Incorporate pedestrian facility upgrades, and the prioritization of these facilities, when making decisions about the selection and scoping of Capital Improvements Projects.
- Update City standard drawings to reflect current accessibility requirements and incorporate industry-standard construction tolerances. Standard drawings to apply for all work within public right-of-way.
- Develop a process for tracking annual improvements to pedestrian facilities.

SAFE ROUTES TO SCHOOL

Sidewalk infill, enhanced street crossings, and traffic calming measures create safer routes between neighborhoods and schools. Improved local street connectivity shortens travel routes through neighborhoods, making walking (and biking) trips easier. The TSP project lists identify pedestrian projects and bicycle projects within a mile radius of several schools and may be eligible for grant funding.

BICYCLE

Bicycling is a low-cost and effective means of transportation that is non-polluting, energy efficient, and versatile, and promotes good health. The distance people are willing to travel by bicycle is longer than on foot, so bicycling can act as a more viable transportation mode for some. As a result, it can even transition people out of their cars, leading to decreased congestion. Bicycling also offers low-cost mobility to the non-driving public, such as the youth population. Proper infrastructure promotes bicycling and encourages people of all skill levels to bicycle. Network connectivity increases the chances of bicycling being considered as a primary mode of transportation. Users considered “interested but concerned” can be reassured by the increased safety and accessibility that comes with enhanced bicycle facilities such as wider bike lanes, shared-use paths, and separated bike lanes.

Bicycle Network

Figure 6 shows the bicycle network within Roseburg’s UGB. As seen in the figure, many bicycle facilities share the roadway with motor vehicles. These routes are designated by signing, striping, and other visual markings. Roseburg also includes several multi-use paths for both bicyclists and pedestrians. There are opportunities to create continuous north/south and east/west links across the city and increase connectivity, especially by utilizing the local street system to create parallel routes or new connections to the bicycle network on the collector and arterial system. In addition to local roads, Roseburg should continue to work with regional partners to identify future bicycle connectivity options for facilities outside their jurisdiction (e.g. UCC).

MULTI-USE PATHS

The City of Roseburg offers several multi-use paths throughout its jurisdiction, though they are generally concentrated in parks and near the river, as mentioned above. One multi-use path follows the northern edge of the South Umpqua River through Stewart Park, passing under I-5 and then following the river around Elk Island. This multi-use path terminates at Douglas Avenue. The Freeway Bike Trail runs along the eastern side of I-5 from the bridge at the South Umpqua River, and then south to the County Fairgrounds. There is also a multi-use path through Gaddis Park. In addition, one off-street bicycle path exists along Newton Creek between Rennan Street and Stewart Parkway.⁷

BICYCLE LEVEL OF TRAFFIC STRESS

The bicycle network shown in Figure 6 is an important foundation for a continuous and connected bicycle system; this strong bicycle network foundation is demonstrated by the designation of Roseburg as a Bronze Status bicycle-friendly community by the League of American Bicyclists. However, the presence of a bike lane does not necessarily translate to a comfortable experience for bicyclists. The Bicycle Level of Traffic Stress (LTS) methodology can aid in identifying locations where the bicycle network can be improved.

The bicycle operations within the study area were analyzed using ODOT’s methodology for Bicycle LTS for roadway segments. Bicycle LTS measures the effect of traffic-based stress on bicycles by quantifying the perceived comfort levels a bicyclist experiences on a given facility. Some characteristics used to determine LTS are presence of a bicycle lane, width of facilities, posted speed, adjacent parking facilities, and land use (rural or urban). Roseburg’s network is considered primarily urban. However, where roadway speeds exceed 40 miles per hour (mph) and curb

⁷ Source: City of Roseburg TSP, 2006.

or sidewalk is not present, the rural standard was applied. The LTS methodology does not account for the steepness of the roadway.

Bicycle LTS can be classified as Level 1, 2, 3, or 4, where Level 1 is low stress and Level 4 is high stress.



Figure 7 displays the Bicycle LTS for each collector/arterial within Roseburg. The corridors are segmented by determining factors such as speed, presence of bike lanes, or number of traffic lanes.

LTS is greatly influenced by traffic speeds. LTS methodology will score a segment of roadway without a bike lane higher than one with one if the traffic speeds on the shared facility are less than or equal to 25 mph and the dedicated bike lane facility has to travel adjacent to vehicles traveling at 35 mph.

Along Roseburg’s most heavily traffic roadways, bicyclists are required to share the road or travel next to fast-moving vehicles. Though the downtown network has low speeds, bicyclists may have to dodge car doors or vehicles with hindered sight distance. The study area roadways that are measured at a LTS 3 and LTS 4 had these levels as a result of a lack of facilities/lack of buffers and high vehicular speeds. The segments that are classified as LTS 1 have either separated bicycle facilities or low traffic speeds on low-volume roadways. As previously mentioned, the LTS methodology does not consider the steepness of the roadways. It should be noted that steep roadways such as SE Lane Avenue are considered to operate at LTS 1, but they are likely to provide an uncomfortable experience for cyclists.

Figure 6. Bicycle Network

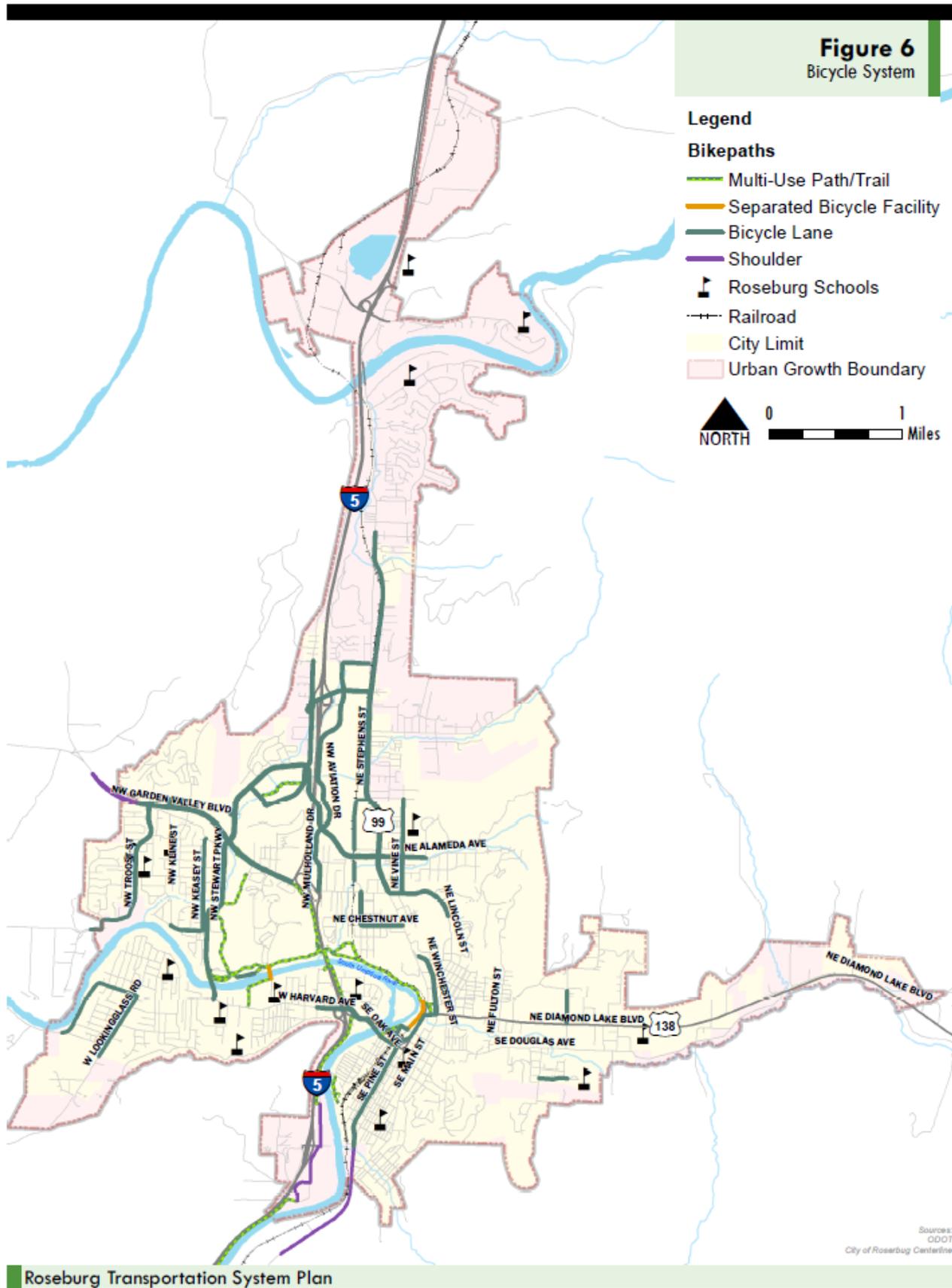


Figure 7. Bicycle Level of Traffic Stress (BLTS)



Bicycle Plan

Bicycles are legally classified as vehicles in Oregon, and roadways must be designed to allow bicyclists to ride in a manner consistent with the vehicle code. The basic design treatments that accommodate bicycle travel on the road are: shared roadways (sharrows), roadway shoulders, or bicycle lanes. The City may make bicycle network improvements, or private development may also contribute to bicycle projects.

In addition to regular maintenance to keep current facilities in good condition, the City has identified additional projects as part of its Capital Improvement Plan to fill identified gaps in the bicycle system. Throughout Roseburg, there are a number of locations where enhancements to the bicycle network may:

1. Improve safety (by increasing the visibility of cyclists for motorists and by increasing separation between the modes, as conditions warrant).
2. Decrease automobile trips.

By improving safety and creating a more inviting network and environment for cyclists, the City can promote increased levels of bicycle and pedestrian activity. Roseburg has established a goal of providing improved bicycle facilities throughout the city where ROW allows. Examples of bicycle network enhancements are shown below.

Bicycle Network Enhancements

Bicycle Lanes



Nacto.org Urban Bikeway Design Guide

Buffered Bicycle Lanes



Nacto.org Urban Bikeway Design Guide

Shared-use Paths



FHWA.dot.gov

Cycle Tracks



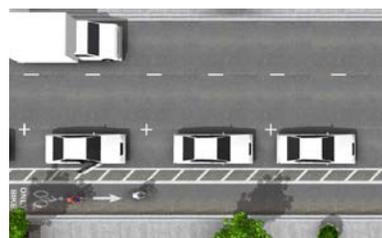
Nacto.org Urban Bikeway Design Guide

Sharrows



Nacto.org Urban Bikeway Design Guide

Cycle Track (Parking Lane Buffer)



Nacto.org Urban Bikeway Design Guide

TRANSIT

Public transit can provide transportation alternatives within the city and to other regional destinations for those who cannot or choose not to drive motor vehicles. Although transit is not as low-cost as walking and bicycling, it provides a lower-cost option than owning and operating a personal vehicle. Transit can meet the needs of longer distance trips that may be hard to complete on foot or by bicycle. Improvements come in the form of higher frequency service, wider service coverage, and/or better transit stop amenities.

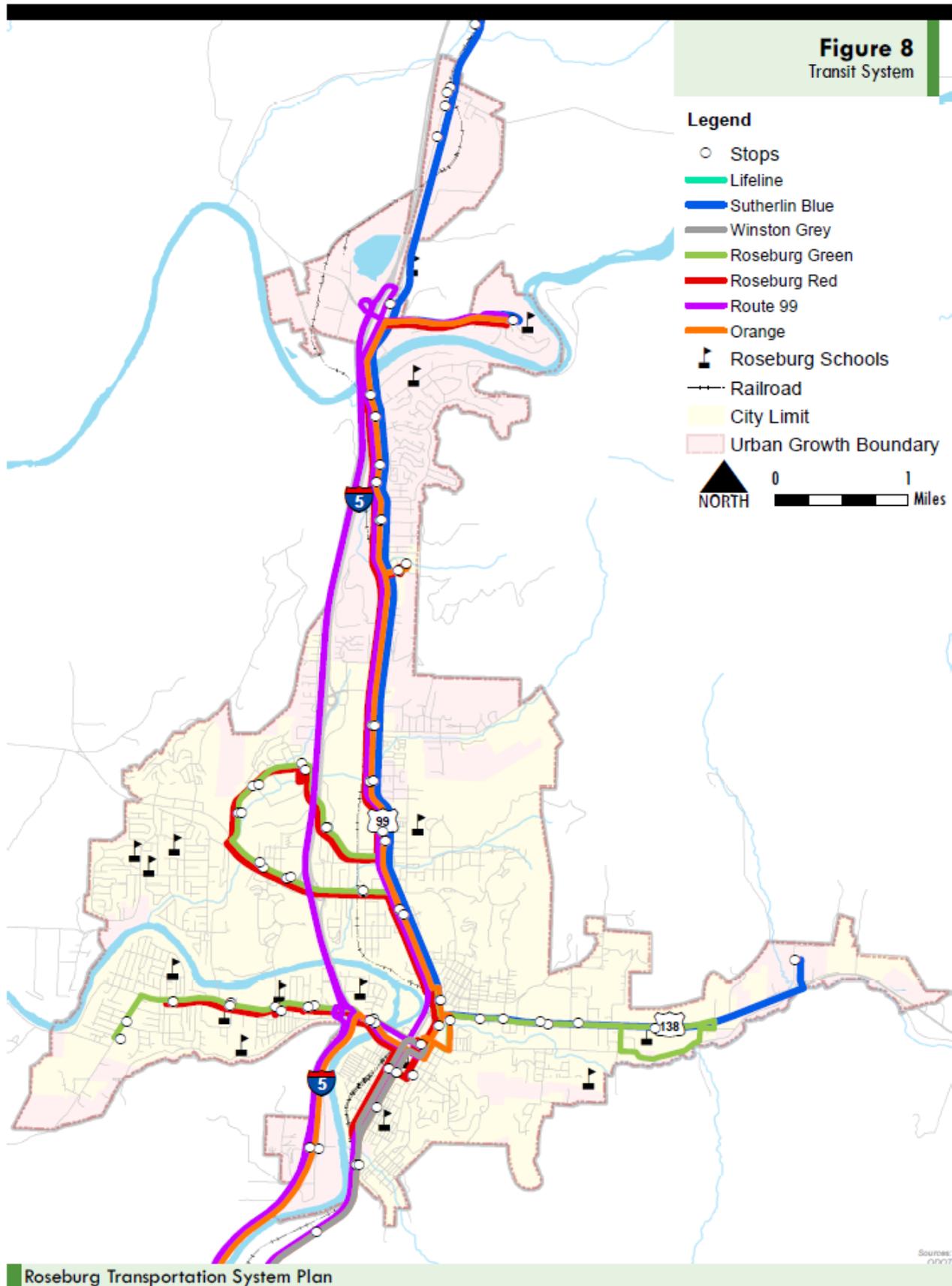
Transit Network

The transit network includes transit routes, bus shelters, bus pull-outs, and transit/paratransit services. Transit in Roseburg is provided through the Umpqua Public Transit District (Transit District) and not funded directly by the City. There is fixed-route and paratransit for the greater Roseburg area, with commuter services to nearby cities. Six transit lines provide service in Roseburg, with a seventh route (Lifeline Route) serving the outlying areas of Douglas County one day per week. The route names and descriptions are included in Table 8. Figure 8 shows the routes.

Table 8: Transit Service Summary

Route Name	Service Frequency	Route	Key Stops
UTrans Green Line	Hourly service	Provides service along W. Harvard Ave, OR 138, Stephens St and portions of Steward Pkwy	<ul style="list-style-type: none"> • Umpqua Community College • Mercy Hospital • Roseburg Municipal Airport • Downtown
UTrans Orange Line (Northbound and Southbound)	Peak service (AM, midday, and PM)	Service between downtown and Umpqua Community College	<ul style="list-style-type: none"> • Umpqua Community College • Downtown
UTrans Red Line	Hourly service	Service along W. Harvard Ave, through downtown, Stephens St, and NW Steward Pkwy	<ul style="list-style-type: none"> • Umpqua Community College • Roseburg Valley Mall • Roseburg Municipal Airport • Downtown
UTrans Route 99 (Northbound and Southbound)	Peak service (AM, midday, and PM)	Service along OR 99 between Seven Feathers Casino, Winston, and Roseburg	<ul style="list-style-type: none"> • Seven Feathers Casino • Winston • Downtown
UTrans Sutherlin Blue Line (Northbound and Southbound)	Peak service (AM, midday, and PM)	Sutherlin commuter route	<ul style="list-style-type: none"> • Sutherlin • Umpqua Community College
UTrans Winston Grey Line	Peak service (AM, midday, and PM)	Winston commuter route	<ul style="list-style-type: none"> • Winston • Greyhound Bus Station

Figure 8. Transit Network



Transit Plan

The TSP suggests multimodal concepts to support transit through improved access and connectivity of the bicycle and pedestrian system. A TSP can also support transit by identifying projects identified in the transit agency plans. In coordination with the Transit District, eight transit-specific concepts were identified for the TSP update. Table 9 summarizes the concepts, responsible agency, and potential ways for the City to support the concept. In addition to these concepts, the City recommends that the Transit District pursue improved coordination with City, county, state services, and Qualified Transit Entities.⁸

The following concepts are suggested as opportunities for the City to collaborate with, or otherwise support, the Transit District in order to improve public transportation services in the greater Roseburg area.

Table 9. Transit Enhancements and Responsible Agencies

	Transit District	Roseburg	Nature of City Support
Capital Improvements			
T1: Purchase of Additional Buses	Lead	N/A	None
T2: New Transit Center	Lead	Support	Potential planning and financing partnership (e.g., through Tax increment financing (TIF)), assistance securing needed land, and ROW
T3: New Maintenance Facility	Lead	Support	Potential planning and financing partnership (e.g., through TIF), assistance securing needed land, and ROW
T4: Stop Amenities and Accessibility	Support	Support	Assistance securing needed ROW, and City implementation of bike and pedestrian improvements
Operations and Service Improvements			
T5: Increased Frequencies	Lead	N/A	None
T6: New Routes	Lead	N/A	None
T7: Transit ITS	Support	Support	Coordination of City-/ODOT-operated traffic controls
T8: Increased Dial-a-Ride Service	Lead	N/A	None

Notes: New routes, increased frequencies and improved stop amenities and accessibility should be considered as development occurs and new community services are established (e.g. new schools, medical facilities, employment centers)

⁸ Cow Creek Band of Umpqua Indians is considered a Qualified Transit Entity.

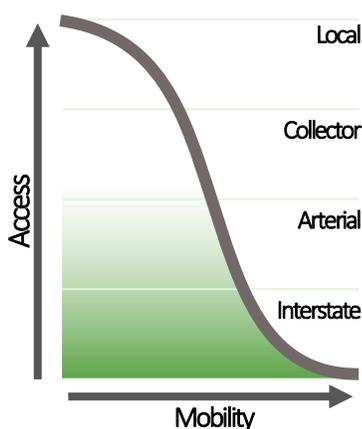
ROADWAY

The roadway network serves the highest number of people on a day-to-day basis. While many people own their own personal vehicles, some households share one or multiple vehicles among multiple people. The roadway system serves not only motor vehicles, but also bicycles, pedestrians, transit, and freight take advantage of roadways to get from place to place. As such, this chapter is the largest of the modal plans, because it serves as the backbone of the entire transportation network.

Roadway Network

There are two state highways (I-5 and OR 138) and a network of arterial and collector streets maintained by the City and/or Douglas County that provide the roadway network foundation for the City. This section describes the planned system for vehicular travel within the study area, including the functional street classification system and freight routes (the National Highway System [NHS]).

FUNCTIONAL CLASSIFICATION PLAN



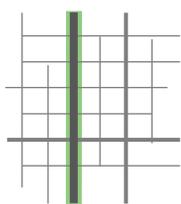
Street functional classification indicates purpose, design, and function. The assigned functional classification ensures a street network with features that support demand from the surrounding land uses as well as travel needs at a regional level.

The functional classification system for roadways in Roseburg is described below. The classifications are meant to reflect the underlying and adjacent land use serviced by the street. The functional classification map, Figure 9, shows the classifications for all roadways in the city, including for new street extensions proposed as part of the Street Connectivity Plan (the Street Connectivity Plan is discussed in the section of the same name, below).

Interstates

Interstates are the highest classification of arterials, and were designed and constructed with mobility and long-distance travel in mind. Interstates are divided highways that offer high levels of mobility while linking the major urban areas. Roadways in this functional classification category are officially designated as Interstates by the Secretary of Transportation.

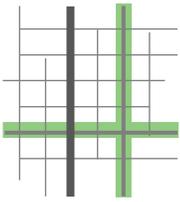
Principal and Minor Arterials



Principal arterial streets form the primary roadway network within and through a region. They provide a continuous roadway system that distributes traffic between different neighborhoods and districts. They provide limited access to abutting land, and have a greater focus on mobility and through traffic movement. Principal arterial streets carry the highest volumes on the network and typically maintain higher posted speeds. Inside UGBs, speeds may be reduced to reflect the roadside environment and surrounding land uses.

Minor arterials provide service for trips of moderate length and serve geographic areas that are smaller than their higher-volume principal arterial counterparts. Minor arterials are intended to be two- or three-lane streets.

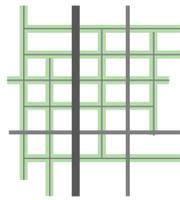
Major and Minor Collectors



Major Collector streets are primarily intended to serve abutting lands and the local access needs of neighborhoods. They serve either residential, commercial, industrial, or mixed land uses.

Minor Collector streets serve mostly residential or mixed land uses. Although through traffic connectivity is not a typical function of Minor Collector streets, they may carry limited amounts.

Local Streets



Local streets are intended to serve the adjacent land without carrying through traffic. These streets are designed to carry less than 1,200 vehicles per day. To maintain low volumes, local residential streets should be designed to encourage low-speed travel. Narrower streets generally improve the neighborhood aesthetics, and discourage speeding as well. They also reduce ROW needs, construction cost, storm water runoff, and vegetation clearance. If the forecast volume exceeds 1,200 vehicles per day, as determined in the design stage, the street

system configuration should either be changed to reduce the volume through neighborhood traffic-calming design features, or the street should be designed as a collector route.

Cul-de-sac streets are a type of Local street. They are intended to serve only the adjacent land in residential neighborhoods. These streets are short, serving a maximum of 20 single-family houses. Because the streets are short and the traffic volumes relatively low, the street width can be narrow, allowing for the passage of two lanes of traffic when no vehicles are parked at the curb or one lane of traffic when vehicles are parked at the curb. To encourage the circulation capability of Local streets, the use of cul-de-sac streets is discouraged and should not be permitted if future connections to other streets are likely. New cul-de-sac streets should provide sidewalk connections to other nearby streets and sidewalks.

NATIONAL HIGHWAY SYSTEM (NHS) ROUTES

The NHS includes the Interstate Highway System as well as other roads important to the nation's economy, defense, and mobility.⁹ NHS routes are identified at the federal level and are designated as such to encourage the jurisdictions that maintain those roadways to prioritize maintaining them in a good state of repair. The road owner should consider how NHS guidelines affect proposed improvements. I-5 and portions of Old Highway 99 (OR 99) and OR 138 in Roseburg are classified as part of the NHS network. Figure 9 shows the NHS routes in the Roseburg area. The City has jurisdiction over OR 99 (Stephens Street and Pine Street) and Garden Valley Boulevard within city limits, and ODOT has jurisdiction over the remaining NHS routes within the UGB.

Street Connectivity Plan

An important element of a TSP is to establish a plan for a connected system of existing and future streets. By planning for future connectivity, all modes can benefit. Much of Roseburg's existing street connectivity is constrained by features such as rivers, railroads, highways, and topography. Planning for future street connections can help reserve the appropriate ROW to construct facilities that meet the City's street guidelines. The proposed "Planned Connections" shown in Figure 9 identify approximately where new local street connections could be constructed as areas continue to develop. The locations consider the current street system and undeveloped lands, but any environmental and design constraints would have to be vetted during the design process.

⁹ https://www.fhwa.dot.gov/planning/national_highway_system/nhs_maps/

Figure 9. Street Functional Classification



AIR, WATER, RAIL, AND PIPELINE

While the movement of goods and commodities into, out of, and through the Roseburg area is heavily dependent on the highway system, freight movement also occurs via rail and pipeline modes. This section describes air, water, rail, and pipeline facilities in Roseburg.

Air Facilities

The Roseburg Regional Airport (designated airport code of RBG) is located on the north side of Roseburg near I-5. Owned and operated by the City of Roseburg, RBG does not have commercial flights. RBG is the only airport within 40 miles of Roseburg that allows for aircraft landings during reduced visibility conditions. The nearest commercial service airports to RBG are the Eugene Airport, approximately 65 miles to the north, and the Rogue Valley International – Medford Airport, approximately 90 miles to the south. RBG is the primary general aviation airport serving Douglas County.

There are regular freight flights into and out of RBG. Generally, three departing flights leave Roseburg, one for Medford in the morning, and two for Portland in the evening. Approximately seven flights arrive from Portland in a typical morning. Flight lessons are offered to pilots of all ages and experience levels.

Classified by the Oregon Aviation Plan (OAP 2007) as a Category III airport, Roseburg is a “Regional General Aviation Airport” and supports most twin-engine and single-engine aircraft. It can accommodate occasional business jets and supports regional transportation needs. As a Category III airport, the site is designed to handle less than 30,000 yearly operations. Especially during the summer months, RBG accommodates seasonal fire response activity for surrounding areas.

Water Facilities

The South Umpqua River meets the North Umpqua River approximately 8 miles northwest of downtown Roseburg. This confluence becomes the Umpqua River. The South Umpqua River is used primarily for fishing and recreational boating; north of the Stewart Parkway Bridge the river is considered non-navigable. The North Umpqua River is considered non-navigable above the Winchester Dam. Only the Umpqua River near Reedsport, Oregon, is used for limited shipments of raw timber.¹⁰

Rail Facilities

One railroad line passes through Roseburg. The Central Oregon and Pacific Railroad (CORP) is a short line railroad. Currently, the railroad line is exclusively for freight, with 90% percent of its delivery consisting of forest products.

CORP, headquartered in Roseburg, Oregon, has 389 miles of track between Eugene, Oregon, and Black Butte, California. CORP tracks are maintained to Federal Railroad Administration Class 1 (47 miles) and Class 2 (200 miles) conditions, which limit maximum speeds to 10 mph for Class 1 or 25 mph for Class 2. Current service includes one northbound and one southbound train five days a week on eight routes:

- Eugene and Roseburg
- Glendale and Medford
- Roseburg and Dillard
- Dillard and Riddle
- Dillard and Glendale
- Springfield and Cottage Grove
- Sutherlin and Roseburg
- White City and Medford

¹⁰ Source: 2006 Roseburg TSP

No passenger rail service is available in the study area; the closest available is the AMTRAK service located in Eugene, Oregon.

Pipeline Facilities

There is one major natural gas pipeline transportation system in the Roseburg UGB and numerous secondary natural gas distribution lines that spur off the mainline to provide gas to residences and businesses. The major pipeline is part of a system operated by Northwest Pipeline LLC and travels north/south along the western edge of Roseburg.¹¹

¹¹ *National Pipeline Mapping System Public Map Viewer*, Pipeline and Hazardous Materials Safety Administration, 2017.

STANDARDS AND GUIDELINES

Transportation standards, regulations and guidelines dictate the construction of new transportation facilities and to the operation of all facilities to ensure that the system functions as intended and investments are not wasted.

TYPICAL ROADWAY CROSS-SECTION GUIDELINES

Roadway cross-section standards establish minimum requirements for design of the street system and identify the design characteristics needed to meet the function and demand for Roseburg city streets. Because the actual design of a roadway can vary from segment to segment due to adjacent land uses and demands, this system allows standardization of key characteristics to provide consistency, while providing application criteria that allow some flexibility while meeting the design standards.

Table 10 summarizes the standard street widths and design features under Roseburg’s jurisdiction. Roadways under ODOT’s jurisdiction are subject to design standards in ODOT’s Highway Design Manual. Sample cross-sections are provided on the following pages that depict the flexibility within minimum right-of-way, pavement and width requirements.

Table 10. Street Cross-section Minimums

Type of Street		Minimum ROW Width ^[1]	
Arterials ^{[3][4][5][7]}		72’–112’	
Collector Streets and All Business Streets Other Than Arterials ^{[3][4][5]}		60’–70’ ^[2]	
Local Streets in Single-family Density Areas ^[3]		40’–60’	
Circular Ends of Cul-de-sacs Where Allowed Under Paragraph 12.12.010(F)(7)		96’ Diameter	
All Streets Not Specifically Provided for Above		60’	
Standard Street Pavement Width and Design Features ^[1]			
Type of Street	Parking Both Sides	Parking One Side	No Parking
Local ^[3]	34’–36’	26’–28’	20’–24’
Collector ^[3]	48’–50’	40’–42’	32’–34’
3-lane Arterial ^{[4][5][6][7]}	N/A	N/A	46’–50’
5-lane Arterial ^{[4][5][6][7]}	N/A	N/A	68’–74’

[1] The Approving Authority may require a width within the limits shown, based upon adjacent physical conditions, safety of the public and the traffic needs of the community, sidewalk width, and in accordance with other specifications of this Code.

[2] ROW to 70 feet may be required with wider sidewalks; where other design features are included, additional ROW may be required.

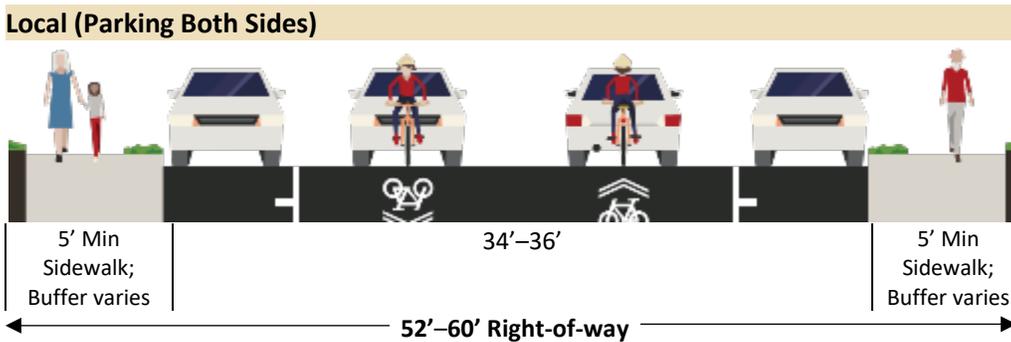
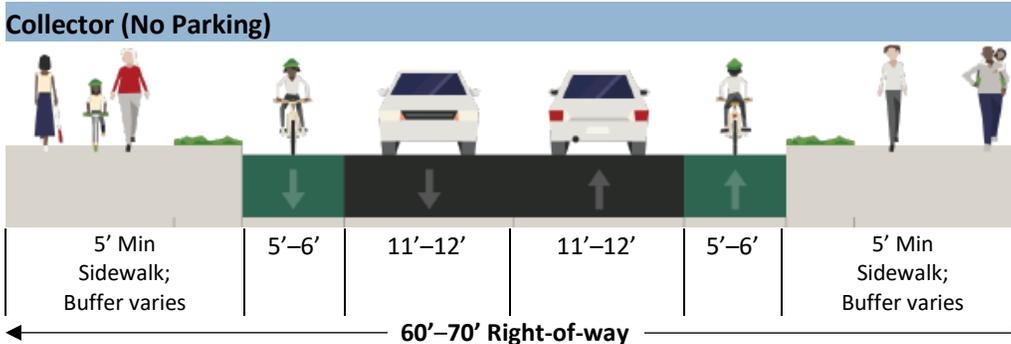
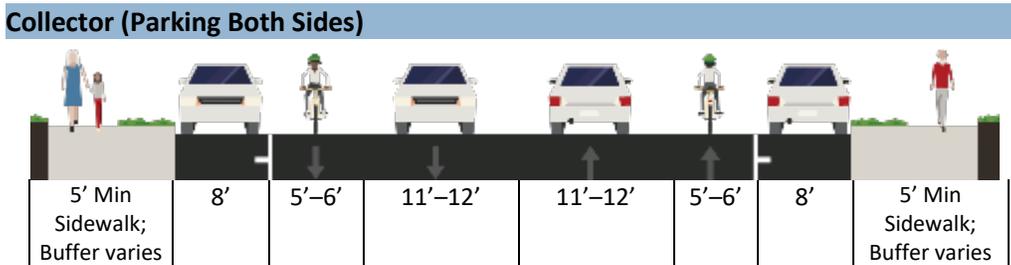
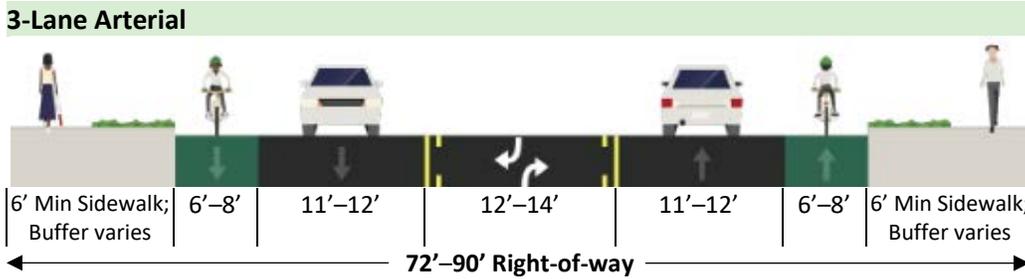
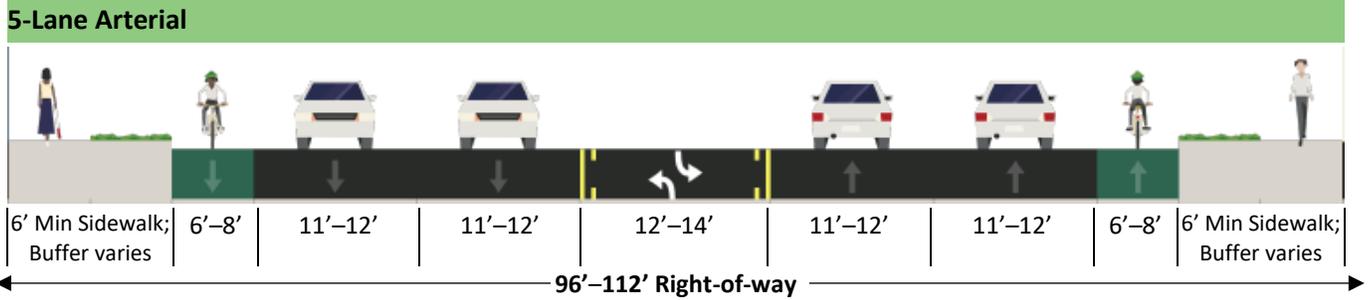
[3] Pavement width in excess of that shown may be required for other road configurations, such as for turn lanes, etc.

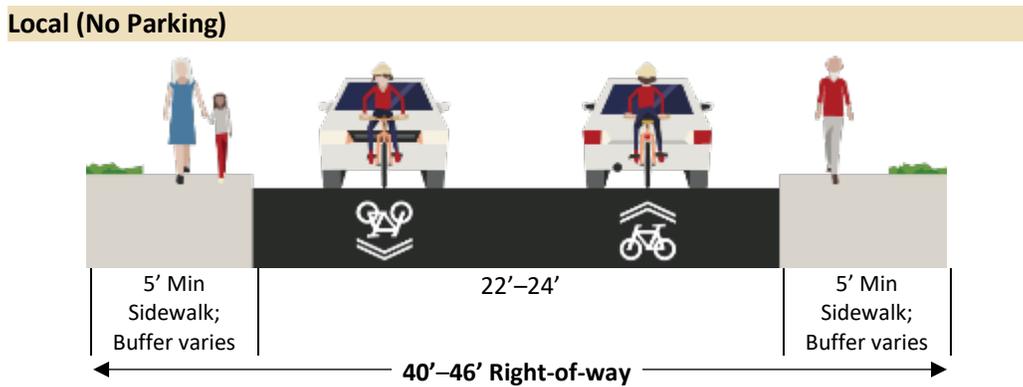
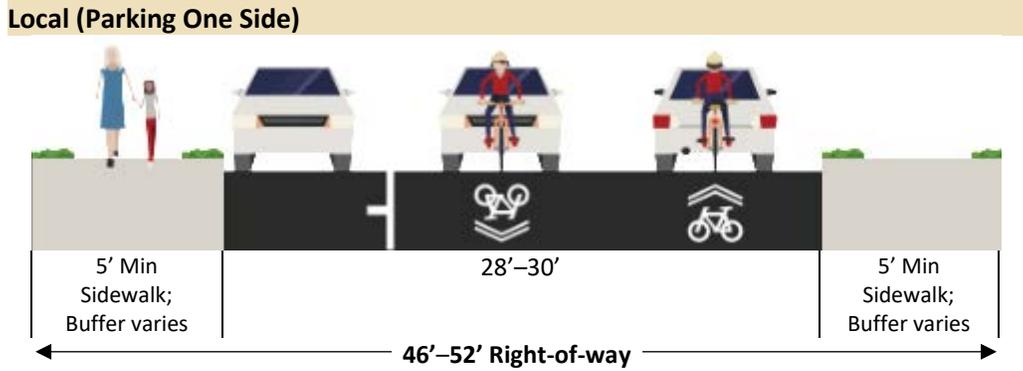
[4] Collector and Arterial streets require bike lanes. For existing facilities where ROW is not available and vehicle speeds are less than 35 mph, sharrows may be used. Local streets utilize shared lanes.

[5] A minimum lane width of 12 feet is preferred for freight routes. A lane width of 11 feet may be allowed to accommodate multimodal facilities.

[6] Bus route must have a minimum lane width of 11 feet.

[7] Design Standards for State Highways are found in the Oregon Highway Design Manual.

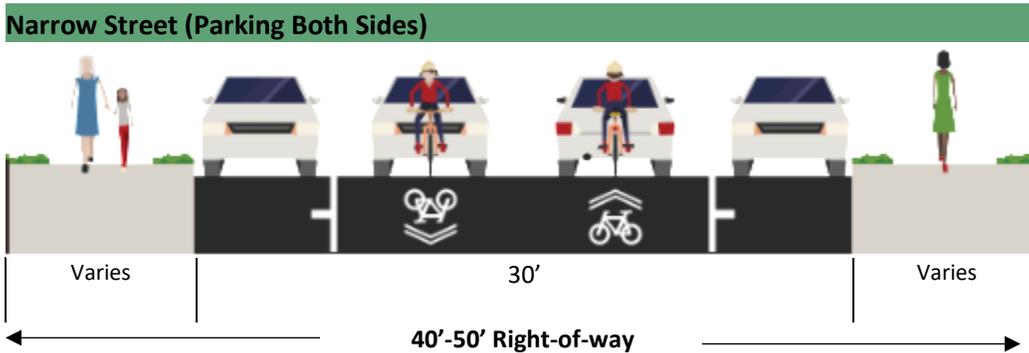


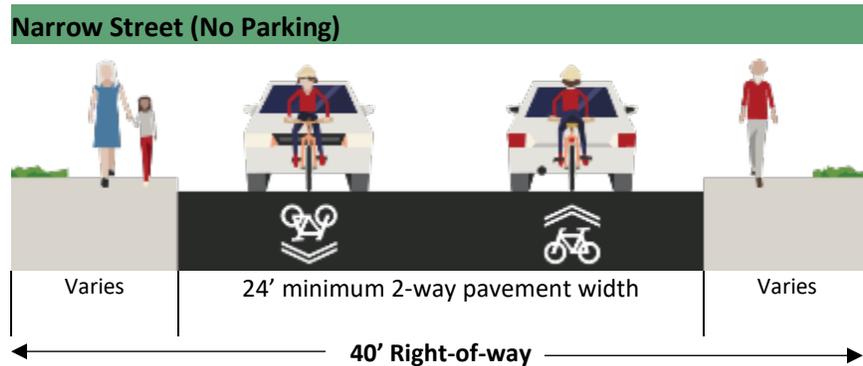
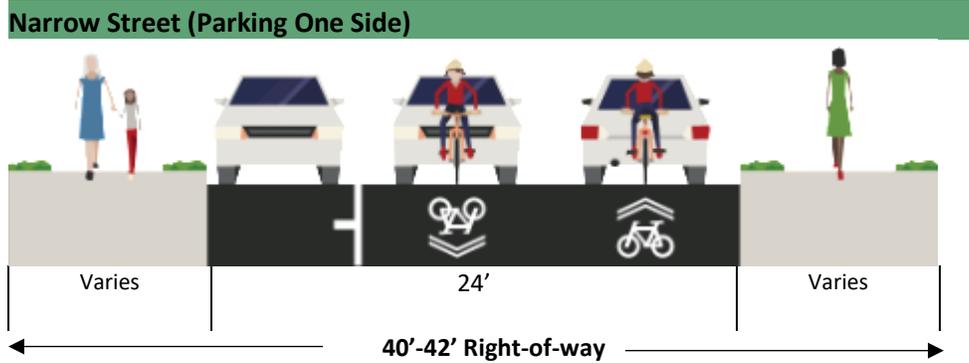


Special Circumstances

In some cases, due to topography constraints or limited right-of-way, local streets are unable to be constructed to the preferred cross-section. In such cases as determined by the Director of Public Works, a “Narrow Street” may be allowed. For narrow streets that allow parking, parking is not permitted within 30 feet of an intersection. This street is designed so that moving cars must occasionally yield to oncoming traffic before moving forward. This may also encourage slow and cautious driver behavior and discourage cut-through traffic on residential streets.

Narrow streets are not recommended for streets with more than 200 vehicles per day average daily traffic (ADT).





COMPLETE STREETS

A complete street is a transportation facility that supports all modes of transportation, including but not limited to walking, driving, riding a bicycle and taking the bus or train. Multiple factors affect the mode choice of users in a community, and a complete street is designed to safely accommodate all users in as efficient a manner as possible.

Because transportation design historically has, and still often tends to prioritize the automobile, many jurisdictions institute a Complete Streets Policy so that engineers and planners design streets compatible for all modes of transport. Usually, it is in the form of a council resolution, legislation, executive order or comprehensive plan policy.

There is no fixed policy that a jurisdiction needs to adopt or implement; it is unique to the agency. It can be tailored to the specific needs of the users in the community it aims to serve. Based on the need and feasibility, the jurisdiction can have its own standards for multimodal design.¹²

Roseburg may choose to pursue a formalized Complete Streets policy in the future by using the TSP street cross-section guidelines as a starting point. The bicycle network enhancements listed in the Bicycle Modal Plan and the

¹² "Bike Bill" and Use of Highway Funds: The Oregon Legislature passed ORS 366.514, the "Bike Bill", in 1971. The bill requires facilities for people walking and biking wherever a road, street or highway is built or rebuilt. It applies to ODOT, cities and counties and requires spending reasonable amounts of their share of the state highway fund on facilities for pedestrians and bicyclists. These facilities must be located within the right-of-way of public roads, streets or highways open to motor vehicle traffic. The funds cannot be spent on trails in parks or other areas outside of a road, street or highway right-of-way.

TSM Toolbox provided later in this chapter provide options that could be included as design elements of a Complete Streets Policy.

POTENTIAL MANAGEMENT ACTIONS AND ORDINANCE REVISIONS

This section describes potential management actions the City can take to support the needs identified through the TSP process. These are various project strategies, management measures, and minor improvements that do not require an infrastructure improvement, but may be necessary to address existing and future deficiencies.

Mobility Targets

Traffic Mobility Targets

Traffic mobility targets are thresholds set by a jurisdiction to help measure how an intersection functions. Mobility targets help agencies maintain levels of congestion on a given roadway. They apply to land use decisions as a way to understand how development could impact the function of the transportation system. TSP also requires that comprehensive plan amendments and zone changes be consistent with the adopted TSP and uses mobility standards as one tool for evaluating consistency.

The Oregon Highway Plan (OHP) has established several policies for maintaining highway mobility, including Policy 1F, which establishes maximum volume-to-capacity (v/c) ratio¹³ targets for peak hour operating conditions for all highways in Oregon. The OHP policy also specifies that the v/c ratio targets be maintained for ODOT facilities through a 20-year horizon. For roadways that are under ODOT's or Douglas County's jurisdiction, the mobility targets of those agencies apply, unless no other mobility target has been adopted.

With this TSP update, the City of Roseburg is updating its mobility targets to be consistent across the city. A dual standard based on v/c ratios and LOS¹⁴ is proposed. Level of Service (LOS) and volume-to-capacity (v/c) are the measures to determine what is acceptable or unacceptable traffic flow on Roseburg streets, LOS is based on average seconds of delay and v/c is a measure of the traffic volume against the capacity. City streets shall maintain a LOS of "E" and v/c no worse than 0.95 during the peak hour of the day. These standards shall apply to traffic impact studies as well.

Functional Classification	V/C ¹	LOS ²
All	0.95	E

1. City intersections shall be analyzed at a peak hour factor of 1.0.
2. For roadways within the city of Roseburg that are under ODOT or Douglas County jurisdiction, the mobility standards/targets of those agencies will apply.

Access Management

Access management can be an important tool for protecting the function of roadway. There is a common understanding for the need of property owners to maintain roadway access to their businesses and residences. However, a proliferation of driveways and minor street intersections multiplies the number of conflicts along a

¹³ A volume-to-capacity (v/c) ratio compares traffic demand to an estimate of capacity, which is the amount of traffic that an intersection can serve during a fixed period of time. A v/c ratio less than 1.00 indicates that the volume is less than capacity. When the v/c ratio is closer to 0.00, traffic conditions are generally good with little congestion and low delays for most intersection movements. As the v/c ratio approaches 1.00, traffic becomes more congested and unstable with longer delays.

¹⁴ Six level of service (LOS) standards have been established to describe conditions at intersections, ranging from LOS A, where there is little or no delay, to LOS F, where there is delay of more than 50 seconds at unsignalized intersections or more than 80 seconds at signalized intersections.

roadway segment, thus reducing the capacity of intersections, slowing through traffic, increasing the probability of crashes, and generally degrading service for all system users. Hence, access management must balance the competing needs of compatible land uses, private access, and the function of the transportation system.

Table 11 summarizes the City of Roseburg’s access (driveway) spacing standards on city roads. The TSP recommends that new land access points meet or exceed these minimum spacing requirements, and where no reasonable alternatives exist or where strict application of the standards would create a safety hazard, the City may allow a variance. Before a variance is allowed, a traffic engineering should review the proposed access. State Access Management Standards are found in OAR 734.051. Any improvements along Diamond Lake Boulevard (OR 138E) must comply with the Diamond Lake Boulevard Access Management Plan.¹⁵

Table 11. Roseburg Driveway Spacing Standards

Land Use	Driveway Spacing Standard for Type of Street		
	Arterial	Collector	Local
Industrial	500'	200'	150'
Commercial/ Public Land	500'	200'	75'
Multi-family Residential	500'	200'	75'
Single-family Residential and Duplexes	500'	200'	30'

Source: Roseburg Municipal Code Title 12 - Land Use Development Regulations (Sec. 12.06.020, Table 3-1)

TSM and TDM Toolbox

SYSTEM AND DEMAND MANAGEMENT

Transportation System Management (TSM)

TSM measures are designed to make maximum use of existing transportation facilities. Efficient management of the transportation system can reduce costs by avoiding the need for more expensive roadway expansion projects. TSM strategies include traffic control improvements, traffic signal coordination, traffic calming, access management, local street connectivity, and ITS.

Traffic Calming: Uses physical design and other measures to improve safety for motorists, pedestrians, and cyclists. It aims to encourage safer, more responsible driving and potentially reduce traffic flow. Examples: bike boulevard/neighborhood greenway, neighborhood traffic circle, curb bulb-outs (roadway narrowing), and raised crosswalks/medians.

Access Management: Includes the management of vehicular access points to enhance safety and potentially improve traffic operations. Examples: access and driveway spacing standards, channelized turn lanes, median treatments, and turn restrictions.

Intelligent Transportation Systems (ITS): Includes collecting and conveying information regarding roadway operations to improve the operations and efficiency of a facility. Examples: variable message signs, ramp metering, adaptive signal timing, and variable speed limit signs. The City would like to consider flashing yellow left-turn arrows at signalized intersections when improvements are planned.

¹⁵ *Diamond Lake Boulevard Access Management Plan: Stephens Street to Sunshine Park*, ODOT and City of Roseburg, 2003.

The TSP includes several projects that support TSM, such as improved bicycle wayfinding, access management, midblock crossings, and bicycle sharrows (pavement marking indicating bikes share road with motorists, and shown in the TSM Toolbox section below).

TSM Toolbox

This section provides a “toolbox” of alternatives to address multimodal connectivity and neighborhood traffic-related concerns. This toolbox provides guidance to the City on various tools that could be implemented as needs arise and when funding is available.

Traffic Calming (encouraged for developing a bicycle boulevard or neighborhood greenway)

Gateway (Curb Bulb-out)



Google, May 2018 image capture

Pinch Point (Curb Extension)



Nacto.org Urban Street Design Guide

Diverter



Nacto.org Urban Bikeway Design Guide

Traffic Calming - Continued

Raised Crosswalk



pedbikeimages.org/PennsylvaniaDOT

Speed Cushions



Nacto.org Urban Street Design Guide

Speed Management Median



Nacto.org Urban Bikeway Design Guide

Pedestrian Median Refuge



pedbikeimages.org/DanBurden

Chicanes



Nacto.org Urban Street Design Guide

Traffic Circle (Mini)



Oregon Bicycle and Pedestrian Design Guide

Signing and Striping

Sharrow



Nacto.org Urban Bikeway Design Guide

Wayfinding



Nacto.org Urban Bikeway Design Guide

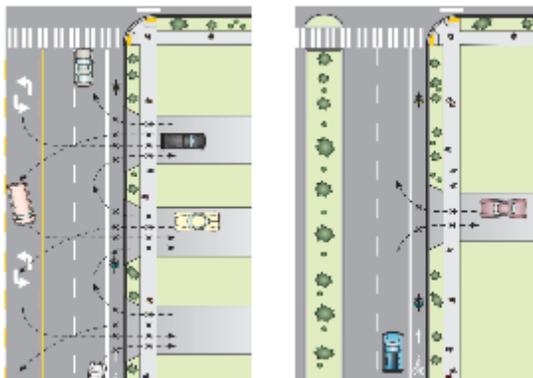
Share the Road



Mutcd.fhwa.dot.gov

Access Management

Access Consolidation and Non-traversable Median



Oregon Bicycle and Pedestrian Design Guide (Figure I-9)

Turn Restrictions



Mutcd.fhwa.dot.gov

ITS

Radar Speed Signs



Radarsign.com

Transportation Demand Management (TDM)

Transportation Demand Management (TDM) measures include various strategies that change travel behavior (how, when, and where people travel) in order to increase efficiency and achieve specific planning objectives. TDM measures encourage the use of alternative, non-single-occupancy-vehicle travel modes. Changing travel behavior and providing alternative mode choices will help reduce the need to build new or expanded roadways.

Potential projects, such as sidewalks, bicycle routes, and transit enhancements, which support TDM, are detailed as part of The Projects section. However, other TDM strategies described below should be pursued as well.

TDM measures that could be applicable for Roseburg include:

- Employer-based trip reduction strategies (e.g., parking management/pricing, carpool spaces, telecommuting, transit allowance)¹⁶
- Transit improvements
- Investment in pedestrian/bicycle facilities and amenities
- Comprehensive performance indicators (examples: multimodal level of traffic stress, accessibility, land use density)

¹⁶ The City can encourage local employers to implement trip reduction strategies through education and engagement, including connecting employers with available resources, such as the carpool matching tool that will be made possible by ODOT's partnership with RideAmigos. In addition, the City can administer or support programs such as a vanpool program to encourage higher vehicle occupancy rates among local employees.

- Mass communication/marketing to increase awareness of transportation options
- Safe routes to school

Adopted Interchange Area Management Plans (IAMPs)

Interchange Area Management Plans (IAMPs) are transportation refinement plans adopted by the Oregon Transportation Commission for interchange management study areas. This TSP adopts the I-5 Exits 123, 127 and 129 IAMPs by reference, including all projects and policies identified in the IAMPs.

Table 12 summarizes the recommended revisions to the adopted IAMPs suggested by the TSP update.

Table 12. TSP Recommended Revisions for IAMPs

IAMP	Identified Deficiency	Project	TSP Recommendation
I-5 Exit 124	The IAMP for I-5 Exit 124 is not adopted. Specific concepts cannot be developed until a final interchange configuration is recommended by the IAMP.	The TSP recommends general concepts for consideration as part of draft IAMP refinement.	<ul style="list-style-type: none"> • Note: A 2019 project will make several improvements to the intersection of Harvard Ave and the southbound ramps. • Interim: Recommend enhanced pedestrian crossing signage/stripping crossing the ramp terminals. • IAMP: Interchange configuration recommendation should include accommodations for bicycle and pedestrian facilities across I-5 and support enhanced connections across I-5 on the existing trail system. • IAMP: Consider narrowing vehicular travel lane widths west of I-5 (to Umpqua St) to increase width of bicycle lanes on Harvard Ave.
I-5 Exit 125	The IAMP for I-5 Exit 125 is not adopted. Specific concepts cannot be developed until a final interchange configuration is recommended by the IAMP.	The TSP recommends general concepts for consideration as part of draft IAMP refinement.	<ul style="list-style-type: none"> • Interim: Recommend enhanced pedestrian crossing signage/stripping crossing the ramp terminals. • Interim: To address lane imbalance on Garden Valley Blvd approaching the interchange, consider “Thru Traffic Keep Left” signage. • IAMP: Interchange configuration recommendation should include accommodations for bicycle and pedestrian facilities across I-5. • IAMP: Consider narrowing vehicular travel lane widths west of I-5 (within IAMP influence area) to increase width of bicycle lanes on Garden Valley Blvd.
I-5 Exit 127	Persistent congestion and queues interfering with travel lanes	Widen Stewart Pkwy northwards to add a second EB left-turn lane and widen Edenbower Blvd to add second NB receiving lane	This project has been constructed. The TSP recommends an additional phase to extend the length of the receiving lanes on Edenbower Blvd.
I-5 Exit 129	Operations at SB ramp terminal	Signalize SB ramp terminal	Recommend removal from IAMP; revised 2040 operations do not warrant a signal.

IAMP	Identified Deficiency	Project	TSP Recommendation
I-5 Exit 129	Operations at Del Rio Rd/Umpqua College Rd at Stephens St	Add an additional NB left-turn lane and accompanying WB receiving lane, or add a SB through/right-turn lane and accompanying WB receiving lane	Recommend removal from IAMP; revised 2040 operations do not warrant additional capacity.
I-5 Exit 129	Operations at SB ramp terminal	Add a WB through lane and accompanying receiving lane	Recommend removal from IAMP; revised 2040 operations do not warrant additional capacity.
I-5 Exit 129	Operations	Add an EB right-turn lane	Recommend removal from IAMP; revised 2040 operations do not warrant additional capacity.

EB = eastbound; NB = northbound; SB = southbound; WB = westbound.

Adopted Diamond Lake Boulevard Access Management Plan (AMP)

The Diamond Lake Boulevard Access Management Plan (AMP) is a transportation refinement plan adopted by the Oregon Transportation Commission for Diamond Lake Boulevard (OR 138E) from NE Stephens Street east to Sunshine Park. This TSP adopts the AMP by reference including all projects and policies identified in the AMP.

Table 13 summarizes the recommended revisions to the AMP suggested by the TSP update.

Table 13. TSP Recommended Revisions for the Diamond Lake Boulevard AMP

IAMP	Identified Deficiency	Project	TSP Recommendation
Diamond Lake Boulevard (OR 138E)	Residential development located near the Diamond Lake Boulevard/Kester Road intersection prompted a need for a multi-use path connecting to Sunshine Park.	The TSP recommends general concepts for consideration as part of AMP refinement.	<ul style="list-style-type: none"> • Cul-De-Sac the eastern terminus of Quarry Road and close Quarry Road access to Diamond Lake Boulevard; • Construct a multi-use path connecting the Quarry Road Cul-De-Sac east to Sunshine Road; and • Construct a parallel road connecting Kester Road east to Sunshine Road.

Implementing Ordinances

The Transportation Planning Rule requires each local government to amend its land use regulations to implement the TSP and to adopt land use regulations consistent with state and federal requirements “to protect transportation facilities, corridors and sites for their identified functions.”

These requirements are achieved through a variety of measures, including access control standards, robust pedestrian and bicycle circulation and connectivity provisions, standards to protect future road operations of roads, and expanded notice requirements and coordinated review procedures for land use applications. Local implementation measures often include processes to apply conditions of approval to development proposals and regulations ensuring that amendments to land use designations, densities, and design standards are consistent with the functions, capacities, and performance standards of facilities identified in the TSP.

Technical Memorandum #6 (included in Volume 2 of the TSP) provides a preliminary draft of recommendations to the City of Roseburg Land Use and Development Regulations (“Code”)¹⁷ for consistency with TPR requirements and Draft TSP recommendations, including sample code language to implement recommended changes. These draft recommendations are intended to provide staff, Planning Commission, and City Council with a preliminary look at the suggested modifications to the Code that may be recommended for adoption as part of the TSP planning process.

¹⁷ Title 12 of the City of Roseburg Municipal Code
Standards and Guidelines

FUNDING

The TSP helps guide future investments in the transportation system, from operations and maintenance to capital improvements. This section reviews the funding sources Roseburg has historically used for improvements and maintenance to the transportation system, as well as a funding forecast through the 2040 planning horizon.

REVENUE SOURCES

Historic Funding Sources

Current and primary revenue sources that fund transportation system maintenance, operations, and capital improvements include:

- State Highway Fund or Surface Transportation Block Grant (STBG) program;
- State operating grants;
- State gas tax receipts;
- City franchise fees;
- City transportation system development charges (SDCs);
- Hotel/motel tax (directed to the Street Light/Sidewalk Fund); and
- Urban Renewal.

STATE FUNDING SOURCES

State Highway Fund or Surface Transportation Block Grant (STBG): This is a special federal-aid from the FHWA that provides flexible funding to States, Cities and other public agencies for transportation improvement and preservation projects. They are reimbursable federal aid funds, and may be used for projects on any public road, including active transportation infrastructure and transit.

State Operating Grants: Grants can be awarded by the federal government, private, or non-profit organizations. In most cases, agencies requiring funding for a transportation project have to apply to the plethora of grants available. The awarding organization then evaluates the grant proposal from each applicant, and selects a winner. The funds are provided with specific instructions on how they are to be used.

State Gas Tax Receipts: Taxes charged on fuel become part of the State's revenue which can then be used for transportation construction and improvement projects. Taxes are collected on fuels including gasoline, ethanol blends, diesel, biodiesel, propane, CNG (compressed natural gas), aircraft fuel, as well as any other usable fuel that can power a motor vehicle or aircraft. Currently, Oregon collects a fuel tax of \$0.34 per gallon of gasoline.

CITY FUNDING SOURCES

City Franchise Fees: The City collects franchise fees from companies that utilize the public right-of-way to provide their services.

City Transportation System Development Charges (SDCs): System Development Charges are imposed, in an amount set by Council resolution, on all new residential, commercial and industrial development and existing development being modified to increase the impact such development has on the City's transportation system. Revenues are deposited in the Capital Improvement Fund.

Hotel/Motel Tax: Generally known as “occupancy tax”, a hotel/motel tax is collected on each night’s stay at a place of lodging. Expenditures are restricted to tourism promotion, streetlights, signals, sidewalks and economic development.

Urban Renewal: This is a tool to stimulate and encourage private development to address infrastructure deficiencies and areas of under-development. Urban renewal plans provide cities and counties with an additional revenue stream called tax increment financing. This revenue stream may be used on projects and programs in specifically designated urban renewal areas. Roseburg has effectively used urban renewal in the past and looks forward to its use in the rejuvenation of the Diamond Lake Area.

Diamond Lake Urban Renewal

The Diamond Lake Urban Renewal Plan (DLURP) was adopted by the City of Roseburg in 2018. Tax increment financing will be used to borrow against future growth in the area’s tax base to pay for the improvements in the DLURP. The DLURP includes transportation and other infrastructure and beautification improvements. The transportation projects identified in the DLURP include proposed project timelines and an estimate of the expected Urban Renewal and City financial contributions. In some cases, the projects identified in the DLURP overlap with the needs identified in TSP, and the project list in the next chapter identifies when this occurs.

FUNDING FORECAST

Revenue and Expenses

Using the adopted budget for 2019–2020 and a number of key assumptions, total revenue and expenses are estimated to determine available revenue to implement the projects identified in the TSP. Total revenue is estimated at approximately \$66.12 million (see Table 14). Total expenses are estimated at approximately \$59.52 million (see Table 15). The revenue less the expenses leaves approximately \$6.6 million remaining to fund commitments to implement projects identified in the 2018-2023 Capital Improvement Plan (CIP) and DLURP.

Table 14. Total Revenue

Revenue	Adopted Budget 2019–2020	Estimate 2021–2040
<i>Transportation Fund</i>		
State Highway Fund (STBG)	\$200,000	\$4,000,000
State Operating Grants	\$200,000	\$4,000,000
State Gas Tax Receipts	\$1,758,358	\$35,167,000
City Franchise Fees	\$539,300	\$10,786,000
City Transportation SDC	\$150,000	\$3,000,000
Other	\$55,000	\$1,100,000
<i>Streetlights/Sidewalk Fund</i>		
Interest Income	\$5,500	\$110,000
Transfer from Hotel/Motel Tax	\$397,970	\$7,959,000
Total Revenue	\$3,306,128	\$66,122,000

Note: All dollars are in 2019 dollars, and all values are rounded.

Table 15. Total Expenses

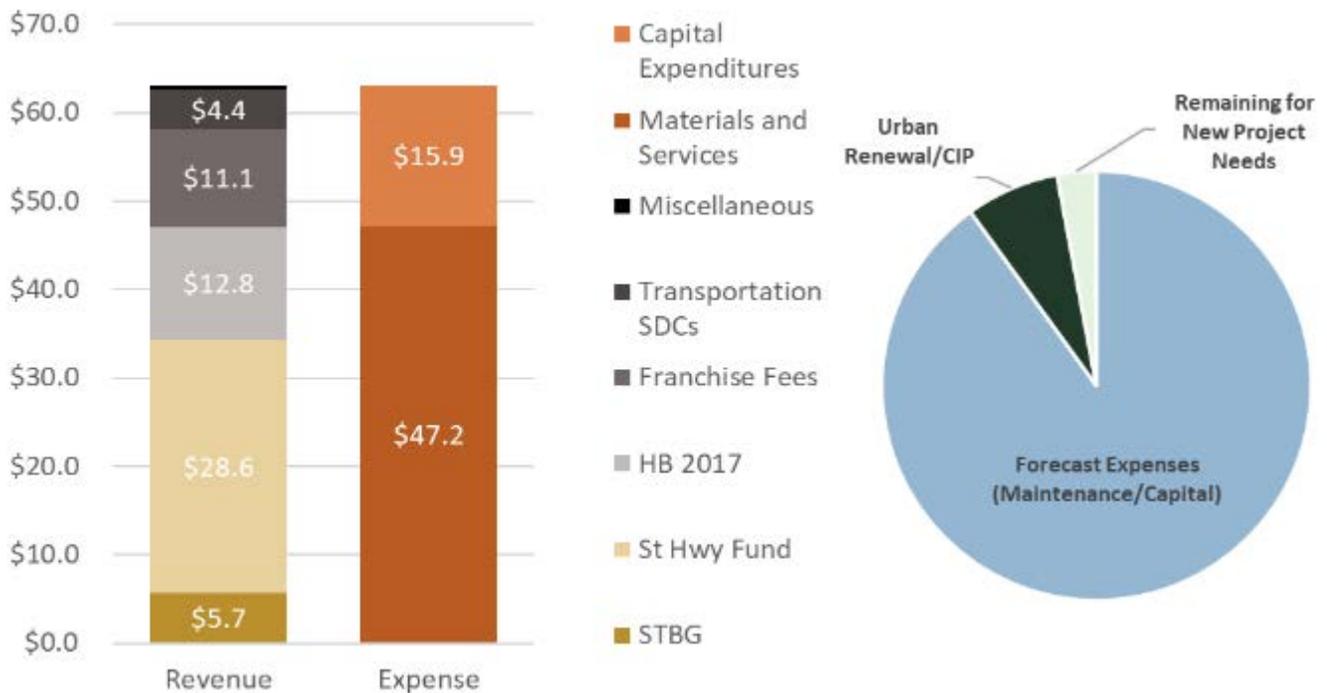
Revenue	Adopted Budget 2019–2020	Estimate 2021–2040
Transportation Fund		
Materials and Services	\$1,301,729	\$26,035,000
Pavement Management Plan	\$1,300,000	\$26,000,000
Bike Trail Fund		
Path Upgrades and Repairs	\$17,590	\$352,000
Streetlights/Sidewalk Fund		
Materials and Services	\$81,709	\$1,634,000
Capital Outlay	\$481,709	\$6,435,000
<i>Streetlights/Sidewalk Fund Adjustment</i>		-\$935,000
Total Expenses	\$3,182,737	\$59,521,000

Note: All dollars are in 2019 dollars, and all values are rounded.

Funding Constraints

Based on current funding levels, the City expects to have just over \$66 million available to fund city projects through the year 2040 (see Figure 10). This includes maintaining the existing system and funding project commitments in the CIP and DLURP.

Figure 10. Transportation Funding Revenue and Expense Estimate: 2018–2040 (dollars in millions)



The City is committed to approximately \$4.6 million for the combined cost of the projects in the CIP and the DLURP projects that are anticipated to occur in the 20-year planning horizon. This leaves approximately \$2 million to fund the remaining project needs identified in the TSP.

Potential New Revenue Sources

With the forecasted revenue streams through the 2040 planning horizon, Roseburg will be able to provide maintenance to their existing system and fund the projects identified in their CIP and DLURP. The funds available to put toward projects in the TSP is limited to approximately \$2 million. The City anticipates continuing to apply for grants to help fund projects and working to combine potential improvements in conjunction with maintenance projects to maximize their dollars. However, they may also consider expanding funding options in order to implement more of the desired improvements in a timely manner.

Local Improvement Districts (LID): This mechanism allows neighboring property owners to group together in order to improve public facilities, paying for them over time through individual assessments. LIDs are generally used to complete local street improvements, sidewalk improvements, or improvements to business districts.

Transportation Utility Fees: Transportation utility fees are charges levied on developed properties and/or residents within a city. Revenues from these fees are used to maintain local streets and transportation facilities.

Local Fuel Tax: Over two dozen Oregon cities and counties have adopted local fuel taxes, ranging from one (\$0.01) to ten (\$0.10) cents per gallon. Distributors of fuel within the city limits pay these taxes to the city monthly.

Parking District Assessment: Parking district assessments are taxes levied on property owners in parking districts in order to provide for the operation and maintenance of parking facilities.

Development Exactions: To provide adequate infrastructure in response to site-specific growth, capital improvements can be exacted as conditions of approval for building permits, subdivisions, and zoning actions. Developers may be required to complete frontage street improvements and other off-site transportation improvements to mitigate traffic impacts. Exactions are to be related to the project's measured impact on the infrastructure, known as "rational nexus".

General Obligation Bonds: Bonds are a funding mechanism for constructing capital improvement projects in the City. Voter-approved bonds are sold to fund street improvement projects. Transportation projects are usually grouped in "bond packages" that go before the public for voter approval. Voter-approved General Obligation Bonds are then supported through the City's property tax base.

City General Fund Revenues: To secure more funding to build, operate, and maintain transportation facilities, the City may choose to use general property tax dollars or an increasing share of other General Fund revenues. Using this strategy, however, places transportation system funding in direct competition with other City services that may be already obligated, such as police, fire, libraries, and parks.

Other Local Funding Mechanisms: There are several other local taxes and fees that Oregon cities may consider in funding transportation capital and operations. These include, but are not limited to employer payroll tax, and parking in-lieu fees.

THE PROJECTS

Recommended solutions were developed through an iterative process. The solutions (projects) work to address identified deficiencies in connectivity, amenities, safety, and operations with a focus on creating a balanced system able to provide travel options for a wide variety of needs and users.

Because the advancement of any project is contingent upon the availability of future funding, it is important to establish a flexible program of prioritized projects that meet the needs of diverse stakeholders while leveraging current and future funding opportunities. Ultimately, this refined and prioritized list is intended to serve as a menu of projects, with multiple factors that can be used together to assess the highest priority projects that can be completed within the available budget.

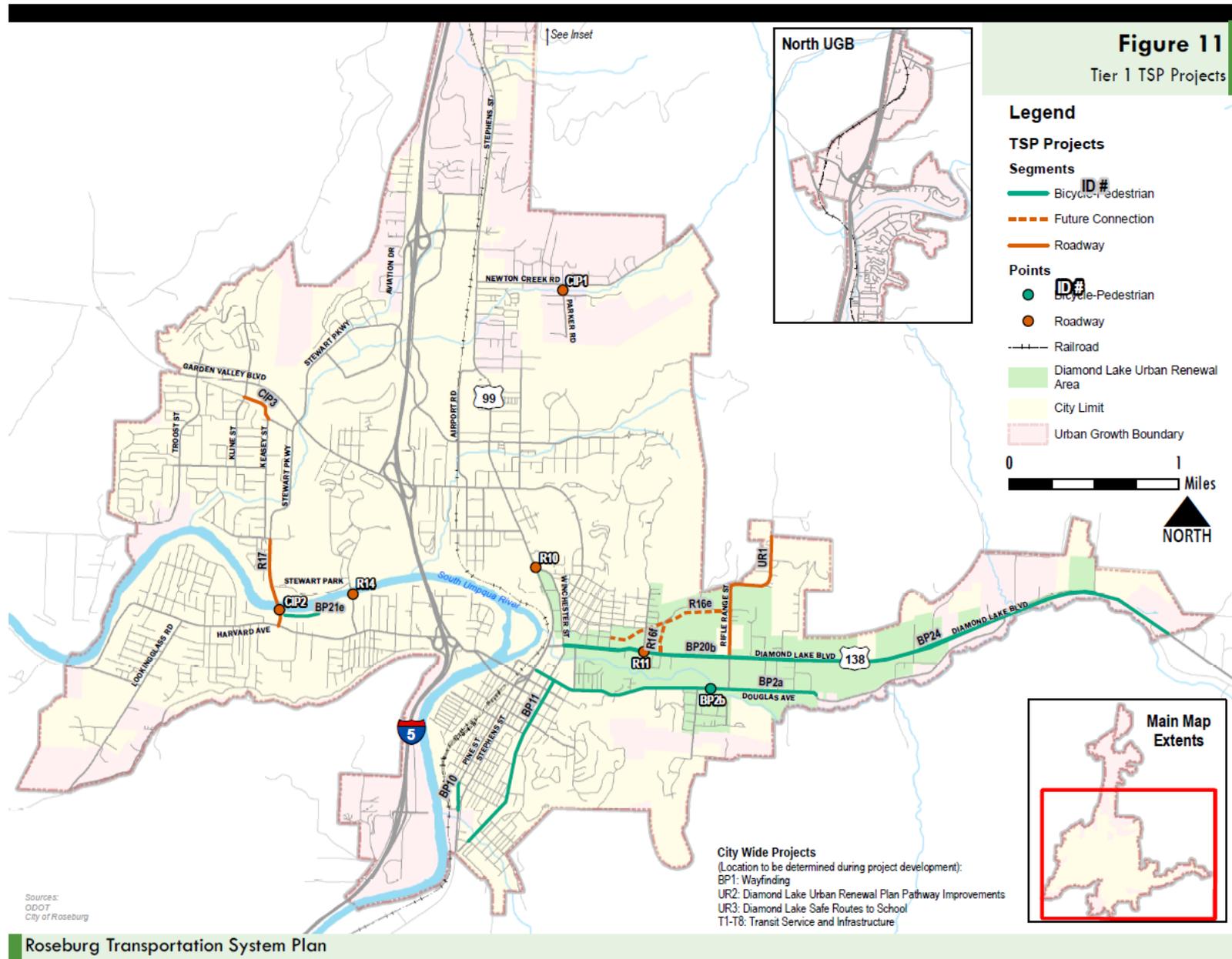
The recommended project list is composed of the following two lists, created based on each project's priority and likelihood to be funded:

1. The Tier 1 (Financially Constrained) Projects list identifies the projects (in no particular order) that could be constructed with funding anticipated through 2040. This list includes projects already committed in adopted documents and general locations are summarized in Figure 11.
2. Tier 2 (Needed but Unfunded) Projects list identifies projects (in no particular order) that are highly supported but that, due to cost or jurisdiction, were unable to be included in the Tier 1 list. Figure 12 summarizes the location of these projects and, should additional funding become available, these are projects the City may want to consider.

The City is not required to implement projects identified on the Financially Constrained Projects list first. Priorities may change over time and unexpected opportunities may arise to fund particular projects. The City is free pursue any of these opportunities at any time.

The purpose of the Tier 1 Financially Constrained Projects list is to establish reasonable expectations for the level of improvements that will occur, and give the City initial direction on where funds should be allocated. The project design elements are identified for the purpose of creating a reasonable cost estimate for planning purposes. The actual design elements for any project are subject to change and will ultimately be determined through a preliminary design and final design process, and are subject to City, Douglas County, and/or ODOT approval.

Figure 11. Tier 1 TSP Projects



TIER 1: FINANCIALLY CONSTRAINED PROJECT LIST

The Financially Constrained Project list includes projects that could, if the City desires, be constructed with funding anticipated through 2040.

Table 16. Tier 1 (Financially Constrained) Projects

TSP ID	Type	Source ¹	Name	Location	Description	Project Cost (2019 \$)	City Contribution ² (2019 \$)	Funding Source ³
BP1	Wayfinding	TSP, CIP	Citywide Bicycle Wayfinding	Citywide	Design and implement a wayfinding project to enable visitors to identify their location and destinations in and around the Heart of Roseburg.	\$25,000	\$25,000	City
BP2a*	Multimodal	TSP, DLURP, CIP	Douglas Ave Bike Facilities and Sidewalks	Douglas Ave: Fowler St to east city limit	Add sidewalk on both sides from Deer Creek to city limits and bike facilities from Fowler Street to city limits. Given the slopes found along Douglas Avenue, a mix of bike facility types may be most appropriate.	\$3.2M	\$75,000	UR, City
BP2b	Bridge	TSP, DLURP, CIP	ODOT Bridge Replacement Matches: Douglas Ave (Preliminary Engineering)	Douglas Ave Bridge	Provide preliminary engineering to replace/rehab functionally obsolete structure and provide multimodal facilities.	\$1.6M	\$159,185	City, ODOT
BP10	Sidewalk	TSP	Pine Street Sidewalks	Pine St: Rice St to south city limit	Sidewalks on the east side of Pine Street south of existing sidewalks	\$165,000	\$165,000	City
BP11	Multimodal	TSP	Main Street Sidewalks and Bike Facility	Main St: Rice Ave to Marsters Ave	Sidewalk on the east side of Main Street from Rice Avenue to Marsters Avenue, and on the west side from Hamilton Street to Marsters Avenue as well as sharrows along Main Street from Douglas Avenue to Lane Street	\$720,000	\$720,000	City
BP20b*	Multimodal	TSP, DLURP	Diamond Lake Blvd Sidewalks, power poles, easements	Diamond Lake Blvd	This concept proposes local participation in the redevelopment of Diamond Lake Blvd multimodal improvements.	\$2M	\$0	City, UR, ODOT
BP21e	Multi-use Path	TSP	Fir Grove Park Multi-Use Path	Fir Grove Park to Stewart Pkwy, along south bank of the South Umpqua River	Multi-use path connection paralleling the river between Fir Grove Park and Stewart Parkway	\$640,000	\$640,000	City

TSP ID	Type	Source ¹	Name	Location	Description	Project Cost (2019 \$)	City Contribution ² (2019 \$)	Funding Source ³
BP24	Multimodal	ODOT, TSP, DLURP	OR 138E Design Concept Plan	Diamond Lake Blvd: Stephens St to Eastern UGB	ODOT will be preparing a refinement plan of Diamond Lake Blvd that considers the corridor, connecting and parallel roadways. The plan will revisit related projects from the DLURP and this TSP to refine the concepts and enhance multi-modal access and crossings of the corridor.	TBD	\$0	ODOT
R10	Intersection	TSP, DLURP	Winchester St/Stephens St Intersection	Winchester St/Stephens St Intersection	Option A: Realign intersection to a T-intersection (stop-control) Option B: Signalize, realign and provide dual westbound right turns	\$4M	\$357,143	UR, City
R11*	Signal	TSP, DLURP	Fulton St or Lake St Traffic Control	Diamond Lake Blvd at Fulton St or Lake St	Install a traffic signal to provide a protected pedestrian crossing of Diamond Lake Blvd.	\$2.25M	\$156,250	City, UR, ODOT
R14	Bridge	TSP, CIP	ODOT Bridge Replacement Matches: Stewart Park Dr	Stewart Park Dr Bridge	Replace/rehab functionally obsolete structure.	\$4.8M	\$491,132	City, ODOT
R16e*	Multimodal, Roadway	TSP, DLURP	Commercial Ave Extension (Phase 1)	Commercial Ave: Fulton St to Rifle Range St	Extend Commercial Avenue between Fulton Street and Rifle Range Street	\$500,000	\$0	UR
R16f*	Multimodal, Roadway	TSP, DLURP	Champion Site Connection to Diamond Lake (Klamath Ave Extension) (Phase 1)	Klamath Ave: Fulton St to Rifle Range St	Extend Klamath Avenue between Fulton Street and Rifle Range Street	\$2M	\$200,000	City, UR
R17	Multimodal, Roadway	TSP, CIP	Stewart Pkwy - Harvey South Design	Stewart Pkwy: Harvey Ave to Harvard Ave	This project would design the final phase of the Stewart Parkway Improvements (multimodal facilities and new structure).	\$1M	\$1M	City
CIP1	Bridge	CIP	ODOT Bridge Replacement Matches: Parker Rd	Parker Rd Bridge	Replace/rehab functionally obsolete structure.	\$4M	\$362,000	City, ODOT
CIP2	Roadway	CIP	Stewart Parkway Bridge Approaches	Stewart Pkwy Bridge	This project will address the issues with the bridge approaches.	\$300,000	\$300,000	City
CIP3	Multimodal, Roadway	TSP, CIP	Valley View Dr Improvements	Valley View Dr:	This project would improve Valley View Drive between Keasey St and Kline St.	\$TBD	\$100,000	City, LID

TSP ID	Type	Source ¹	Name	Location	Description	Project Cost (2019 \$)	City Contribution ² (2019 \$)	Funding Source ³
UR1*	Multimodal, Roadway	DLURP, CIP	Rifle Range St North of Diamond Lake Blvd	Rifle Range St: Diamond Lake Blvd to city limits	Provide full street/multi modal improvements to Rifle Range Street from Diamond Lake Boulevard to the city limits.	\$2.3M	\$300,000	UR, City, LID
UR2*	Multi-use Path	DLURP	DLURP Pathway improvements	Diamond Lake Urban Renewal Area	Local participation in pathway improvement in the urban renewal	\$1M	\$250,000	UR
UR3*	Pedestrian	DLURP	Safe Routes to School Diamond Lake Blvd to Douglas Ave	Diamond Lake Urban Renewal Area (Diamond Lake Blvd to Douglas Ave)	Provide local participation in "Safe Routes to Schools" in the Area. (pedestrian bridge)	\$3M	\$875,000	UR, City, ODOT
T1	Transit	TSP	Purchase of Additional Buses	N/A	Add buses to existing fleet	TBD	\$0	Transit District
T2	Transit	TSP	New Transit Center	TBD	Construct a new transit center in or near the downtown area	TBD	\$0	Transit District
T3	Transit	TSP	New Maintenance Facility	TBD	Construct a new maintenance facility	TBD	\$0	Transit District
T4	Transit	TSP	Stop Amenities and Accessibility	Varies	Add shelters, seating, lighting, waste bins, and/or traveler information	TBD	\$0	Transit District
T5	Transit	TSP	Increased Frequencies	Citywide	Increase transit frequency (reduced headways)	TBD	\$0	Transit District
T6	Transit	TSP	New Routes	TBD	Expand transit service through new routes	TBD	\$0	Transit District
T7	Transit	TSP	Transit ITS	Citywide	Transit Signal Priority (systems that seek to improve schedule adherence by reducing bus delay at signalized interactions) and communication of real-time bus arrival information to rider	TBD	\$0	Transit District
T8	Transit	TSP	Increased Dial-a-Ride Service	Citywide	This concept would provide increased Dial-a-Ride service hours and increased coordination with existing and future fixed route services.	TBD	\$0	Transit District
Total City Contribution to Tier 1 Project Costs						\$6,455,710		

1. Source = Source of Project; TSP = Transportation System Plan, DLURP = Diamond Lake Urban Renewal Plan, CIP = Capital Improvement Plan

2. Estimated contributed from City within the 20-year planning horizon

3. Funding Source = Likely funding source/revenue streams; City = City of Roseburg, UR = Urban Renewal, ODOT = Oregon Department of Transportation, LID = Local Improvement District, Transit District = Douglas County Transit District

*Project details to be refined during development of the OR 138E Design Concept Plan (project BP24)

TIER 1 PROJECT BENEFITS/IMPACTS

As part of the concept evaluation process, the proposed projects were evaluated to determine their benefits and impacts to natural resources, transportation disadvantaged communities, the various modes, and safety. Projects that are unique to the CIP and DLURP were not evaluated as part of this process as they already had an identified funding source. The details of this process are outlined in *Technical Memorandum #5* (included in Volume 2 of the TSP) and the summary for the Tier 1 projects developed as part of the TSP are listed in the table below.

Table 17. Tier 1 Projects: Benefits/Impacts

Area of Interest	Benefits	Impacts
BP1 – Wayfinding		
Natural and historic resources conflicts	N/A	Impacts to be determined by location, but anticipated to be none or minimal.
Title VI and Environmental Justice	Improves wayfinding to community features (parks, employment, etc.)	N/A
Vehicle Miles Traveled (VMT)	Provides improved bicycle route options, with possible VMT reduction.	N/A
Bicycle Level of Traffic Stress (BLTS)	Not anticipated to change BLTS rating of existing facilities, but could route bicycles onto roads that are lower stress.	N/A
Qualitative pedestrian/transit assessment	Pedestrian: No change Transit: No change	N/A
Bicycle/Pedestrian facilities and network	Improves bicycle connectivity.	N/A
Vehicular transportation facilities and network	Notifies vehicles to presence of cyclists.	N/A
Transit system	Could improve access to transit through wayfinding.	N/A
Rail and freight networks	N/A	N/A
Safety	Benefits safety by directing bicyclists to facilities with less vehicular volumes and lower posted speeds.	N/A
BP2 – Douglas Ave Bike Facilities and Sidewalks		
Natural and historic resources conflicts	N/A	Impacts likely. Site of bridge widening located in floodplain.
Title VI and Environmental Justice	Provides bicycle and pedestrian connectivity to area of low income and youth population.	N/A

Area of Interest	Benefits	Impacts
Vehicle Miles Traveled (VMT)	Provides additional bike access with possible VMT reduction.	N/A
Bicycle Level of Traffic Stress (BLTS)	Improves from LTS 4 to LTS 3 or LTS 2, depending on use of bike lane vs. sharrows, the width of the bike lanes, and traffic calming improvements implemented.	Bicycle sharrows are less desirable than bicycle lanes.
Qualitative pedestrian/transit assessment	Pedestrian: Improves from 'poor' to 'good'	
Bicycle/Pedestrian facilities and network	Transit: No change	
Vehicular transportation facilities and network		Transit: No change
Transit system	Provides bicycle connectivity east of downtown, where no formal facilities currently exist, and fills gaps in the Douglas Avenue pedestrian network.	N/A
Rail and freight networks	N/A	Uphill bike lanes requires narrowing of travel lanes and/or removal of on-street parking.
Safety	N/A	N/A
BP10 – Pine Street Sidewalks		
Natural and historic resources conflicts	N/A	N/A
Title VI and Environmental Justice	Benefits populations by increasing non-auto transportation connectivity, but this concept is short segment without access to significant community features.	N/A
Vehicle Miles Traveled (VMT)	This facility would provide additional pedestrian access with minimal VMT reduction.	N/A
Bicycle Level of Traffic Stress (BLTS)	N/A	N/A
Qualitative pedestrian/transit assessment	Pedestrian: Improves from 'fair' to 'good' Transit: No change	N/A
Bicycle/Pedestrian facilities and network	Fills gap in pedestrian network.	N/A
Vehicular transportation facilities and network	N/A	N/A

Area of Interest	Benefits	Impacts
Transit system	N/A	N/A
Rail and freight networks	N/A	N/A
Safety	Does not specifically address a documented safety concern, but has safety benefits for pedestrians.	N/A
BP11 – Main Street Sidewalks and Bike Facility		
Natural and historic resources conflicts	N/A	N/A
Title VI and Environmental Justice	Provides bicycle and pedestrian connectivity to area of low income and youth population.	N/A
Vehicle Miles Traveled (VMT)	This facility would provide additional bike and pedestrian access with possible VMT reduction.	N/A
Bicycle Level of Traffic Stress (BLTS)	No change in BLTS	N/A
Qualitative pedestrian/transit assessment	Pedestrian: Improves from 'fair' to 'good' south of Lane Ave Transit: No change	N/A
Bicycle/Pedestrian facilities and network	- Provides bicycle connectivity through downtown on road with lower traffic speeds and volumes. -Fills existing gap in Main St pedestrian network.	N/A
Vehicular transportation facilities and network	Notifies vehicles to presence of cyclists.	N/A
Transit system	N/A	N/A
Rail and freight networks	N/A	N/A
Safety	Does not specifically address a documented safety concern, but has safety benefits for bicycles and pedestrians.	N/A
BP20b – Diamond Lake Blvd Sidewalks, power poles, easements (Further Study of Diamond Lake Blvd)		
Natural and historic resources conflicts	N/A	N/A
Title VI and Environmental Justice	Provides pedestrian connectivity to area of low income and youth population.	N/A
Vehicle Miles Traveled (VMT)	This facility would provide additional pedestrian access with possible VMT reduction.	N/A

Area of Interest	Benefits	Impacts
Bicycle Level of Traffic Stress (BLTS)	No change in BLTS	N/A
Qualitative pedestrian/transit assessment	Pedestrian: Could improve to “good” or “excellent” depending on the design features Transit: No change	N/A
Bicycle/Pedestrian facilities and network	- Provides bicycle connectivity to east Roseburg and underserved populations -Fills existing gap in pedestrian network.	N/A
Vehicular transportation facilities and network	Notifies vehicles to presence of cyclists.	N/A
Transit system	Could improve access to transit	N/A
Rail and freight networks	N/A	N/A
Safety	Provides a formal pedestrian facility on a high-volume, high-speed corridor.	N/A
BP21e – Fir Grove Park Multi-Use Path		
Natural and historic resources conflicts	N/A	Exact alignment not yet determined, but could have right-of-way impacts.
Title VI and Environmental Justice	Provides bicycle connectivity to community features.	N/A
Vehicle Miles Traveled (VMT)	Would provide additional bike access with possible VMT reduction.	N/A
Bicycle Level of Traffic Stress (BLTS)	Separated multi-use paths will have a BLTS of 1.	N/A
Qualitative pedestrian/transit assessment	Pedestrian: Multi-use paths would be ‘good’ or ‘excellent’ depending on design elements and topography. Transit: N/A	N/A
Bicycle/Pedestrian facilities and network	Provides new separated bike and pedestrian connections to community features.	N/A
Vehicular transportation facilities and network	N/A	N/A
Transit system	N/A	N/A
Rail and freight networks	N/A	N/A

Area of Interest	Benefits	Impacts
Safety	Has safety benefits for pedestrians and cyclists.	Proper lighting and public safety measures may be needed to enforce prohibited uses.
R10 – Winchester St/Stephens St Intersection (Options A and B)		
Natural and historic resources conflicts	N/A	Both options impact existing right of way and repurpose existing pavement.
Title VI and Environmental Justice	Protected pedestrian crossings benefit Title VI and Environmental Justice populations.	N/A
Vehicle Miles Traveled (VMT)	N/A	Unlikely to decrease VMT.
Bicycle Level of Traffic Stress (BLTS)	No change	No change, remains BLTS 3 at best
Qualitative pedestrian/transit assessment	Pedestrian: May improve to 'good' at intersection Transit: No change	Pedestrian: N/A Transit: No change
Bicycle/Pedestrian facilities and network	Options A and B improve visibility of pedestrians and bicyclists and provides more clearly defined routes.	N/A
Vehicular transportation facilities and network	- Options A and B improve the sight distance vehicles traveling from Winchester St north to Stephens St. - Option B provides additional capacity for westbound right-turn movement	- Option A would not meet mobility targets.
Transit system	N/A	N/A
Rail and freight networks	- Options A and B improve the sight distance vehicles traveling from Winchester St north to Stephens St. - Option B provides additional capacity for westbound right-turn movement	- Option A would not meet mobility targets.
Safety	Options B and C reduce the likelihood of northbound angle collisions.	N/A
R11 – Fulton St or Lake St Traffic Control		
Natural and historic resources conflicts	N/A	N/A
Title VI and Environmental Justice	Protected pedestrian crossings benefit Title VI and Environmental Justice populations.	N/A
Vehicle Miles Traveled (VMT)	N/A	Unlikely to decrease VMT.

Area of Interest	Benefits	Impacts
Bicycle Level of Traffic Stress (BLTS)	No change	No change, remains BLTS 4 on Diamond Lake Blvd
Qualitative pedestrian/transit assessment	Pedestrian: May improve from 'fair' to 'good' at intersection Transit: No change	Pedestrian: N/A Transit: No change
Bicycle/Pedestrian facilities and network	Provides a protected crossing of Diamond Lake Blvd.	
Vehicular transportation facilities and network	Decreases the queuing and the delay for southbound and northbound through and left-turn movements.	Disrupts the flow of traffic on Diamond Lake Blvd and increases the delay for east-west traffic.
Transit system	N/A	N/A
Rail and freight networks	Decreases the queuing and the delay for southbound and northbound through and left-turn movements.	Disrupts the flow of traffic on Diamond Lake Blvd and increases the delay for east-west traffic.
Safety	Does not specifically address a documented safety concern, but has safety benefits for bicycles and pedestrians.	Traffic signals can increase the occurrence of rear end collisions.
R14 – ODOT Bridge Replacement Matches: Stewart Park Dr		
Natural and historic resources conflicts	Could potentially use existing footings.	This concept would span the South Umpqua River, likely having impacts on sensitive lands and lands within the 100-year floodplain.
Title VI and Environmental Justice	Improved vehicle, bicycle, and pedestrian connectivity benefits Title VI and Environmental Justice populations.	N/A
Vehicle Miles Traveled (VMT)	N/A	Unlikely to decrease VMT.
Bicycle Level of Traffic Stress (BLTS)	BLTS improves from BLTS 3 to BLTS 1 or 2, depending on design.	N/A
Qualitative pedestrian/transit assessment	Pedestrian: Could be 'good' or 'excellent' depending on design. Transit: No change	Pedestrian: N/A Transit: No change
Bicycle/Pedestrian facilities and network	Improves river crossing opportunities for cyclists and pedestrians to community features and the existing multi-use path/trail system.	N/A
Vehicular transportation facilities and network	Provides enhanced/secure connectivity for vehicle travel.	N/A
Transit system	May provide opportunities for new routing.	N/A
Rail and freight networks	New bridge would not have existing weight restrictions.	N/A

Area of Interest	Benefits	Impacts
Safety	Improved structure benefits safety and resiliency.	N/A
R16e – Commercial Ave Extension (Phase 1)		
Natural and historic resources conflicts	N/A	Roadway alignments yet to be determined. ROW impacts likely.
Title VI and Environmental Justice	Could improve multi-modal access to transportation disadvantaged communities.	N/A
Vehicle Miles Traveled (VMT)	N/A	Unlikely to decrease VMT.
Bicycle Level of Traffic Stress (BLTS)	New roads would meet City standards and likely result in BLTS 2 rating, at a minimum.	N/A
Qualitative pedestrian/transit assessment	Pedestrian: New roads would meet City standards and result in 'good' rating, at a minimum. Transit: No change	Pedestrian: N/A Transit: No change
Bicycle/Pedestrian facilities and network	May increase pedestrian and bike connectivity.	Concept may increase vehicle volumes on extended routes, creating a more uncomfortable environment for cyclists.
Vehicular transportation facilities and network	Provides increased connectivity for vehicle travel.	N/A
Transit system	May provide opportunities for new routing.	N/A
Rail and freight networks	Provides increased connectivity for vehicle travel.	N/A
Safety	N/A	N/A
R16f – Champion Site Connection to Diamond Lake (Klamath Ave Extension) (Phase 1)		
Natural and historic resources conflicts	N/A	Roadway alignments yet to be determined. ROW impacts likely.
Title VI and Environmental Justice	Could improve multi-modal access to transportation disadvantaged communities.	N/A
Vehicle Miles Traveled (VMT)	N/A	Unlikely to decrease VMT.
Bicycle Level of Traffic Stress (BLTS)	New roads would meet City standards and likely result in BLTS 2 rating, at a minimum.	N/A
Qualitative pedestrian/transit assessment	Pedestrian: New roads would meet City standards and result in 'good' rating, at a minimum. Transit: No change	Pedestrian: N/A Transit: No change

Area of Interest	Benefits	Impacts
Bicycle/Pedestrian facilities and network	May increase pedestrian and bike connectivity.	Concept may increase vehicle volumes on extended routes, creating a more uncomfortable environment for cyclists.
Vehicular transportation facilities and network	Provides increased connectivity for vehicle travel.	N/A
Transit system	May provide opportunities for new routing.	N/A
Rail and freight networks	Provides increased connectivity for vehicle travel.	N/A
Safety	N/A	N/A
R17 – Stewart Pkwy - Harvey South Design (Benefits/Impacts measure the Construction of the project)		
Natural and historic resources conflicts	Could potentially use existing footings.	This concept would span the South Umpqua River, likely having impacts on sensitive lands and lands within the 100-year floodplain.
Title VI and Environmental Justice	Improved vehicle, bicycle, and pedestrian connectivity benefits Title VI and Environmental Justice populations.	N/A
Vehicle Miles Traveled (VMT)	N/A	Unlikely to decrease VMT.
Bicycle Level of Traffic Stress (BLTS)	BLTS could improve to BLTS 1 or 2, depending on design.	N/A
Qualitative pedestrian/transit assessment	Pedestrian: Could be 'good' or 'excellent' depending on design. Transit: No change	Pedestrian: N/A Transit: No change
Bicycle/Pedestrian facilities and network	Improves river crossing opportunities for cyclists and pedestrians, as well as connections to community attractions/recreational opportunities	N/A
Vehicular transportation facilities and network	Provides enhanced/secure connectivity for vehicle travel.	N/A
Transit system	May provide opportunities for new routing.	N/A
Rail and freight networks	New bridge would not have existing weight restrictions.	N/A
Safety	Improved structure benefits safety and resiliency.	N/A
T1 – Purchase of Additional Buses		
Natural and historic resources conflicts	N/A	N/A

Area of Interest	Benefits	Impacts
Title VI and Environmental Justice	Increased access and frequency of transit is a benefit to Title VI and Environmental Justice populations.	N/A
Vehicle Miles Traveled (VMT)	This would add transit miles travelled but has potential to decrease overall VMT by providing alternatives to single occupancy vehicle use.	N/A
Bicycle Level of Traffic Stress (BLTS)	N/A	N/A
Qualitative pedestrian/transit assessment	Pedestrian: No change Transit: Increased access and frequency of transit could result in 'good' service (currently 'fair')	N/A
Bicycle/Pedestrian facilities and network	N/A	N/A
Vehicular transportation facilities and network	N/A	N/A
Transit system	Expands transit system.	May require additional maintenance and storage capacity.
Rail and freight networks	N/A	N/A
Safety	N/A	N/A
T2 – New Transit Center		
Natural and historic resources conflicts	N/A	N/A: Site location not yet determined.
Title VI and Environmental Justice	Increased access to transit is a benefit to Title VI and Environmental Justice populations.	N/A
Vehicle Miles Traveled (VMT)	Likely decreases overall VMT by providing alternatives to single occupancy vehicle use.	N/A
Bicycle Level of Traffic Stress (BLTS)	N/A	N/A
Qualitative pedestrian/transit assessment	Pedestrian: No change Transit: Increased access of transit could result in 'good' service (currently 'fair')	N/A
Bicycle/Pedestrian facilities and network	N/A	N/A
Vehicular transportation facilities and network	Separates transit transfer locations from vehicular traffic.	N/A

Area of Interest	Benefits	Impacts
Transit system	Expands transit system.	N/A
Rail and freight networks	N/A	N/A
Safety	N/A	N/A
T3 – New Maintenance Facility		
Natural and historic resources conflicts	N/A	N/A: Site location not yet determined.
Title VI and Environmental Justice	Enhanced transit amenities benefit Title VI and Environmental Justice populations.	N/A
Vehicle Miles Traveled (VMT)	Likely decreases overall VMT by providing alternatives to single occupancy vehicle use.	N/A
Bicycle Level of Traffic Stress (BLTS)	N/A	N/A
Qualitative pedestrian/transit assessment	Pedestrian: No change Transit: Benefits transit, but does not improve the qualitative assessment as a standalone project.	N/A
Bicycle/Pedestrian facilities and network	N/A	N/A
Vehicular transportation facilities and network	N/A	N/A
Transit system	Expands transit system and provides ability to accommodate electric buses.	N/A
Rail and freight networks	N/A	N/A
Safety	N/A	N/A
T4 – Stop Amenities and Accessibility		
Natural and historic resources conflicts	N/A	N/A: Site location not yet determined.
Title VI and Environmental Justice	Enhanced transit amenities benefit Title VI and Environmental Justice populations by increasing comfort, safety and accessibility.	N/A
Vehicle Miles Traveled (VMT)	Likely decreases overall VMT by providing alternatives to single occupancy vehicle use.	N/A

Area of Interest	Benefits	Impacts
Bicycle Level of Traffic Stress (BLTS)	N/A	N/A
Qualitative pedestrian/transit assessment	Pedestrian: No change Transit: Increased amenities could result in 'good' assessment (currently 'fair')	N/A
Bicycle/Pedestrian facilities and network	Increases comfort and safety of pedestrians.	N/A
Vehicular transportation facilities and network	N/A	N/A
Transit system	Improves amenities.	N/A
Rail and freight networks	N/A	N/A
Safety	Does not specifically address a documented safety concern, but has safety benefits for pedestrians.	N/A
T5 – Increased Frequency		
Natural and historic resources conflicts	N/A	N/A
Title VI and Environmental Justice	Increased frequency of transit decreases transit journey times, enhanced mobility, and increased resilience to service disruptions.	N/A
Vehicle Miles Traveled (VMT)	This would add transit miles travelled but has potential to decrease overall VMT by providing alternatives to single occupancy vehicle use.	N/A
Bicycle Level of Traffic Stress (BLTS)	N/A	N/A
Qualitative pedestrian/transit assessment	Pedestrian: No change Transit: Increased access and frequency of transit could result in 'good' service (currently 'fair')	N/A
Bicycle/Pedestrian facilities and network	N/A	N/A
Vehicular transportation facilities and network	N/A	N/A
Transit system	Enhances transit system, reduces transit journey times and increases flexibility. May require additional maintenance.	N/A
Rail and freight networks	N/A	N/A

Area of Interest	Benefits	Impacts
Safety	Does not specifically address a documented safety concern, but has safety benefits for pedestrians.	N/A
T6 – New Routes		
Natural and historic resources conflicts	N/A	N/A
Title VI and Environmental Justice	Expands service to Title VI and Environmental Justice populations.	N/A
Vehicle Miles Traveled (VMT)	This would add transit miles travelled but has potential to decrease overall VMT by providing alternatives to single occupancy vehicle use.	N/A
Bicycle Level of Traffic Stress (BLTS)	N/A	N/A
Qualitative pedestrian/transit assessment	Pedestrian: No change Transit: New route could result in 'good' service with adequate service and frequency (currently 'fair').	N/A
Bicycle/Pedestrian facilities and network	N/A	N/A
Vehicular transportation facilities and network	N/A	N/A
Transit system	Enhances transit system and increases flexibility. May require additional maintenance. Increases system complexity/coordination.	N/A
Rail and freight networks	N/A	N/A
Safety	Does not specifically address a documented safety concern, but has safety benefits for pedestrians.	N/A
T7 – Transit ITS		
Natural and historic resources conflicts	N/A	N/A
Title VI and Environmental Justice	N/A	N/A
Vehicle Miles Traveled (VMT)	N/A	N/A
Bicycle Level of Traffic Stress (BLTS)	N/A	N/A

Area of Interest	Benefits	Impacts
Qualitative pedestrian/transit assessment	Pedestrian: N/A Transit: Can improve service to 'good' from 'fair' by improving rider expectations and improved service	N/A
Bicycle/Pedestrian facilities and network	N/A	N/A
Vehicular transportation facilities and network	N/A	N/A
Transit system	Enhances travel time reliability and reduced travel times.	N/A
Rail and freight networks	N/A	N/A
Safety	N/A	N/A
T8 – Increased Dial-a-Ride Service		
Natural and historic resources conflicts	N/A	N/A
Title VI and Environmental Justice	Expands service to Title VI and Environmental Justice populations.	N/A
Vehicle Miles Traveled (VMT)	This would add transit miles travelled but has potential to decrease overall VMT by providing alternatives to single occupancy vehicle use.	N/A
Bicycle Level of Traffic Stress (BLTS)	N/A	N/A
Qualitative pedestrian/transit assessment	Pedestrian: No change Transit: Can improve service to 'good' from 'fair' by improving rider expectations and improved service	N/A
Bicycle/Pedestrian facilities and network	N/A	N/A
Vehicular transportation facilities and network	N/A	N/A
Transit system	Enhances transit for riders requiring special accommodations or connections between points not well served by fixed route.	N/A
Rail and freight networks	N/A	N/A
Safety	Does not specifically address a documented safety concern, but has safety benefits for pedestrians.	N/A

TIER 2: NEEDED BUT UNFUNDED

The Tier 2 Projects list identifies projects classified as “Needed but Unfunded”, also referred to during the planning process as “Aspirational.” The projects are highly supported but, because of their cost or jurisdiction, were unable to be included in the Tier 1 list. Should additional funding become available, these are projects the City may want to consider.

Figure 12. Tier 2 TSP Projects

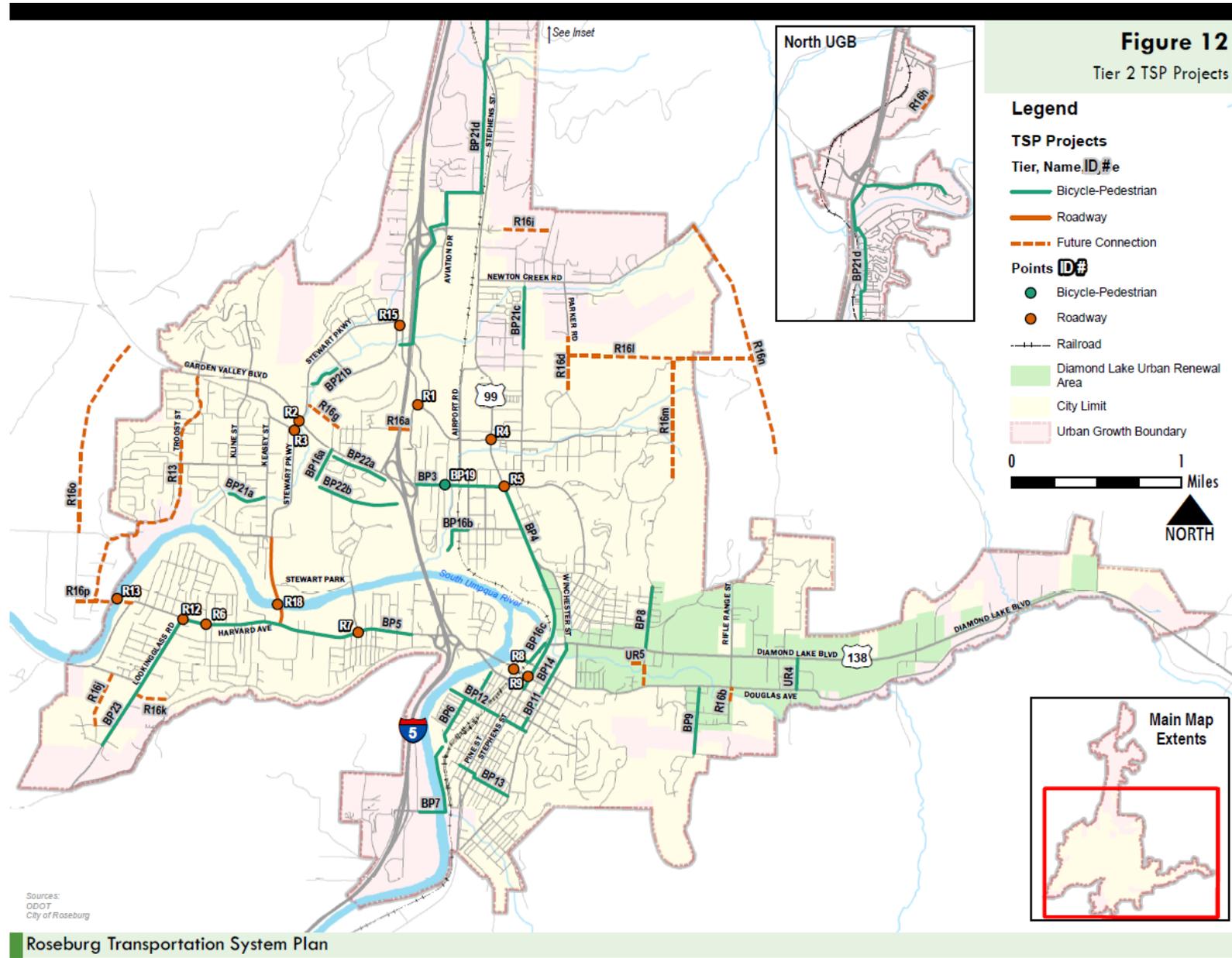


Table 18. Tier 2 (Needed but Unfunded) Projects

ID	Type	Name	Location	Description	Project Cost (2019 \$)	Jurisdiction
BP3	Sidewalk	Garden Valley Boulevard Shared Use Sidewalks	Garden Valley Blvd: I-5 to Stephens St	Widen sidewalk to 10' on both sides	\$2.3M	City
BP4	Bicycle	Stephens Street Bike Facility (Alternate Route)	Stephens St: Garden Valley Blvd to Diamond Lake Blvd	Provide bicycle facilities on local system as alternate route to Stephens St	\$220,000	City
BP5	Sidewalk	West Harvard Avenue Shared Use Sidewalk	Harvard Ave: Lookingglass Rd to Umpqua St	Widen sidewalk to 10' on north side	\$3.9M	City
BP6	Sharrow	South Umpqua River Sharrow Connections through Downtown	Local roads downtown	Sharrows would continue south from the north end of Flint Street, where the existing multi-use path terminates, and extend to Micelli Park via Flint Street, Mosher Avenue, and Fullerton Street.	\$14,000	City
BP7	Multimodal	South Umpqua River Multi-Use Path and Portland Avenue River Crossing	Bridge: Portland Ave to Micelli Park	This concept would build a new multi-use path river crossing at Portland Avenue and a new multi-use path connection from this bridge to the new bike facilities in Micelli Park	\$3.2M	City
BP8*	Multimodal	Fulton Street Sidewalks and Bike Facility	Fulton St: Diamond Lake Blvd to north end of public street	Upgrade the street to minor collector standards with bike/ped facilities	\$1.3M	City
BP9	Sidewalk	Ramp Road Sidewalk	Ramp Rd (half street)	Add sidewalks on the west side of Ramp Road	\$1.8M	City/County
BP12	Sharrows	Mosher Avenue Bike Facility and Railroad Crossing Improvements	Mosher Ave: Main St to S. Umpqua River	Sharrows on Mosher Avenue, improved pedestrian facilities at the railroad crossing. Signage would be added to provide guidance to bicyclists and motorists to share the road.	\$632,000	City
BP13	Sharrow	Burke Street/Roberts Avenue Sharrows	Burke St and Roberts Ave	Sharrows on Burke Street and Roberts Avenue. Enhanced wayfinding signage may be necessary to direct travelers to the existing crossings of Pine Street and Stephens Street.	\$420,000	City
BP14	Sharrows	Jackson Street Bike Facility	Jackson St: Diamond Lake Blvd to Douglas Ave; Jackson St: Douglas Ave to Mosher Ave	Sharrows along Jackson Street from Diamond Lake Boulevard to Douglas Avenue as well as along the one-way portion of Jackson Street from Douglas Avenue to Mosher Avenue	\$87,000	City

ID	Type	Name	Location	Description	Project Cost	
					(2019 \$)	Jurisdiction
BP16a	Multi-use Path	Duck Pond Trail Wayfinding and Connections on Existing Infrastructure	Duck Pond Street	The path on the west side of the parking would be formalized with signage to establish the area as a multi-use path. The remaining connection to Garden Valley Boulevard would be a continuation of the multi-use path on the west side of Duck Pond Street.	\$350,000	City
BP16b	Multi-use Path	Gaddis Park Trail Wayfinding and Connections on Existing Infrastructure	Gaddis Park	Sharrows connection along Chestnut Avenue and Highland Street to fill in gap between existing facilities on Cedar Street (north of Chestnut Avenue) and on Chestnut Avenue (east of Cedar Street) and the trails in Gaddis Park	\$110,000	City
BP16c	Multi-use Path	Pine Street Trail Wayfinding and Connections on Existing Infrastructure	Pine Street	Links the trail through Deer Creek Park along Pine Street, Douglas Avenue, and Spruce Street to the existing one-way bike lane along Stephens Street. The multi-use path would continue on the north side of Pine Street, and then a bike lane along Douglas Avenue to connect to the existing multi-use path along the South Umpqua River.	\$180,000	City
BP17	Transit Pull Out	Garden Valley Boulevard and Stephens Street Transit Stops	Varies	Require developers to provide transit stop amenities and an update to the include in-lane far-side transit stops at least 30 feet from intersection to avoid bus interference with side street traffic flow	--	Developer
BP18	Sharrows	Calkins Avenue Sharrows	Calkins Ave: Grove Ln to Keasey St	Sharrows on Calkins Avenue between Grove Lane and Keasey Street with wayfinding to nearby trail system	\$330,000	City
BP19	Midblock Crossing	Garden Valley Boulevard Midblock Crossing	Garden Valley Blvd at Fairmount Ave/Highland St	Midblock HAWK crossing near Garden Valley Boulevard at Fairmount Avenue/Highland Street, providing an interconnect with the I-5 Exit 125 ramp signal. Widen the sidewalks on Garden Valley to more comfortably accommodate cyclists and install sharrows on Fairmount Avenue and Highland Street to formalize a bicycle route.	\$440,000	City
BP20a	Corridor	Garden Valley Boulevard Arterial Upgrade	Garden Valley Blvd Diamond Lake Blvd	This concept proposes more detailed study of opportunities to improve traffic flow and provide multimodal accommodations and new pedestrian crossings.	\$3M	City/ODOT
BP20c	Corridor	Harvard Avenue Arterial Upgrade	Harvard Avenue	This concept proposes more detailed study of opportunities to improve traffic flow and provide multimodal accommodations and new pedestrian crossings.	\$1M	City
BP21a	Multi-use Path	Newton Creek New Multi-Use Paths	YMCA (Harvey) to Hucrest Elementary, via Newton Creek	Multi-use path paralleling Newtown Creek between Jefferson Street and Keasey Street	\$400,000	City

ID	Type	Name	Location	Description	Project Cost	
					(2019 \$)	Jurisdiction
BP21b	Multi-use Path	Charles Gardiner Park New Multi-Use Paths	Charles Gardiner Park Connection to Stewart Pkwy and Garden Valley Blvd	Extend the existing multi-use path that parallels Newton Creek through Charles Gardiner Park. This option would extend this path west of Renann Street, paralleling Newton Creek to the Stewart Parkway access to the Walmart Supercenter.	\$180,000	City
BP21c	Multi-use Path	Vine St to Newton Creek New Multi-Use Paths	North end of Vine St to Newton Creek Rd	New multi-use path between the north end of Vine Street and Newton Creek Road	\$1M	City
BP21d	Multi-use Path	I-5 Frontage New Multi-Use Paths	North-south through City along I-5 frontage on west side and continuing to UCC	New multi-use path connections: roughly parallel I-5 and Stephens Street and provide connections to existing facilities in the existing bike network where possible, including the existing path paralleling I-5 between Garden Valley Boulevard and the river. Create path from Club Ave (Winchester) to Page Rd via utility ROW to connect to UCC.	\$920,000	City/County
BP21e	Multi-use Path	Fir Grove Park to Stewart Pkwy New Multi-Use Paths	Fir Grove Park to Stewart Pkwy, along south bank of the South Umpqua River	Multi-use path connection paralleling the river between Fir Grove Park and Stewart Parkway	\$640,000	City
BP22	Bicycle	New Bike Connection – Duck Pond Street to I-5 Multi-use Path	Duck Pond Street to I-5 Multi-use Path (GVB or VA options)	This concept would provide a separated bike facility, such as a multi-use path or two-way cycle track, to connect the existing multi-use path facilities found along Duck Pond Street and I-5. Option A: Within GVB right of way (cycle track or multi use path) Option B: Through VA campus	\$680,000	City/VA
BP23	Sidewalk	Lookingglass Rd sidewalks	Lookingglass Rd: Harvard Ave to city limits	Add sidewalks to both sides of the street	\$3M	City
R1	Intersection	Stewart Parkway at Aviation Drive/Mulholland Drive Operations and Safety	Stewart Pkwy at Aviation Dr/Mulholland Dr	Add a dedicated southeast right-turn lane from Stewart Parkway to Mulholland Drive	\$905,000	City
R2	Intersection	Garden Valley Boulevard at Stewart Parkway Dual Turn Lanes	Garden Valley Blvd at Stewart Pkwy	Add eastbound and westbound dual left-turns from Garden Valley Boulevard to Stewart Parkway and dual southbound right-turn lanes from Stewart Parkway to Garden Valley Boulevard	\$1.4M	City
R3	Access Management	Stewart Parkway at Valley View Drive Access Management	Stewart Pkwy at Valley View Dr	Restrict the eastbound left-turns from Valley View Drive to Stewart Parkway (Right-in/Right-out/Left-in)	\$87,000	City

ID	Type	Name	Location	Description	Project Cost	
					(2019 \$)	Jurisdiction
R4	Intersection	Stewart Parkway at Stephens Street turn lanes	Stewart Pkwy at Stephens St	Option A: Add dual northbound left-turn lanes Option B: Dedicated westbound and southbound right-turn lanes	\$1.9M	City
R5	Intersection	Garden Valley Boulevard at Stephens St Turn Lanes	Garden Valley Blvd at Stephens St	Dual eastbound left-turns on Garden Valley Boulevard and dedicated southbound and northbound right-turn on Stephens Street. Project would provide an opportunity for access management of impacted driveways.	\$3.2M	City
R6	Traffic Control	Harvard Avenue at Broccoli Street traffic control	Harvard Ave at Broccoli St	Install either traffic signal or roundabout if side street delays become a concern in the future.	\$940,000	City
R7	Intersection	Harvard Avenue at Centennial Drive/Stewart Park Drive Restriping	Harvard Ave at Centennial Dr/Stewart Park Dr	Restripe the north leg of the intersection to allow for dual southbound left-turns. Centennial Drive/Stewart Park would be striped as a southbound left and southbound left/right-turn lane	\$200,000	City
R8	Access Management	Washington Avenue at Spruce Street Access Management	Washington Ave at Spruce St	Eliminate northbound movements by creating a curb extension or bulb-out to prevent the movements and adding "No outlet" signage at the intersection of Oak Avenue and Spruce Street. Another variation of this option may be to prohibit vehicles from turning left from Oak Street onto Spruce Street, which would dramatically reduce the number of northbound vehicles at the Washington Avenue intersection	\$140,000	ODOT/City
R9	Signal Timing	Stephens Street at Washington Avenue Pedestrian Timing	Stephens St at Washington Ave	This concept extends the pedestrian time from 23 to 30 seconds for pedestrians traveling east-west.	\$7,000	ODOT
R12	Traffic Control	Harvard Avenue at Lookingglass Road Traffic Control	Harvard Ave at Lookingglass Rd	Install a roundabout with a westbound bypass lane	\$1.4M	City
R13	Bridge	Harvard Avenue Bridge	Harvard Ave Bridge to Charter Oaks Drive	Construct a new bridge to carry Harvard Avenue across the South Umpqua River, forming a new connection with Charter Oaks Drive. With this new bridge connection, improvements to Charter Oaks Drive and Troost Street would formalize this route	\$29M	City/County
R15	Intersection	Northbound Receiving Lanes Extension at Stewart Parkway and Edenbower Boulevard	Edenbower Blvd north of Stewart Pkwy	Extend the northbound receiving lanes at the intersection of Stewart Parkway and Edenbower Boulevard	\$750,000	City/ODOT
R16a	New Connection	NW Hill extension	NW Hill extension	Extend NW Hill between Stewart Parkway and Mulholland Drive	\$10M	City

ID	Type	Name	Location	Description	Project Cost	
					(2019 \$)	Jurisdiction
R16b*	New Connection	Rifle Range St connection	Rifle Range St connection	Construct a new bridge to carry Rifle Range Street over Deer Creek	\$3.2M	City/DLURP
R16c*	New Connection	Fulton St Connection	Fulton St Connection	Construct a new bridge to carry Fulton Street over Deer Creek	\$4.7M	City/DLURP
R16d	New Connection	Full Connection between Sunset St and Parker Rd	Full Connection between Sunset St and Parker Rd	Construct a new full street connection between the current north end of Sunset Street and the current south end of Parker Road	\$3M	City
R16e*	New Connection	Commercial Ave Extension (Phase 2)	Commercial Ave: Fulton St to Rifle Range Rd	Extend Commercial Avenue between Fulton Street and Rifle Range Street	\$3.1M	City
R16f*	New Connection	Champion Site Connection to Diamond Lake (Klamath Ave Extension) (Phase 2)	Champion Site Connection to Diamond Lake Blvd	New street connection from Lake Street north of Diamond Lake Boulevard to Champion Site and Klamath Avenue	\$2.7M	City
R16h	New Connection	Forest Glen Ln extension	Forest Glen Ln extension	Extend Forest Glen Lane between N Bank Road and Weyerhaeuser Drive	\$7.4M	City/County
R16i	New Connection	Roadway Connections and Extensions	Edenbower Blvd extension	Extend Edenbower Boulevard between Stephens Street and Hughes Street	\$6.5M	City/County
R16j	New Connection	Basil St Extension	Basil St: Rosemary Ave to Goedeck Ave	Extend Basil Street from Rosemary Avenue to Goedeck Avenue	TBD	City
R16k	New Connection	Harris Hills Dr Extension	Harris Hills Dr to Lookingglass Rd	Extend Harris Hills Drive to Lookingglass Road	TBD	City
R16l	New Connection	East Roseburg Connectivity	Clover Ave/Meadow Ave east of Parker Rd	New east/west connection east of Parker Rd, similar to alignment of Clover Avenue or Meadow Avenue	TBD	County
R16m	New Connection	Rocky Ridge Dr north Extension	Rocky Ridge Dr	Extend Rocky Ridge Drive north	TBD	City/County
R16n	New Connection	Rifle Range Rd north extension	Rifle Range Rd	Extend Rifle Range Road north	TBD	County
R16o	New Connection	West Roseburg Connectivity	Troost St to Garden Valley Blvd	Provide a new north/south connection between Troost Street and Garden Valley Boulevard	TBD	County
R16p	New Connection	Cloake Street to Charter Oaks Dr	Cloake Street to Charter Oaks Dr	Connect Cloake Street to Charter Oaks Drive (after Charter Oaks/Harvard Ave bridge)	TBD	County
R18	Bridge	Stewart Pkwy Phase 2	Stewart Pkwy: Harvey Ave to Harvard Ave	This project would construct the final phase of the Stewart Parkway Improvements (multimodal facilities and new structure).	\$18M	City/ODOT
UR4*	Urban Renewal	Patterson Street	Patterson St	Provide multi-modal improvements that will provide an enhanced travel connection between Diamond Lake Boulevard and Douglas Avenue	\$1M	City/DLURP

ID	Type	Name	Location	Description	Project Cost (2019 \$)	Jurisdiction
UR5*	Urban Renewal	Fleser Connection	Fleser St to Diamond Lake Blvd	Provide local participation in a project to provide a connection between Diamond Lake Blvd and Fleser St as outlined in the Diamond Lake Access Management Plan	\$750,000	City/DLURP
UR6*	Urban Renewal	MUP North of and parallel to Douglas	Diamond Lake Urban Renewal Area	MUP North of and parallel to Douglas	\$1.2M	City/DLURP
UR7*	Urban Renewal	Fulton to Rocky Participation	Fulton St to Rocky Dr	To participate in widening and multi-modal improvements to connect Rocky Drive and Fulton Street in conjunction with developers/property owners.	\$2M	City/DLURP
Total Estimated Tier 2 Project Costs					\$129,747,000	

City = City of Roseburg, DLURP = Diamond Lake Urban Renewal Plan, CIP = Capital Improvement Plan, ODOT = Oregon Department of Transportation, Transit District = Douglas County Transit District, TBD = To be determined (Cost estimate not developed as part of the TSP)

*Project details to be refined during development of the OR 138E Design Concept Plan (project BP24)