2013-2038

Regional Transportation Plan

March 26, 2013

Rogue Valley Metropolitan Planning Organization

The RVMPO is staffed by the Rogue Valley Council of Governments

ROGUE VALLEY

REGIONAL TRANSPORTATION PLAN

Prepared for

ROGUE VALLEY METROPOLITAN PLANNING ORGANIZATION

the City of Medford
the City of Central Point
the City of Phoenix
the City of Ashland
the City of Talent
the City of Jacksonville
the City of Eagle Point
Jackson County
Rogue Valley Transportation District
Oregon Department of Transportation

and

ROGUE VALLEY COUNCIL OF GOVERNMENTS
Board of Directors

Adopted by the RVMPO Policy Committee, March 26, 2013
U.S. Department of Transportation Air Quality Conformity Determination, April 26, 2013

Rogue Valley Council of Governments
MPO/ Transportation Department
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Central Point, Oregon

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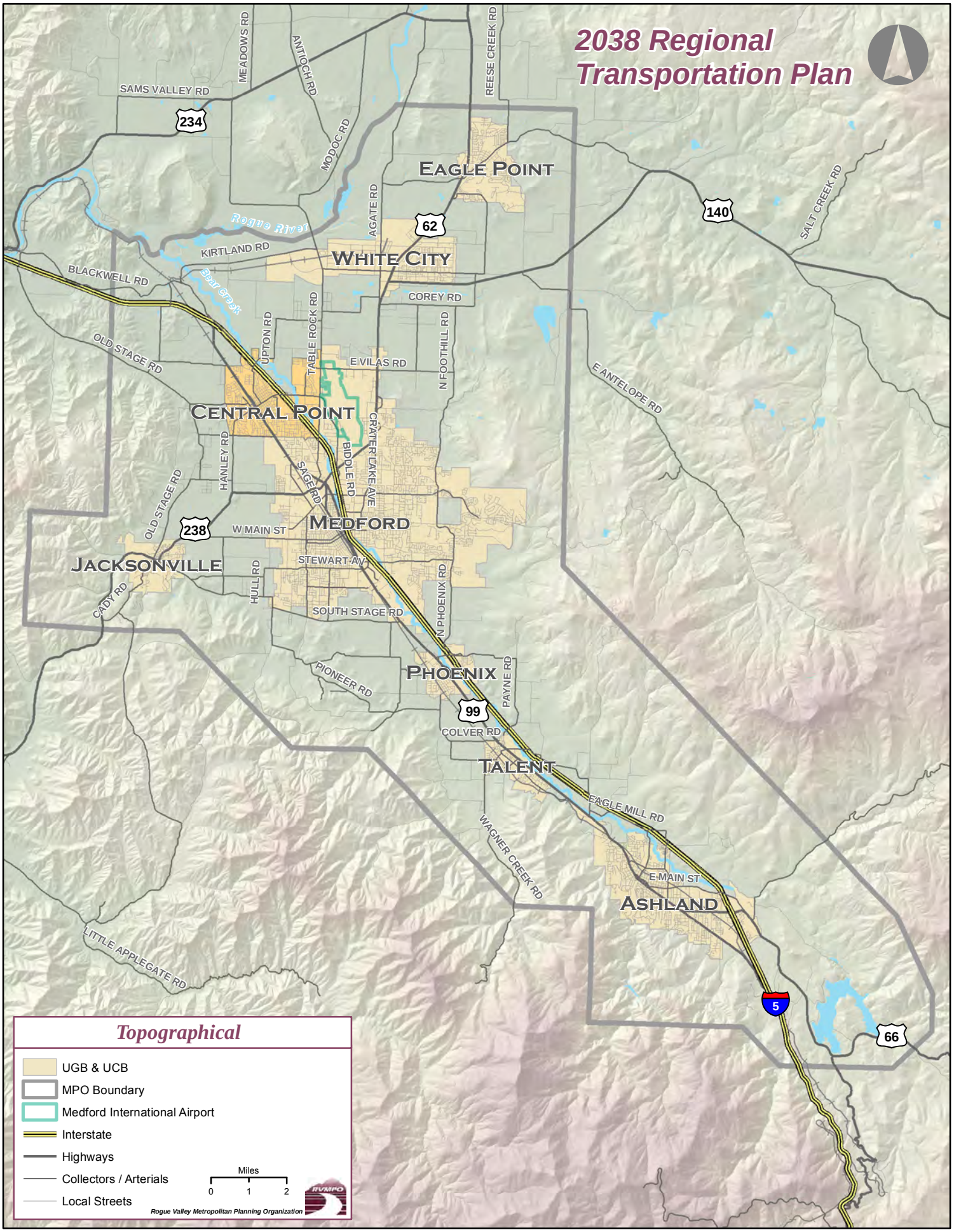
Contents

Maps


2038 Regional Transportation Plan
SAMS VALLEY RD
MEADOWS RD
ANTIOCH RD
MODOC RD
REESE CREEK RD
234
EAGLE POINT
140
SALT CREEK RD
62
AGATE RD
Rogue River
KIRTLAND RD
WHITE CITY
BLACKWELL RD
Bear Creek
COREY RD
UPTON RD
TABLE ROCK RD
N FOOTHILL RD
OLD STAGE RD
E VILAS RD
E ANTELOPE RD
CENTRAL POINT
CRATER LAKE AVE
HANLEY RD
BIDDLE RD
SAGE RD
OLD STAGE RD
238
W MAIN ST
MEDFORD
JACKSONVILLE
STEWART AV
HULL RD
CADY RD
SOUTH STAGE RD
N PHOENIX RD
PIONEER RD
PHOENIX
PAYNE RD
99
COLVER RD
TALENT
EAGLE MILL RD
WAGNER CREEK RD
E MAIN ST
ASHLAND
LITTLE APPLEGATE RD
5
66
Topographical
UGB & UCB
MPO Boundary
Medford International Airport
Interstate
Highways
Collectors / Arterials
Local Streets
Miles
0 1 2
RVMPO
Rogue Valley Metropolitan Planning Organization

Part 1

Introduction

Chapter 1, Plan Overview

Regional Transportation Planning

Regional transportation systems have significant and long-term impacts on economic well-being and quality of life. Not only does the transportation system provide for the mobility of people and goods, it also influences patterns of growth and economic activity through accessibility to land. Furthermore, the performance of the transportation system affects such public policy concerns as air quality, environmental resource consumption, social equity, economic development, safety and security.

Region transportation planning recognizes the critical links between transportation and other societal goals. The planning process is more than merely listing highway and transit capital investments. It requires developing strategies for operating, managing, maintaining and financing the regional transportation system in such a way as to advance long-term goals.

The Rogue Valley Regional Transportation Plan (RTP) is a multi-modal transportation plan designed to meet the anticipated 25-year transportation needs within the Rogue Valley Metropolitan Planning Organization (RVMPO) planning area boundary. The RTP is required to ensure that the area remains eligible to receive state and federal transportation funding. The federal and state rules requiring completion and adoption of the plan include the federal transportation act Moving Ahead for Progress in the 21st Century (MAP-21), the U.S. Clean Air Act amendments of 1990, and Oregon's Transportation Planning Rule (TPR). The RTP serves as the regional transportation system plan required by the TPR.

As a product of multi-jurisdiction collaboration, the RTP reflects local jurisdiction policy and planning. While it is consistent with local plans, the RTP horizon extends beyond the horizon of most other adopted plans to fulfill federal requirements. Many of the long-range analysis and conditions described here are not within to scope of existing local plans and, therefore, should not be interpreted as the conditions planned or anticipated by the local jurisdictions. Within the region, transportation policy and planning is directed at the jurisdiction level, and as timeframes for local plans advance, the RTP will be amended accordingly.

As a regional plan, this document does not provide designs for individual projects. Nor does it identify the smaller, local projects that RVMPO cities and the county build with local funds. Such details are not within the scope of a regional plan. Project design is completed on a project-by-project basis, typically with close involvement of the immediate project areas.

The RTP uses projections for future growth and development that are based on current trends and approved land uses, policies and ordinances. It identifies the basic land-use assumptions through the year 2038, including forecasts of future population and employment, and the resulting demand on the regional arterial and collector street system. Future travel conditions were developed through travel demand modeling, using a peer-reviewed model developed in collaboration with ODOT's Transportation Planning and Analysis Unit.

The plan looks at different types of transportation opportunities that are available and potentially beneficial, and considers how these various elements could fit together to foster a coordinated system, improving system management and operation. The RTP serves as a guide for the management of existing transportation facilities and for the design and implementation of future transportation facilities through 2038. The plan provides the framework and foundation for the region's transportation future. Policies and project descriptions are provided to enable agencies and the public to understand and track projects that will be needed over the next 25 years.

Although the RTP focuses on intra-regional (within the region) travel, it also addresses inter-regional (through-region) travel. Ultimately, the plan reflects the balance the region strikes between competing demands for funding and competing views as to the best course for development across the region. The funding resources identified in the Plan Implementation section are only those upon which the region can rely, so the projects identified may be reasonably anticipated to occur with known funding.

The 2038 RTP also meets federal Clean Air Act requirements. Analysis shows that through the horizon of the plan, under land-use conditions described and projects and policies that can be implemented within the current funding forecast, the region will meet standards for emissions of carbon monoxide within the Medford area, and particulates less than 10 microns in size (PM_{10}) within the entire planning area. Information about this analysis and details about the process for meeting air quality requirements is contained in the Air Quality Conformity Determination developed for this plan.

The Rogue Valley Metropolitan Planning Organization

The Rogue Valley Metropolitan Planning Organization (RVMPO) is a consortium of seven cities and the surrounding rural area of Jackson County that is within or adjacent to the Medford urban area, plus the Oregon Department of Transportation and Rogue Valley Transportation District, the region's public transit provider. In addition, the Oregon Department of Environmental Quality, Oregon Department of Land Conservation and Development, Federal Highway Administration, Federal Transit Administration and U.S. Environmental Protection Agency participate in the

RVMPO process, including development of this plan. Congress requires that metropolitan areas of at least 50,000 population establish a metropolitan planning process that is continuing, collaborative and comprehensive, in order for the region to continue receiving federal transportation funds. Currently there are some 400 metropolitan planning organizations in the nation. This plan fulfills federal requirements that metropolitan areas develop and maintain long-range transportation plans.

The Medford area reached the population threshold and was designated a Metropolitan Statistical Area after the 1980 Census. As a result, the Rogue Valley Council of Governments (RVCOG) was designated by the Governor of Oregon as the Rogue Valley MPO (RVMPO) on July 27, 1982. The RVCOG Board of Directors subsequently delegated responsibility for RVMPO policy functions to a Policy Committee of elected and appointed officials from all member jurisdictions. Details about RVMPO planning process are in Part 2: Plan Development.

Local jurisdictions initially involved in the planning activities of the RVMPO were Central Point, Jackson County and Medford. Phoenix was added to the urbanized area (UZA) in 1990 and subsequently became a member of the RVMPO. The 2000 Census showed that the Medford urbanized area again expanded to include Ashland, Jacksonville and Talent, and the RVMPO was required under federal law to once again expand its boundary to include those jurisdictions. Eagle Point became a voluntary MPO member after the 2000 Census. 2010 Census determined that the city was part of the Medford Urbanized Area, so no official boundary change resulted.

Ultimately, MPOs provide the forum for the many jurisdictions and agencies within a particular metropolitan region to come together to address the transportation issues that confront them all.

Regional Planning and Rogue Valley's Quality of Life

Taking a regional approach to transportation planning gives communities the opportunity to look at projected future development and resulting travel demands and make decisions to avoid some of unwelcome consequences of growth: sprawl development, traffic congestion and deteriorating air quality. Thorough planning has become more significant as the cost of expanding roads to meet traffic demand has grown and the land on which to build has become scarcer and more valuable to the region for uses other than transportation. At the regional level, links between land use and roadway congestion may be more clearly seen and addressed. Through this plan the public can see future

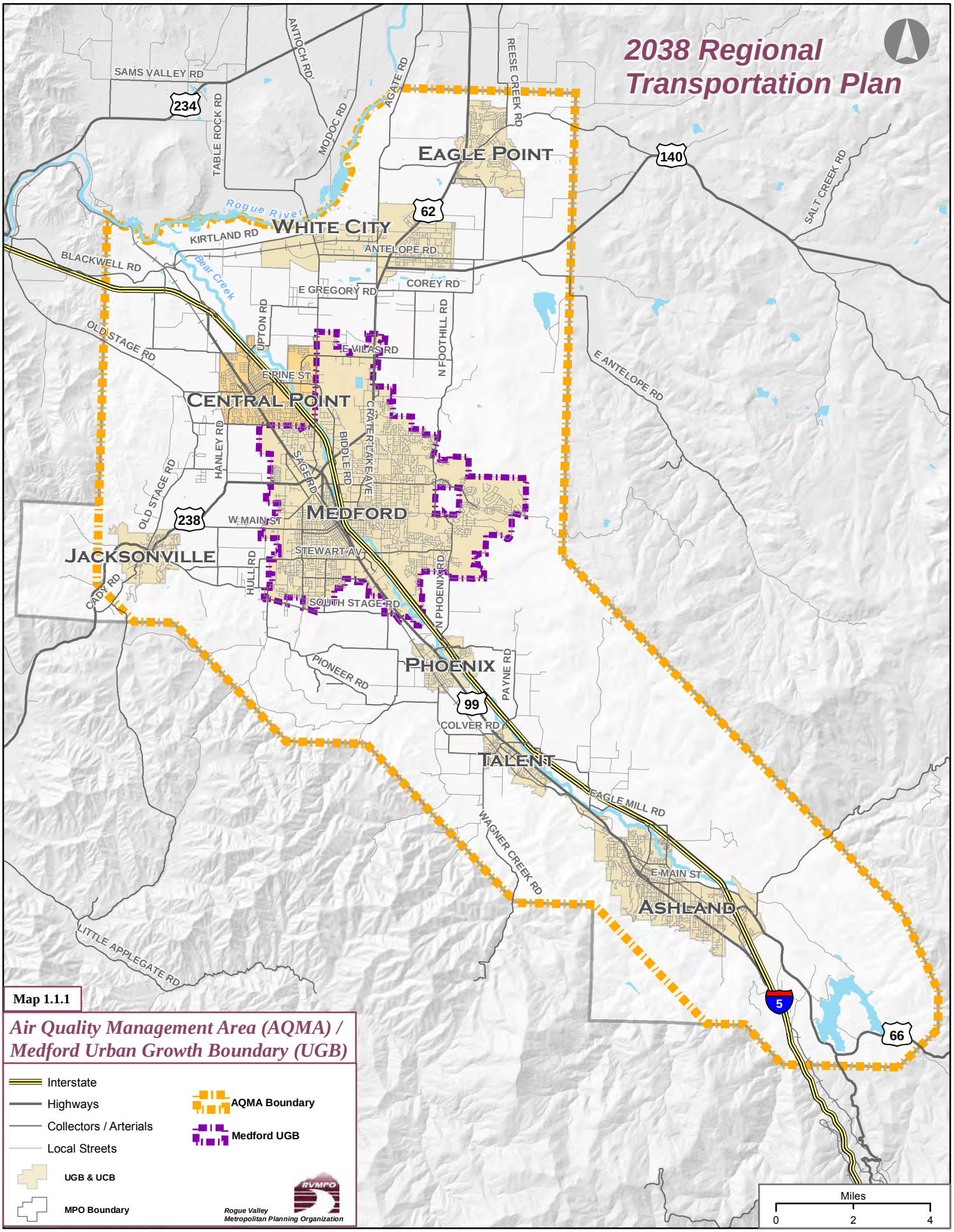
transportation needs and take necessary steps now to address them efficiently and effectively. The state a federal regulatory framework that guides RTP development embodies many of the goals routinely brought forward by citizens when they talk about the Rogue Valley area's future. Citizen who participated in this plan update expressed concern about a transportation system almost solely devoted to motor vehicles and single-occupant vehicle travel. Alternatives to automobile travel such as public transportation become viable only when considered on the regional level.

None of the jurisdictions within the RVMPO exists in isolation: residents live in one city, work in another, shop and recreate in others. Significant development in one city is bound to effect conditions in other cities. The RTP, like the regional transportation system, links the region's communities. It identifies a transportation need they all hold in common of offers a foundation for addresses that need as the region grows.

Keeping the RTP Current

The RVMPO adopted its first regional plan in the mid-1990s. This 2038 update is part of a regularly occurring series of updates. Because of the Rogue Valley region's air quality conditions, the RVMPO must be able to show consistently that the region is in conformity with air quality standards for at least 20 years into the future. That conformity demonstration must be made at least every four years, and triggers an update of the RTP. The next such update will be required in Spring 2017. These updates give the RVMPO the opportunity to evaluate past projections for growth and anticipated use of the system. During the plan update process, the RVMPO compares the existing land use, recent development trends, and the use of the different modal components of the transportation system. This new perspective permits the RVMPO to refine growth projections and their implications for travel.

While such updates are infrequent, the RTP is routinely amended. Most commonly it is amended to include local projects that are newly nominated to receive federal funding. For example, successor legislation to MAP-21 could make new funding available to a local project. If a local project were set to receive such funding, the RVMPO would consider amending the RTP to include that project. For a local project to receive federal funding it must be in this plan and in the RVMPO short-range funding programming document, the Metropolitan Transportation Improvement Program. The RTP is intended to be regularly updated to reflect such changes.


2038 Regional Transportation Plan
SAMS VALLEY RD
234
TABLE ROCK RD
ANTIOCH RD
MODOC RD
AGATE RD
REESE CREEK RD
EAGLE POINT
140
SALT CREEK RD
Rogue River
62
WHITE CITY
KIRTLAND RD
BLACKWELL RD
Bear Creek
ANTELOPE RD
COREY RD
E GREGORY RD
UPTON RD
N FOOTHILL RD
OLD STAGE RD
E VILAS RD
E ANTELOPE RD
E PINE ST
CENTRAL POINT
CRATER LAKE AVE
BIDDLE RD
HANLEY RD
SAGE RD
OLD STAGE RD
238
W MAIN ST
MEDFORD
JACKSONVILLE
STEWART AV
HULL RD
CADY RD
SOUTH STAGE RD
N PHOENIX RD
PIONEER RD
PHOENIX
PAYNE RD
99
COLVER RD
TALENT
EAGLE MILL RD
WAGNER CREEK RD
E MAIN ST
ASHLAND
LITTLE APPLEGATE RD
5
66
Map 1.1.1
Air Quality Management Area (AQMA) / Medford Urban Growth Boundary (UGB)
Interstate
Highways
Collectors / Arterials
Local Streets
UGB & UCB
MPO Boundary
AQMA Boundary
Medford UGB
RVMPO
Rogue Valley Metropolitan Planning Organization
Miles
0
2
4

Part 1

Introduction

Chapter 2, Plan Organization

Plan Requirements

The 2013-2038 Regional Transportation Plan updates the federally mandated multimodal plan that was first adopted by the Rogue Valley Metropolitan Planning Organization in 1995. Since adoption of the first plan, the RVMPO planning area has more than doubled in geographic area as a result of population growth. The largest cities in the Bear Creek Valley participate in RVMPO and are represented in this plan.

This update replaces the 2009-2034 RTP, which was updated in 2009. This update is intended to comply with the federal transportation act, MAP-21. However, at the time of adoption federal rulemaking on the act hadn't been completed. Once that task is completed, it may be necessary to update this plan. Generally, transportation acts require the nation's metropolitan areas to adopt and maintain a plan that includes both long- and short-range strategies and actions that lead to the development of

an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods, addressing current and future transportation demands (23 CFR 450.322).

Oregon's comprehensive land use planning law also shapes this plan, although adoption of the plan itself is not a land use action. The Oregon Transportation Planning Rule sets certain standards for jurisdictions within metropolitan planning areas. This plan contains provisions relating to those standards.

This update of the RTP is presented in seven parts, with most parts containing two or more chapters. This chapter describes each part and the chapters within them. The parts reflect the plan's major components, or key steps in the plan's development. The RTP parts are:

1. Introduction
2. Plan Development
3. Goals and Policies
4. Plan Implementation
5. Regional Transportation System Improvements
6. Evaluation and System Performance

Part 1: Introduction

This part contains summary information about the RTP and the planning process.

Part 2: Plan Development

Part II describes the key steps taken to produce this plan, and details the processes and procedures followed for each step. Chapters in this part:

Chapter 2.1, Organization of the RVMPO

Description of decision making and the process for carrying out metropolitan planning in the Rogue Valley region.

Chapter 2.2, Future Conditions

Forecasts for population, employment, land uses and funding.

Chapter 2.3, Plan Consistency

Examination of other plans and their impacts on the RTP.

Part 3: Goals, Policies & Potential Actions

This is the policy framework that guides development, implementation and evaluation of the RTP. This section includes the introduction of performance measures and discussion of potential projects that could be undertaken to implement a particular policy and help the region achieve a planning goal.

Part 4: Plan Implementation

Shows how goals and polices are implemented through procedures and criteria used by the RVMPO to identify projects. Chapters in this part:

Chapter 4.1, Projects in the RTP

How and why projects are listed in the RTP.

Chapter 4.2, Project Selection Criteria

Criteria and considerations used by the RVMPO to fund projects.

Part 5: Regional Transportation System Improvements

Chapters in this part list the region's funded projects by jurisdiction and by project type and system need through 2038. Projects from all RVMPO jurisdictions are presented and mapped in terms of short-, medium-, and long-range implementation.

Chapter 5.1, RTP Projects by Jurisdiction

All funded projects, organized by jurisdiction.

Chapter 5.2, Multi-Modal Safety

Describes efforts to improve safety for all system users, including transit, bicycles and pedestrian and identifies projects that contribute to better safety.

Chapter 5.3, Multi-Modal Security

Summary of security issues and concerns is provided, and efforts to improve transportation system security are described.

Chapter 5.4, Transportation System Management

Efficient management of the transportation system can reduce costs by avoiding the need for more expensive roadway expansion projects. Strategies and projects are described, including implementation of the RVMPO Intelligent Transportation System Plan.

Chapter 5.5, Transportation Demand Management

Programs that focus n improving transit, carpooling and other alternatives to motor vehicle travel – especially travel in single-occupant vehicles – are examples of Transportation Demand Management. Making such alternatives more attractive can help lower demands made on the road/highway system and to improve air quality. Local TDM projects and potential strategies are described in this chapter.

Chapter 5.6, Street System

This chapter identifies strategies, priorities and funded projects on the street system that provide facilities for motorists, buses, freight, bicyclists and pedestrians to meet long-range needs for mobility and accessibility.

Chapter 5.7, Bicycle and Pedestrian Facilities

An overview of bicycle and pedestrian needs and current regional facilities, this chapter includes planned and funded projects to improvement connectivity for pedestrians and cyclists.

Chapter 5.8, Transit System

Present and long-term role for transit service, including projected funding and planned projects.

Chapter 5.9, Parking

Parking demand, new projects and state requirements to limit overall parking supply to encourage non-motorized travel are presented.

Chapter 5.10, Land Use Nexus

The link between transportation planning in metropolitan areas and state land use law is reviewed with the focus on the Alternative Measures that are in place in the RVMPO region.

Part 6: Financial Plan

Details about cost and revenue forecasts and the funding needed to implement the RTP. This chapter includes the best available projections of local, state and federal transportation funds used to pay for the projects identified in Part 5.

Part 7: Evaluation and System Performance

A variety of measures are in place to help the region determine how well decisions about the regional transportation system are fulfilling various standards and goals. Measures presently in place are described, and the system's performance is forecasted.

Chapter 7.1, Air Quality

The air quality conformity process required for regional transportation projects within the RVMPO area is described, and summary results of the air quality analysis are show. The full Air Quality Conformity Determination for this plan is published separately.

Chapter 7.2, Environmental Considerations

Various natural and man-made resource sites in the region are identified and their intersection with planned projects is discussed. Chapter includes review of areas set aside to mitigate the impacts of transportation projects on certain environmental features.

Chapter 7.3, Performance Measures

The RVMPO-area's newly updated travel demand model was used to estimate future travel volumes and identify roadway segments that likely will experience congestion-related travel delays by 2034.

Chapter 7.4, Future Challenges

Not all regional travel needs can be met with existing funds, and as-yet unknown conditions will present challenges to the region -- probably within the horizon of this plan. This chapter describes some of those unmet needs and potential future challenges.

The topics in this chapter include:

- Listing of projects that jurisdictions predict will be needed by 2038 but as yet do not have funding identified ("Tier 2 Projects");Other potential projects of long-term regional significance; and
- Potential new air quality requirements relating to greenhouse gas emissions and very-small particulate emissions ($PM_{2.5}$).

Appendices

Appendix A: Transportation Planning Acronyms and Terms

Common acronyms and terms used in this plan and other transportation planning documents are listed.

Appendix B: Consistency with State Planning Requirements

The RVMPO has adopted Alternative Measures in response to the state's Transportation Planning Rule. Appendix demonstrates how the metropolitan area planning is consistent with requirements.

Part 2

Plan Development

Chapter 2.1,

Organization of the RVMPO

Introduction

Metropolitan transportation planning is the process of examining travel and transportation issues and needs in metropolitan areas. It includes a demographic analysis of the community in question, as well as an examination of travel patterns and trends. The planning process includes an analysis of alternatives to meet projected future demands, and for providing a safe and efficient transportation system that meets mobility while not creating adverse impacts to the environment. In metropolitan areas over 50,000 population, the responsibility for transportation planning lies with designated Metropolitan Planning Organizations (MPO).

Federal requirements for metropolitan planning attached to federal transportation funds were established by Congress in the 1962 Federal Aid Highway Act. The act required that all federally

funded highway projects be based on a continuing, comprehensive, and coordinated (3-C) planning process involving states and local agencies. States may designate metropolitan planning organizations to carry out the 3-C planning process in urban areas with populations of at least 50,000 people.

Medford became a U.S. Census-defined Urbanized Area (UZA) in 1980. In 1982, the Governor designated the Rogue Valley Council of Governments as the MPO for the greater Medford area. RVCOG's Board of Directors subsequently delegated responsibility for policy functions to the RVMPO Policy Committee, a committee of elected and appointed officials representing the RVMPO local governments and affected agencies.

The Rogue Valley Metropolitan Planning Organization (RVMPO) was formed with membership of Medford, Central Point, Jackson County, Rogue Valley Transportation District (RVTD) and Oregon Department of Transportation (ODOT). Ten years later, the 1990 census identified the Medford UZA as extending to Phoenix and White City (White City is an unincorporated urban area under Jackson County jurisdiction), and so these areas became part of the RVMPO. And ten years later, the 2000 Census again redefined the UZA, adding the cities of Jacksonville, Talent and Ashland.

Most recently, the UZA was redrawn based on the 2010 Census, extending the boundary to Eagle Point, which had been a voluntary member.

The Census Bureau defines a metropolitan area as a central population center of at least 50,000 and surrounding area with a density of at least 1,000 residents per square mile. Once that threshold is reached, the jurisdictions in a metropolitan planning organization may set the MPO planning area boundary. Jurisdictions within the RVMPO drew the current boundary to follow the air quality conformity area for particulates (PM_{10}), which is significantly larger than the UZA and includes a significant portion of rural land.

Summary: MPO Requirements

Federal and state transportation planning responsibilities for the RVMPO can generally be summarized as follows:

- Develop and maintain a long-range Regional Transportation Plan (RTP) and short-range Transportation Improvement Program (TIP) consistent with state and federal planning requirements.
- Perform regional air quality conformity analyses and create an air quality conformity determination for carbon monoxide (CO) and particulate matter (PM_{10}) demonstrating that both the RTP and TIP are in conformity with the State Implementation Plans (SIPs) for these pollutants.
- Develop and maintain a Public Participation Plan to guide development of all RVMPO projects, plans and programs.
- Review specific transportation and development proposals for consistency with the RTP.
- Coordinate transportation decisions among local jurisdictions, state agencies, and area transit operators.
- Develop an annual work program the show how metropolitan planning requirements are being meet and funded.

Under existing federal and state legislation, the MPO is responsible for certain transportation planning functions, including development and maintenance of a long-range Regional Transportation Plan (RTP) that shows how regional transportation needs will be met over a period of at least 20 years. A significant responsibility of the MPO is to coordinate transportation discussions and decisions among the public and appropriate federal, state, and local agencies. The RTP provides a framework for these discussions.

The 2013-2038 Regional Transportation Plan updates the federally mandated multimodal plan that was first adopted by the Rogue Valley Metropolitan Planning Organization in 1995. Since adoption of the first plan, the RVMPO planning area has more than doubled in geographic area as a result of population growth. The largest cities in the Bear Creek Valley participate in RVMPO and are represented in this plan.

The Committee Process

The RVMPO functions under the guidance and direction of three committees that meet regularly and address issues relating to metropolitan planning responsibilities. Each committee operates under its own set of bylaws. Committee makeup, roles and responsibilities are outlined below, and described more fully in the RVMPO's Public Participation Plan. Committee memberships are listed in the opening pages of this document.

Policy Committee

The Policy Committee is the decision-making body for the RVMPO. It is composed of officials from each of the member jurisdictions: Medford, Central Point, Ashland, Talent, Jacksonville, Eagle Point and Phoenix, Jackson County, RVTD and ODOT. The Policy Committee meets monthly.

Technical Advisory Committee

The Technical Advisory Committee (TAC) makes recommendations to the Policy Committee and is responsible for gathering, reviewing, and validating technical information and data used in RVMPO functions, including this update of the RTP. The TAC includes staff from all member jurisdictions, as well as the Department of Environmental Quality (DEQ), the Department of Land Conservation and Development (DLCD), and the Federal Highway Administration (FHWA). Staff members bring their individual community and agency issues to the technical review discussions. The TAC meets monthly.

Public Advisory Council

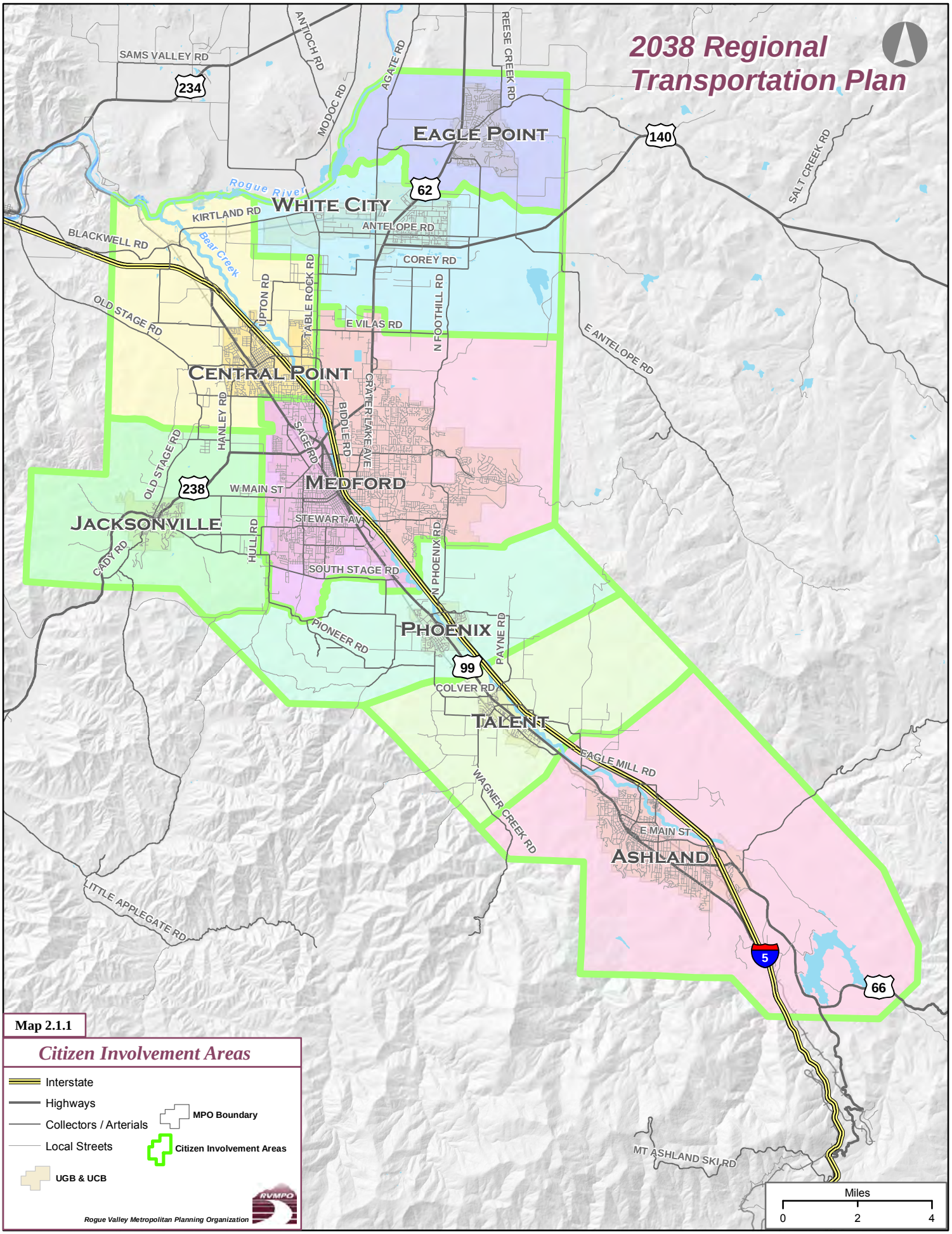
The Public Advisory Council (PAC) makes recommendations to the Policy Committee from the public's perspective on proposed long-range transportation plans and priorities for state and federal unding and other transportation issues. The PAC serves as a public soundboard for regional issues, and as such is a key public participation activity for the RVMPO. Membership is based on geographic area and special area of interest, such as mass transit. PAC members are appointed by the Policy Committee to serve two-year terms.

Public Participation

The RVMPO maintains a Public Participation Plan, last updated in 2007 to be consistent with the planning requirements of the 2005 transportation act, Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy of Users (SAFETEA-LU).

Development of the RTP on display at Talent Harvest Festival

Public participation in this plan began nearly a year before adoption with advertised, public discussion of the goals and policies and development of performance measures. It continued though the development of project lists, which are based on planning at the jurisdiction level. A public workshop on the draft RPT was conducted by the Policy Committee. All materials including drafts and staff memos are posted on the RVMPO website. RVMPO will maintain a documentation page so that the public will continue to have access to developmental materials A formal, advertized 30-day public comment began prior to the Policy Committee workshop and extended through a public hearing prior to adoption. Public comments received and discussion of impacts on the plan are presented in Chapter 4.1, Projects in the RTP.


2038 Regional Transportation Plan
SAMS VALLEY RD
234
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238
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99
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Interstate
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Collectors / Arterials
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MPO Boundary
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UGB & UCB
Rogue Valley Metropolitan Planning Organization
RVMPO
Miles
0
2
4

Part 2

Plan Development

Chapter 2.2, Future Conditions

Introduction

The 2013-2038 RTP update builds upon a series of technical analyses and technical reports dating back to earlier updates of this plan and moving forward to new estimates and forecasts, many developed primarily for this plan. This update was accomplished during an 10 month span that began in spring 2012. Critical benchmarks, such as updating RTP goals and policies, building a new travel demand model and developing new forecasts for employment and financing, were accomplished in consultation with RVMPO committees (Technical Advisory Committee, Public Advisory Council and Policy Committee), presented and discussed with the public through printed updates, website postings and at a Public Workshop. The entire plan was reviewed and discussed by RVMPO committees. The Policy Committee conducted both a

workshop and a public hearing on the draft. Details about public participation in this update are presented in Chapter 4.1.

Travel Demand Modeling

Updating the travel model, RVMPO.3, was a major undertaking, completed in collaboration with ODOT's Transportation Planning and Analysis Unit (TPAU) and all RVMPO jurisdictions. Following discussion of the model, this chapter will highlight key model inputs for population and employment. The model is sophisticated and requires significant data definition and input.

Aerial view of Rogue Valley

A travel demand model is a tool that can accurately replicate existing transportation conditions and evaluate future year development and infrastructure scenarios. To replicate traffic patterns as they are today, essential inputs include the existing roadway network, recent traffic counts, and current population and employment information. Once these data have been entered, the model simulates current traffic patterns within a small percentage of error of those observed. the model.

The next step in the modeling process involves projections for future population distribution, employment locations, and any changes in travel behavior. Household and employment data are forecast for target future years. Using these inputs, the model is able to derive future capacity limitations relative to the current roadway system. Once these deficiencies are identified, potential network changes are evaluated by rerunning the model with the modified transportation network. A range of different street networks, and even different land use patterns, may be tested this way. Although this description is somewhat over-simplified, it demonstrates the usefulness of the model as a tool. Future-year traffic projections are based on numerous assumptions about how population, employment, automobile operating costs and other factors, will change over time. As such, future year projections are only as good as the assumptions that are made. Every effort has been made to ensure that the assumptions used in the development of RVCOG's travel demand model are as reasonable and accurate as possible.

For the purposes of evaluating the future year roadway improvements, a series of model runs, for 2015, 2020, 2028 and 2038, was conducted. A complete analysis of the future conditions required the preparation of future year street networks and land use scenarios that are based on the RTP project list and the population

and employment assumptions described below. The baseline network is comprised of the road system as it existed in2006, plus all regionally significant projects that have been completed through December, 2013. This represents the baseline, or "no-build" network, against which the "build" networks are evaluated.

Parallel to this analysis, a financially constrained transportation system improvement strategy was developed. This was done by estimating the availability of transportation funding for projects in the RVMPO and then comparing these amounts to the estimated project costs. An initial "wish list" of potential projects was thereby winnowed down to those these that can be built within the RTP's timeframe. This is the RTP financially-constrained or "Tier 1" list. It is divided into short (2013-2018), medium (2019-2027) and long range (2028-2038) timeframes. Projects which have been identified but do not have any identified funding in the period through 2038 are shown as unfunded, or "Tier 2," and are listed in Chapter 7.4. Transportation system improvements were developed by starting with local Transportation System Plans (TSPs) in conjunction with the goals and policies (detailed in Part 3: Goals, Policies and Potential Actions) and the evaluation criteria described in Part 4: Plan Implementation

Table 2.2-1: Current conditions based on 2010 U.S. Census.

	Area (Sq/Mi)	Population (2010 Census)	Density (Pop/sq.mi.)
Ashland	6.59	20,078	3,048
Central Point	3.9	17,169	4,408
Eagle Point	2.96	8,469	2,862
Medford	21.7	74,907	3,452
Jacksonville	1.91	2,785	1,472
Phoenix	1.70	4,538	2,663
Talent	1.33	6,066	4,561
White City	5.83	7,722	1,325
Total RVMPO*	262.6	175,447	738
Total Urban Area	42.4	154,081	2,381
Total Rural Land	208.3	21,366	103

**RVMPO-area numbers are estimates by RVMPO*

The model was updated in 2012 with land use and demographic data described in this document and supporting documentation on file at RVCOG. The model is calibrated and validated to 2006. A peer review of the model was conducted in 2008.

The RVMPO model was developed primarily to address an immediate need for a travel demand forecasting tool that could be used to support development of the region's RTP in a manner consistent with MPO transportation planning responsibilities established by USDOT, the Oregon Transportation Planning Rule, and EPA for air quality conformity. Development of the model consisted primarily of calibrating and validating the JEMnR model for local conditions. JEMnR, Joint Estimation Model in R statistical programming language, was first validated in 2001, based on household activity and travel surveys in the mid-1990s involving all Oregon MPOs and 11 counties. ODOT and the MPOs jointly estimated a travel demand model for all MPO areas based on the survey data.

The general structure of the model follows a five-step process of pre-generation (organizing household characteristics matching demographic data), trip generation (calculating person trips by purpose and household), trip distribution (estimating trips between transportation analysis zones [TAZs], matching trip origins and destinations), mode choice (auto, transit, walking or bicycling) and traffic assignment (identifying specific routes taken). It is implemented entirely through a series of script files written in the R language, with the exception of traffic assignment, which was carried out in EMME/2.

Specific data obtained from the model for this analysis included volumes and vehicle miles traveled by area and facility type. A link-by-link analysis was carried out. Since roadway capacity and speed are included in the model, the effects of congestion are also included.

Roads included in the model are those of regional significance, generally arterials and collectors in addition to Interstate 5.

Population Estimates

Population forecasts for this update plan were drawn from Jackson County's comprehensive plan population element, which was updated in mid-2007 and adjusted in 2012. The county estimates are consistent with official forecasts for the state produced by the Office of Economic Analysis (OEA). The Oregon Legislature in 1995 recognized the need for local consistency in population forecasting and for a coordinated statewide forecast by adding a stature requiring counties to establish and maintain population forecast in coordination with local governments. Further, the Legislature designated the OEA as the primary forecasting agency. The population element contains population information relating to Jackson County and its incorporated cities. The RVMPO and this plan are entirely within the county boundary. The element presents the coordinated forecast as required under ORS 195.036, for the period 2006-2040. Population is allocated among the county's 11 incorporated cities, four unincorporated communities and other rural areas. The element is intended for use in planning within the county. Through consultation with jurisdictions it has been estimated that 41 percent of the rural Jackson County population resides inside the RVMPO.

Table 2.2-2:

RTP Population Forecasts

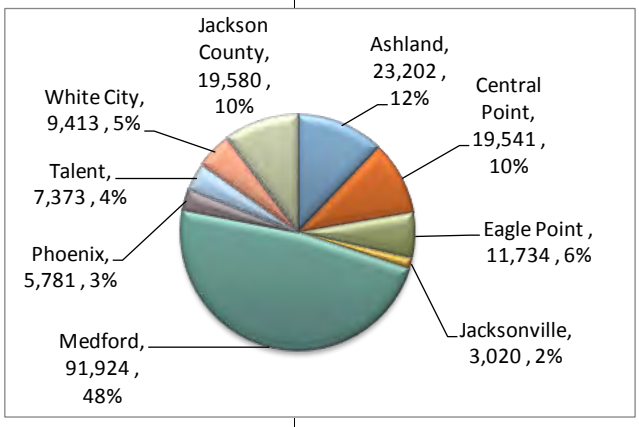
Jurisdiction	2015	2038
Ashland	23,202	28,155
Central Point	19,541	30,105
Eagle Point	11,734	20,765
Jacksonville	3,020	4,232
Medford	91,924	130,137
Phoenix	5,781	7,828
Talent	7,373	9,619
White City	9,413	12,845
Jackson County	19,580	18,401
RVMPO Area	**191,568**	**262,087**

NOTE: Population relates to TAZ area boundaries, which do not match city boundaries, therefore, totals differ slightly from official "city" estimates.

As discussed in the model section above, population estimates shown in Table 2.2.1 from the county comprehensive plan were

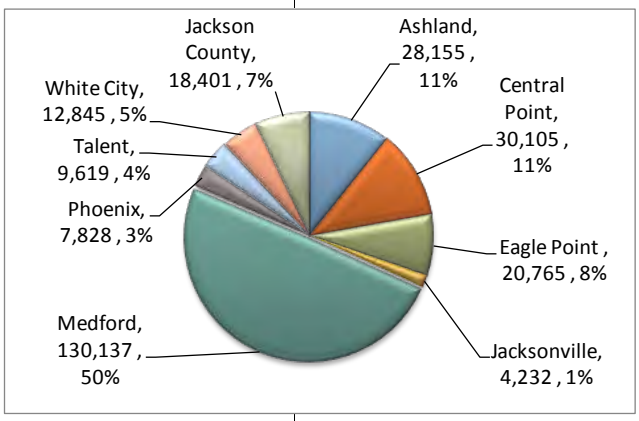
sub-allocated to the TAZ level by the RVMPO in consultation with each jurisdiction, consistent with adopted land-use plans.

2015 Population



Subsequently, population was distributed among households consistent with 2012 U.S. Census data for household size in the county. Household number, location and size are critical inputs to he travel model. Travel is based on household-level information about travel behavior. Currently the model's assumptions about household travel are based on a survey of local households conducted in the mid-1990s. Age of the household data is a concern because household demographics are thought to have changed significantly. To address this concern, RVMPO joined a statewide household survey project. RVMPO households participated in the survey in 2011. Statewide, modelers are working toward updating all Oregon travel demand models with the new household travel data.

RTP Population Forecasts, Changes by Jurisdiction: 2015 forecast above, 2038 below.



2038 Population

For the first time, with this RTP travel demand model update RVMPO has begun implementing the Regional Problem Solving Plan to allocate urban population (as well as employment, discussed below) to areas outside Urban Growth Boundaries but with the RPS plan's urban reserves. RVMPO in consultation with each city began populating the urban reserves in the RTP years that extend beyond the horizons of cities' Comprehensive Plans (RTP analysis years 2028 and 2038). This process tends to spread urban population and employment over a larger geographic area than the former approach of confining urban growth to existing UGBs. It is expected to yield more realistic modeling results for local and regional planning.

Employment Forecasts

The employment projections originate from an Economic Opportunities Analysis conducted in the RVMPO planning area in 2007 for the Regional Problem Solving project, and a similar analysis for Medford. Forecasts in the analysis were compared to U.S. Commerce Department data for the region, shorter term economic forecasts by the state OEA, Oregon Employment Department data and outlook, and consultation with local jurisdictions. Analysis is based on 2006 employment data to be consistent with the base year of the travel model.

The analysis accounts for the amount of available employment land for development and the sectors of employment predicted to grow; based on local, state and national trends and jurisdiction plans. Analysis conducted as part of the RPS process also was conducted. RPS projections were modified slightly by some jurisdictions to better match more recent data. In all cases, each jurisdiction adjusted the estimates to reflect local plans and expectations.

Beyond setting employment totals as shown on Table 2.2-3, the modeling process recognizes 10 employment categories for purposes of estimating travel – agriculture, mining, construction , manufacturing, transportation, wholesale trade, retail trade, finance/insurance/real estate, services and government.

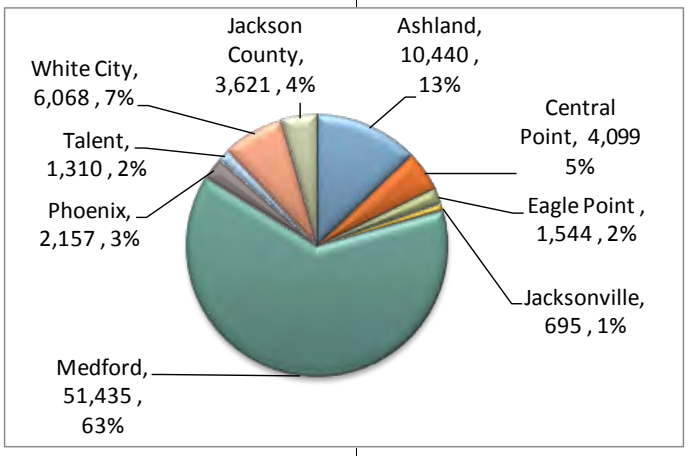
Future employment was distributed among small TAZ areas similarly to the process of distributing population, including implementation of RPS growth assumptions.

Additionally employment associated with activities that general significant travel are identified and located separately. These uses include schools, hospitals and regional shopping centers.

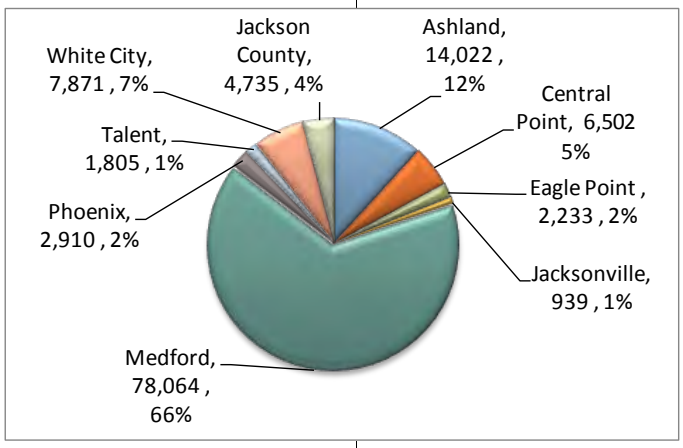
Table 2.2-3: RTP Employment Forecasts

Jurisdiction	2015	2038
Ashland	10,440	14,022
Central Point	4,099	6,502
Eagle Point	1,544	2,233
Jacksonville	695	939
Medford	51,435	78,064
Phoenix	2,157	2,910
Talent	1,310	1,805
White City	6,068	7,871
Jackson County	3,621	4,735
RVMPO Area	**81,369**	**119,081**

NOTE: Employment relates to TAZ area boundaries; totals differ from any official "city" estimates.



RTP Employment Forecasts, by Jurisdiction: 2015 above, 2038 below.



Part 2

Plan Development

Chapter 2.3, Plan Consistency

Introduction

The update of the RTP is designed to meet the requirements of a long-range regional transportation plan as required in current transportation act, Moving Ahead for Progress in the 21st Century. An MPO's long-range plan, as described in 23 CFR 450.322, must reflect a planning horizon of at least 20 years. Additionally, the plan must include both long- and short-range actions and strategies that lead to an integrated, multimodal transportation system to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand. Funding for all projects in the plan must be identified, and the plan must incorporate measures to assure that both project costs and anticipated revenue are reasonable.

In regions such as the Rogue Valley, where air quality standards must be met, the RTP must be updated at least every four years and the plan must be accompanied by an air quality conformity

determination. The air quality document must show that through the horizon of the plan National Ambient Air Quality Standards will be met. For the Rogue Valley, the document must show that transportation-related emissions of carbon monoxide within the Medford Urban Growth Boundary will not exceed the budget set in the Medford CO State Implementation Plan (SIP). Also, the RVMPO must show that transportation-related emissions of PM_{10} within the Medford-Ashland Air Quality Maintenance Area will not exceed the budget set in the Medford-Ashland PM_{10} SIP.

Other Plans, Requirements

In the Rogue Valley, the RTP also serves as the region's Transportation System Plan (TSP) as required under Oregon land-use law. Oregon's Statewide Planning Goal 12 and its implementing division, the Transportation Planning Rule (TPR) (OAR Chapter 660, Division 12) requires such a plan. To fulfill this requirement the RVMPO in 2002 adopted a set of Alternative Measures to meet TPR requirements for a multimodal regional TSP. TPR requirements are discussed further in Chapter 5.10. and Appendix B. By adopting the RTP the RVMPO Policy Committee is not taking a land-use action under state law. Rather, local jurisdictions direct transportation policy and planning through adoption of their comprehensive plans and TSPs. The RTP draws projects from jurisdictions' TSPs, and so is consistent with those plans. RTP will be implemented by local jurisdictions through the TSPs and local development-review processes. The RTP horizon, as required by federal law, extends beyond the horizons of the local plans, so not all long-range projects and strategies that could be in the RTP are identified. This means that the system performance analysis should be considered only for this plan. As jurisdictions update their TSPs, new projects will be added to the RTP. The RTP's frequent update cycle readily accommodates changes to local plans. The updates are intended to ensure that the regional plan can adapt to changing needs and circumstances.

The RTP also must be consistent with Oregon Department of Transportation plans, including the 2006 Oregon Transportation Plan and the Highway Plan. The Oregon Transportation Commission adopted the multi-modal Oregon Transportation Plan (OTP) in 2006. The OTP provides a framework for policy objectives including expansion of ODOT's role in funding non-highway investments, maintaining the assets in place, optimizing the existing system performance through technology and better system integration, creating sustainable funding and investing in strategic capacity enhancements.

The OTP has four sections: (1) Challenges, Opportunities, and Vision; (2) Goals and Policies; 3) Summary of Financial and Technical Analyses; and (4) Implementation. The OTP meets a legal requirement that the OTC develops and maintains a plan for a multimodal transportation system for Oregon. The OTP also implements the federal requirements for a state transportation plan, and meets land use planning requirements for state agency coordination and the TPR. The transportation rule requires ODOT, the cities, and the counties of Oregon, as well as MPOs, to cooperate and to develop balanced transportation systems.

The Oregon Highway Plan The plan establishes long-range policies and investment strategies for the state highway system. The Oregon Transportation Commission adopted the Oregon Highway Plan on March 18, 1999.

The plan contains the following elements:

- **Vision –** presents a vision for the future of the state highway system, describes economic and demographic trends in Oregon and future transportation technologies and demographic trends in Oregon and future transportation technologies, summarizes the policy and legal context of the plan, and contains information on the current highway system.
- **Policy –** contains goals, policies and actions in five areas: system definition, system management, access management, travel alternatives and environmental and scenic resources.
- **System –** contains analysis of state highway needs, revenue forecasts, descriptions of investment policies and strategies, implementation strategy and performance measures.

Part 3

Goals, Policies & Potential Actions

Introduction

The goals chapter of the Regional Transportation Plan provides the policy framework that guides development of the plan itself as well as subsequent decisions about system management, and project selection and implementation. The goals also provide a measuring stick to judge how well the plan reflects the values expressed by the community. Toward that end, the update to the RTP goals section introduces performance measures. Subsequent to adoption, RVMPO will begin a series of assessments appropriate to each measure.

The goals, policies and performance measures were developed as work began on the 2038 RTP. Goals and policies developed for the 2034 RTP were evaluated against comments received during a series of meetings of the RVMPO's committees. Potential actions are included to provide examples and descriptions of the kinds of projects or actions that could result with implementation of a particular goal.

Regulatory Framework

Rogue Valley metropolitan planning functions within a framework of federal and state laws. The region is required to have a plan that is consistent with the 2012 transportation act, Moving Ahead for Progress in the 21st Century. Through its goals and projects this update also maintains consistency with the previous RTP. On the state side, under Oregon land use law and specifically the

Transportation Planning Rule, metropolitan planning is required to aim for specific outcomes relating to conservation and efficiency.

Federal MAP-21 planning factors are listed in the box to the left. State Transportation Planning Rule requirements include:

- Provide and encourage a safe, convenient and economic transportation system;
- Encourage and support travel choice among a variety of mode options;
- Ensure that transportation planning is done in coordination with land use planning.

Additionally, the goals and policies are intended to support the state's transportation priorities as identified in the *Oregon Transportation Plan,* the state's long-range transportation policy document.

MAP-21 Sets National Goals

Metropolitan planning areas are required to carry out a ***continuing, cooperative*** and ***comprehensive*** transportation planning process that provides for consideration and implementation of projects, strategies and services to address national transportation goals:

(1) Improve safety by achieving a significant reduction in fatalities and serious injuries on all public roads;

(2) Improve infrastructure conditions to achieve a state of good repair;

(3) Reduce congestion;

(4) Improve system reliability by increasing efficiency;

(5) Improve freight movement and economic vitality by improving the national freight network, strengthening the ability of rural communities to access national and international trade markets, and supporting regional economic development;

(6) Improve environmental sustainability by enhancing transportation system performance while protecting and enhancing the natural environment; and

(7) Reduce project delays to reduce costs and promote job growth.

A key feature of MAP-21 is the establishment of a performance- and outcome-based program. The expectation is for resources to be invested in projects that make progress toward achieving the national goals.

Purpose

The RTP goals and policies serve as a policy foundation not only for this plan, but other planning and project development carried out in the RVMPO planning area. They've been developed by the RVMPO's standing committees (Policy, Technical Advisory Committee and Public Advisory Council) to be consistent with local plans, especially state-required Transportation System Plans. Linkage to local planning is critical because of the significant, long-term impacts transportation decisions have on the region and the people who live and work here. Decisions about future transportation facilities will impact other development decisions.

Organization

This policy statement contains four elements: goals, policies, potential actions and performance measures. The intent is to go beyond describing a desired outcome in general terms to provide examples of specific consequences – the potential actions – that may result from a particular policy position. This RTP, following the direction of MAP-21, introduces performance measures to provide a gauge by which to assess how well decisions further regional goals.

Each element in detail:

Goals: These are broad statements about the region's desire for its future. Although a goal may not appear attainable, it is nonetheless useful as a description of an outcome the region is seeking to achieve.

Policies: These are statements describing some of the ways the region will seek to achieve its goals. Because transportation planning doesn't exist in isolation – land use decisions, for example, also are critical but not encompassed by this plan – polices listed here are not intended to represent the only actions that may be taken to achieve a goal.

Potential actions: These are examples of the kinds of decisions, projects and other outcomes that can be expected by pursuing a particular policy line. These descriptions are intended to provide plan users with additional guidance as to the kinds of outcomes the region desires.

Performance Indicators: MAP-21 introduces a performance-based program to identify the most efficient investment of federal transportation funds. The act puts emphasis on national transportation goals, and increasing accountability and transparency. The intent is to improve decision making through performance-based planning and programming. Under MAP-21, USDOT will establish performance measures, and states and MPOs will follow with targets to support the measures. So while the performance indicators in this plan are not intended to fulfill the intent of Congress in MAP-21, they will begin a performance-based process for RVMPO.

Goals, Policies & Potential Actions

The goals and policies for the plan are listed below, along with the potential actions. The number of policies varies among the goals. Likewise the number of potential actions also varies. And not every policy has a corresponding performance indicator. The number of policies, actions or indicators (or, in some cases the absence of potential actions and indicators) is not a reflection of

Goal 1
A balanced multi-modal system addressing existing and future needs

Chapter 2.2
Part 4
Part 5
Chapter 7.4

the importance or significance of a particular goal. Boxes in the margin designate each goal to help readers locate and identify goals quickly. They also reference the chapters in which the goal is addressed in detail.

Goal 1

Plan for, develop and maintain a balanced multi-modal transportation system that will address existing and future needs.

Policies

1-1: Improve the accessibility, connectivity, efficiency and viability of the transportation system for all users.

1-2. As transportation facilities are developed in urban areas, use design standards, landscaping and other amenities to encourage people to walk and ride bicycles.

1-3: Use MPO structure as a forum to develop a multi-modal transportation system.

1-4: Encourage land uses, design standards and funding opportunities that support public transportation.

1-5: The RVMPO establishes Long-Term Potential (LTP) corridor areas where planning for future road connections beyond the planning horizon is probable.

Potential Action

❖ Projects designed with space reserved for current and future multi-modal transportation infrastructure connections.

Performance Indicators

✓ Increase proportion of regional corridors that serve at least three modes.

✓ Greater use of "streetscapes," such as benches, planters and traffic calming.

✓ Growth in pedestrian and bicycle use.

Goal 2
Safety and security

Chapters 5.2, 5.3

Goal 2

Optimize Safety and Security of the transportation system.

Policies

2-1: Work with other agencies to promote traffic safety education and awareness.

2-2: Inventory crash-prone areas and place a higher priority on investments that correct safety-related deficiencies in all modes.

2-3: Coordinate with emergency-response agencies to design and operate a transportation system that supports timely and safe emergency response.

2-4: Reduce vulnerability of the public, goods movement, and critical transportation infrastructure to crime, emergencies and natural hazards.

2-5: Support development of alternate transportation routes to respond to emergency needs.

Potential Actions

❖ Local, state and regional providers work together to maintain coordinated regional emergency response plans.

❖ All modes of transportation are examined for security, deficiencies. Recommendations for improvements are developed and implemented.

Performance Indicators

- ✓ Measured reduction in number and severity of injury and fatal crashes.
- ✓ Measured reduction in number of non-injury crashes.
- ✓ Increase in safety education.
- ✓ Incorporate crash history/safety concerns in project evaluation.

Goal 3

Use transportation investments to foster compact, livable unique communities.

Goal 3
Compact and livable communities

Part 4
Part 5
Part 6

Policies

3-1: Recognize the connection between transportation efficiency and land use and densities.

3-2: Promote street and pathway connectivity, including off-road corridors, for non-motorized users.

3.3: Provide environmentally sensitive and healthy transportation options.

3.4: Identify and support beneficial human health effects when planning and funding transportation projects.

3-5: Consider potential environmental impacts and mitigation to maintain and restore affected environmental functions in consultation with appropriate federal, state and local agencies.

Potential Actions

- ❖ Local plans support transit oriented development and similar measures that improve transportation system efficiency.
- ❖ Street networks are developed connecting new and existing neighborhoods.
- ❖ Special populations, especially low-income and minority communities are identified and engaged in the planning process.
- ❖ As transportation projects are planned, funded and designed, federal state and local land use management, natural resources, wildlife, environmental protection, conservation and historic protection agencies are consulted. Emphasis is put on mitigation actions with high potential.

Performance Indicators

- ✓ Measure changes in mixed-use and downtown development.
- ✓ Measure impacts on identified resource areas (Environmental Considerations chapter of the RTP) using most up-to-date data, including Rogue Valley Environmental Database.
- ✓ Measure expansion of off-network paths and increase in population and employment with access to paths
- ✓ Improve air quality through projects that reduce carbon monoxide, particulates (PM_{10}) and greenhouse gases.

Goal 4

Develop a plan that can be funded and reflects responsible stewardship of public funds.

Policies

4-1: Develop innovative and sound funding policies to implement the RTP. Ensure that costs of planned improvements are consistent with policies.

4-2: Prioritize investments to preserve the existing transportation system.

Goal 4
Financing and responsible stewardship

Chapter 4.2
Part 6

Potential Actions

❖ Public-private partnerships and other innovative approaches can maximize resources.

❖ Use funding mechanisms such as System Development Charges to collect from new developments a proportionate share of facility improvement costs.

❖ Develop, fund, and implement maintenance programs for transportation facilities.

Performance Indicators

✓ Track funding obligations, funding availability.

✓ Review and update project funding criteria using quantitative methodologies to the extent practicable.

Goal 5

Maximize efficient use of transportation infrastructure for all users and modes.

Policies

5-1: Add or remove traffic signals and signal networks, including interstate access ramp signals, to improve system efficiency.

5-2: Optimize intersection and interchange design.

5-3: Manage street access to improve traffic flow.

5-4: Effectively integrate technology with transportation infrastructure consistent with RVMPO Intelligent Transportation Systems (ITS) program.

Potential Actions

❖ Coordinate and link signals to a master control system to optimize system efficiency.

❖ Interstate ramp meters control the amount of traffic entering the freeway to maintain acceptable traffic volumes on the interstate.

❖ Geometric improvements and elimination of turn movements increase intersection capacity.

Goal 5
System efficiencies

Chapter 4.2
Part 6

Performance Indicators

- ✓ Measure improvements, upgrades to existing system.
- ✓ Measure implementation of ITS projects.
- ✓ Track projects that use innovative, emerging technologies.

Goal 6

Use diverse strategies to reduce reliance on single-occupant vehicles.

Goal 6
Reducing reliance on single-occupant vehicles

Chapter 4.2
Chapters 5.2, 5.3, 5.4, 5.5, 5.7, 5.8, 5.10

Policies

6-1: Support Transportation Demand Management strategies.

6-2: Facilitate alternative parking strategies to encourage walking, bicycling, carpooling and transit.

6-3: Enhance bicycle and pedestrian systems.

6-4: Support transit service.

Potential Actions

- ❖ Governments become models for TDM strategies by allowing flexed work hours, subsidizing rideshares, telecommuting, and other methods of trip reduction.
- ❖ Establish low minimum and maximum parking-space standards to increase infill development.
- ❖ Adopt design standards with parking at side or rear of building so pedestrians can access entrances.
- ❖ Adopt park-and-ride standards to place facilities near transit routes.
- ❖ Promote regionally connected network of off-street bicycle/pedestrian facilities with minimal roadway crossings (Bear Creek Greenway).
- ❖ Plan for, build and maintain shared roadways for use by all modes.
- ❖ Use land use codes to promote bicycle and pedestrian travel by requiring amenities such as bike racks, crosswalks, showers and lockers at worksites and retail centers.
- ❖ Improve pedestrian access to transit.

Performance Indicators

- ✓ Track transit service hours and ridership.
- ✓ Track funding for bicycle, pedestrian and transit projects.
- ✓ Measure population living within ¼-miles of transit service.
- ✓ Implement a TDM self-evaluations and reporting process for local jurisdictions.

Goal 7

Provide an open and balanced process for planning and developing the transportation system.

Goal 7
Planning process that is open and balanced

Chapters 2.1, 2.3
Chapter 4.1

Policies

7-1: Coordinate existing and future land use and development with plans for the transportation system.

7-2: Conduct outreach consistent with the RVMPO Public Participation Plan to acquire public input in the planning process.

7-3: Coordinate local, state, and regional transportation planning through the RVMPO

7-4: Decisions will be consistent with federal and state regulations, including the Oregon Highway Plan, the Transportation Planning Rule and the Clean Air Act.

Potential Actions

- ❖ Maintain a website with updated information about all regional planning.
- ❖ Support the RVMPO's Technical Advisory Committee, Public Advisory Council, and the Policy Committee for deliberation of regional transportation planning issues.
- ❖ Participate in local and regional and national organizations to support RVMPO actions.
- ❖ Involve transportation providers in the planning process.

Performance Indicators

- ✓ Record public participation, comments, attendance at meetings.
- ✓ Demonstrate linkage of public comments to decisions and plan content.

Goal 8
Fostering economic opportunities

Chapter 4.2
Chapters 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.8, 5.9
Chapter 8.3

Goal 8

Use transportation investments to foster economic opportunities.

Policies

8-1: Accommodate travel demand to create a regional transportation system that supports the local economy.

8-2: Consider effects on freight mobility when prioritizing projects.

8-3: Support projects that reduce and remove identified barriers to safe, reliable and efficient goods movement.

8-4: Support projects serving commercial, industrial and resource-extraction lands where an inadequate transportation network impedes freight-generating development.

8-5: Plan for enhanced train-truck-transit interface for movement of goods and people.

Potential Action

❖ Balance the demand for freight routes with the demands for local circulation.

Performance Indicator

✓ Measure employment change in vicinity of projects.

Part 4

Plan Implementation

Chapter 4.1, Projects in the RTP

Introduction to Part 4

This part shows how the goals and policies in Part 3 are implemented through procedures and criteria that the RVMPO uses to identify projects. The two chapters in this part address: how and why projects are listed in the RTP, including public participation; and criteria and considerations used by the RVMPO to fund projects.

MPO Plan Projects

Requirements for metropolitan plans are described in Federal Highway Administration rules, 23 CFR Part 450.322. The plan must show through a horizon of at least 20 years the capital investment, operations and management strategies planned to lead to an integrated multimodal transportation system. Funding for all projects shown in the plan must be identified, or there must be a reasonable expectation for funding.

The RVMPO developed the funding expectations for this plan in consultation with ODOT, USDOT and the member jurisdictions. The estimates are the best available at the time, but are likely to change – especially in the long-range years, 2028-2038. Details about the financial planning process are detailed in Part 6.

Not all transportation projects planned within the region by Jackson County and the seven RVMPO cities are contained in this plan. Numerous local improvements are planned and implemented solely by the jurisdiction. Such projects are undertaken through the local Transportation System Plan, a state planning document required under Oregon land use law and generally incorporated into the local Comprehensive Plan.

Federal transportation planning regulations specify the types of projects to be included in the Regional Transportation Plan (RTP). These projects are:

- Any regionally-significant project, regardless of funding source;
- Any project that will require federal environmental clearance;
- Any project that will be programmed in the MTIP; and
- Any project that will receive state or federal transportation funds.

The Clean Air Act further defines the projects that must be included in MPO plans and included in analysis for the transportation conformity process. Because the RVMPO area is designated by the Environmental Protection Agency as an "attainment and maintenance area" for carbon monoxide and particulates (see details in Chapter 7.1 and in the Air Quality Conformity Determination, published separately) Clean Air Act requirements must be met in this plan. Transportation planning begins in the local jurisdictions through the state-required Transportation System Plans. These plans identify local goals, existing and future system deficiencies and needs, and describe the projects that will be undertaken to address those needs, generally over a 20-year period. Public input is a key component of the TSP process. Plans

U.S Clean Air Act and the RTP

The RVMPO's long-range plan, as well as the short-range project programming document – the Metropolitan Transportation Improvement Program – must be found by the U.S. Department of Transportation to conform to the Clean Air Act in order to go into effect. For this reason, all elements of the plan must be consistent with the Act.

The Clean Air Act requires that plans include all *"regionally significant projects,"* and defines regionally significant as being on a facility that serves regional transportation needs, such as access to an area outside the region, major activity centers in the region, major developments and planned developments (malls, sports complexes, etc.)

Generally, these are the projects that are part of a regional travel demand modeling process (which excludes most local streets). At a minimum, regionally significant projects are those on principal arterials. Other projects may be included based on interagency consultation conducted for the Air Quality Conformity Determination, described in Chapter 7.1 and the Air Quality Conformity Determination for this plan (published separately)

reflect the kind of transportation system the public believes the region should have. Because of the significance of the TSPs in the RVMPO, the RVMPO has followed a policy of drawing projects for the RTP from the local TSPs.

The RVMPO planning process considers TSPs from a regional level, focusing primarily on improvements to roads – including construction of bicycle lanes, sidewalks and landscaping – and transit that serve the regional travel need.

Significance of the Regional Transportation System

Regional transportation systems have significant and long-term impacts on economic well-being and quality of life. Not only does the transportation system provide for the mobility of people and goods, it also influences patterns of growth and economic activity through accessibility to land. Furthermore, the performance of the transportation system affects such public policy concerns as air quality, environmental resource consumption, social equity, "smart growth," economic development, safety and security. Transportation planning recognizes the critical links between transportation and other societal goals. The planning process is more than merely listing highway and transit capital investments. It requires developing strategies for operating, managing, maintaining, and financing the area's transportation system in such a way as to advance the region's long-term goals. For these reasons, the RTP includes measures addressing system management and demand management.

Interstate 5, center, at North Medford Interchange, looking south.

Additionally, the RTP addresses land use and the role development plays in transportation planning. The role of transportation on growth patterns in the RVMPO area has become more pronounced in recent years. As the region grows, competition tightens between the demand for space for new homes and businesses and the desire to preserve open space and farm land. Planning projects undertaken by the RVMPO have looked at ways to use land use and "smart growth" measures – such as compact, pedestrian and transit friendly development and commercial-residential mixed use development and open space – to help address future transportation needs. Ways to address future transportation system demand through land use decisions are described in Chapter 5.1.

RTP Planning Process

Development of this RTP update occurred over an 8-month period and involved close coordination with member jurisdictions at both the staff and policy level. Critical parts of the plan, including the forecasts, policy statement and project selection were developed in RVMPO committee meetings, individual consultation with jurisdictions and public review and comment. Drafts of data and analysis were posted on the RVMPO web site. Meetings at which plan components were discussed were announced by email to roughly 100 individuals. Meetings also were advertised from time to time in the local news media. RVMPO staff made public presentations to community groups. Activities were conducted according to standards and requirements of the RVMPO Public Participation Plan. The participation plan, updated in 2007, establishes a goal of the RVMPO to provide citizens and interested parties with reasonable opportunities to participate in the metropolitan transportation planning process. Beyond efforts to provide information to the public, this goal encompasses a wide range of strategies and activities to enable the public to be involved in a meaningful way in the RVMPO's decision-making process. Ultimately, efforts to bring more voices and wide-ranging interests to the table will yield better planning results.

The Policy Committee conducted a public workshop on the draft RTP as well as the draft conformity determination during the formal comment period. The public was invited to freely participate.

Public Comments and the RTP

This section presents a summary of public comments received throughout the update process. The RVMPO revised project evaluation criteria for short-range projects receiving regional federal funds to better meet public need. From comments received at public meetings project criteria were established to increase system efficiencies (including preserving existing assets) and increase connectivity for all modes.

Specific projects supported in public comments that are included in the plan include funding for the Bear Creek Greenway multi-use path, the Hwy. 62 Expressway to relieve congestion and improve safety on the existing state highway, and a beginning phase of an extension of South Stage Road (anticipated beyond the horizon of this plan to cross over, and perhaps access, Interstate 5 to improve east-west connectivity in the central RVMPO area). Other project decisions demonstrate support for building bicycle lanes and sidewalks and enhancing the existing transportation system. Chapters in Part 5 address all planned transportation projects.

Generally, the RTP goals that the public has said are most important are:

- *Goal 5: Maximize efficient use of transportation infrastructure for all users and modes.* This indicates a desire for transportation planning efforts that focus on existing/future facilities and begin a focus on multi-modal transport.

- *Goal 6: Use diverse strategies to reduce reliance on single-occupant vehicles.* This indicates support for Transportation Demand Management (TDM) techniques and public transportation to provide alternatives.

Part 4

Plan Implementation

Chapter 4.2,

Project Selection Criteria

Introduction

There are two project funding sources over which the RVMPO has discretion, both federal and funded through the Highway Trust Fund. They are the Surface Transportation Program and the Congestion Mitigation and Air Quality program. The RVMPO has developed criteria for evaluating and scoring applications for these funds as a way of implementing RTP goals and policies in a way that treats all applications and jurisdictions fairly and provides the greatest possible public benefit. This chapter describes the evaluation criteria for both programs.

Additional general background information about these two programs is in the Financial Plan, Part 6.

Surface Transportation Program

The Surface Transportation Program (STP) is the more flexible of the two funds. It can be used on a wide variety of projects. As noted in the criteria below, the RVMPO dedicates half of the local allocation to Rogue Valley Transportation District (RVTD) for enhanced transit service. This distribution is in accordance with state Transportation Planning Rule requirements that the region take several specific actions to reduce reliance on vehicle travel, especially single-occupant vehicle travel. Details about the state requirements are in Chapter 5.10, Land Use Nexus.

Congestion Mitigation & Air Quality Program

Air quality concerns in the Rogue Valley region and interest in reducing pollutants associated with transportation, or on-road sources has qualified the region within the Medford-Ashland Air Quality Maintenance Area for funds from the CMAQ program. Congress first authorized the program in 1991 for surface transportation related projects that contribute to air quality improvements as well as reduce congestions. Along with other measures CMAQ has been designed to realign the focus of transportation planning toward a more inclusive, environmentally-sensitive and multimodal approach to addressing transportation problems. The formula for distribution of funds considers an area's population by county and the severity of its ozone and carbon monoxide problem. The Rogue Valley Region has federally monitored programs in place to limit carbon monoxide and particulates (PM_{10}).

Selecting Projects for Implementation

RVMPO overhauled its project selection process in 2011 to create a single process of selecting projects for both funding streams. To make more effective use of available funds, a single project may be funded with both CMAQ and STP. The parts of a funded project that cannot be done with CMAQ funds due to restrictions on how those funds are used, can be funded through the STP. This process replaces an RVMPO process that employed two separate processes of application, evaluation and funding – one for each funding source. By having a single application and evaluation process the projects with the greatest benefit to the region can be more clearly identified through comparison with other proposed projects.

A single evaluation matrix replaced two different ranking systems. The evaluation criteria are drawn from the goals in the RTP, the organizational goals adopted by the Policy Committee and

requirements of the then-current transportation act. The entire process was intended to help implement the organizational goal: "Strategically use RVMPO funding to pursue RVMPO goals."

Goals and requirements were grouped into four broad performance categories: mobility, community vitality and livability, transportation options and resource conservation. A total of 20 project evaluation criteria were developed, each with guidelines on how it would be applied in project evaluation.

Table 4.2.1: Policy foundation for RVMPO project selection.

	RVMPO Goal	2034 RTP Goal	Federal MPO Requirements
Mobility		Plan for, develop and maintain a balanced multi-modal transportation system to address existing and future	Enhance the integration and connectivity of the transportation system, across and between modes for people and freight.
			Increase accessibility and mobility.
		Optimize safety and security of the transportation system.	Increase safety of the transportation system.
			Increase security of the transportation system.
Community Vitality & Livability	Continue to work toward more fully integrating transportation and land use planning.	Use transportation investments to foster compact, livable communities. Develop a plan that builds on the character of the community, is sensitive to the environment and enhances quality of life.	Protect and enhance the environment, promote energy conservation, improve quality of life, and promote consistency between transportation improvements and planned growth and economic development.
		Use transportation investments to foster economic opportunities.	Support economic vitality especially by enabling global competitiveness, productivity and efficiency.
Transportation Options	Increase integration and availability of transportation options.	Use incentives and other strategies to reduce reliance on single-occupant vehicles.	
Resource Conservation	Incorporate environmental and energy conservation into the RVMPO planning process.	Maximize efficient use of transportation infrastructure for all users and modes.	Promote efficient system management and operation.
		Encourage use of cost-effective emerging technologies to achieve regional transportation goals.	Emphasize the preservation of the existing transportation system.

With the adoption of this RTP and a new transportation act, it is anticipated that the evaluation criteria will be updated as necessary.

Evaluation and Review

Evaluation procedures were developed by the RVMPO advisory committees and staff, and adopted by the Policy Committee. The process includes uniform methodology to estimate costs so that committees can measure the comparative value of projects.

Projects are initially evaluated by staff. Staff results as well as applicant information and evaluation materials are posted on the RVMPO website and advertised for public comment. The TAC and PAC review all materials and make recommendations. The Policy Committee makes all final funding decisions.

Part 5

Regional Transportation System Improvements

Chapter 5.1,

RTP Projects by Jurisdiction

Introduction to Part 5

This is the largest Part in the RTP. It describes all of the regional transportation actions anticipated to occur in the planning area through 2038. Actions are presented first, in Chapter 5.1, as a listing by jurisdiction, and then presented in the context of the respective modes and planning issues. Taken as a whole, this Part shows how the region will work toward meeting the obligations of metropolitan planning within the region, and the goals and policies of the RTP.

Introduction

This chapter shows all RTP projects by jurisdiction. These projects provide facilities for motorists, buses, bicyclists and pedestrians. They serve long-range needs for mobility and accessibility based on anticipated development.

Projects listed – referred to as Tier 1 projects – by no means represent of the transportation actions anticipated. Each jurisdiction will plan and carry out a multitude of local projects, which don't meet the criteria to be part of the RVMPO process. The local activities are based on the local Transportation System Plans (TSPs), which cities and the county develop as part of their state comprehensive planning obligations. The RVMPO projects are first identified in the local TSPs.

This plan identifies a total of just over $1 billion expected to be available to invest in the regional transportation system through 2038. Of that, transit provider Rogue Valley Transportation District plans on receiving just over $332 million for its activities.

Details about the financial assumptions used to calculate these sums and financially constrain the projects in this Part are provided in Part 6: Financial Plan.

Project Timing

The project list on the following pages provides a brief description of the work to be done, estimated cost based on year of construction or implementation (inflation adjusted) and the timing.

Projects are scheduled by the following timeframes:

- Short Range – Between 2013 and 2018
- Medium Range – Between 2019 and 2027
- Long Range – Between 2028 and 2038.

Project numbers shown in the left hand column are internal tracking number for project identification within the RVMPO. As projects are implemented they are added to the RVMPO programming document, the Metropolitan Transportation Improvement Program (MTIP) and forwarded into ODOT's Statewide Transportation Improvement Program (STIP) for authorization to proceed. At the MTIP-STIP stage, projects receive a programming Key Number, which differs from RTP numbers. The key number is useful for tracking projects through implementation.

Maps showing project locations by RTP number are at the end of this chapter, immediately following the project lists, Table 5.1.2

Other Projects

Additional projects identified as necessary and important by all jurisdictions – called Tier 2 Projects – are presented in Chapter 7.4, Future Challenges. No funding has been identified for the Tier 2 projects. They have not gone through the regional Air Quality Conformity process required for the official RTP projects.

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST	Cost by Phase	Funds Available
Ashland						
122	Walker Avenue: Safe Walk To School	Sidewalk Construction, west side Walker Ave. between Ashland and Iowa; includes improvements at railroad crossing.	short	$ 748,000		
120	Laurel St. RR Crossing	R/R X-ing improvements, surface improvements	short	$ 813,552		
159	Hersey St: N. Main to Oak St Sidewalk	Sidewalk Construction	short	$ 591,776		
				Short Range Total	**$ 2,072,022**	**$ 2,072,022**
149	E. Nevade Street Extension	Extend street over Bear Creek to link roadway at Kestrell; sidewalks, bicycle lanes	medium	$3,404,562		
150	Washington Street Extension	Extend street from Mistletow Road to Ashland Street; sidewalks, bicycle lanes	medium	$1,628,269		
151	Intersection Improvements: Ashland-Oak Knoll-E. Main	Realign intersection, install speed-reduction treatments	medium	$1,184,195		
				Medium Range Total	**$6,217,026**	**$6,217,026**
152	Normal Avenue Extension	Extend roadway to East Main; sidewalks, bicycle lanes	long	$5,916,032		
153	Clear Creek Drive Extension	Extend road to connect with N. Mountain Ave.	long	$4,601,359		
				Long Range Total	**$10,517,391**	**$10,517,391**

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST	Cost by Phase	Funds Available
Central Point						
228	Freeman Road Improvements	Urban Upgrade, adding center turn lane, bicycle lanes, sidewalks, curb, gutter and storm drain between Hopkins Road and Oak Street.	short	$1,991,000		
208	Central Point & Talent Parking Lot Improvements	Pave and improve alleys and parking facilities, both cities	short	$1,191,001		
229	Twin Creeks Rail Crossing	Construct new two-lane road, with bicycle lanes, sidewalks, extending Twin Creeks Crossing from Boulder Ridge Street to Hwy 99. Install signal at new Hwy 99 intersection	short	$2,600,000		
		Short Range Total			**$5,782,001**	**$5,782,001**
215	OR 99: Traffic Calming Unit 3	Traffic Calming	medium	$259,043		
214	Scenic Ave., Mary's Way to Scenic Middle School	Widen to add bike lanes and sidwalks (urban upgrade)	medium	$865,078		
		Medium Range Total			**$1,124,121**	**$1,124,121**
219	Table Rock Rd. & Vilas Rd Intersection	Widen to add turn lanes	long	$1,751,803		
224	Scenic Ave, 10th St. to Scenic Middle School	Widen to add continuous turn lane with bike lanes and sidewalks	long	$1,117,473		
227	W. Pine St., Hanley St. to Haskell St.	Widen to add center turn lane, bike lanes , sidewalks	long	$3,286,685		
		Long Range Total			**$6,155,960**	**$6,155,960**

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST	Cost by Phase	Funds Available
Eagle Point						
324	Mattie Brown Park Improvements	Pave parking area, construct sidewalks at park	Short	$175,000		
322	North Royal Avenue - Loto Street to E. Archwood Drive	Little Butte Creek Pedestrian Trail	Short	$157,000		
325	Arrowhead Trail - Black Wolf lane to Pebble Creek Blvd	Extension (Collector) with Bike Lanes and Sidewalks	Short	$2,344,000		
323	Barton Road - Highway 62 to Reese Creek Road	Urban Upgrade (Collector) with Bike Lanes and Sidewalks	Short	$500,000		
326	Buchanan Avenue - Linn Road to Fargo Street	Extension (Collector) with Bike Lanes and Sidewalks	Short	$144,000		
327	Havenwood Drive - Barton Road to Rolling Hills Drive	Extension (Collector) with Bike Lanes and Sidewalks	Short	$521,000		
328	Lava Street/Stevens - Lava Street to Stevens Road	Extension (Arterial) with Bike Lanes and Sidewalks	Short	$1,350,000		
308	Sienna Hills Drive - Barton Road to Sienna Hills Drive	Extension (Collector) with Bike Lanes and Sidewalks	Short	$832,000		
329	South Shasta Avenue - Highway 62 to Arrowhead Trail	Urban Upgrade (Collector) with Bike Lanes and Sidewalks	Short	$2,201,000		
330	Stevens Road - East Main Street to Palima Drive	Urban Upgrade (Arterial) with Bike Lanes and Sidewalks	Short	$2,071,000		
			Short Range Total		**$10,255,000**	
332	Alta Vista Road - S. Shasta Avenue to Robert Trent Jones	Urban Upgrade (Arterial) with Bike Lanes and Sidewalks	Medium	$6,166,698		
332	North Royal Avenue - Loto Street to Reese Creek Road	Urban Upgrade (Arterial) with Bike Lanes and Sidewalks	Medium	$3,672,486		
333	Old Highway 62/Royal Avenue - OR62 to Loto Street	Urban Upgrade (Arterial) with Bike Lanes and Sidewalks	Medium	$5,060,955		
			Medium Range Total		**$14,900,139**	**$14,900,139**
334	Alta Vista Road - Robert Trent Jones to Riley Road	Urban Upgrade (Arterial) with Bike Lanes and Sidewalks	long	$7,278,911		
335	Hannon Drive - West Linn Road to Nick Young Road	Urban Upgrade (Collector) with Bike Lanes and Sidewalks	long	$3,696,425		
336	Nick Young Road - OR 62 to Hannon Drive	Urban Upgrade (Collector) with Bike Lanes and Sidewalks	long	$611,323		
337	Riley Road - Stevens Road to Alta Vista Road	Urban Upgrade (Arterial) with Bike Lanes and Sidewalks	long	$10,315,808		
338	West Linn Road - OR 62 to Dahlia Terrace	Urban Upgrade (Collector) with Bike Lanes and Sidewalks	long	$8,882,813		
			Long Range Total		**$30,785,280**	**$30,785,280**

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST	YoE Cost	Cost by Phase	Funds Available
Jacksonville							
404	First St. & Main St. Sidewalk and Streetscape	Install lighting, sidewalks, bike parking, pedestrian improvements	Short	$1,061,346			
			Short Range Total			**$1,061,346**	**$1,061,346**
No Medium Range Projects Proposed			medium	$0	$0		
			Medium Range Total			**$0**	**$0**
No Long Range Projects Proposed			long	$0	$0		
			Long Range Total			**$0**	**$0**

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST	Cost by Phase	Funds Available	Conformity Status
Medford							
5002	Garfield Ave., Columbus to Lillian	Reconstruct roadway, add curbs, gutters, sidewalk and bike lanes	short	$1,673,625			Exempt
506	S. Holly St. Extension - Garfield Ave. to Holmes Way	Construct street with center turn lane, bike lanes, sidewalks	short	$3,700,000			Non-Exempt
507	Columbus Ave., McAndrews Rd. to Sage Rd.	Extend Columbus to Sage, four lanes w/center turn lane, bike lanes, sidewalks	short	$2,550,000			Non-Exempt
598	Crater Lake Ave & Jackson St. Alley Paving	Pave and improve alleys	short	$1,233,999			Exempt
5007	Springbrook-Delta Waters Realignment	Realign intersection; add center turn lane, bicycle lanes, sidewalks	short	$1,575,033			Exempt
5008	Larson Creek Trail	Build trail connecting Bear Creek Greenway Trail to Ellendale Drive	short	$585,000			Exempt
5005	Adaptive Signal Timing	Install adaptive signal timing equipment along Hwy. 62 corridor	short	$362,897			Exempt
5009	Lozier Lane Improvements	Urban Upgrade: add center turn lane, bicycle lanes, sidewalks, curb gutter and strom drain between W. Main and Stewart Ave.	short	$7,500,000			Exempt
5010	Rail Safety Improvements	Downtown Medford: upgrade Third St. crossing; close 11th St crossing	short	$90,000			Exempt
			Short Range Total		**$18,462,689**	**$18,462,689**	
559	Stanford Rd., Coal Mine Rd. to Cherry Lane	Construct new three lane street with bike lanes and sidewalks	medium	$11,169,923			Non-Exempt
			Medium Range Total		**$11,169,923**	**$11,169,923**	
568	Lear Way, Coker Butte Rd. to Vilas Rd.	Construct new two lane street with bike lanes and sidewalks	long	$5,693,414			Non-Exempt
569	Coker Butte Rd., Lear Way to Haul Rd.	Construct new five lane street with bike lanes and sidewalks	long	$4,376,812			Non-Exempt
586	Springbrook Rd., Blackthorn Way to Coker Butte Rd.	Construct new three lane street with bike lanes and sidewalks	long	$10,212,562			Non-Exempt
588	Manzanita Street Extension.	Construct new five lane street with bike lanes and sidewalks from Riverside Rd. to Spring St.	long	$8,895,960			Non-Exempt
589	Diamond Street Extension	Extend street from S. Columbus to Orchard Home Drive	long	$8,326,619			Non-Exempt
590	McAndrews Rd., Ross Ln. to Jackson St.	Widen from two to five lanes with bike lanes and sidewalks	long	$5,693,414			Non-Exempt
592	Cunningham Rd., Orchard Home Dr. to Columbus Ave.	Widen from two to five lanes with bike lanes and sidewalks	long	$4,554,731			Non-Exempt
594	Stewart Ave., Lozier Ln. to Dixie St.	Widen from two to five lanes with bike lanes and sidewalks	long	$3,416,049			Non-Exempt
596	South Stage Road Extension	Construct 3-lane extension of S. Stage over I-5	long	$53,375,760			Non-Exempt
			Long Range Total		**$104,545,321**	**$104,545,321**	

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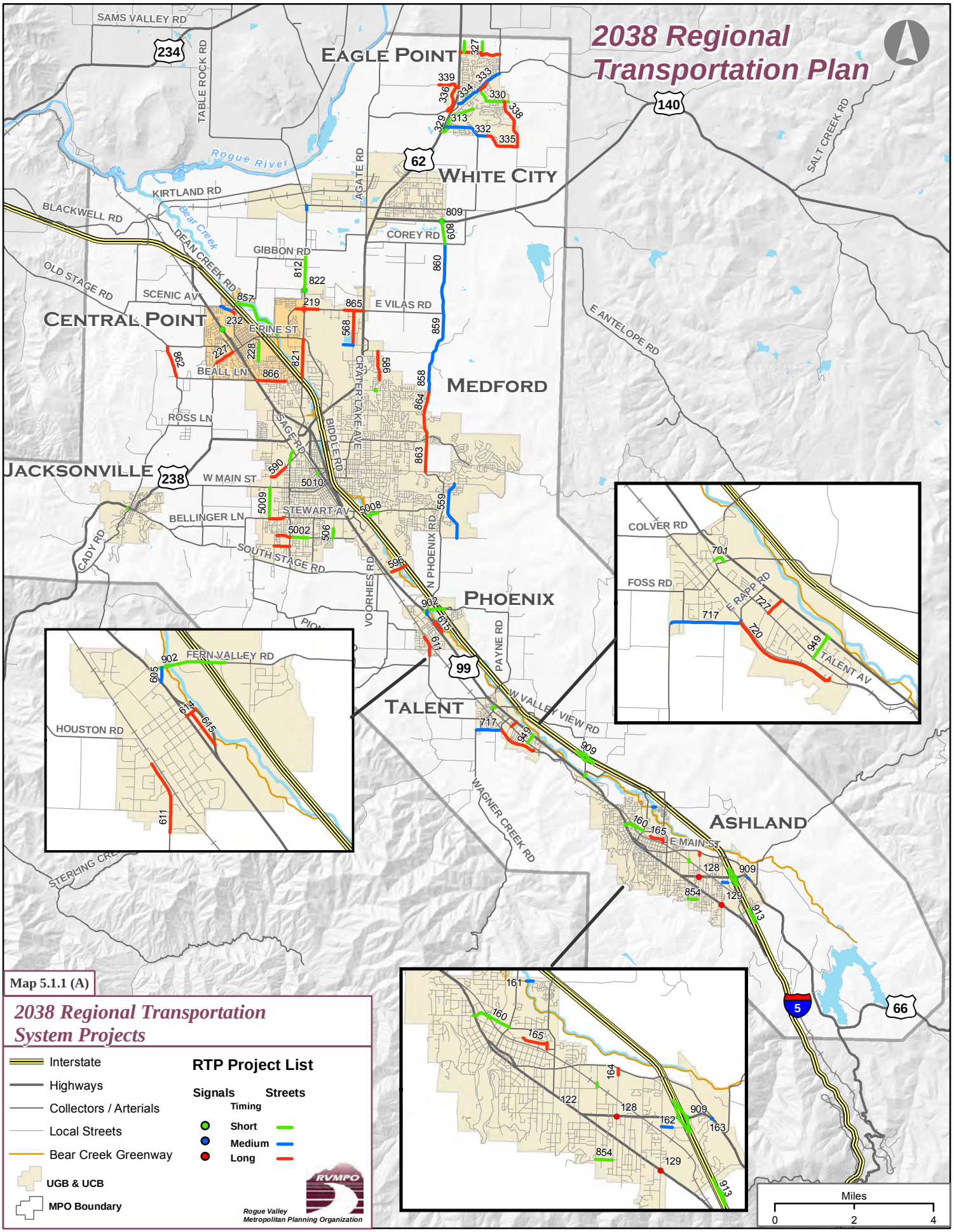
PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST	Cost by Phase	Funds Available
Phoenix						
No Short-Range Projects Planned			short	$0		
			Short Range Total		**$0**	**$0**
600	4th St., OR 99 (SB) to OR 99 (NB)	Widen to provide bike lanes	medium	$438,916		
601	4th St., Rose St. to Colver Rd.	Widen to provide bike lanes and sidewalks	medium	$501,371		
603	Rose St., First St. to Fifth St.	Widen to provide bike lanes	medium	$433,712		
605	Bolz Rd., OR 99 to Fern Valley Rd.	Widen to provide bike lanes and sidewalks	medium	$607,196		
			Medium Range Total		**$1,981,194**	**$1,981,194**
611	Colver Rd., First St. to southern UGB limits	Widen to provide bike lanes and sidewalks	long	$1,155,598		
614	3rd St., existing terminus to OR 99 (NB)	Construct new street with bike lanes and sidewalks	long	$1,283,998		
615	Parking St., OR 99 (NB) to Third St.	Construct new street with bike lanes and sidewalks	long	$3,851,994		
			Long Range Total		**$6,291,591**	**$6,291,591**

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST	Cost by Phase	Funds Available
Talent						
208	Chuck Roberts Park Improvements	Project combined with #208, renamed Central Point & Talent Parking Lot Improvements	short			
			Short Range Total		**$0**	**$0**
717	Rapp Rd., R/R X-ing to Wagner Creek Rd.	Rebuild and upgrade to urban major collector standard (widen lanes, add bicyle lanes, sidewalks)	medium	$2,602,269		
			Medium Range Total		**$2,602,269**	**$2,602,269**
720	Helms/Hilltop, Rapp Rd. to Belmont St.	Construct new railroad district collector street	long	$5,135,993		
722	Rogue River Parkway, OR 99 to Talent Ave.	Construct new street or upgrade existing street to major collector	long	$3,851,994		
			Long Range Total		**$8,987,987**	**$8,987,987**

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST	Cost by Phase	Funds Available
Jackson County						
854	Peachey Road Paving	Pave and improve road from Walker Ave. to Hillview, Ashland	short	$720,000		
857	Bear Creek Greenway	Construct multi-use trail from Pine St. to Upton Rd, Central Point	short	$1,755,723		
812	Table Rock Road - Wilson Rd to Elmhurst St.	Widen to add center turn lane, bicycle lanes, sidewalks; align Gregory Road intersection	short	$2,400,000		
822	Table Rock Rd. at Wilson Rd.	New traffic signal	short	$200,000		
809	Foothill Rd., Corey Rd. to Atlantic St.	New two lane rural major collector, add signal	short	$1,800,000		
Short Range Total					**$6,875,723**	**$6,875,723**
858	Foothill Rd., Delta Waters to Coker Butte	Improve (widen) to rural collector standards	medium	$2,220,366		
859	Foothill Rd., Coker Butte to Vilas	Improve (widen) to rural collector standards	medium	$2,220,366		
Medium Range Total					**$4,440,733**	**$4,440,733**
860	Foothill Rd., Vilas to Corey	Improve (widen) to rural collector standards	long	$3,286,685		
861	Table Rock Rd., Mosquito to Antelope	Widen to 4 lanes	long	$2,191,123		
862	Old Stage Rd., Winterbrook to Taylor	Improve (widen) to rural collector standards	long	$3,286,685		
821	Table Rock Rd: I-5 Crossing to Biddle	Widen to 3 & 5 Lanes, curb, gutter, & Sidewalk + bike lanes	long	$13,146,739		
863	Foothill Rd., Hillcrest to McAndrews	Upgrade to 3 lane urban standard	long	$ 10,955,616		
864	Foothill Rd., McAndrews to Delta Waters	Upgrade to 3 lane urban standard	long	$ 43,822,463		
866	Beall Ln., Highway 99 to Merriman	Upgrade to 3 lane urban standard	long	$ 6,573,369		
867	Stewart, Hull to Thomas	Upgrade to 3 lane urban standard	long	$ 4,382,246		
868	Kings Highway, S Stage to Medford UGB	Upgrade to 3 lane urban standard	long	$ 3,286,685		
869	Hanley Road, Beall to Pine	Upgrade to 3 lane urban standard	long	$ 5,477,808		
870	Beall Ln. at Bursell	New traffic signal	long	$ 438,225		
Long Range Total					**$96,847,643**	**$96,847,643**

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST	Cost by Phase	Funds Available
ODOT						
902	I-5: Fern Valley Interchange, Phase 2	Reconstruct interchange; realign, widen connecting roads: replace Bear Creek Bridge	short	$75,000,000		
903	OR 62: I-5 to Dutton Road (Medford), JTA Phase	Right of Way Acquisition and construct JTA Phase	short	$121,595,000		
904	OR 140 Freight Improvements	Upgrade existing roads to create freight corridor linking Hwy 140 at Hwy 62 (existing terminus), White City, to I-5 at Exit 35, Central Point: including sidening shoulders, adding turn lanes, other improvemetns on segments of Blackwell, Kirtland, High Banks, Antelope, Table Roack, Agate roads and Leigh Way.	short	$5,000,000		
913	I-5: Siskiyou Rest Area (Ashland)	Relocate rest area at new location	short	$11,800,000		
946	I-5: Bear Creek Bridges NB & SB, Scour Repair	Scour Repair, Bridges 08771N & 08771S	short	$1,994,000		
942	OR62: Linn Rd to Hwy 234	Install two way center left turn lane between Barton and Rolling Hills	short	$5,224,000		
945	OR99 @ Creel	Left turn refuge and sidewalks	short	$1,000,000		
949	Talent/OR 99 Creel	Widen OR 99 and provide left turn channelization for Creel Rd. Provide sidewalk	short	$3,290,000		
		Short Range Total			**$224,903,000**	**$224,903,000**
951	South Valley View Bridge Replacement	Realign and widen the Bear Creek Bridge over South Valley View Rd, located off Exit 19 near Ashland. It will also widen and add turning lanes to South Valley View Rd from the Interstate to Hwy 99 and connect peds and bikes with the Bear Creek Greenway.	Medium	$15,000,000		
		Medium Range Total			**$15,000,000**	**$15,000,000**
903	OR 62: I-5 to Dutton Road	Right of Way Acquisition(exclusive of JTA Phase)	long	$67,500,000		
		Long Range Total			**$67,500,000**	**$67,500,000**

PROJECT NUMBER	DESCRIPTION	TIMING	COST	Cost by Phase	Funds Available
Rogue Valley Transportation District (RVTD)					
1039	Urban Operations Support, FFY2013	short	$ 3,900,000		
1056	Urban Operations Support, FFY2014	short	$ 3,850,000		
1057	Urban Operations Support, FFY2015	short	$ 3,900,000		
1058	Urban Operations Support, FFY2016	short	$ 3,900,000		
1059	Urban Operations Support, FFY2017	short	$ 3,900,000		
1060	Urban Operations Support, FFY2018	short	$ 3,900,000		
1061	Expanded Transit Service: Extending transit service to week nights and Saturdays, for three years	short	$ 1,949,103		
1062	Radio Communications System Replacement and Upgrade	short	$ 742,868		
1041	Capitalization of Maintenance (MPO STP Transfer, FFY2013)	short	$ 934,476		
1063	Capitalization of Maintenance (MPO STP Transfer, FFY2014)	short	$ 989,583		
1064	Capitalization of Maintenance (MPO STP Transfer, FFY2015)	short	$ 1,047,769		
1065	Capitalization of Maintenance (MPO STP Transfer, FFY2016)	short	$ 1,047,769		
1066	Capitalization of Maintenance (MPO STP Transfer, FFY2017)	short	$ 1,047,769		
1067	Capitalization of Maintenance (MPO STP Transfe,r FFY2018)	short	$ 1,047,769		
1055	TDM Rideshare Projects: Transportation Demand Management program operated by Rogue Valley Transportation District, 2014 program	short	$ 150,000		
1054	TDM Rideshare Projects: Transportation Demand Management program operated by Rogue Valley Transportation District, 2015 program	short	$ 150,000		
1053	Veterans Transportation Call Center	short	$ 1,353,000		
		Short Range Total		**$33,810,106**	**$33,810,106**
Medium Range Projects, Funding in Finacial Chapter (Part 6)					
		Medium Range Total		**$99,720,000**	**$99,720,000**
Long Range Projects, Funding in Finacial Chapter (Part 6)					
		Long Range Total		**$172,049,000**	**$172,049,000**


2038 Regional Transportation Plan
EAGLE POINT
WHITE CITY
CENTRAL POINT
MEDFORD
JACKSONVILLE
PHOENIX
TALENT
ASHLAND
SAMS VALLEY RD
TABLE ROCK RD
Rogue River
KIRTLAND RD
BLACKWELL RD
Bear Creek
DEAN CREEK RD
OLD STAGE RD
SCENIC AV
GIBBON RD
AGATE RD
COREY RD
E VILAS RD
SALT CREEK RD
E ANTELOPE RD
E PINE ST
BEALL LN
ROSS LN
SAGE RD
BIDDLE RD
CRATER LAKE AVE
W MAIN ST
STEWART AV
BELLINGER LN
CADY RD
SOUTH STAGE RD
VOORHIES RD
N PHOENIX RD
PAYNE RD
W VALLEY VIEW RD
WAGNER CREEK RD
E MAIN ST
STERLING CRE
COLVER RD
FOSS RD
E RAPP RD
TALENT AV
FERN VALLEY RD
HOUSTON RD
234
62
140
238
99
5
66
Map 5.1.1 (A)
2038 Regional Transportation System Projects
Interstate
Highways
Collectors / Arterials
Local Streets
Bear Creek Greenway
UGB & UCB
MPO Boundary
RTP Project List
Signals
Streets
Timing
Short
Medium
Long
Rogue Valley Metropolitan Planning Organization
RVMPO
Miles
0
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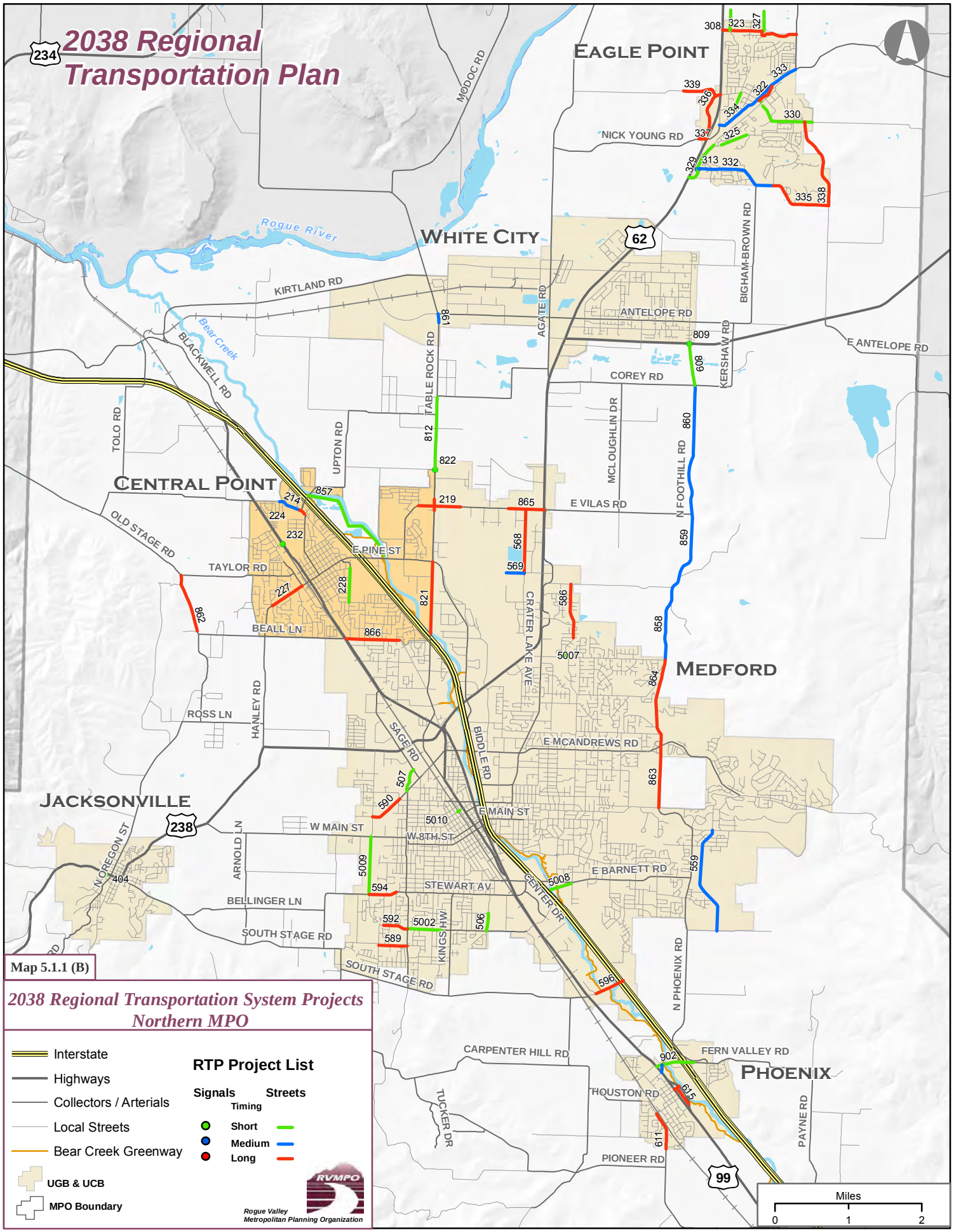

2038 Regional Transportation Plan
EAGLE POINT
WHITE CITY
CENTRAL POINT
MEDFORD
JACKSONVILLE
PHOENIX
NICK YOUNG RD
MODOC RD
Rogue River
KIRTLAND RD
Bear Creek
BLACKWELL RD
TOLO RD
UPTON RD
TABLE ROCK RD
AGATE RD
ANTELOPE RD
BIGHAM-BROWN RD
E ANTELOPE RD
KERSHAW RD
COREY RD
MCLOUGHLIN DR
N FOOTHILL RD
E VILAS RD
OLD STAGE RD
TAYLOR RD
E PINE ST
BEALL LN
CRATER LAKE AVE
HANLEY RD
ROSS LN
SAGE RD
BIDDLE RD
E MCANDREWS RD
E MAIN ST
W MAIN ST
W 8TH ST
STEWART AV
E BARNETT RD
CENTER DR
ARNOLD LN
N OREGON ST
BELLINGER LN
SOUTH STAGE RD
KINGS HWY
N PHOENIX RD
CARPENTER HILL RD
FERN VALLEY RD
HOUSTON RD
TUCKER DR
PAYNE RD
PIONEER RD
62
234
238
99
Map 5.1.1 (B)
2038 Regional Transportation System Projects
Northern MPO
Interstate
Highways
Collectors / Arterials
Local Streets
Bear Creek Greenway
UGB & UCB
MPO Boundary
RTP Project List
Signals
Streets
Timing
Short
Medium
Long
Rogue Valley Metropolitan Planning Organization
RVMPO
Miles
0
1
2

Part 5

Regional Transportation System Improvements

Chapter 5.2, Multi-Modal Safety

Introduction

Public safety is by far the most important element considered in every transportation project. Its significance begins with federal goals and policies, continues with state transportation goals and on to the regional and local planning level. Safety is one of the planning factors in MAP-21 that must guide state and regional transportation planning. The federal planning factors can be found in the RTP Goals and Policies, Chapter 3. According to the Bureau of Transportation Statistics' (BTS) Safety data Action Plan:

"Deaths and injuries are a major cost in transportation. Transportation fatalities rank third as the cause of lost years of life in the U.S. (behind heart disease and cancer). Several travel modes have death counts whose impact exceeds that of AIDS. But the Department of Transportation has not yet responded to this public health

threat by developing data programs as capable as those used in the federal medical community."

The chapter addresses all major modes of transportation, and addresses the following:

- The context for Rogue Valley transportation safety;
- A discussion of the potential role of the RVMPO in transportation safety planning;
- Rogue Valley crash data; and
- Recommendations for further RVMPO safety work.

The ideal situation is that all elements of the multi-modal transportation system are safe. However, that is not always the case and plans must be made for elimination of physical transportation infrastructure hazards and problems to create a safer travel environment.

Safety often is discussed along with security, but the two are different and must be addressed separately because they involve different issues and circumstances. The simplest distinction between safety and security is that safety problems, crashes, are unpremeditated unfortunate events. As such, they may be caused by driver error or impairment, adverse weather, a temporary hazard in the right-of-way, poor infrastructure, poor vehicle design, inadequate vehicle maintenance, or all of the above. By contrast, security events always connote a negative intention (See Security Chapter).

Safety Data and Crash Information

At present, crash data comes from many varied sources. For national information, there's the National Highway Safety Administration and the Bureau of Transportation Statistics. The National Center for Health Statistics and the National Safety Council also provide statistics and summaries. At the state level ODOT maintains data on crashes on all public roads, and produces

Table 5.2.1: Fatalities, Southern Oregon Region

	2007	2008	2009	2010	% Change 2007-2010
Coos County	8	12	10	10	25.0%
Curry County	7	5	1	8	14.3%
Douglas County	25	27	14	21	-16.0%
Jackson County	16	25	14	16	0.0%
Josephine County	21	20	21	12	-42.9%
Region 3 Total	77	89	60	67	-13.0%
Statewide Fatalities	455	416	377	317	-30.3%
Region 3 Fatalities Percent of State	16.92%	21.39%	15.92%	21.14%	24.9%
Region 3 Fatalities per 100,000 Population	16.25	18.60	12.49	13.94%	-1.2%

ODOT 2012

an annual evaluation of the Oregon Traffic Safety Performance Plan. It contains data by type and region. Table 5.2.1 summarizes fatalities in the southern Oregon area by county. Additional statewide information is available on the web at www.oregon.gov/ODOT/TS.

RVMPO conducted a Safety Survey of the planning area, completed in early 2013, drawing on data maintained by ODOT on state and local roads in the 2007-2010 timeframe. Survey was identified in the 2034 RTP as one of the actions RVMPO could undertake to improve safety by compiling and disseminating information. The survey report consists of three parts: a region-wide analysis of injury and fatal accidents; a detailed crash analysis of eight regionally significant corridors in the planning area; and a summary of national and statewide safety planning efforts. The 2034 RTP also suggested that the RVMPO consider safety and crash records in the project-evaluation process. This was done in the subsequent MTIP (2012-2015). This RTP continues the effort to elevate the significance of traffic safety by identifying four safety-related performance measures.

RTP Performance Indicators – Safety

This RTP introduces Performance Indicators as a tool to help the region measure its success in achieving desired outcomes from goals, strategies and funding decisions. The policy chapter of the plan, Part 3, contains indicators for all of the RTP's goals. The goal addressing safety includes the following performance measures:

- ✓ Measured reduction in number and severity of injury and fatal crashes.
- ✓ Measured reduction in number of non-injury crashes.
- ✓ Increase in safety education.
- ✓ Incorporate crash history/safety concerns in project evaluation.

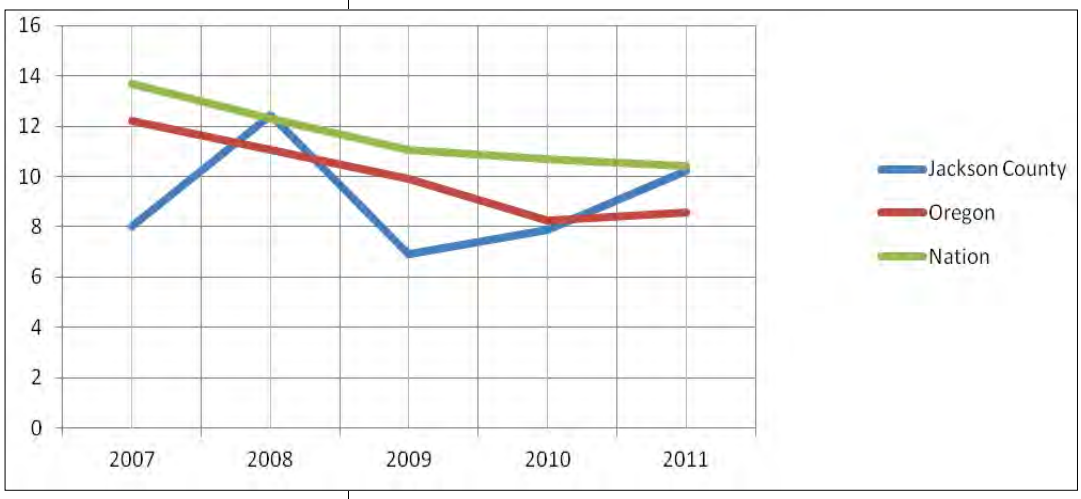
The 2013 Safety Survey focused on both location and human safety. The locational approach was used to estimate crash rates and begin the process of identifying possible locations for safety improvements. Crashes on the eight selected corridors were mapped, and crash rates per Vehicle Mile Traveled by road segment were estimated. The corridors chosen for this project were: Pine Street/Biddle Road; Crater Lake Avenue; Foothill Road; OR Hwy 99; OR Hwy 62; OR Hwy 238; North Phoenix Road; and Table Rock Road. Both injury and non-injury incidents were included here.

Injury crashes were examined throughout the RVMPO planning area, regardless of location, reflecting the greater seriousness of these incidents. This portion of the survey also looked at the roll two key risk factors – consumption of intoxicants and seatbelt use – played in crashes that resulted in injury. In the case of drug and alcohol use, RVMPO found that while intoxicants are linked to a comparatively small number of crashes, they account for 62 percent of all traffic fatalities. The number of intoxicant-related crashes may be lower than many other areas, but when they do occur they are more likely to be serious.

To help planners and others consider the relative seriousness of the region's crash record, the RVMPO Safety Survey includes state and national data.

As the first survey for the planning area, it is anticipated that future surveys will identify changing conditions, and indicate the impact transportation projects have (or do not have) on crashes. This RTP includes projects located on several of the corridors examined in the survey, including the expressway bypass on Hwy. 62, a project to widen segments of Table Rock Road, and other improvements to segments of Hwy 99 and North Phoenix Road.

Table 5.2.2: Comparison Roadway Deaths per 100,000 Population



RVMPO 2013

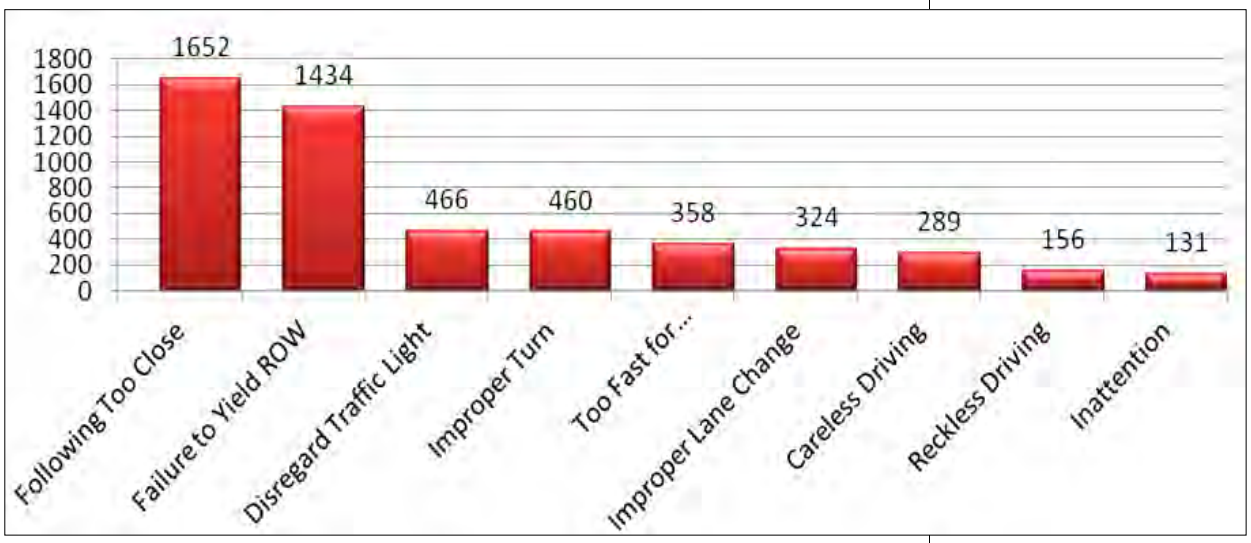
Approach to Safety

There are two components to efforts toward improving transportation safety: public education, and facility improvement. Federal, state and local agencies engage in efforts addressing both. In the area of education, programs go beyond safe-driver programs to provide information to pedestrians, children traveling to school and workers in traffic zones. Crash data show driver error and the failure of bicyclist and pedestrians to obey the rules of the road are factors in most crashes, so traffic safety education can play a significant role in crash reduction. In addition, children, who are among the most vulnerable pedestrians, can be better protected through increasing their awareness of traffic hazards and safety rules.

Education includes law enforcement. ODOT research indicates a direct relationship between traffic law enforcement and crash rates. Due to funding shortfalls, however, the number of state police on the road has fluctuated but generally has remained below national average rates. Crash records show that two common infractions have a significant impact on traffic crash rates and severity: red-light running and speeding. These can be reduced through the consistent enforcement of safety-related traffic laws.

While the behavior of system users is critical, the facilities themselves need to be designed, built, maintained and operated in ways that make them safe. In the design and construction area, this means following standards for everything from lane widths and driveway spacing to sign placement and crosswalk location. Operations and maintenance programs look at where crashes occur and why, to determine whether any change on the ground could make accidents less likely. Visibility, for example, is important especially at intersections, to allow motorists a clear view of signs, cyclists, pedestrians, and other cars. Landscaping, which is used to improve appearances and conditions for neighbors and pedestrians, cannot be allowed to obstruct a clear line of sight when needed for traffic safety purposes.

Table 5.2.3: Top 10 causes of injury crashes, RVMPO area, 2007-2010



RVMPO 2013

Within the RVMPO area, safety programs are conducted at the state and jurisdiction level. Agencies track crash location and incident details and routinely draw on the expertise of both the emergency responders and public works staff to develop street improvements.

The RVMPO will continue to investigate better methods of tabulating and mapping highway crash data, and coordinate with jurisdictions to identify the most useful data. This ability will evolve as data sources improve. Feedback from jurisdictions and the public will help guide development of this on-going project.

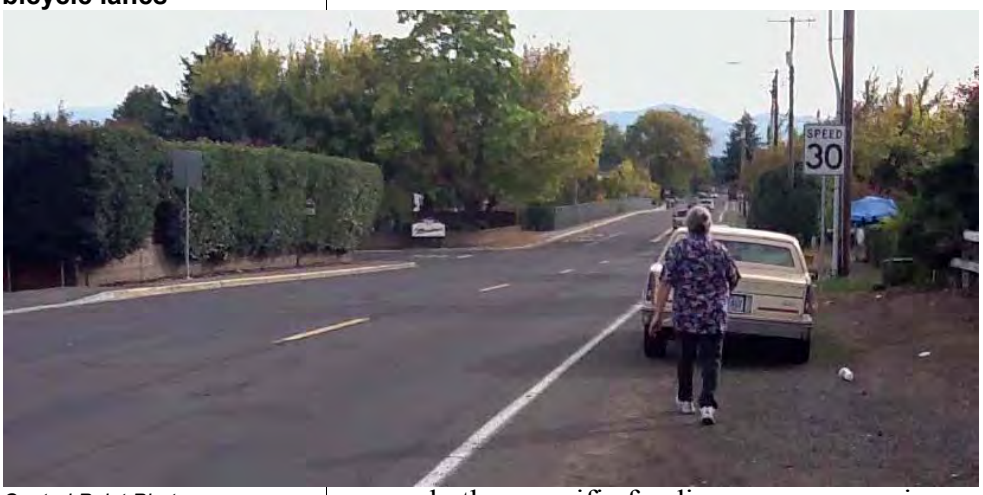
RTP Safety Projects

Virtually all the road projects listed in the RTP have a safety element. One of the most common types of improvement, urban upgrade, makes roads safer for motorists as well as bicyclists and pedestrians by adding sidewalks and bicycle lanes that are separate

from motor traffic. Motor vehicle drivers also benefit from having marked lanes for non-motorized modes, marked crosswalks and signals. There is concern that the RVMPO not duplicate work already occurring at the local level, but instead find ways to enhance those efforts. Options for the RVMPO planning include:

- Using published sources, continue to develop tables, charts and maps of transportation crashes and incident data by mode.
- As resources and source agency databases allow, create Geographic Information Systems (GIS) –related database files and maps of accident and incident data by mode.
- Coordinate with appropriate lead agencies, with the primary focus being on reducing the frequency and severity of injury crashes.
- Continue Intelligent Transportation Systems planning and project programming, particularly with a view to investments that will enhance safety, which is described in Chapter 5.4, Transportation System Management.
- Continue reviewing with RVMPO committees and the public project evaluation matrix and other specific funding program scoring matrices to ensure that safety projects receive appropriate weighting and priority in plans and programs.
- Help jurisdictions identify additional transportation funding sources that are specifically targeted at safety projects to supplement the limited funds from conventional transportation sources.

Freeman Road, Central Point, given high priority for safety in 2015 MTIP due to absence of sidewalks, bicycle lanes



Central Point Photo

The impacts of ignoring safety are significant. Beyond toll on families and communities is an economic cost. The National Safety Council published *Accident Facts, 2009 Edition*, which estimated an economic cost of nearly $1.3 million for each traffic death, based on medical expenses and lost productivity. For each disabling injury the cost is about $68,000. And for each incidence

of property damage the cost is $8,200 (including minor injury). Estimated economic loss caused by all crashes in Oregon exceeded $2.5 billion in 2009.

Safety and the RTP

Every planned transportation project has some element of safety to it. Projects are designed with top priority to improving and maintaining the safety of all users. A few of the planned projects, however, are focused principally on improving safety, and they are shown in this chapter. These are projects that don't increase roadway capacity or expand the transportation system. By listing them separately it's possible to measure how much available funding is dedicated solely to safety. RTP planned safety projects total just over $46 million. Table 5.2.5 lists RTP safety oriented projects, drawn from the full RTP project list in Chapter 5.1.

Table 5.2.4: Safety expenditures by phase, selected RTP Safety Projects

Short Range (2013-2018)	$37,038,259
Medium Range (2019-2027)	$3,416,883
Long Range (2028-2038)	$5,559,756

Table 5.2.5: Selected RTP Safety Projects

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST
Ashland				
122	Walker Avenue: Safe Walk To School	Sidewalk Construction, west side Walker Ave. between Ashland and Iowa; includes	short	$ 748,000
120	Laurel St. RR Crossing	R/R X-ing improvements, surface improvements	short	$ 813,552
159	Hersey St: N. Main to Oak St	Sidewalk Construction	short	$ 591,776
151	Intersection Improvements: Ashland-	Realign intersection, install speed-	medium	$1,184,195
Central Point				
228	Freeman Road Improvements	Urban Upgrade, adding center turn lane, bicycle lanes, sidewalks, curb, gutter and storm drain between Hopkins Road and Oak Street.	short	$1,991,000
215	OR 99: Traffic Calming Unit 3	Traffic Calming	medium	$259,043
214	Scenic Ave., Mary's Way to Scenic Middle School	Widen to add bike lanes and sidwalks (urban upgrade)	medium	$865,078
224	Scenic Ave, 10th St. to Scenic Middle School	Widen to add continuous turn lane with bike lanes and sidewalks	long	$1,117,473
227	W. Pine St., Hanley St. to Haskell St.	Widen to add center turn lane, bike lanes, sidewalks	long	$3,286,685
Eagle Point				
324	Mattie Brown Park Improvements	Pave parking area, construct sidewalks at park	Short	$175,000
322	North Royal Avenue - Loto Street to E. Archwood Drive	Little Butte Creek Pedestrian Trail	Short	$157,000
Jacksonville				
404	First St. & Main St. Sidewalk and Streetscape	Install lighting, sidewalks, bike parking, pedestrian improvements	Short	$1,061,346
Medford				
5007	Springbrook-Delta Waters Realignment	Realign intersection; add cinter turn lane, bycycle lanes, sidewalks	short	$1,575,033
5008	Larson Creek Trail	Build trail connecting Bear Creek Greenway Trail to Ellendale Drive	short	$585,000
5009	Lozier Lane Improvements	Urban Upgrade: add center turn lane, bicycle lanes, sidewalks, curb gutter and strom drain between W. Main and Stewart Ave.	short	$7,500,000
5010	Rail Safety Improvements	Downtown Medford: upgrade Third St. crossing; close 11th St crossing	short	$90,000
Phoenix				
601	4th St., Rose St. to Colver Rd.	Widen to provide bike lanes and sidewalks	medium	$501,371
605	Bolz Rd., OR 99 to Fern Valley Rd.	Widen to provide bike lanes and sidewalks	medium	$607,196
611	Colver Rd., First St. to southern UGB limits	Widen to provide bike lanes and sidewalks	long	$1,155,598
Jackson County				
857	Bear Creek Greenway	Construct multi-use trail from Pine St. to Upton Rd, Central Point	short	$1,755,723
812	Table Rock Road - Wilson Rd to Elmhurst St.	Widen to add center turn lane, bicycle lanes, sidewalks; align Gregory Road intersection	short	$2,400,000
822	Table Rock Rd. at Wilson Rd.	New traffic signal	short	$200,000
ODOT				
913	I-5: Siskiyou Rest Area (Ashland)	Relocate rest area at new location	short	$11,800,000
942	OR62: Linn Rd to Hwy 234	Install two way center left turn lane between Barton and Rolling Hills	short	$5,224,000
945	OR99 @ Creel	Left turn refuge and sidewalks	short	$1,000,000
Rogue Valley Transportation District (RVTD)				
1055	TDM Rideshare Projects: Transportation Demand Management program operated by Rogue Valley Transportation District, 2014 program		short	$ 150,000
1054	TDM Rideshare Projects: Transportation Demand Management program operated by Rogue Valley Transportation District, 2015 program		short	$ 150,000

Part 5

Regional Transportation System Improvements

Chapter 5.3, Multi-Modal Security

Introduction

The federal government in 1998, called for states and MPOs to address transportation security issues. In 2005, a new transportation act strengthened the requirement, which has been extended to the current MAP-21. The transportation acts require long-range regional transportation plans to consider security distinct from transportation safety. Furthermore, in 2002 Transportation Security Administration (TSA) was created with extensive requirements for operational and capital improvements relating to security. While the public's eye has been on passenger aviation, TSA's mission relates to all modes.

The federal government anticipates that over the next several years, security considerations will result in changes in how transportation is planned, designed, implemented and operated.

Transportation goals, planning processes, databases, analytical tools, decision-making considerations, and organizational structures will change due to security concerns. Transportation will be on the front line in responding to security risks. The response to security concerns will be cross-jurisdictional and functional lines and be among the most complex and important challenges to transportation professionals. While it may be too early to begin changing our long-range infrastructure network plans in response to security risks, there will be changes in spending priorities in the near term and most probably over a longer period of time."

There is a wide range of such incidents that could cause varying levels of disruption to the transportation system. One report recommending a national research and development strategy for improving surface transportation security presented a wide ranging list of possible threat scenarios. The list originated in a U.S. Department of Transportation vulnerability assessment of the U.S. transportation system. The nature of the threats was characterized primarily as being a physical, biological, chemical or cyber attack. The types of responses would clearly be different depending on the nature of the attack.

The magnitude and scope of an incident will clearly be an important determinant for gauging the appropriate public safety/emergency response. And most studies of sudden disruptions to the transportation network, either from natural or man-made causes, have concluded that the redundancies in a metropolitan area's transportation system provides a rerouting capability that allows the flow of people and vehicles around disrupted network links. For instance, in the RVMPO area, parallel north-south routes Hwy 99 and I-5 offer that redundancy.

Definitions

The simplest distinction between safety and security is that safety problems- accidents – are just that—unpremeditated unfortunate events. As such, they may be caused by driver error or impairment, adverse weather, a temporary hazard in the right-of-way, poor infrastructure or vehicle design, or all of the above. By contrast, security events always connote a negative intention, whether the perpetrator is a disgruntled single individual, a member of a gang, or a member of a political organization, that is, a terrorist. In number, terrorist attacks on transportation systems are few, with the vast majority of security breaches being perpetrated by non-political actors. But terrorist events, when they do occur, can be much more dramatic, harm many more people, and require much more to address. Table 5.3.1 provides a description of various

types of security problems that can arise in any transportation system.

Table 5.3.1: Examples of Transportation Security Incidents

Event	Description
Aggravated Assault	An unlawful attack by 1 person upon another for the purpose of inflicting severe or aggravated bodily injury. This type of assault usually is accompanied by the use of a weapon or by means likely to produce death or great bodily harm.
Arson	To unlawfully and intentionally damage, or attempt to damage, any real or personal property by fire or incendiary device.
Burglary	The unlawful entry of a structure to commit a felony or a theft. This includes offenses known locally as burglary (any degree), unlawful entry with intent to commit a larceny or felony, breaking and entering with intent to commit a larceny, housebreaking, safe cracking and all attempts at these offenses.
Larceny/Theft	The unlawful taking, carrying, leading or riding away of property from the possession or constructive possession of another. This includes pocket picking, purse snatching, shoplifting, thefts from motor vehicles, thefts of motor vehicle parts and accessories, theft of bicycles, theft from buildings, theft from coin operated devices or machines, and all other theft not specifically classified.
Trespass	To unlawfully enter land, a dwelling or other real property.
Vandalism	The willful or malicious destruction, injury, disfigurement or defacement of any public or private property, real or personal, without consent of the owner or person having custody or control by cutting, tearing, breaking, marking, painting, drawing, covering with filth, or any other such means as may be specified by local law.
Terrorism	The willful or malicious destruction, injury, disfigurement or defacement of any public or private property [etc. as above] by domestic or foreign nationals for the purpose of making a political impact.

Note: Table descriptions provided for general information, and may not be consistent with current Oregon criminal code.

An Approach to Security

FHWA guidance offers one approach to handling potential security or disaster incidents. The plan offers six options for action.

Prevention: This has several components, ranging from the actual stopping of an attack before it occurs, to providing improved facility designs that prevent large scale destruction. Surveillance, monitoring, and sensing technologies will likely play an important role in the prevention phase of an incident.

Response: A range of responses is offered.

> *Mitigation*: Reducing the harmful impact of an attack as it occurs and immediately after. This entails identifying the most effective routing for emergency vehicles, evacuations and effective communication systems among emergency response teams and for general public information.

Monitoring: Recognizing that an incident is underway, characterizing it, and monitoring developments. Clearly, surveillance, monitoring, and sensing technologies would be critical to this phase of incident response, as would public information.

Recovery: Facilitating rapid reconstruction of services after an incident. Depending on the degree of damage to the community and/or transportation system, regaining some level of normalcy will require bringing the transportation system back to adequate levels of operation.

Investigation: Determining what happened in an attack, how it happened, and who was responsible. This is primarily a security/police activity that reconstructs the incident and determines causality and responsibility.

Institutional Learning: Conducting a self-assessment of organizational actions before, during, and after an incident. This element provides a feedback to the prevention element in that by understanding what went wrong or right in response to an incident, steps can be taken to prevent possible new threats.

RVMPO Area Security Planning

Within the planning area, some specific strategies have been developed. They are discussed below in the context of national security planning initiatives.

Intelligent Transportation System (ITS) Program – In the past decade or so, a new federal transportation program focusing on information technology to address problems has been developed. This Intelligent Transportation Systems program can make a major contribution toward transportation security. It can assist in all four phases of security: planning, preparedness, response and recovery. However, planners must consider that because of ITS installations' dependence on computers and electrical power, they are also more vulnerable to security threats than are many other transportation elements.

Freight – Special security planning efforts focus on freight movements. The Federal Motor Carrier Safety Administration reviews security measures with motor carriers and shippers that may be the target of terrorist attack. Its mission is to increase the level of awareness of hazardous materials carriers to terrorist threats. The FMCSA field staff provide information in the form of recommendations and suggestions.

Transit – By law, 1 percent of urbanized funds / formula funds for transit are to be used for safety and security. More funding has

been assigned over the past decade. The focus has been on intercity bus systems. Activities have focused on protecting the driver; monitoring and communicating with over-the-road buses; implementing and operating passenger and baggage screening programs; assessing critical security needs and vulnerabilities; and training transportation personnel to recognize and respond to criminal attacks and terrorist threats, as well as in evacuation procedures.

Because the security threat to bus operations is not limited to intercity services, all public transportation companies are required to have security plans. RVTD, with assistance from RVMPO, is prepared a security plan for its facilities and activities.

RVMPO Planning

Security planning efforts in the planning area are directed and managed by the emergency responders – police, fire, medical – representing all of the RVMPO jurisdictions. All of the agencies have collaborating on producing and maintaining emergency response plans. In areas involving transportation, public works staffs collaborate and assist the responders in both planning and incident response. Emergency coordinating organizations in the region have a long history of collaboration and cooperation. They have taken the lead in developing appropriate strategies and implementing plans. Also, they routinely coordinate drills and exercises among transportation providers to practice emergency planning.

The RVMPO's role has been through the staff who participate in both the RVMPO TAC and in emergency response planning efforts. The RTP's principal role is in identifying projects that assist responder efforts, most specifically in the area of ITS. RVMPO developed and maintains the region's ITS plan in consultation with emergency responder representatives. As such, the RVMPO provides a forum for agencies and the public to examine issues and identify needs and solutions. To accomplish this, the RVMPO organized and maintains the Rogue Valley Intelligent Transportation System group (RVITS), and facilitates RVITS meetings to continue ITS planning and implementation.

Future contributions of the RVMPO are likely to focus in two areas: prevention and mitigation. Prevention planning can include: funding new strategies/technologies/projects that can help prevent events; providing a forum for security/safety agencies to coordinate surveillance and prevention strategies; finding funds for security-enhancing systems; continuing to coordinate with security officials in development of prevention strategies.

Other activities for the RVMPO could include:

- Using published sources, create annual tables of transportation security incident data by mode.
- Analyze the available databases for policy and program directions and review conclusions with appropriate lead agencies.
- Working with regional lead agencies, assist in conducting security assessments / audits for each of the transportation modes in the region , addressing physical facilities and equipment, training levels, table top exercises and response / recovery plans. The role of the RVMPO in these audits should be to provide a source of information on national developments and guidelines, and to encourage a degree of consistency among modes in terms of the quantity and quality of data collected.
- Regularly review with the Technical Advisory Committee the MTIP scoring matrix and other specific funding program scoring matrices to ensure that security projects receive appropriate weighting and priority in the MTIP.
- Regularly review the Tier 1 and Tier 2 project development process for the Regional Transportation Plan (RTP) to ensure that security receives adequate priority in the development of the long range project list.

I-5 viaduct carries traffic over downtown Medford streets.

Within the RVMPO planning area, one vulnerable facility identified by the Medford City Council is the Interstate 5 Viaduct through central Medford.

Failure of this elevated section of the interstate would cause serious disruption of north-south travel. RVMPO is considering a region-wide process of identifying alternate routes to I-5 and other key roadways in event of emergencies. Meanwhile Medford is looking for resources to address potential viaduct failure.

Part 5

Regional Transportation System Improvements

Chapter 5.4, Transportation System Management

Introduction

The Oregon Transportation Planning Rule defines Transportation System Management (TSM) strategies as:

> "*...techniques for increasing the efficiency, safety, capacity, or level of service of a transportation facility without increasing its size.*"

TSM strategies are aimed at making the most efficient use of the existing transportation infrastructure, thus reducing the need for more costly projects, such as roadway capacity expansion. Example techniques include coordinating traffic signals, re-striping lanes, and channelizing intersections. TSM strategies can be an important component in maintaining mobility standards.

TSM needs examined in this chapter include:

- Intersection traffic control needs and improvements including signal coordination, signal upgrades and new signal installation or modifications;
- Intelligent Transportation System (ITS) needs and improvements; and
- Continuing traffic monitoring.

Data Collection and Inventory

Locally, TSM strategies are considered first whenever system deficiencies are encountered. Local agencies have a history of implementing TSM projects, and they are expected to continue to do so during the implementation period of the plan. Many TSM projects have relatively low capital costs in comparison to construction of new streets. TSM projects seldom require right-of-way acquisition, a sometimes lengthy, expensive and potentially disruptive process. Some TSM projects do not even require any physical construction.

Because of their relative simplicity, TSM projects often can be implemented soon after a problem is analyzed and a solution is developed. These are among the factors that make TSM projects as attractive as methods of improving the transportation system of the region.

TSM Examples

Coordination of traffic signals, for example, can bring immediate congestion and air quality benefits. Coordinated signal timing in Oregon has produced 10- to 40-percent reductions in stops and 15- to 45-percent reductions in delays, yielding 5- to 25-percent reduction in travel time and up to 15-percent reduction in fuel consumption. Traffic signals within the RVMPO are operated by ODOT, Medford and Jackson County. They are owned by Ashland, Central Point, Medford and Jackson County and ODOT.

The Rogue Valley Intelligent Transportation System (RVITS) Plan, completed in 2004, contributes to TSM in areas of traffic operations and management, traveler information, incident management, public transportation management, emergency management, information management, and maintenance and construction management. RVITS is a 20-year plan for the installation and use of advanced technologies and management techniques to improve the safety and efficiency of the transportation system. This plan was developed collectively by the RVMPO member jurisdictions, including Rogue Valley

Transportation District and the Oregon Department of Transportation.

RVITS-related equipment currently in use is summarized in table 5.4.1.

Table 5.4.1: RVITS Equipment

Device	Number	Location	Owner
CCTV Cameras	6	Medford	ODOT
CCTV Cameras	2	Medford	Medford
Dynamic Message Signs	4	Medford, Ashland, Phoenix	ODOT
Automatic Traffic Recorders	3	Medford, Talent	ODOT
Automatic Traffic Recorders	6	Medford	Medford
Weather Station	1	Medford	ODOT
Mayday Phone	2	Medford	ODOT
Hwy. Advisory Radio	1	Ashland	ODOT
Truck Weigh-in Motion	2	Ashland	ODOT
Red-Light Enforcement Camera	2	Medford	Medford

Forecasting Future Demand

Other chapters in Part 5 address future-year demand across the entire regional transportation system. Additionally, RVMPO member jurisdictions have identified long-range system needs in their Transportation System Plans. The jurisdictions' TSPs identify numerous needs that can be met, at least in part, by TSM measures. Operational/capacity problems at intersections (volume-capacity ratio exceeding 1.0) can be addressed by intersection improvement projects. Medford and Central Point have built round-abouts to improve intersection performance. Channelization can also alleviate delay problems. Widening intersection approaches to provide left- and right-turn lanes can increase the approach capacity by up to 25 percent. Turn lanes also allow for simplified and more efficient signal timing. Most urban upgrade projects in the plan include channelization, which qualifies for Congestion Mitigation and Air Quality funds because reduced congestion reduces vehicle emissions.

Illustrating the potential effectiveness of TSM measures, Ashland in the early 2000s examined 20-year growth projections and determined that a combination of TSM measures, and an effective, area-wide travel demand management (TDM) policy (TDM is discussed in Chapter 5.5), would yield an overall street system that operates within acceptable levels. TSM measures included in this analysis were:

- New traffic signals and signal coordination;
- Intersection approach enhancements, such as dedicated right-turn lanes; and
- Access management of private driveways and public streets.

Jurisdictions have identified signalization and other intersection-improvement projects, which are listed in the Street System Element. These projects are part of an overall strategy to maximize the capacity of the existing street system.

System Deficiencies, Strengths and Weaknesses

Recurrent congestion for the most part is limited to morning and/or peak periods today. Most congestion falls within the moderate to high congestion range. The two trouble spots that fall into the severe congestion category are Fern Valley Road between Interstate 5 and Highway 99, and Highway 62. Both locations are targeted for major improvement beginning in 2013. Reconstruction of the Fern Valley Interchange will ease congestion throughout the interchange area. The first phase of construction of an expressway on Highway 62 will create a bypass for through traffic on the existing corridor. Chapter 7.3, Performance Measures, provides details about system performance

Policy Issues and Actions

The potential benefits of TSM measures – both alone and in conjunction with other kinds of projects – will keep them at the forefront of system-improvement options. And as with other system needs, funding is not expected to keep pace with demand. The funding problem is not unique to the Rogue Valley region. In the area of updating and improving traffic signals, for instance, it has been estimated that approximately two-thirds of the urban signalized intersections in the United States need upgrading of physical equipment and changes to current timing. Generally, an inventory of traffic control devices is made to determine the need for replacement with new, more modern equipment. After the inventory is complete, comprehensive planning for signal systems can take place to improve traffic operations. Among the potential benefits of improved signal systems is a reduction in congestion, with a corresponding improvement in air quality.

Statewide, while the population is expected to increase about 25 percent over the next 20 years, traffic volume is expected to increase 100 percent. This increase requires a transportation system that is efficiently operated and responsive to increasing demands.

The expected growth will put an enormous burden on the existing transportation system. Public agencies must realize that high land and construction costs and environmental constraints make it difficult to build new transportation infrastructure as the single means of relieving congestion. Therefore, a systematic approach is necessary to effectively manage the region's transportation system and capitalize on the existing infrastructure as the region grows.

This will have to include a wide range of system management tools.

Facility Requirements

TSM measures most applicable to the RVMPO region are presented below. Where possible, specific projects have been identified. This discussion of TSM strategies does not represent any priority order. A broad range of strategies must be considered for the individual problems at each location.

Traffic Control Devices – The twin purposes of traffic signals (traffic lights) are a) to provide safety at intersections where volumes are considerable on at least one of the roads and b) to enhance smooth traffic flow through signal synchronization over several miles of arterial highway. In a synchronized system, the driver, after once getting a green light should be able to travel within the speed limit uninterrupted through a series of green lights. Synchronization through use of a master control system is discussed in the next section. Local governments traditionally base their decisions concerning the installation of traffic signals on the Manual on Uniform Traffic Control Devices. They also have a good record of using signals to help achieve optimum traffic flow. Local governments should continue to give priority to improving existing traffic signal systems. Such improvements should include regular signal maintenance, updating the signal equipment and signal timing plan improvements.

The need for traffic signal equipment updates, timing plan improvements, and traffic signal removal should be evaluated based on detailed analyses of traffic operations at individual intersections.

The coordination of new traffic signals through interconnection with existing and other new traffic signals should be considered to improve corridor-level traffic operations. Whenever additional intersections are signalized, agencies need to consider how they are best integrated with nearby signalized intersections. In some cases, signals operate most efficiently as independent signals, but in other cases, they are best integrated into a signal system.

The City of Medford already uses traffic signal systems and coordinated traffic signals in several locations. Experience in Medford and other communities has shown an eight to ten percent improvement in travel time along arterials after interconnected systems have been installed. Reduction of some types of automobile emissions is another possible benefit of improved signal systems.

Installation of master controllers, interconnection systems, and other equipment may help to achieve increased efficiency and reduce congestion of the street system.

Eliminate Unnecessary Traffic Signals – Intersection traffic-control improvements such as traffic signals are generally based on identified traffic congestion and safety problems. Over time, a change in the surrounding land use or street system may reduce travel demand at the signalized intersection, or geometric improvements may mitigate the safety problems at the intersection. Such changes may make the signal unnecessary, thereby requiring that the signal be removed for optimum system performance.

Intersections requiring removal of traffic signals may be converted to two-way stop control with free flow in the major direction of travel, or they may be converted to all-way stop control.

Intersection Geometric Improvements – Intersection improvements such as the provision of turning lanes, traffic islands, channelization, and improved design can generally be implemented at relatively modest cost depending on their complexity. The benefits, though, in the form of improved vehicular traffic flow and pedestrian safety, are substantial.

Misaligned intersection in Ashland was corrected in 2012 to reduce delay and increase safety.

Local governments have a history of developing intersections that recognized national standards for geometric improvements at intersections. The following are eleven guidelines established by the Institute of Transportation Engineers in designing and improving arterial intersections at grade:

- Reduce the number of conflicts among vehicular movements.
- Control speed of vehicles entering and exiting the intersection.
- Coordinate different type of traffic control devices used with the traffic volume at the intersection.
- Select proper type of intersection to serve the traffic volume. Low volumes can be served with minimal control, whereas higher volumes require turning lanes and sophisticated actuated signal operations.
- Use separate left- and right-turn lanes at high volume intersections.

- Separate conflict points. Intersection hazards and delays are increased when intersection maneuver areas are too close together or overlap.
- Favor the heaviest and fastest flows.
- Reduce areas of conflict by channelization (striping, islands, etc.).
- Segregate non-homogenous flows. Separate lanes should be provided where appreciable volumes of traffic are traveling at different speeds (e.g. turning lanes for slowing vehicles).
- Consider the needs of pedestrians and bicyclists.

Intersection Turning Movement and Lane-Use Restrictions – Left-turning vehicles along major undivided highways can impede the flow of through traffic, especially when storage lanes are not provided for left-turning traffic. Turning movements are sometimes prohibited at arterial intersections to minimize conflict between turning vehicles and pedestrians, and between turning vehicles and other vehicles approaching from the opposite direction, thereby reducing delay and safety problems. In such cases, the turn movements should be prohibited during those hours when study data indicate that a significant capacity or safety problem exists, provided a suitable alternative route is available.

Alternatively, at signalized intersections, turning movements can be restricted to certain phases of the signal operation by use of separate displays and appropriate signs. This type of turn restriction is most effective only when a separate lane is provided for the use of turning vehicles.

Turn prohibition studies should consider the following:

- Amount of congestion and delay caused by turning movements;
- Number of collisions involving vehicles making the turning movements;
- Possible impact of traffic diversion on congestion and accidents at intersections required to accommodate traffic diverted by the prohibition;
- Reaction from local property owners;
- Possible adverse environmental impacts caused by re-routed traffic; and
- Feasibility of alternative solutions, such as providing separate storage lanes for turning movement, and separate turn-movements phasing at signalized intersections.

The metropolitan area currently has few intersections where left-turns are prohibited. Additional candidate locations may be identified as the region grows. Turn prohibitions may be a viable solution where a separate left-turn lane and signal protection cannot be provided because of expense or right-of-way constraints.

Access Management – Roadways have two principal functions: the provision of access to adjacent properties and the provision of mobility for traffic already on the street. Streets of different categories have different blends of access and mobility functions.

Access management involves the balance between access to adjacent parcels and accommodating the flow of traffic. Not all of the local governments of the region have adopted access management plans. However, access management standards are a required component of local Transportation System Plans (TSPs). Currently, RVMPO member jurisdictions are in different phases of developing and implementing TSPs.

Access issues can be highly controversial since access management often regulates and limits access to individual businesses or requires access from side streets or frontage roads. Access issues must be handled individually for existing business sites. Significant concerns have been raised in Phoenix along Fern Valley Road, in Medford at the new South Medford Interchange, and in Medford and Jackson County along Highway 62. Other local access issues are raised on arterial and collector streets.

Experience throughout the United States has shown that a well managed access plan for a street system can:

- Minimize the number of potential conflicts between all users of the street system, providing a safer and more efficient system; and
- Minimize local costs for transportation improvements needed to provide additional capacity and access improvements.

Without an access management program along arterials and collectors, roadways may need to be periodically widened to accommodate demands of increased development. This cycle is a result of continually trying to satisfy traffic demands resulting from increased business activity. In turn, improved traffic conditions lead to further traffic demands. The number of vehicle conflict points rises because of an increase in the number of driveways, causing road capacity to diminish. Vehicle delay increases, and safety and comfort are reduced. The cost of allowing

unplanned development to occur along arterials can be great because the inevitable solution calls for more capital expenditure, as the traffic conditions reach intolerable proportions. However, if proper planning in the form of an access management system is used, costs can be minimized.

The following are some of the more important components of an access management strategy that would be applicable to the metropolitan area.

Regulate minimum spacing of driveways – Several ways to accomplish this including:

- Regulate maximum number of driveways per parcel.
- Require access on adjacent cross street (when available).
- Consolidate access for adjacent properties.
- Encourage connections between adjacent properties that do not require motorists to traverse the public streets.
- Require adequate internal site design and circulation plan.
- Regulate the maximum width of driveways.
- Improve the vertical geometrics of driveways.
- Optimize traffic signal spacing and coordination.
- Install raised median divider, left-turn deceleration lane.
- Install continuous two-way left-turn lane.

Ramp Metering – Ramp meters are employed at freeway on-ramp entrances with the objective of optimizing throughput capacity on the mainline freeway. The optimization is achieved by regulating the entry of vehicles onto the freeway during the peak hours of operation with ramp signals at the on-ramps. Very often, optimization of freeway throughput capacity is achieved at the expense of additional delays at the metered on-ramps. Another important consideration is the ability to provide adequate queuing or storage capacity for the stopped vehicles on the ramps leading to the through road.

Ramp metering has proven to be one of the most cost-effective techniques to improve traffic flow on the freeway. A Federal Highway Administration study of seven ramp-metering sites in the United States and Canada revealed that average highway speeds increased by 29 percent after installing ramp metering. An analysis

of the system in Seattle revealed that in addition to speed and corresponding travel time improvements, highway volumes increased between 12 and 40 percent because of ramp metering. Also, accident rate reductions between 20 and 58 percent have been recorded as a result of improved merging operations associated with ramp metering at freeway and on-ramp merge points.

The possibility of future metered on-ramps to I-5 has been raised, and could be evaluated more thoroughly by ODOT in cooperation with local governments as the region grows and travel-demands increase. Although I-5 and the ramps are under the jurisdiction of ODOT, it will be important for agencies to work cooperatively to balance the competing demands on the interstate system and to ensure that any ramp delays can be accommodated by the local street system.

Goods Movement Management – The efficient movement of goods into and out of urban areas is essential for the economic vitality of the region. Goods-movement management strategies are aimed at improving congestion and safety conditions along the arterials. Strategies include restricting truck deliveries and pick-ups to off-peak periods, using alleys for loading and unloading, and providing additional curb space for loading and unloading operations. Such strategies should be investigated in commercial areas along heavily congested roads.

Issues associated with goods movement management strategies include traffic management, improvements at shipping/receiving points, reductions in operational and physical constraints, changes in business operating practices, and changes in public policy. Shifting goods movement activities to off-peak hours through various incentives (tax and otherwise) assists in the reduction of peak period traffic congestion. Traffic management strategies include incident management, night shipping and receiving, and peak-period truck bans.

Restricting deliveries or trucking activities in locations where it has long been conducted with little regulation may be unpalatable. It may, however, be possible to require on-site loading and unloading as a design feature for new developments. It is recognized that existing businesses will strenuously object to any restriction on deliveries or any change to the way in which they have been doing business. It is particularly difficult to implement a strategy that gives one business a real or perceived advantage over a competitor. It is also difficult for an agency to justify removal of on-street parking and, potentially, the loss of meter revenue, to accommodate more or larger truck loading zones. The

implementing agencies need to evaluate these concerns in light of the advantages and disadvantages.

Bus Bays – Bus bays are areas along a roadway that allow buses to pull out of the travel lane while boarding or discharging passengers. They may be used to relieve congestion and to reduce the interference between buses and other traffic. Buses stopping frequently in through traffic lanes may frustrate the vehicle drivers who are following, possibly causing a following driver to take unsafe risks to overtake the bus. Bus bays may also prevent following traffic from stopping in intersections. Bus bays are more effective on heavily traveled arterials or collectors, where their use may be an effective TSM strategy.

A potential disadvantage of bus bays is that it may be difficult for buses to re-enter the stream of traffic once they have stopped in the bus bay. This can slow transit service considerably, making it a less viable mode of transportation. Currently, Oregon has a "Yield to the Bus" Law requiring drivers to yield to buses that are trying to merge back into traffic. Potential disadvantages to bus bays can be mitigated by equipping RVTD's fleet with electronic yield signs, using public service announcements to explain the law, and enforcement of the law by local officers.

Intelligent Transportation Systems – In 2004 the RVMPO completed a comprehensive Intelligent Transportation Systems plan (RVITS). This 20-year plan identifies advanced technologies and management techniques that can relieve traffic congestions, enhance safety, provide services to travelers, and assist transportation system operators in implementing suitable traffic management strategies. Updates to the plan, with ongoing consultation with the RVMPO TAC and emergency services providers, continues. The Security chapter, 5.3, has additional information. The plan is maintained on the RVMPO website, www.rvmpo.org.

Message board on I-5 is part of the region's ITS system

RVITS is part of a federal initiative to use ITS to increase the efficiency of existing transportation infrastructure, improving overall system performance and reducing the need to add capacity. Efficiency is achieved by providing services and information to travelers so that they can make better travel decisions and to transportation system managers so they can better manage the system. To assure the development of a relevant plan, RVITS was produced with guidance from RVMPO member jurisdictions and

key stakeholders from emergency services and communications agencies.

The RVITS plan provides a framework of policies, procedures and strategies for integration of ITS with the region's existing resources to meet future regional transportation needs and expectations. The plan includes the continuation and expansion of TSM projects and programs that have been under way for some time, such as coordination of traffic signals.

RVITS projects address the following categories:

- Travel and Traffic Management
- Communications
- Public Transportation Management
- Emergency Management
- Information Management
- Maintenance and Construction Management.

RTP System Management Projects

Most planned projects have some element of improving the management of the system. The projects identified in this chapter, Table 5.4-2, are those focused primarily on management, rather than other aspects of system development or operation.

Table 5.4-2: RTP Transportation System Management Projects

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST	Cost by Phase	Funds Available
Ashland						
151	Intersection Improvements: Ashland-Oak Knoll-E. Main	Realign intersection, install speed-reduction treatments	medium	$1,184,195		
			Medium Range Total		**$1,184,195**	**$1,184,195**
Central Point						
215	OR 99: Traffic Calming Unit 3	Traffic Calming	medium	$259,043		
			Medium Range Total		**$259,043**	**$259,043**
Medford						
5005	Adaptive Signal Timing	Install adaptive signal timing equipment along Hwy. 62 corridor	short	$362,897		
			Short Range Total		**$362,897**	**$362,897**
Jackson County						
822	Table Rock Rd. at Wilson Rd.	New traffic signal	short	$200,000		
			Short Range Total		**$200,000**	**$200,000**
870	Beall Ln. at Bursell	New traffic signal	long	$438,225		
			Long Range Total		**$438,225**	**$438,225**
ODOT						
942	OR62: Linn Rd to Hwy 234	Install two way center left turn lane between Barton and Rolling Hills	short	$5,224,000		
945	OR99 @ Creel	Left turn refuge and sidewalks	short	$1,000,000		
949	Talent/OR 99 Creel	Widen OR 99 and provide left turn channelization for Creel Rd. Provide sidewalk	short	$3,290,000		
			Short Range Total		**$9,514,000**	**$9,514,000**

Part 5

Regional Transportation System Improvements

Chapter 5.5,
Transportation Demand Management

Introduction

The region's Transportation Demand Management (TDM) program is an activity of Rogue Valley Transportation District. The goal is to reduce Single-Occupant-Vehicle (SOV) trips and vehicle miles traveled (VMT) by encouraging use of other modes. It seeks to achieve these changes through better non-SOV facilities and education to make the use of these modes more attractive than driving alone. TDM therefore includes ride-sharing, trip reduction and also transit, cycling and walking. TDM is important because of the lack of adequate funds and space to maintain and expand road infrastructure nationwide. The traffic capacity of existing roads is quickly filling up; the auto encourages sprawl that requires extra facilities and more VMT per household; the auto is the largest producer of harmful emissions; and the largest consumer of

petroleum-based fuels. TDM can benefit society at a very reasonable cost compared to the cost of continuing on an SOV-focused system.

State Requirements for TDM measures are based in the Oregon Highway Plan's Goal 4: "To optimize the overall efficiency and utility of the state highway system through the use of alternative modes and travel demand strategies."

Urban areas with populations over 25,000 are required by the Oregon Transportation Planning Rule to address Transportation Demand Management in their Transportation System Plans. For these reasons, TDM strategies are an integral part of the transportation planning being pursued in the Rogue Valley's Regional Transportation Plan. It is among the policy strategies in RTP Goal 6, which calls for using a variety of strategies to reduce reliance on single-occupant vehicles.

The RVMPO in 2012 developed a comprehensive TDM implementation guide as a planning resource for the region. It contains strategies evaluated by jurisdictions for the feasibility and utility locally. Detail about this project is available at http://www.rvmpo.org/Page.asp?NavID=96

TDM's Purpose

The purpose of TDM is to reduce the number of single-occupant vehicles using the road system while offering travel options. TDM employs a variety of improvements – both structural changes such as parking areas for carpoolers, and bike lanes, as well as policy initiatives such as staggered work schedules – to increase the capacity of the transportation system without the expense and inconvenience of major highway expansion. If implemented on an area-wide basis and actively supported by agencies, businesses, and residents, TDM strategies may be able to reduce or delay the need for street improvements, save travelers some money, reduce energy consumption and improve air quality.

These benefits become increasingly important as the region continues to develop, and both the land and the funding for roadway construction grow scarcer. The Federal Highway Administration predicts that strategies to manage demand will be more critical to transportation operations than strategies to increase capacity (supply) of facilities. The inability to easily and quickly add new infrastructure, coupled with the growth in passenger and freight travel, are forcing metropolitan areas to pay more attention to managing demands.

How TDM Works

The current transportation system in much of the US is built around the automobile with wide streets, high speeds, sprawling development, and a lack of pedestrian, bicycling and transit-supporting infrastructure. TDM seeks to revitalize urban centers and assist rural areas to become friendlier to the pedestrian and bicyclist, making the auto less attractive. TDM often relies on both incentives, such as bus pass programs, and disincentives such as SOV parking surcharges. RVMPO has expressed a preference for incentives rather that disincentives. Efforts have been made to encourage major trip generators such as universities and major employers to take the initiative in developing TDM programs. Experience elsewhere, however, indicates that employers need encouragement and incentives to adopt TDM measures affecting the work commute – a major target of TDM programs.

Stakeholders in the transportation system may not see the true costs of an auto based society and observe many actions resulting in the majority of transportation funding being dedicated toward expanding and improving the road system.

The affected public needs to continue efforts to mobilize their public officials to provide adequate transportation facilities and services for pedestrians, cyclists and transit service. Stakeholders also need to become part of a critical mass to show that non-SOV modes have interest, feasibility and merit.

An illustration of TDM's effectiveness comes from Ashland, where an examination of long-term growth projections and travel demand led to a determination that an area-wide TDM policy, combined with a set of Transportation System Management (TSM) measures (TSM is discussed in Chapter 5.4), would yield an overall street system that operates within capacity. TDM measures considered in Ashland's analysis included:

1. Improved pedestrian and bicycle system connectivity, access and circulation;
2. Enhanced transit coverage and service;
3. Employer-based transit subsidy (e.g. university student pass program);

TDM strategies are aimed at minimizing travel or encouraging travel by a mode other than a single-occupant automobile. A community or an employer could take a number of approaches to accomplish this. First, a community could attempt to decrease peak demand, either by shifting person-trips from the peak hour of demand, or by eliminating person-trips. (Person-trips represent the number of trips made by an individual, while vehicle trips account

for multiple person trips depending upon the number of people traveling in the vehicle.) Second, for the person-trips that are necessary during the peak hours of demand, a community may encourage alternatives to single-occupant vehicles (SOVs).

There is a difference between TDM outreach strategies for the employers and for the public. Employers can undertake a variety of marketing or promotional activities to support their employees not using a SOV, such as flyers, trip-reduction programs, incentives, and using the other modes themselves as a role model.

By contrast, not being organized around a workplace, the general population needs to be attracted into non-SOV travel with public outreach through special events such as Car Free Day. They can also take advantage of transportation-efficient mortgages, the real estate profit of having greenways nearby, and feeling secure about their kids walking to school on a sidewalk. Reaching this population relies on general marketing such as brochures, commercials, etc. and being available to be a personal consultant if needed.

Bicycling and walking are most applicable for short trips, while ridesharing and transit may be preferable for intermediate and long trips. Telework may be used as a trip alternative regardless of the distance. Finally, a community may reduce the demand on its surface transportation system by decreasing the distances traveled by vehicle trips. Some methods for reducing trip lengths include transit-oriented designs and compact, mixed-use developments. There is an important inter-relationship between the transportation demand management and land use. Some of the implications of land use are presented in Chapter 5.2,The Land Use Nexus.

Project Examples

The following are examples of policies and programs that can support TDM.

Alternative Work Arrangements – Local governments and major employers (greater than 50 employees) encourage work arrangements providing an alternative to the 8-to-5 work schedule. These arrangements may include employee flextime programs, staggered work hours and compressed work weeks.

Employee Flex-Time Programs – One opportunity employers have to affect total trip demand is through influencing their own employees' peak versus off-peak travel behavior. A flexible schedule may allow employees to match their work hours with transit schedules, make carpool arrangements, or merely avoid peak congestion times. Active promotion of alternative schedules might slightly decrease total peak hour traffic.

Flextime is most useful in offices, particularly for administrative and information workers. It may not be as applicable for non-office employers since their employees often have to work hours that are not during the peak hour of traffic demand anyway (e.g., retail employers), or because their work requires continuous communication between workers. In addition, flextime may be difficult for small employers to implement.

Staggered Work Hours – Staggered work hours is a policy of established starting and finishing times for different groups of employees. Unlike flextime, the employer, not the employee, determines the staggered work hours. Like flextime, this tool has greater applicability to employees of large offices, since many non-office employees already work staggered work hours, or work in an interdependent manner. Currently, some metropolitan area employers have staggered work hours due to the nature of their business. To have a significant impact on peak period traffic, however, a change in work hours would need to be much more widespread than it is today.

Government agencies could take a lead by establishing a standard work schedule that differs from the typical 8 a.m.-5 p.m. schedule. For example, employees can be encouraged to work a 7-to-4 or 9-to-6 day work schedule. This is often done for the street and parks crews in public works situations because of summer hours and weather conditions. It might also be established for other employees although some agencies and local governments have encountered opposition from employee groups claiming they should have additional compensation for unusual work hours. Staggered work hours have to be considered in light of the need to have service desk hours that meet the needs of residents, but could actually increase the opportunities for resident contact.

Compressed Work Week – Compressed workweeks involve employees working fewer days and more hours per day. One common form of this policy is the 4-day/40-hour week where the employee works four 10-hour days. A second common form is the 9-day/80 hour schedule, in which the employee works 9 days and 80 hours over a two-week period. With the 4/40 schedule, the employee gets one business day off each week; with the 9/80 schedule, the employee gets one business day off each two weeks.

Because of the extended hours, both policies usually shift at least one leg of a work trip per working day (either the arriving or departing leg) out of the peak hours. The 4/40 policy additionally eliminates an entire work trip every five business days (1/5 of the work trips). The 9/80 policy eliminates an entire work trip every 10 business days (1/10 of the work trips).

One of the problems with a compressed work schedule is the potential for increases in non-work trips during the "off day." Increases in non-work travel may offset reductions in work related driving. Such trips, however, are often taken during non-peak periods and can be expected to provide benefits by reducing peak hour congestion and by improving air quality.

Telecommuting – Telecommuting is another way employers can reduce total trip demand. Telecommuting or telework is work done away from the worksite with the assistance of telecommunications technologies, serving to reduce trips to and from the worksite. Phones, pagers, faxes, emails, computers, and the Internet all are telework tools. Telecommuting for one or two days per week could save significant trip miles and still allow the benefits of working at the central work site. Telecommuting arrangements also may involve more than one employee, e.g., when an employer provides a satellite work center connected to the principal work center. Another telecommuting alternative is a neighborhood work center operated by more than one employer, or by an agency. Recent advances in communications technology should greatly enhance telecommuting options.

Due to the distance and volume of trips between Medford and Ashland, trips between these two cities may be the easiest to replace with telecommuting. Southern Oregon University in Ashland would be a logical site for a telecommuting center if sufficient demand exists among Medford employers. Similarly, Rogue Community College might be able to service telecommute trips between Grants Pass and Medford.

Ridesharing – Ridesharing includes two principal categories: carpooling and vanpooling. Carpooling uses an employee's private vehicle to carry other people to work or other destination, either by using one car and sharing expenses, or by rotating driving responsibilities and vehicles. Vanpooling involves the use of a passenger van consistently driven by one or more of the participating employees, with the costs partially paid by the other riders through monthly fares. A common feature of vanpooling is that the van is often owned by the employer, a public agency (such as a transit district), or a private, non-profit corporation set up for that purpose. Otherwise a lease agreement can be set up.

Ridesharing can be greatly influenced by special treatment at the work place. Participation can be increased by employer actions that make ridesharing more convenient, such as providing guaranteed ride home services, preferential car/vanpool parking, and area-wide and employer-based commuter matching services.

Guaranteed Ride Home (GRH) – A guaranteed ride home often makes ridesharing more attractive. Surveys have shown that many employees drive to work because they feel they need their automobile during the day or because they may work late. In some cases, they need their automobile for work trips or errands or want it available for emergencies. Therefore, provision of daytime and emergency transportation, by allowing use of a company vehicle or employer-sponsored free taxi, can encourage ridesharing. RVTD began a GRH program in 2004 and it can be used by any employer that adopts TDM strategies. The program is set up so that the employer must be the first responsible party for securing a ride home and if this is not an option RVTD's Translink call service for the Valley Lift program will schedule a taxi for the employee at no charge to the employee.

Preferential Parking – Preferential carpool and vanpool parking is another simple, inexpensive way for an employer to encourage employees to rideshare by increasing the ease of access to the workplace. Ideally preferential carpool and vanpool parking spaces are provided close to the building entrance to provide convenient access to the building, particularly during inclement weather conditions. Adequate enforcement strategies need to be in place so that the spaces are not filled with SOV.

Ride-matching – Commuter matching services, whether area-wide or employer-based, help commuters find others with similar locations and schedules. An employer-based matching service offers the advantage of a shared destination, but presents the disadvantage of limiting the pool of potential riders. A carpool matching service can be one-time or continuous. For the study area, the Rogue Valley Transportation District serves as the carpooling agency and performs a variety of services to support and encourage the use of carpools, including matching of potential riders. They lease a website created by the City of Portland (www.CarpoolMatchNW.org) and offered for free to participating counties.

Support for TDM – Oregon State, County and City policies and goals include provisions to embrace TDM measures. Health officials, real estate professionals, insurance companies, credit agencies, environmental stewards, people under the age of 16, people with disabilities, low-income populations can all benefit from TDM measures.

RVTD TDM Program - RVTD has had a TDM program in place since 1993. Current TDM activities include:

- Alternative Transportation education programs that reach several thousand students during the school year are expanding to add a Senior Education program;

- Public outreach activities to promote TDM and non-SOV transportation modes; Employer bus-pass programs;

- Free assistance with carpools, vanpools, Business Energy Tax Credits, telework, and trip-reduction incentives;

- Free employer trip-reduction analysis;

- On site transportation fairs for employers;

- Distribution of free materials in the community such as pedestrian and cycling reflectors, brochures, water bottles, bicycle helmets;

- Government outreach to educate officials about TDM measures including attending meetings to promote the use of TDM measures, and reviewing planning documents and site design for TDM-supportive policies and infrastructure;

- Supporting parking construction mitigation- reducing the need for parking expansion with TDM measures;

- Bicycle parking review and site design;

- Trip Reduction Incentive Programs- Creating and assisting with building and maintaining a Trip Reduction program that tracks employees' trips and rewards those who use non-SOV modes;

- Coordination of events to raise awareness of efficient transportation such as Car Free Day, Reflect on Walking, Safe Routes to School; and

- Marketing of TDM through general advertising in various media.

Another program begun a few years ago, the Rogue Valley Transportation Management Association (RVTMA), has been in-active for some time. A TMA is a voluntary association of private and public sector parties. Its mission is to increase the efficiency of the local transportation system, often through programs that reduce SOV reliance, especially at peak travel times.

With adoption of this RTP, jurisdictions have indicated support for a new region-wide effort. A new performance indicator calls on the RVMPO to create a TDM self-evaluation and reporting process in which each jurisdiction would report in a uniform manner activities and accomplishments in supporting TDM. The measure

supports RTP Goal 6: *Use diverse strategies to reduce reliance on single-occupant vehicles* (see details in Part 3).

Educating the Public about TDM

Education and marketing are important parts of any TDM program. It is possible for education by itself to be an incentive or disincentive that causes positive transportation behavior changes. Education and marketing complement any incentive/disincentive programs in place by increasing awareness and understanding of those programs. Education can be hands-on such as supporting a bus/bike-buddy program or it can be through traditional media such as newspaper, radio and TV advertisement, flyers and brochures, transportation exhibits, attending public meetings and giving testimony to public officials. Education that would promote using alternative modes of transportation would consist of highlighting the health and economic benefits, the environmental benefits as well as the facilities that a person can use. Marketing that would make driving a car less attractive could show the true cost of owning a car, the environmental impact, how it increases sprawl and dependence on foreign oil, to name a few. Although education and marketing are basic building blocks to a successful program they can only supply so much initiative for using alternative transportation. An example would be that many people know what times to catch a bus and where the bus stop is from successful education and marketing but they cannot use it because their work schedule runs after service hours, or possibly there is not connected sidewalk access from their work to the bus stop and they feel unsafe.

Facility and Service Requirements

TDM addresses travel behavior – the choices people make – and seeks to establish conditions under which people will change a long-established habit of driving themselves to destinations. Providing the right kinds of facilities and services are crucial to the success of many of the policy changes and programs described in the preceding section. Several of those strategies are closely tied to land use planning and the provision of adequate pedestrian/bicycle facilities and transit services, and modifying parking requirements. Another example is that TDM could include constructing of High Occupancy Vehicle (HOV) or "diamond" lanes or an exclusive busway.

Specific actions related to parking are included in the Parking Chapter. Strategies aimed at improving pedestrian and bicycle facilities are discussed separately in the Bicycle and Pedestrian chapter. Transit service improvements are discussed in the Transit

System Chapter. One key to the success of several TDM strategies is establishment of park-and-ride facilities. These facilities increase efficiency of the transportation system, reduce energy consumption and provide options to the single-occupant vehicle trip. Park-and-ride facilities increase the effectiveness of transit service by expanding the area from which a transit draws riders. Patrons living beyond walking distance of an established transit stop can drive or bike to the park-and-ride and use transit or meet carpool partners, instead of driving alone or cycling long distances to their destination. Having free easy-to-access, secure and safe, easy to understand layouts, and direct pedestrian and bicyclist connections make the use of park-and-ride lots desirable.

Park-and-rides are frequently located near freeway interchanges or at transit stations and may be either shared-use, such as at a church or Transit Oriented Development (TOD) center, or exclusive-use. Shared-use facilities are generally designated and maintained through agreements reached between the local transit operator and nearby businesses, churches, or other entities.

The expansion of transit is a key TDM strategy element; however, RVTD service expansion is limited by funding. Nonetheless, strong public support for expanded bus service (nights, weekends, greater frequency, and expanded routes) is high.

Public opinion also has indicated that SOV use continues to be the desirable option at least in part because of the relative lack of serious highway congestion and safety problems in the region. In short, driving isn't difficult enough to force people to look for alternatives. While that attitude speaks well of our roads, it indicates that success with TDM measures will be difficult. A challenge for the region in the short-term will be to set the conditions in place now to support greater transit use in the future – when more drivers will be looking for easier traveling alternatives. Those conditions include reserving space for High-Occupancy Vehicle (HOV), Bus Rapid Transit (BRT) or carpool lanes, and park-and-ride areas, as well as securing funds to expand transit service for those who need it.

Future Outlook

TDM relies on efficient land use planning, education, and making the use of walking, cycling, carpooling and transit attractive. The 25-year outlook for TDM should focus on how the cities in the RVMPO can begin having incentives for developers to make compact development accessible for pedestrians and bicyclists, and on how education can promote the use of these facilities. By engaging in these activities driving a car will become less and less

attractive as an option. Transit is only one component of TDM; pedestrians and cyclists need to be part of the program also.

Home-to-work and return trips comprise about one-fifth of total daily trips, and about half of the peak period traffic. Although all other types of trips are potential targets for TDM alternatives, the effect is likely to be considerably less because the trips are not as regularly scheduled (e.g., shopping or business trips), often already have a higher vehicle occupancy (e.g., school trips), and sometimes involve the transfer of goods (e.g., shopping trips). Therefore, TDM strategies recommended for the metropolitan area focus primarily on home-to-work and return trips. Strategies include establishing alternative work arrangements, promoting telecommuting and ridesharing, and, possibly, adopting a trip reduction ordinance.

Informal public survey activities have shown that transit could become an alternative to driving to and from work, easing the most serious of the region's traffic congestion problems if transit service were improved in key areas. These improvements include greater bus frequency, availability of evening service, and availability of park-and-ride facilities, which also would support carpooling. As the region grows, these improvements will become more economically viable. Transit hours were expanded into evening and Saturday hours in 2012, but funding is set to expire in 2015.

Policy Issues and Actions

There are several actions that can be taken to further the aims of TDM. They include:

- Identifying, encouraging and assisting role models who use alternative transportation. This can be done through awards, incentives and events.

- Encouraging developers to build high-density, multi-use buildings.

- Adopting maximum parking space requirements and an option to decrease parking further with the use of TDM measures such as having attractive bicycle and pedestrian facilities, and carpool spaces within ¼ mile of transit service.

- Partnering with city government to encourage employers with more than 50 employees to adopt TDM strategies.

- Prioritizing all city and county TSP bicycle and pedestrian construction projects to be completed in the earlier phases of this Plan.

- Encouraging developments with a large footprint to have a bicycle and pedestrian circulation plan. Securing funding for street aesthetics such as street furniture, landscaping, lighting, and creating dispersed tiny public places.

- Supporting the use of transit among major employers by encouraging the purchase of individual or subsidized group transit passes, having a bus shelter added nearby or other actions to reduce commuting trips;

- Encouraging development of discount transit fare programs and shuttle services by event sponsors; and

- Engaging in public, government and employer outreach to raise awareness about the use of TDM strategies, including actively marketing to groups that have the greatest potential for reducing SOV trips.

Part 5

Regional Transportation System Improvements

Chapter 5.6, Street System

Introduction

The Street System Chapter consists of a list of proposed federally-funded and regionally-significant projects relating to the street system that provide facilities for motorists, buses, bicyclists, pedestrians, and freight movement.. The list identifies projects on the arterial and collector street system, and other federally funded street projects to serve long-range needs for mobility and accessibility based upon anticipated development through the year 2038. Projects are shown on maps at the end of Chapter 5.1.

In many cases, the street system improvements provide for upgrades to urban and rural streets which will include bicycle lanes or wider shoulders for safe bicycle travel, and the addition of sidewalks to allow for safe and accessible pedestrian use. Accessibility to transit routes is materially improved by the construction of sidewalks.

Goals and Policies

The process of developing the Street System started with the Goals and Policies shown in Chapter 3. Of particular relevance are the goals and policies relating to making the most efficient use of the existing transportation infrastructure and to providing adequate mobility, safety, and accessibility for all modes of transportation. Moving Ahead for Progress in the 21st Century (MAP-21) contains a number of planning factors to be considered in assessing projects within the RVMPO. One of these factors is emphasis on preservation of the existing transportation system. Maintenance is also an important component of the Oregon Transportation Plan.

Project Priorities

Table 5.6.1 lists street system projects planned for construction in the RVMPO between the years 2013 and 2038. It consists of on-road projects that the RVMPO identifies as needed and funded. The projects are part of the RVMPO's Tier 1 list of financially constrained federally-funded and regionally-significant projects.

Separately a Tier 2 project list was developed, consisting of needed regionally-significant projects for which funding cannot be identified within the 2038 timeframe. Tier 2 projects are in Chapter 7.4, Future Challenges.

The Tier 1 list has been based on an evaluation of the existing roadway system, member jurisdictions' identified long-range needs, RTP Goals and Policies, and relevant state and federal goals, policies, and regulations.

To be included in the RTP projects must first meet the following criteria:

1) Upon demonstration of available funding through an analysis included in the RTP projects from city/county-adopted plans, projects will be considered for inclusion in the RTP s financially-constrained (Tier 1) planned project list.

2) Projects from city/county-adopted plans for which available funding is not identified in the RTP were considered for including in the illustrative (Tier 2) project list. Tier 2 projects are not considered planned projects in the RTP.

Funding estimates are based on existing known revenue streams, with forecasts developed in consultation with Oregon Department of Transportation (ODOT) and RVMPO member jurisdictions.

Details about financial estimates are in Part 6: Financial Plan. The projects in this chapter meet federal financial constraint criteria through the planning horizon of 2034. Tier 1 projects are the region's highest priority for funding.

Tier 2 projects are those that exceed current financial projections. The Tier 2 project list therefore identifies projects that are lower in priority to those on the Tier 1 list and are not considered "planned" projects. These projects indicate the region's priorities should unanticipated additional revenue sources become available.

RTP Street and Highway Project List

The list of street system projects contains projects that fall under the jurisdiction of nine agencies: the cities of Ashland, Central Point, Eagle Point, Jacksonville, Medford, Phoenix and Talent, Jackson County and ODOT. Projects that are funded by the White City Urban Renewal Agency are included within the Jackson County section. Tier 1 projects have been divided into short, medium, and long-range phases.

Tier 1 projects are listed under the agency that will have principal jurisdiction over construction. They have then been sorted according to timing phase and tier. With the exception of a few short-term projects that include federal funding sources, projects listed are those on the RVMPO's major street network, defined as collector and arterial streets.

The following information is included for each project:

- ✓ project location;
- ✓ project description;
- ✓ timing (short, medium, long range) and
- ✓ project cost.

For most projects, the location is a street segment defined by the street name along with project termini. For others, the location is an intersection. Specific location information will often be refined when further analysis and preliminary engineering are conducted prior to construction.

Freight Considerations

RVMPO began taking a closer look and the needs of haulers and shippers in the region in 2006. A committee of freight interests was formed to identify needs. In 2011, the original RVMPO Freight Study was reviewed and updated. Both the original report and the update can be found at www.rvmpo.org.

RVMPO drew from the updated Freight Study to develop specific policies supporting freight needs under the goal of fostering economic opportunities (Goal 8). The policies call on the RVMPO to:

- Consider effects on freight mobility when prioritizing projects.
- Support projects that reduce and remove identified barriers to safe, reliable and efficient goods movement.
- Support projects serving commercial, industrial and resource-extraction lands where an inadequate transportation network impedes freight-generating development.
- Plan for enhanced train-truck-transit interface for movement of goods and people.

Many projects in this section benefit freight movement but recent efforts by the state and county to widen lanes and straighten curves are focused on improving conditions for large trucks. A series of improvements in the White City area will create a route for truckers westbound from Hwy 140 to Interstate 5 at Seven Oaks (just north of Central Point). This project was identified as a high priority by haulers seeking a more direct and less congested route across the region.

Project Description

A general description of each project is included and has been based on the best available information. Project information will often be refined between a project's inclusion in this list and its construction.

The planning of listed projects has considered many variables including: traffic volumes and turning movements, truck and bus routing, the location of intersecting streets and driveways, the available right-of-way, topographic constraints, accident history, utility conflicts, and impacts on property owners. Such information is typically refined during the engineering phase of project implementation, which often immediately precedes construction.

Timeframe

Projects in the list are divided into three general categories, according to the phase in which construction itself is expected to take place. The short-range phase includes projects expected to be completed between 2013 and 2018; the medium-range phase includes projects scheduled between 2019 and 2027; and the long-range phase includes projects scheduled for more than ten years after plan adoption, or years 2028-2038.

Since environmental analysis, design, engineering work, and right-of-way acquisition precede construction, these activities may be undertaken in the phase preceding that listed for construction.

RTP Street System

Table 5.6.1 lists RTP street system projects. Maps at the end of Chapter 5.1: RTP Projects by Jurisdiction, illustrate project locations. The map of the end of this chapter shows the regional transportation system with street classifications.

Table 5.6.1: RTP Street System Projects

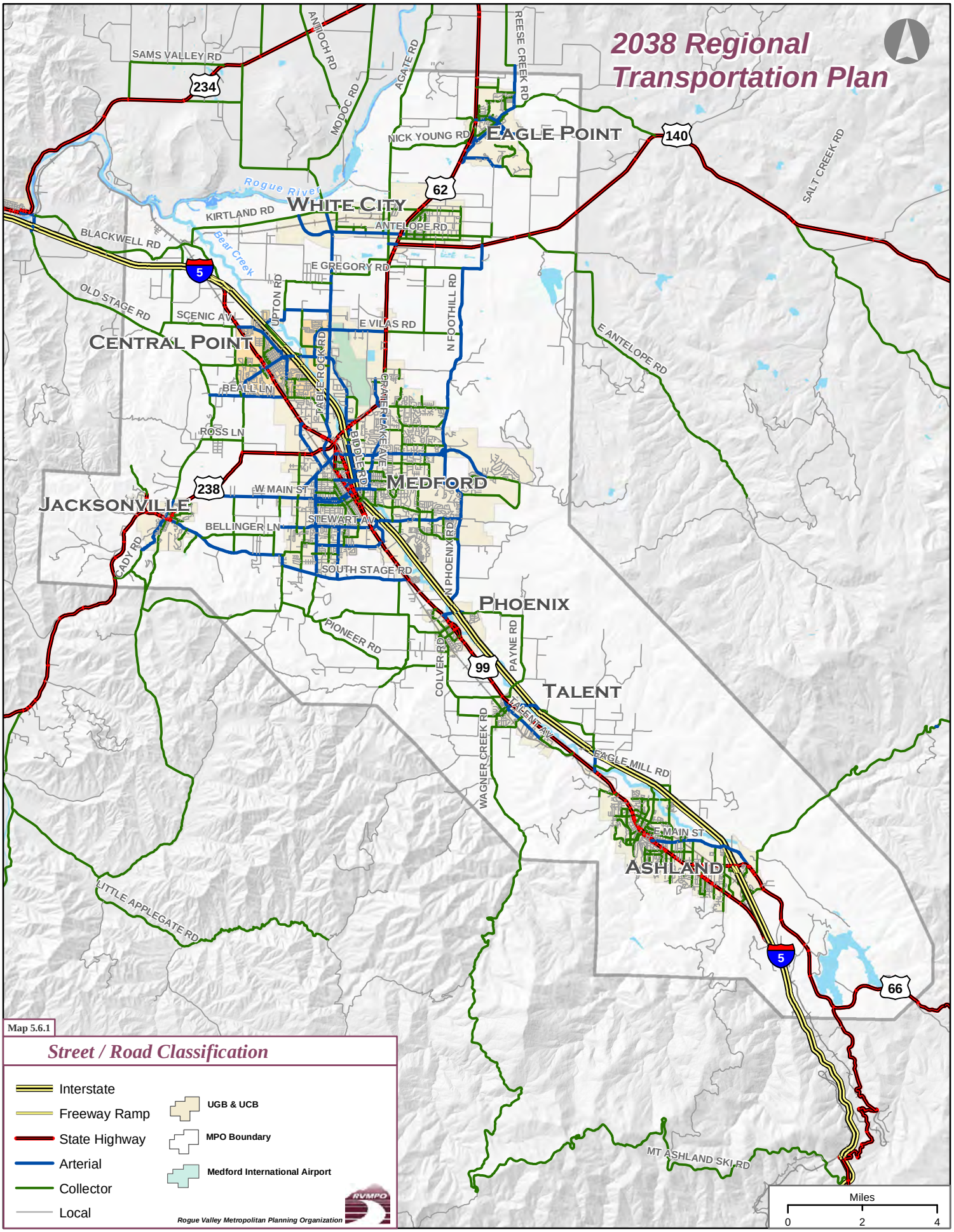
PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST
Ashland				
149	E. Nevade Street Extension	Extend street over Bear Creek to link roadway at Kestrell; sidewalks, bicycle lanes	medium	$3,404,562
150	Washington Street Extension	Extend street from Mistletow Road to Ashland Street; sidewalks, bicycle lanes	medium	$1,628,269
151	Intersection Improvements: Ashland-Oak Knoll-E. Main	Realign intersection, install speed-reduction treatments	medium	$1,184,195
152	Normal Avenue Extension	Extend roadway to East Maint; sidewalks,	long	$5,916,032
153	Clear Creek Drive Extension	Extend road to connect with N. Mountain Ave.	long	$4,601,359
Central Point				
228	Freeman Road Improvements	Urban Upgrade, adding center turn lane, bicycle lanes, sidewalks, curb, gutter and storm drain between Hopkins Road and Oak Street.	short	$1,991,000
208	Central Point & Talent Parking Lot Improvements	Pave and improve alleys and parking facilities, both cities	short	$1,191,001
229	Twin Creeks Rail Crossing	Construct new two-lane road, with bicycle lanes, sidewalks, extending Twin Creeks Crossing from Boulder Ridge Street to Hwy 99.	short	$2,600,000
214	Scenic Ave., Mary's Way to Scenic Middle School	Widen to add bike lanes and sidwalks (urban upgrade)	medium	$865,078
219	Table Rock Rd. & Vilas Rd Intersection	Widen to add turn lanes	long	$1,751,803
224	Scenic Ave, 10th St. to Scenic Middle School	Widen to add continuous turn lane with bike lanes and sidewalks	long	$1,117,473
227	W. Pine St., Hanley St. to Haskell St.	Widen to add center turn lane, bike lanes , sidewalks	long	$3,286,685
Eagle Point				
325	Arrowhead Trail - Black Wolf lane to Pebble Creek Blvd	Extension (Collector) with Bike Lanes and Sidewalks	Short	$2,344,000
323	Barton Road - Highway 62 to Reese Creek Road	Urban Upgrade (Collector) with Bike Lanes and Sidewalks	Short	$500,000
326	Buchanan Avenue - Linn Road to Fargo Street	Extension (Collector) with Bike Lanes and Sidewalks	Short	$144,000
327	Havenwood Drive - Barton Road to Rolling Hills Drive	Extension (Collector) with Bike Lanes and Sidewalks	Short	$521,000
328	Lava Street/Stevens - Lava Street to Stevens Road	Extension (Arterial) with Bike Lanes and Sidewalks	Short	$1,350,000
308	Sienna Hills Drive - Barton Road to Sienna Hills Drive	Extension (Collector) with Bike Lanes and Sidewalks	Short	$832,000
329	South Shasta Avenue - Highway 62 to Arrowhead Trail	Urban Upgrade (Collector) with Bike Lanes and Sidewalks	Short	$2,201,000
330	Stevens Road - East Main Street to Palima Drive	Urban Upgrade (Arterial) with Bike Lanes and Sidewalks	Short	$2,071,000
332	Alta Vista Road - S. Shasta Avenue to Robert Trent Jones	Urban Upgrade (Arterial) with Bike Lanes and Sidewalks	Medium	$6,166,698
332	North Royal Avenue - Loto Street to Reese Creek Road	Urban Upgrade (Arterial) with Bike Lanes and Sidewalks	Medium	$3,672,486
333	Old Highway 62/Royal Avenue - OR62 to Loto Street	Urban Upgrade (Arterial) with Bike Lanes and Sidewalks	Medium	$5,060,955
334	Alta Vista Road - Robert Trent Jones to Riley Road	Urban Upgrade (Arterial) with Bike Lanes and Sidewalks	long	$7,278,911
335	Hannon Drive - West Linn Road to Nick Young Road	Urban Upgrade (Collector) with Bike Lanes and Sidewalks	long	$3,696,425
336	Nick Young Road - OR 62 to Hannon Drive	Urban Upgrade (Collector) with Bike Lanes and Sidewalks	long	$611,323
337	Riley Road - Stevens Road to Alta Vista Road	Urban Upgrade (Arterial) with Bike Lanes and Sidewalks	long	$10,315,808
338	West Linn Road - OR 62 to Dahlia Terrace	Urban Upgrade (Collector) with Bike Lanes and Sidewalks	long	$8,882,813

Table 5.6.1: RTP Street System Projects, continued

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST
Medford				
5002	Garfield Ave., Columbus to Lillian	Reconstruct roadway, add curbs, gutters, sidewalk and bike lanes	short	$1,673,625
506	S. Holly St. Extension - Garfield Ave. to Holmes Way	Construct street with center turn lane, bike lanes, sidewalks	short	$3,700,000
507	Columbus Ave., McAndrews Rd. to Sage Rd.	Extend Columbus to Sage, four lanes w/center turn lane, bike lanes, sidewalks	short	$2,550,000
5007	Springbrook-Delta Waters Realignment	Realign intersection; add cinter turn lane, bycycle lanes, sidewalks	short	$1,575,033
5009	Lozier Lane Improvements	Urban Upgrade: add center turn lane, bicycle lanes, sidewalks, curb gutter and strom drain between W. Main and Stewart Ave.	short	$7,500,000
559	Stanford Rd., Coal Mine Rd. to Cherry Lane	Construct new three lane street with bike lanes and sidewalks	medium	$11,169,923
568	Lear Way, Coker Butte Rd. to Vilas Rd.	Construct new two lane street with bike lanes and sidewalks	long	$5,693,414
569	Coker Butte Rd., Lear Way to Haul Rd.	Construct new five lane street with bike lanes and sidewalks	long	$4,376,812
586	Springbrook Rd., Blackthorn Way to Coker Butte Rd.	Construct new three lane street with bike lanes and sidewalks	long	$10,212,562
588	Manzanita Street Extension.	Construct new five lane street with bike lanes and sidewalks from Riverside Rd. to Spring St.	long	$8,895,960
589	Diamond Street Extension	Extend street from S. Columbus to Orchard Home Drive	long	$8,326,619
590	McAndrews Rd., Ross Ln. to Jackson St.	Widen from two to five lanes with bike lanes and sidewalks	long	$5,693,414
592	Cunningham Rd., Orchard Home Dr. to Columbus Ave.	Widen from two to five lanes with bike lanes and sidewalks	long	$4,554,731
594	Stewart Ave., Lozier Ln. to Dixie St.	Widen from two to five lanes with bike lanes and sidewalks	long	$3,416,049
596	South Stage Road Extension	Construct 3-lane extension of S. Stage over I-5	long	$53,375,760
Phoenix				
614	3rd St., existing terminus to OR 99 (NB)	Construct new street with bike lanes and sidewalks	long	$1,283,998
615	Parking St., OR 99 (NB) to Third St.	Construct new street with bike lanes and sidewalks	long	$3,851,994
Talent				
720	Helms/Hilltop, Rapp Rd. to Belmont St.	Construct new railroad district collector street	long	$5,135,993
722	Rogue River Parkway, OR 99 to Talent Av	Construct new street or upgrade existing street to major collector	long	$3,851,994

Table 5.6.1: RTP Street System Projects, continued

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST
Jackson County				
854	Peachey Road Paving	Pave and improve road from Walker Ave. to Hillview, Ashland	short	$720,000
812	Table Rock Road - Wilson Rd to Elmhurst	Widen to add center turn lane, bicycle lanes, sidewalks; align Gregory Road intersection	short	$2,400,000
809	Foothill Rd., Corey Rd. to Atlantic St.	New two lane rural major collector, add signal	short	$1,800,000
858	Foothill Rd., Delta Waters to Coker Butte	Improve (widen) to rural collector standards	medium	$2,220,366
859	Foothill Rd., Coker Butte to Vilas	Improve (widen) to rural collector standards	medium	$2,220,366
860	Foothill Rd., Vilas to Corey	Improve (widen) to rural collector standards	long	$3,286,685
861	Table Rock Rd., Mosquito to Antelope	Widen to 4 lanes	long	$2,191,123
862	Old Stage Rd., Winterbrook to Taylor	Improve (widen) to rural collector standards	long	$3,286,685
821	Table Rock Rd: I-5 Crossing to Biddle	Widen to 3 & 5 Lanes, curb, gutter, & Sidewalk, bike lanes	long	$13,146,739
863	Foothill Rd., Hillcrest to McAndrews	Upgrade to 3 lane urban standard	long	$ 10,955,616
864	Foothill Rd., McAndrews to Delta Waters	Upgrade to 3 lane urban standard	long	$ 43,822,463
866	Beall Ln., Highway 99 to Merriman	Upgrade to 3 lane urban standard	long	$ 6,573,369
867	Stewart, Hull to Thomas	Upgrade to 3 lane urban standard	long	$ 4,382,246
868	Kings Highway, S Stage to Medford UGB	Upgrade to 3 lane urban standard	long	$ 3,286,685
869	Hanley Road, Beall to Pine	Upgrade to 3 lane urban standard	long	$ 5,477,808
ODOT				
902	I-5: Fern Valley Interchange, Phase 2	Reconstruct interchange; realign, widen connecting roads: replace Bear Creek Bridge	short	$75,000,000
903	OR 62: I-5 to Dutton Road (Medford), JTA	Right of Way Acquisition and construct JTA Phase	short	$121,595,000
904	OR 140 Freight Improvements	Upgrade existing roads to create freight corridor linking Hwy 140 at Hwy 62 (existing terminus), White City, to I-5 at Exit 35, Central Point: including sidening shoulders, adding turn lanes, other improvemetns on segments of Blackwell, Kirtland, High Banks, Antelope, Table Roack, Agate roads and Leigh Way.	short	$5,000,000
942	OR62: Linn Rd to Hwy 234	Install two way center left turn lane between Barton and Rolling Hills	short	$5,224,000
945	OR99 @ Creel	Left turn refuge and sidewalks	short	$1,000,000
949	Talent/OR 99 Creel	Widen OR 99 and provide left turn channelization for Creel Rd. Provide sidewalk	short	$3,290,000
951	South Valley View Bridge Replacement	South Valley View Rd, located off Exit 19 near Ashland. It will also widen and add turning lanes to South Valley View Rd from the Interstate to Hwy 99 and connect peds and bikes with the Bear Creek Greenway.	Medium	$15,000,000
903	OR 62: I-5 to Dutton Road	Right of Way Acquisition(exclusive of JTA Phase)	long	$67,500,000


2038 Regional Transportation Plan
SAMS VALLEY RD
234
ANTIOCH RD
MODOC RD
AGATE RD
REESE CREEK RD
NICK YOUNG RD
EAGLE POINT
140
SALT CREEK RD
62
Rogue River
WHITE CITY
KIRTLAND RD
ANTELOPE RD
BLACKWELL RD
Bear Creek
5
E GREGORY RD
OLD STAGE RD
SCENIC AV
UPTON RD
N FOOTHILL RD
E VILAS RD
E ANTELOPE RD
CENTRAL POINT
BEALL LN
TABLE ROCK RD
CRATER LAKE AVE
ROSS LN
BIDDLE RD
MEDFORD
238
W MAIN ST
JACKSONVILLE
BELLINGER LN
STEWART AV
CADY RD
N PHOENIX RD
SOUTH STAGE RD
PHOENIX
PIONEER RD
COLVER RD
99
PAYNE RD
TALENT
TALENT AV
WAGNER CREEK RD
EAGLE MILL RD
E MAIN ST
ASHLAND
LITTLE APPLEGATE RD
5
66
MT ASHLAND SKI RD
Map 5.6.1
Street / Road Classification
Interstate
Freeway Ramp
State Highway
Arterial
Collector
Local
UGB & UCB
MPO Boundary
Medford International Airport
Rogue Valley Metropolitan Planning Organization
RVMPO
Miles
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Part 5

Regional Transportation System Improvements

Chapter 5.7, Bicycle & Pedestrian Facilities

Introduction

This Chapter provides an overview of bicycle and pedestrian needs, current facilities, improvement plans and issues. It connects closely to Chapter 5.5, which address Transportation Demand Management measures. The cycling and pedestrian systems are both integrated, that is, sharing the street system with motorized traffic, and separate, using dedicated rights-of-way. On urban streets, pedestrians and cyclists are separated, with the former being required to use sidewalks, and the latter being provided where possible with bike lanes alongside motorized traffic. The place for skateboards and other fast human-powered vehicles such as inline skates tends to be ambiguous and will need addressing more fully as these activities grow. These modes (skateboarders and in-line skates) are often allowed to be on the surface streets in

restricted areas such as downtowns, although they are not considered safe with medium to high-speed traffic. Otherwise, they are allowed to use sidewalks.

The value of non-motorized alternatives is discussed, along with results to date in improving the Rogue Valley non-motorized transportation system, and future plans. Lastly, the chapter discusses how bicycle and pedestrian needs and amenities can be linked to the fixed transit system to increase use, since cycling and walking are the primary ways that customers access transit.

Regional Travel Behavior

Transportation Demand Management (TDM) research has estimated that a bicycle trip is reasonable for the commuter if within 3 miles; and a pedestrian trip, if it is to be attractive, to be within a mile assuming adequate facilities are available for the entire length of the trip. Further distinctions between non-motorized modes are difficult. Census data shows journey-to-work bicycle trips at less than 1 percent in the Rogue Valley metropolitan area. A significantly larger share is indicated in a recent travel behavior survey, but more analysis is needed. Increased bicycle use is anticipated in the future for both journey-to-work and non-work trips through an expansion of the bicycle system, correction of some existing deficiencies.

Benefits of Bicycle and Pedestrian Use

Health benefits aside, there are important contributions that pedestrians and bicycle facilities and the people who use them make to the transportation system, including:

- Relieving congestion on the motorized portion of the system;
- Improving air quality, since these travelers generate zero emissions;
- Providing a transportation choice for those who may not be able to afford a car for every adult in the house; and
- Providing the essential link between homes and other trip origins/destinations, and the bus transit system.

Walking currently accounts for about 3.5 percent of the journey-to-work trips in the metropolitan area. Upgrading pedestrian facilities is planned to help continue to raise the mode share for journey-to-work trips as well as non-work trips. The upgrading of pedestrian facilities will include the infill of missing sidewalk links, and changes in subdivision layout, providing for non-roadway pedestrian links between subdivisions and neighborhood commercial areas and schools.

The RTP recommends development of integrated bicycle and pedestrian networks to make it more convenient for people to bike and walk. The bicycle and pedestrian system depicted here is aimed at increasing the "mode share" that is, the slice of the total travel pie, being handled by non-motorized modes of travel. Journey-to-work trips are particularly important because many occur during times of peak traffic during the morning and afternoons, although work trips account for only about one of five trips in the region.

Facilities Need

People may make decisions based on their environment or community. Home, work, school and community can provide either barriers to or opportunities for an active lifestyle. For example, a person may choose not to walk to the store or work because of a lack of sidewalks. When new sidewalks go in that are well-connected at each end, walking increases. Communities, homes, and workplaces each shape health decisions. With fewer options for physical activity and healthy eating, it becomes more difficult for people to make good choices. A result is increasing incidence of obesity and diabetes. Promoting healthy lifestyles to prevent obesity in a community involves the creation of a healthy environment. A role for transportation is to provide safe, easy, affordable access to destinations. Planning for "active transportation" has taken on a prominent role in state as well as regional planning.

The region's bicycle system reflects a two-pronged approach. First are integrated bicycle systems. Second are stand-alone dedicated bike-and-pedestrian ways, most notably the Bear Creek Greenway; and more recently the Rogue River Greenway, planned to connect the existing Bear Creek Greenway near Central Point to the City of Rogue River. Ultimately, the Rogue River Greenway is to connect to Grants Pass.

Integrated Bikelanes -- Communities have been actively striping bike lanes on existing streets that are wide enough to accommodate them, and inclusion of bike lanes in new and reconstructed streets is required under Oregon law as indicated in the following policy:

All Street Improvement Chapter projects listed as "urban upgrade," include bicycle lanes and sidewalks on both sides of the road.

All streets in the metropolitan area should be designed to accommodate bicyclists safely. A bikeway network that provides a higher level of service for bicyclists should be implemented along major travel corridors to encourage bicycle use. The RTP includes projects along collector and arterial streets within the RVMPO boundaries. Consistent with the TPR, the RVMPO's policy is for these facilities to include bicycle lanes or, in rural areas, shoulders with a width greater than four feet. The RVMPO, as part of the Alternative Measures (See Appendix B) has tracked the progress of including these facilities on the RVMPO's street network.

Bicycle improvement projects may also include roadway widening to accommodate on-street bike lanes, or some locations where parking or travel lanes are changed to bike lanes.

Bicycle parking is particularly important if bicycling is to become a viable mode of transportation and carry the expected percentage of trips specified in the plan. The city of Medford zoning code currently requires bicycle parking but this code is often not enforced and bicycle parking is not consistently installed. Other municipalities need to review their zoning codes and revise them to include requirements for bicycle parking. Bicycle parking needs include short-term parking for customers or visitors and all-day parking for employees or students. Bicycle parking requirements can be specified in the municipal code as a percentage of automobile parking. For some uses, relatively little bicycle parking needs to be provided, but it is rarely justified to have no bicycle parking at all. The code can also specify locations that make parking areas safe, convenient, and secure. For example, it is preferable for bicycle parking to be located in high-visibility areas near often-used public entrances of buildings.

Separate Facilities – Separate bicycle and pedestrian facilities have the merit of providing a quieter, cleaner, safer and more rural atmosphere for users. The creation of a potentially 30-mile "greenway" link between Ashland, and ultimately the city of Rogue River, with good and frequent connections to local streets, means that both short-distance and long-distance users can benefit from a true alternative to sharing the highway and street system for much of their activity.

Greenways provide natural routes for multi-use paths. Because they often follow creek drainages, the potential exists to connect paths with the greenway path system. These paths provide an alternative to bicycle and pedestrian systems associated with the street system.

Some bicycle commuters have said they do not use some sections of the Greenway due to the need to travel at slow speeds to address safety concerns while sharing the path with those traveling at lower speeds. These commuters generally travel on surface streets, particularly Hwy 99, which does not have bicycle lanes.

The need should be further explored for bicycle lanes along the Hwy 99 corridor, east-west greenways, and surface street routes that connect to the Bear Creek Greenway. Until these facilities exist commuting by bicycle will remain at levels that some cyclists feel are insufficient.

Facility Operations

Provision of the basic infrastructure is a necessary, but not a sufficient condition, of enthusiastic and growing non-motorized vehicle use. Good design and provision of amenities such as

restrooms are important. However, equally important is good operation of the system. Users have complained that a lack of a sense of security was the greatest deterrent to greater Greenway use. Safe operations also require that pavement be kept in good repair and free of bulging root systems (a common problem in some sections) or potholes, since slender bicycle tires are much more at risk for catching a hole or obstruction and causing a spill than are wider automotive tires encountering similar obstacles on the highway. Surface street operations also need to be enhanced.

Pedestrian Facilities

The Oregon Transportation Planning Rule (TPR) requires sidewalks along all collector and arterial streets within an urban growth boundary. Streets and public spaces can be designed to promote pedestrian use, with important pedestrian-friendly amenities including street trees, park strips, on-street parking, adequate unobstructed sidewalk width pedestrian-scale lighting, and locating buildings near the street. Enhanced crosswalk facilities such as islands, medians and lighting beacons can also improve the pedestrian's safety.

Sidewalk System Continuity – Most local governments already require new developments to include sidewalks and walkways. Where such provisions are not required, this requirement should be adopted. Sidewalks are also generally provided with most major street improvement projects. One issue, which should be made a priority, is to develop a systematic approach to filling gaps in the sidewalk system. To accomplish this, an annual allocation for construction is recommended. The highest priority for sidewalk construction should be given to locations near schools, public facilities, and heavily used transit corridors. Safety should be a prime consideration in evaluation and design

Transit-Related Bicycle and Pedestrian Issues – The provision of sidewalks is vitally important to transit, too. Pedestrian access to transit stops can be the determining factor as to whether or not an individual chooses a trip via transit or automobile.

Current efforts at providing both pedestrian and bicyclist access to transit could be significantly expanded by providing better walkways to commercial centers and providing walkways from subdivisions to bus stops on arterials. Providing bicycle racks and lockers at transit stations, and bicycle racks on buses are strategies to encourage and promote the use of bicycles and transit for commuting.

Americans with Disabilities Act (ADA)

People with disabilities may use crutches or wheelchairs, use a walker, or have no visible sign of disability but suffer from heart disease, emphysema or other illness that limits how far and how easily they can walk. The ADA requires attention to the special mobility needs of this population. At the same time, pedestrians are the most physically vulnerable users of the transportation system, and safety is a significant issue in making the system accessible to these modes.

Safety

The maintenance of bike paths can have a significant impact on bicycle safety as previously noted. Another major issue for bicycle safety is motorists and cyclists not following the rules of the road. A common driver error is failing to yield to bicycles. Bicyclists riding the wrong way (against the traffic) are the leading cause of crashes in which the cyclist is at fault because it makes them less visible to drivers.

While only 15 to 35 percent of bicycle crashes involve motor vehicles, most pedestrian crashes are collisions with cars. Most vehicle/pedestrian crashes occur as pedestrians are attempting to cross roadways. Speed is an important factor in the severity of car and pedestrian crashes. Reduced traffic speeds prevent pedestrian deaths. One method for reducing traffic speeds and thereby increasing bicycle and pedestrian safety is traffic calming, that is, application of a choice of street redesign techniques to allow safer pedestrian and cycling activity and slow down the flow of traffic.

In addition, bike and pedestrian safety can influence planning for other modes. For instance, enhancing bicycle and pedestrian facilities around schools could reduce the number of motor vehicle trips.

Funding for Bicycle and Pedestrian Projects

The federal transportation act, MAP-21 discontinues the federal policy of allocating 10 percent of Surface Transportation Program funds to states for transportation enhancement activities, which include construction of facilities for bicyclists and pedestrians. The Transportation Enhancement (TE) program has been an important source of funding for large projects in the region including the Bear Creek Greenway and, more recently, the beginning stages of the Rogue River Greenway.

Additionally, state and local funds are used to add sidewalks and bike lanes to existing streets. These projects can be significant not only for the added blocks and miles of facilities, but because they fill gaps in the network and contribute to creating uninterrupted, safe routes for pedestrians and bicyclists.

Although the federal funding formula no longer exists, Oregon and RVMPO jurisdictions remain supportive of bicycle and pedestrian facilities. This RTP continues a regional practice of funding these improvements.

RTP Bicycle and Pedestrian Projects

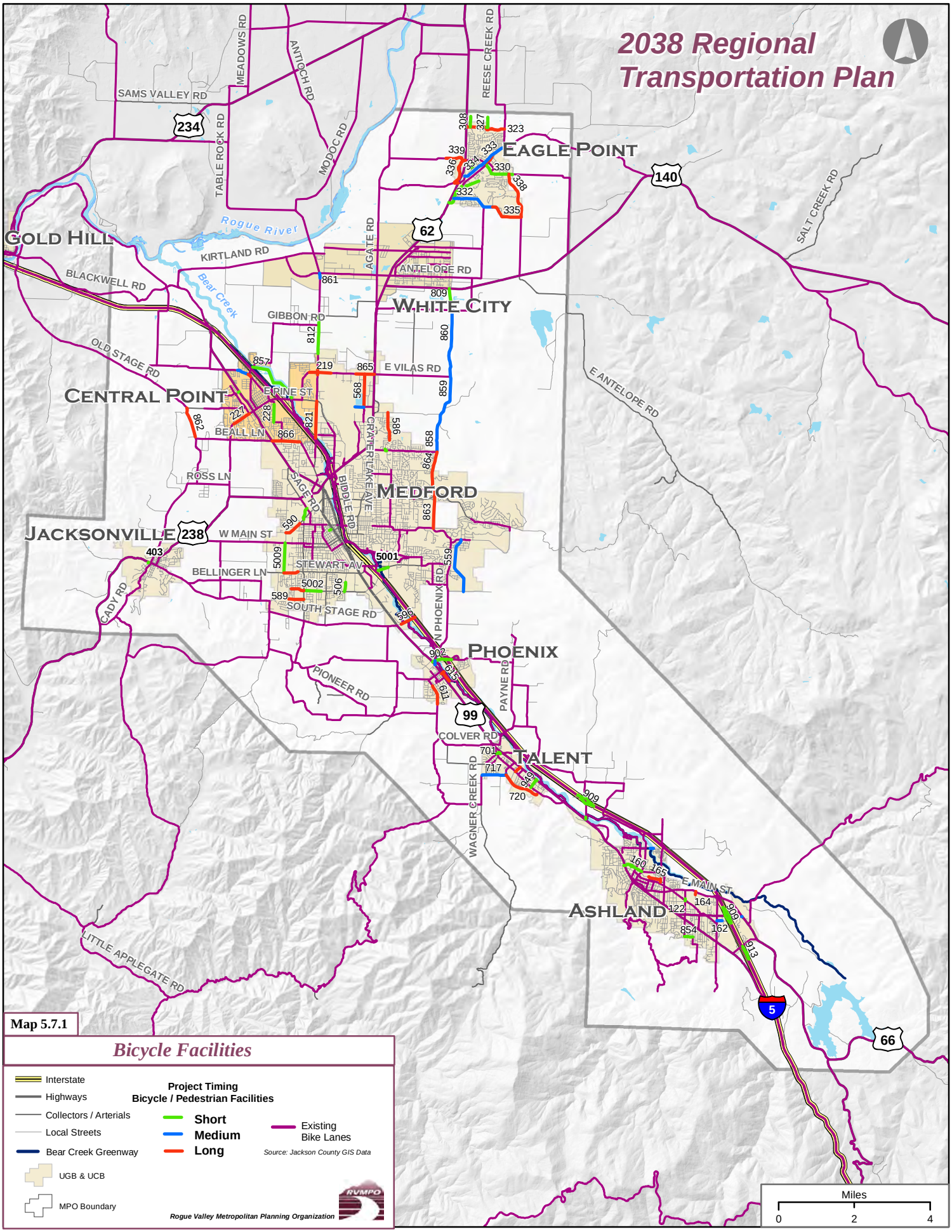
Table 5.7.1 presents all planned projects that are focused on bicycle and pedestrian improvements. Not all bike/ped projects are represented here; all urban upgrade projects add bicycle lanes and sidewalks, and they can be found in Chapter 5.6 – Street System. Federal funds going to projects on trails and similar facilities that are not part of the system for motorized vehicles also are shown.

The total amount published, represents the project total. This excludes the cost of the bike/pedestrian improvements on urban upgrades projects. These costs can be considerable. Typically, adding bicycle lanes and sidewalks are expensive because they require additional right-of-way acquisition and new storm drains and other improvements.

Following the project list is a map of the region's bicycle and pedestrian system, with key projects identified. The map reflects the way each jurisdiction defines these facilities. In some cases, especially in rural areas, bicycles use the shoulder and lanes are not specifically marked.

Table 5.7.1: RTP Bicycle & Pedestrian Projects

PROJECT NUMBER	LOCATION	DESCRIPTION	TIMING	COST	Cost by Phase
Ashland					
122	Walker Avenue: Safe Walk To School	Sidewalk Construction, west side Walker Ave. between Ashland and Iowa; includes improvements at railroad crossing.	short	$ 748,000	
159	Hersey St: N. Main to Oak St Sidewalk	Sidewalk Construction	short	$ 591,776	
				Short Range Total	**$ 1,339,776**
Central Point					
208	Central Point & Talent Parking Lot Improvements	Pave and improve alleys and parking facilities, both cities	short	$1,191,001	
				Short Range Total	**$1,191,001**
215	OR 99: Traffic Calming Unit 3	Traffic Calming	medium	$259,043	
214	Scenic Ave., Mary's Way to Scenic Middle School	Widen to add bike lanes and sidwalks (urban upgrade)	medium	$865,078	
				Medium Range Total	**$1,124,121**
Eagle Point					
324	Mattie Brown Park Improvements	Pave parking area, construct sidewalks at park	Short	$135,000	
322	North Royal Avenue - Loto Street to E. Archwood Drive	Little Butte Creek Pedestrian Trail	Short	$157,000	
				Short Range Total	**$292,000**
Jacksonville					
404	First St. & Main St. Sidewalk and Streetsc	Install lighting, sidewalks, bike parking, pedestrian improver	Short	$1,061,346	
				Short Range Total	**$1,061,346**
Medford					
5008	Larson Creek Trail	Build trail connecting Bear Creek Greenway Trail to Ellendale Drive	short	$585,000	
				Short Range Total	**$585,000**
Phoenix					
600	4th St., OR 99 (SB) to OR 99 (NB)	Widen to provide bike lanes	medium	$438,916	
601	4th St., Rose St. to Colver Rd.	Widen to provide bike lanes and sidewalks	medium	$501,371	
603	Rose St., First St. to Fifth St.	Widen to provide bike lanes	medium	$433,712	
605	Bolz Rd., OR 99 to Fern Valley Rd.	Widen to provide bike lanes and sidewalks	medium	$607,196	
				Medium Range Total	**$1,981,194**
611	Colver Rd., First St. to southern UGB limits	Widen to provide bike lanes and sidewalks	long	$1,155,598	
				Long Range Total	**$1,155,598**
Talent					
208	Chuck Roberts Park Improvements	Project combined with #208, renamed Central Point & Talent Parking Lot Improvements	short		
				Short Range Total	**$0**
Jackson County					
857	Bear Creek Greenway	Construct multi-use trail from Pine St. to Upton Rd, Central Point	short	$1,755,723	
				Short Range Total	**$1,755,723**


2038 Regional Transportation Plan
GOLD HILL
EAGLE POINT
WHITE CITY
CENTRAL POINT
MEDFORD
JACKSONVILLE
PHOENIX
TALENT
ASHLAND
SAMS VALLEY RD
MEADOWS RD
ANTIOCH RD
TABLE ROCK RD
MODOC RD
REESE CREEK RD
SALT CREEK RD
Rogue River
KIRTLAND RD
BLACKWELL RD
Bear Creek
AGATE RD
ANTELOPE RD
GIBBON RD
OLD STAGE RD
E VILAS RD
E ANTELOPE RD
E PINE ST
BEALL LN
ROSS LN
CRATER LAKE AVE
BIDDLE RD
W MAIN ST
STEWART AVE
BELLINGER LN
CADY RD
SOUTH STAGE RD
N PHOENIX RD
PIONEER RD
PAYNE RD
COLVER RD
WAGNER CREEK RD
E MAIN ST
LITTLE APPLEGATE RD
234
62
140
238
403
99
5
66
Map 5.7.1
Bicycle Facilities
Interstate
Highways
Collectors / Arterials
Local Streets
Bear Creek Greenway
UGB & UCB
MPO Boundary
Project Timing
Bicycle / Pedestrian Facilities
Short
Medium
Long
Existing Bike Lanes
Source: Jackson County GIS Data
Rogue Valley Metropolitan Planning Organization
RVMPO
Miles
0
2
4

Part 5

Regional Transportation System Improvements

Chapter 5.8, Transit System

Introduction

This chapter focuses on the services and programs of transit provider Rogue Valley Transportation District, which reaches most of the RVMPO area (see service area map at the end of this chapter).

Although the public has consistently voiced support for expanded transit service during outreach for this RTP update, RVTD has struggled to maintain service at a modest level due to a lack of funding. Users tend to be the transit-dependent riders, which includes low income, young, old and disabled residents of the region. Long-range planning by RVTD shows that for transit service to expand, local support – beyond the existing property tax – will have to increase.

Limitations of Transit Use

Reasons for the current modest use in transit include:

- The region is small and does not suffer from long delays caused by major traffic congestion;
- Growth is occurring at the urban fringe at relatively low densities (3-4 housing units per acre) whereas the transit industry's national standard is that a density of about 7 housing units per acre is needed to generate enough riders to warrant a bus line.

Nationally, and elsewhere around the world, "viable" bus transit does not mean self-supporting financially, only that the route will have riders and be productive. An RVMPO study underway is taking a closer look at density, examining the densities that would be necessary to expand transit service on the Hwy. 99 corridor from Ashland to Central Point.

Another factor militating against transit growth is that new bus hours require new funding. Even the nation's most successful transit systems achieve only a little over 40 percent return on farebox revenues. Lower density systems such as RVTD's achieve around 20 percent on farebox, which means that every dollar in RVTD fare revenue must be supplemented by $4 in funding from other sources. RVTD's lack of a stable long-term funding base is the biggest reason for the limited transit service levels. Unmet demands of many types have been identified, but cannot yet be satisfied.

Future Demand

The outlook for transit indicates greater demand, and with demand a greater opportunity to expand service. For example, transit ridership has been increasing, even as gasoline prices have stabilized. Additionally, several jurisdictions are proceeding with planning for higher-density Transit Oriented Development within cities. This planning work began with the RVMPO's Transit-Oriented Development (TOD) in the late 1990s that has yielded proposals for eight TOD sites.

Local decision-makers have agreed to spend a large portion of the region's federal transportation money to support transit. Half of the region's Surface Transportation Program (STP) allocation is dedicated to transit enhancement, and Congestion Mitigation and Air Quality (CMAQ) funds also have been awarded through a competitive process among all RVMPO jurisdictions.

RVTD received CMAQ funds for a Transportation Management Association several years ago, and hopes to renew interest in the program. It could include the region's major employers and help organize specific transit, carpooling and vanpooling assistance to key work sites.

Existing Service

RVTD provides public transportation to the cities of Ashland, Talent, Phoenix, Medford, White City, Central Point, and Jacksonville. Fixed route service begins as early as 5 a.m., Monday through Friday. Evening and Saturday service is temporary through 2014. RVTD also offers a paratransit service, Valley Lift, and a non-emergency medical regional ride brokering operation called TransLink. The TransLink Call Center is a centralized transportation brokerage facility. It operates in five counties – Coos, Douglas, Curry, Jackson and Josephine. It offers ride reservation, scheduling, and financial management services under contract to the Oregon Medical Assistance Program (OMAP), to handle non-emergency medical rides.

RVTD has one major transfer point, the Front Street Transfer Station in downtown Medford. The Front Street Transfer Station can accommodate up to ten transit vehicles at any given time. RVTD currently utilizes seven of the spaces for the regular fixed route service. An intercity connection is provided at the station through Greyhound. Additional intercity connection can be made from RVTD's fixed route system to the Greyhound depots in Medford and Ashland.

RVTD also runs a Transportation Demand Management program, and conducts community outreach and offers specialized programs such as vanpooling coordination and incentives for employers. Fare discounts and subsides also are offered.

Future Potential Service

RVTD has a long-range plan that identifies and prioritizes specific new routes and services to be implemented as funding becomes available. A primary goal is to connect activity centers with high quality transit service. RVTD seeks to attract all types of trips rather than just work trips or trips made by persons who presently have little choice in their mode of travel. The long-range plan includes more service hours, buses, and facilities than are currently available.

The plan is giving priority to improving service on existing routes by increasing the frequency and expanding the hours of service. While there are many factors that contribute to transit ridership, the level and frequency of service are important

factors in attracting and maintaining a ridership base. Concerns have been raised that that the hours of transit operation do not fully meet the demand for general public transit service, particularly for Southern Oregon University and Rogue Community College students, Bear Creek Corporation employees, Rogue Regional Medical Center, Providence Hospital, residents of the Veteran's Domiciliary in White City, and the Rogue Valley Manor in Medford. Modifications are needed to provide transportation to employees whose shifts begin early in the morning and for employees who work graveyard shifts.

On average, transit studies in similarly sized areas elsewhere have identified a preferred transit plan as one that would begin service at 4 a.m. and continue until 11:30 p.m. On average, weekend service (including Sundays) would begin at 6:30 a.m. and operate until 10 p.m.

Transit-Friendly Land Use

Transit-Oriented Development (TOD) means the development of higher density nodes of mixed use activity that lend themselves to easier transit service and higher transit ridership. A general industry rule of thumb is that seven dwelling units per acre are required to generate enough riders to justify a bus route. There are active TOD sites in Central Point and Medford. Others have been identified but not yet implemented, including Delta Waters, Highway 62 and 99, Downtown Medford, Barnett/Gateway, and West Medford.

Also, the RVMPO's alternative measures, described in the Land Use Nexus, chapter 5.10, address development density and the relationship of densities to the availability of transit service. As indicated elsewhere in this plan, including the Bicycle and Pedestrian Element, transit relies upon pedestrians for ridership. This makes it particularly important that roadway projects include provisions for sidewalks.

Other features need to be considered when planning for roadway projects. These features might include thicker pavement at transit stops; transit-only right-of-way at congested intersections; construction of bus turnouts; construction of transit passenger shelters; wider sidewalks at transit stops; bicycle facilities near transit stops; and bike racks at transit stations. Consideration of transit infrastructure and capital needs early in street project planning may eliminate redundancy and reduce future expenditures. The construction of a new roadway that makes specific provisions for transit may allow RVTD to leverage funds or switch funds for the construction of transit infrastructure along

that roadway. When possible, roadway and transit projects should be coordinated and constructed at the same time.

Transportation Management Associations (TMAs)

A TMA is an organization of employers and transit agencies. Its aim is to help employers provide programs and information to their employees that will increase transit, bicycling, carpooling and vanpooling to work.

It is necessary to attract riders who currently use other modes of transport in order to significantly increase ridership. In order for these people to consider transit as a viable option, there must be sufficient public information about the services available. Encouraging new riders to try the transit option is the vital next step after any service improvements are made.

Deployment of New Technologies – ITS

Intelligent Transportation Systems (ITS) is an umbrella term that covers electronic and high tech installations that can help transportation efficiency and safety. For transit, two ITS installations that can help RVTD are:

- Automatic Vehicle Location technology – using global positioning, the bus reports its location and can be used to monitor and inform riders (at the bus stop or online) about delays and wait times. Such systems also play a vital role in transit safety and security issues.

- Traffic signaling devices that can enable a traffic signal to be tripped in favor of the bus and speed up its trip when delays have been encountered.

Bus Rapid Transit (BRT)

BRT is an intermediate transit technology now being developed in a number of locations including Eugene. It consists of high quality buses (reclining seats, tinted windows, air conditioning, tray tables etc) using a special lane on the roadway. A full transitway is a two-way corridor, usually in the median of a freeway, that has flyover ramps to enable buses and other permitted vehicles (e.g. vanpools and carpools) to enter and exit the transitway without having to weave through traffic in the other freeway lanes. Locations where a BRT system may someday work well in the Rogue Valley include the Hwy. 62 Expressway median, and the Hwy. 99 corridor between Ashland and Central Point.

Other programs that may help reduce reliance on single-occupant vehicles include:

Vanpools – The employer or the transit agency purchases a ten or more-seat van and makes it available for commuting to the worksite. Employees using the van are responsible for everything from driving to fuel and seeing to maintenance. The transit agency or employer pays for the initial capital cost of the vehicle and provides work place assistance in finding riders and supporting the program. The precise array of operating costs covered may vary – just fuel, oil and washing, or also insurance and maintenance. Vanpool programs work best when a number of workers are going to the same or nearby sites, yet there is not enough demand to run a fixed route bus to that location. Examples in the Rogue Valley include various major employers in White City, Bear Creek Corporation and some employers in Medford.

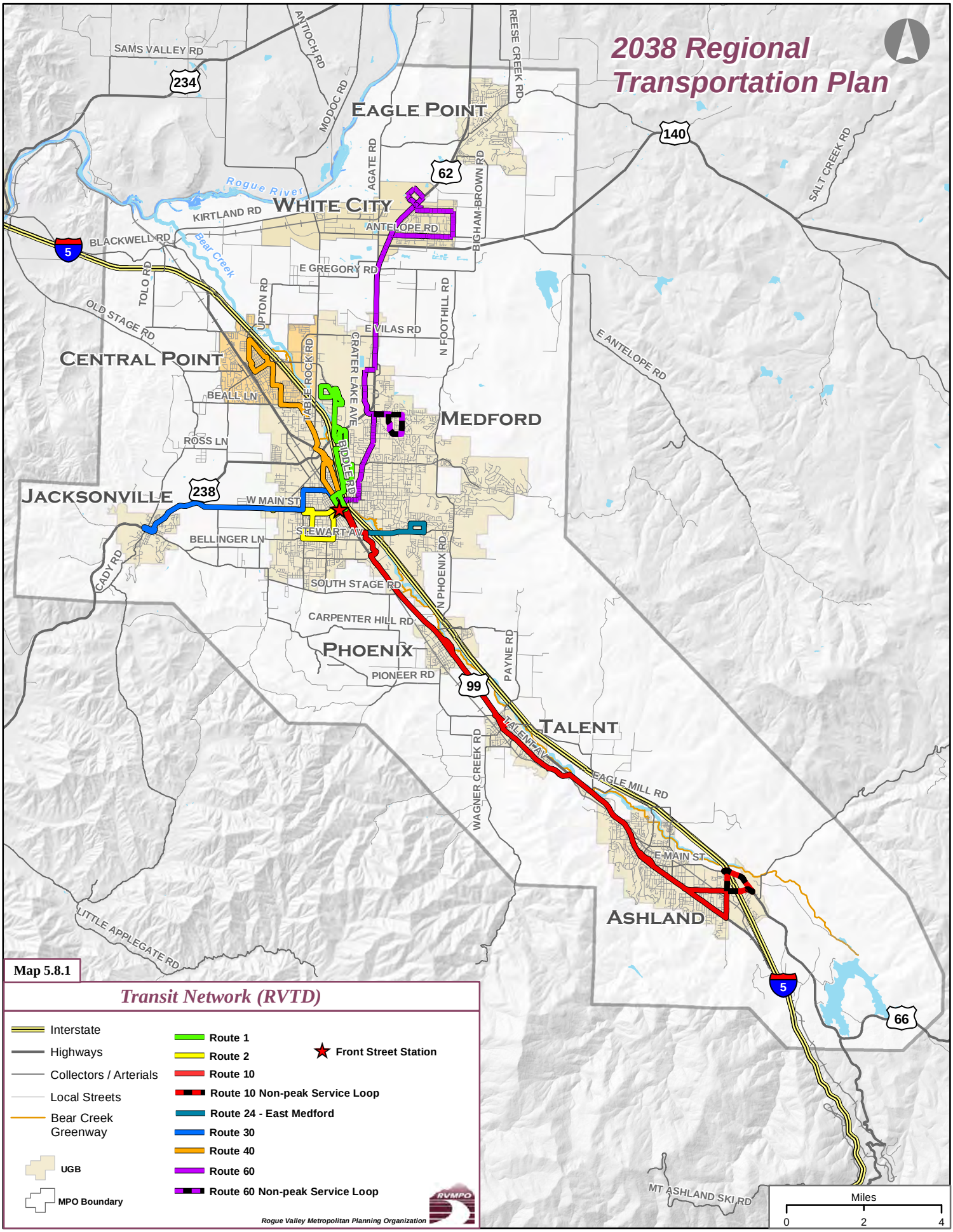
Worker-Driver Buses – Worker-driver buses are operated very similarly to vanpools and are successful when even larger numbers of employees (30-40 instead of the 10-15 of a vanpool) want to go to the same worksite at the same time. There is the added challenge of the driver finding adequate parking for a bus near his/her home. In the Rogue Valley it seems likely that vanpools are a better place to start, reserving the idea of worker-driver buses for the future if high density vanpool demand emerges.

Subscription Bus Routes – A subscription bus route is a form of demand-responsive transit. The route is tailored to the pick-up locations of a specific group of riders. Unlike the vanpool or worker-driver bus, a subscription bus has a transit agency driver and thus costs more. There have been many requests for Grants Pass to Medford bus service; a subscription bus route might be the answer. However, a smaller scale and less expensive answer would be to start with vanpool services. Institutional changes would be needed since RVTD cannot provide service to Grants Pass under current law and district configuration.

RTP Transit Service

The 2038 RTP assumes no change in transit service. RVTD has plans to seek a property tax increase in the short-term to expand service, which may be necessary to maintain existing transit service. Analysis of this plan shows that there are not currently sufficient identified funds to maintain current service. However, RVTD does not have current plans to reduce service.

Current transit routes are mapped on the following page.


2038 Regional Transportation Plan
EAGLE POINT
WHITE CITY
CENTRAL POINT
MEDFORD
JACKSONVILLE
PHOENIX
TALENT
ASHLAND
SAMS VALLEY RD
ANTIOCH RD
MODOC RD
REESE CREEK RD
AGATE RD
BIGHAM-BROWN RD
SALT CREEK RD
KIRTLAND RD
ANTELOPE RD
BLACKWELL RD
Bear Creek
Rogue River
TOLO RD
UPTON RD
E GREGORY RD
N FOOTHILL RD
E ANTELOPE RD
OLD STAGE RD
E VILAS RD
TABLE ROCK RD
CRATER LAKE AVE
BEALL LN
ROSS LN
RIDDLE RD
W MAIN ST
STEWART AV
BELLINGER LN
CADY RD
SOUTH STAGE RD
N PHOENIX RD
CARPENTER HILL RD
PIONEER RD
PAYNE RD
TALENT AV
EAGLE MILL RD
WAGNER CREEK RD
E MAIN ST
LITTLE APPLEGATE RD
MT ASHLAND SKI RD
234
62
140
5
238
99
66
Map 5.8.1
Transit Network (RVTD)
Interstate
Highways
Collectors / Arterials
Local Streets
Bear Creek Greenway
UGB
MPO Boundary
Route 1
Route 2
Route 10
Route 10 Non-peak Service Loop
Route 24 - East Medford
Route 30
Route 40
Route 60
Route 60 Non-peak Service Loop
Front Street Station
Rogue Valley Metropolitan Planning Organization
RVMPO
Miles
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2
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Part 5

Regional Transportation System Improvements

Chapter 5.9, Parking

Introduction

Oregon's Transportation Planning Rule (TPR) requires that metropolitan area jurisdictions reduce their overall parking capacity. A reduction in parking is part of an overall strategy to reduce reliance on automobiles as the principal mode of travel and to help achieve a reduction in per capita vehicle miles traveled. The challenge of this goal is to reduce the amount of parking in ways that help achieve the travel-reduction goal and are equitable for all parties involved.

Parking reduction strategies are proposed to help the metropolitan area meet the TPR requirements. Strategies include changes to parking codes and policies, redesignation of existing parking, and management of roadway space. Next, some potential results are discussed (limited by data availability). Finally, some parking optimization techniques are presented, which may make it

easier for motorists, employers, and employees to make use of available parking.

Parking Standards

The TPR requires implementation of a parking plan that achieves a 10 percent reduction in the number of parking spaces per capita in the MPO area over the planning period. This may be accomplished through a combination of restrictions on development of new parking spaces and requirements that existing parking spaces be redeveloped to other uses.

Ultimately, the parking plan must aid in achieving the overall requirement to reduce vehicle miles traveled per capita (VMT) in the MPO area. In MPO areas of less than 1 million population, including the RVMPO, a 5 percent VMT reduction is required.

It is anticipated that metropolitan areas will accomplish reduced reliance by changing land use patterns and transportation systems so that walking, cycling, and use of transit are highly convenient and so that, on balance, people need to and are likely to drive less than they do today.

The requirement to reduce VMT as it relates to parking offers some options. Local jurisdictions may set minimum and maximum parking standards in appropriate locations, such as downtowns, designated regional or community centers and transit centers.

Some Parking Strategies

The state Transportation Planning Rule offers some options for meeting parking requirements, including:

- Reduce minimum off-street parking requirements for all non-residential uses from 1990 levels;
- Allow provision of on-street parking, long-term lease parking, and shared parking to meet minimum off-street parking requirements;
- Establish off-street parking maximums in appropriate locations, such as downtowns, designated regional or community centers, and transit-oriented developments;
- Exempt structured parking and on-street parking from parking maximums;
- Require that parking lots over 3 acres in size provide street-like features along major driveways (including curbs, sidewalks, and street trees or planting strips); and
- Provide for designation of residential parking districts.

Parking Code and Policy Changes

Older parking regulations specified only minimum standards, leading some developments, such as retail stores, to provide an excess of parking. Most RVMPO cities now include maximum standards. Ashland and Talent limit spaces to 10 percent above the minimum; Phoenix limits the surplus to 5 percent. Medford's limit depends on uses, and Central Point's minimum standards are also its maximum standards. Codes also sometimes leave little flexibility to allow parking reduction strategies such as shared parking or on-street parking. Other recommended parking code and policy changes include parking fees and decreased building setbacks.

Lower Minimum Parking Requirements

Lower parking minimums could have an impact on the total parking inventory, but there is no guarantee that developers would choose fewer parking spaces for their developments. Lower minimum parking requirements, however, might encourage some in-fill development. In-fill development can be encouraged to increase densities and remove land from its temporary status as parking lots. Both the reduction of existing parking and increasing building densities will help lead to a more pedestrian friendly environment and encourage transit ridership – a primary goal of the TPR.

Parking Fees

Establishment of parking fees is not a policy of the RVMPO, but fees can be useful in some jurisdictions. Fees imposed on developers for each parking space are an indirect way of reducing the amount of parking provided by new developments. Fees can be levied on the developer, the tenant, or the end-user. These are fees for either the use or provision of each parking space. Fees levied on the developer may lead to smaller parking lots due to monetary considerations when building the project. Fees on the tenant may encourage them to seek out retail or office space in areas with smaller lots, thus putting market pressure on developers to build with less parking. Fees on end-users may result in different modal choices, bringing down parking demand and leaving land open for in-fill development or smaller parking facilities. Fees are an indirect strategy and may be difficult or impossible to implement as a stand-alone TPR-compliance parking reduction measure.

Redesignation of Existing Parking

Changing existing general-use parking spaces to special-use parking can be used to promote the use of alternative modes and meet the requirements of the TPR. General parking provided on-street or in lots could be reclassified as preferential parking for carpools, or the handicapped. Preferential parking, especially close to building entrances, for carpooling or vanpooling is a common way of helping to promote these as alternatives to driving alone. Carpool parking need not be limited to parking lots. On-street parking spaces, including metered spaces, may be restricted to carpools. Typically, monthly permits are obtained and displayed when parked in a reserved carpool space in a lot or on the street.

As a side benefit, reclassification from general parking to carpool parking may help meet TPR requirements. Under TPR definitions, park and ride lots, handicapped parking and parking spaces for carpools and vanpools are not considered parking spaces for

purposes of the TPR. The reclassification of a portion of the parking supply as permanent high occupancy vehicle (HOV) space may satisfy the TPR's parking reduction requirement.

In areas where easy access to free or low-cost parking has always been readily available, restrictions on parking may be poorly received by the public. Widespread conversion of general-use parking spaces to reserved parking for carpools or other restricted uses may lead to a high level of parking violations. This may place an undue burden on agencies for the enforcement of parking regulations at the expense of other activities.

Management of Roadway Space

There is considerable competition for use of the paved roadway space: through lanes and turn lanes for motor vehicles, bicycle lanes, on-street parking spaces, loading zones, and bus stops. Management of the roadway space and the allocation for these uses can have a measurable impact on the amount of parking in the region. Changing parking spaces to travel lanes can help improve traffic flow, promote use of alternative modes, and meet the TPR requirements.

Parking and Bike Lanes

Bike lanes on arterial and major collector streets are required under the provisions of the TPR. In many locations throughout the Rogue Valley region, this will be accomplished by parking removal and re-striping of the street, rather than by widening the roadway.

Parking and Turn Lanes

Re-striping for turn lanes is a transportation system management strategy that can be used to increase the capacity of intersections. In many cases, queuing distances at stop signs or traffic signals will require that no-parking zones be extended for more than 100 feet from the intersection. This could require removal of parking, which is sometimes permitted as close as 20 feet from a crosswalk at an intersection.

No-Parking Zones

Designating larger no-parking zones to increase sight distances at intersections is already implied in the vehicle code. Parking is not permitted within 50 feet of a stop sign, yield sign, or other traffic control device where such parking hides it from view. A blanket prohibition on parking within 50 feet of a corner would have a measurable impact on the number of parking spaces and would have other benefits related to sight distance.

Street Standards

Adopting new street standards for residential streets could include reducing street width to the extent that on-street parking would be permitted only on one side or eliminated.

Parking Optimization

There are techniques that can be used to make better use of parking, which may make it easier for residents, businesses, and employees to "live with" the parking reduction requirements of the TPR. However, optimizing the use of parking may defeat the other goal of the TPR, namely the reduction in per capita vehicle miles of travel. This is because the easy availability of free or low cost parking remains a significant factor in the individual's choice of mode for trips to work, shopping, etc.

Shared Parking

Shared parking is the use of one or more parking facilities between developments with similar or different land uses. Each land use experiences varying parking demand depending on the time of day and the month of the year. It is possible for different land uses to pool their parking resources to take advantage of different peak use times.

Traditionally, parking lots have been sized to accommodate at least 90 percent of peak hour and peak month usage and serve a single development. For the most part, these lots are operating at a level considerably less than this amount. Shared parking schemes allow these uses to share parking facilities by taking advantage of different business peak parking times.

For example, a series of buildings may include such land uses as restaurants, theaters, offices, and retail – all of which have varying peak use times. A restaurant generally experiences parking peaks from 6 to 8 p.m., while offices typically peak around 10 a.m. and again around 2 p.m. on weekdays. Some retail establishments have their peak usage on weekends. Theaters often peak from 8 to 10 p.m. Without a shared parking plan, these uses would develop parking to serve each of their individual peaks. This generally results in each lot being heavily used while the other lots operate at far less than capacity. Depending upon the combination of uses, a shared parking plan may allow some developments to realize a parking reduction of 10-15 percent without a significant reduction in the availability of parking at any one time. This is possible due to the different peak periods for parking.

Some of the major obstacles to implementing shared parking schemes are the codes of local jurisdictions themselves. Quite

often, parking codes are written to express parking minimums as opposed to maximums. Although Medford does allow shared parking, not all agencies do. In some cases, the implementation of shared parking strategies may require changes to the minimum parking requirements contained in the parking policies of the metropolitan area jurisdictions.

Other issues surrounding shared parking are liability, insurance and the need for reciprocal access agreements allowing patrons of one establishment to cross land owned by another.

Parking Management

Parking management and parking management associations (PMAs) are mechanisms that can facilitate shared parking among non-adjacent land uses by providing off-site central parking facilities. These facilities can be large parking structures or surface lots. Parking management can employ a wide range of techniques that will result in the efficient use of existing parking facilities. These include facilities like short-term on-street parking, medium-term nearby lot parking, High Occupancy Vehicle (HOV) priority parking, and long-term parking.

PMAs are entities responsible for conducting this management and providing access to resources that will ease the burden on the parking supply. Often PMAs are non-profit groups supported by retail or business district associations. PMAs can incorporate such programs as providing bus passes or tokens in lieu of parking validation, delivery services, shuttle buses from remote lots, clear and consistent signage for parking facilities, etc.

An effective PMA benefits its members and its district by functionally increasing the parking supply for all uses and creating a parking plan that provides adequate parking for the area in a compact and coherent way. A PMA increases the efficiency of the use of land for parking, which helps reduce wasted space previously dedicated to underutilized parking. This, in turn, frees up land for further development. In the end, a successful PMA can create an area where parking is easier and more convenient, while using less land.

RTP and Parking

Federal funds are programmed in the RVMPO to surface existing parking areas. Such projects do not create new or additional parking, but improve air quality by reducing dust kicked up by traffic. Road dust is a significant cause of particulate, PM_{10}, pollution in the RVMPO area. Paving travel surfaces is a strategy for reducing this pollutant.

One such project, in Central Point and Talent, is planned in the RTP, and programmed in the MTIP. This project, # 208, will pave an existing gravel lot near the City Hall/Library complex and the local seniors' center, plus a municipal park in Talent. It's a short range project, shown in the project list in Chapter 5.1.

Part 5

Regional Transportation System Improvements

Chapter 5.10, Land Use Nexus

Introduction

Total metropolitan employment and population are essential factors determining travel demand in the Rogue Valley region. How those jobs and dwelling are distributed throughout the region can have an impact on how well the regional transportation system functions in the future. Illustrative modeling performed for the RVMPO and the Rogue Valley Regional Problem Solving project, showed that the careful development of regional employment centers could ease future roadway congestion to a greater extent than could major roadway expansion projects. Although that analysis goes well beyond the planning horizon for this RTP the results indicate the significance that land use decisions can have.

Although MPOs do not make land use decisions, and adoption of an RTP is not a land use action in Oregon, MPOs consider land use because of the potential impacts on transportation.

Also, the region has a set of Alternative Measures, approved by the Oregon Land Conservation and Development Commission that require RVMPO cities to make certain land use decisions to support the transportation system. Those measures are discussed briefly in this chapter and explained fully in Appendix B.

Land use decisions can also impact transit service availability. Decisions to support high densities (10 units per acre or greater) and mixing employment uses and dwelling, are more likely to support transit service. To be viable in an area, transit must be able to serve concentrations of population, which aren't found at lower densities.

This chapter addresses some land use activities in as they relate to the transportation system.

Mixed Uses, Transit Friendly

Cities are fostering increased densities by integrating land use and transportation. To promote this integration, the RVMPO adopted alternative measures, which received LCDC acknowledgment on April 3, 2002. Several of the measures emphasize the effect of the land use pattern on the transportation system. They call for:

- More dwelling along transit routes,
- More dwellings in mixed use and pedestrian friendly areas, which includes all downtown areas.
- More employment in mixed use and pedestrian friendly areas, which includes all downtown areas.

Development of Transit Oriented Development in the region is considered to be a strategy for controlling future travel demand. TODs locate people near transit services while decreasing their dependency on automobiles. While sprawling development patterns necessitate use of automobiles for virtually every trip, TODs - through the creation of higher-density, mixed-use, pedestrian districts - increase the convenience of walking, bicycling, and transit and thereby reduce automobile dependency.

In 1999, the RVMPO undertook a Transit-Oriented Design and Transit Corridor Development Strategies Study (TOD Study). The TOD Study outlined recommendations for ten TOD sites in Central Point, Medford, Phoenix, and White City (in unincorporated Jackson County). The study was intended to provide an alternative land use scenario that would bring the RVMPO into compliance with the TPR. Many of the study's land use recommendations are being implemented, including:

Central Point TOD – Under construction in the northwest section of the city. A second TOD is planned to the east.

Medford TOD – Planning for the West Medford TOD has started. Additionally, Medford's Southeast Plan area is a large development employing Smart Development principles.

Phoenix – Phoenix has developed a mixed-use plan for the City Center area that incorporates TOD policies and standards consistent with the RVMPO's TOD Study. The TOD site includes much of the existing downtown area, and the city is committed to urban-centered, pedestrian-friendly growth.

Jacksonville – North Fifth Street Gateway TOD includes measures to enhance the northern entrance to the city, focusing on transportation and land use issues affecting a group of commercial properties, one of which is the site of a new senior housing complex. Ordinances, street design standards, development opportunities that support transit development, pedestrian-oriented environment, and multi-modal access were among the goals of the project. The plan recommended improvements to circulation and safety at the intersection of Shafer Lane and North Fifth Street, and included conceptual renderings for capital improvements showing sidewalk locations, walkways, crosswalk locations, lighting, potential entry sign designs, and other pedestrian amenities.

Transit-Oriented Design and Development (TOD) is a general description of a set of development strategies that are designed to encourage the use of public transit by creating an atmosphere that is safe, convenient, and easily accessible by foot, bicycle, and transit. One purpose of transit-oriented design is to increase ridership by shaping and intensifying land use through the integration of transit stops with other activities of the community such as banking and shopping. Transit Oriented Development (TOD) is a concept that promotes neighborhood livability and increased use of the transit system. A mix of residential, public, and commercial uses, a diverse range of dense housing types, and a pedestrian-oriented environment characterize TOD sites. This pattern is a departure from traditional zoning that separates residential and commercial uses.

Urban design strategies associated with transit-oriented development also encourage bicycle and walk travel modes. By reducing reliance on single-occupant vehicles, TOD improves air quality by reducing the number of vehicle trips. Another benefit of TOD is the promotion of economic development by attracting businesses and consumers to the area surrounding the transit stop. By encouraging mixed-use development, transit-oriented design strategies can also increase housing options.

Other Strategies

Smart development – Concepts help make streets attractive, convenient, and safe for pedestrians, cyclists, and motorists. Landscaping, including street trees where appropriate, public art, and places for people to congregate all contribute to the desirability of a neighborhood or commercial center. These concepts increasingly are being incorporated into communities' comprehensive plans and zoning regulations.

Preserving Future Corridors – The preservation of corridors may prove to have significant financial benefits for local agencies. By identifying needed corridors for streets, bicycle/pedestrian ways, transit corridors, railroad corridors, and other uses, agencies may be able to avoid development on or loss of access to these corridors. This saves the expense of having to compensate landowners for the value of these developments when the right of way is needed for transportation. Regional corridors also merit protection, particularly in areas likely to urbanize during the planning period. The Regional Problem Solving effort, coordinated by RVCOG, identified existing corridors to be upgraded to urban standards and new connections to accommodate urban levels of development. When enacting ordinances or making plan changes, agencies must comply with applicable laws regarding property rights and may incur financial obligations as a result.

Separated multi-use bike/pedestrian paths are safest if they do not cross local streets at grade. Creating underpasses or overpasses for multi-use paths is very expensive. Typically, multi-use paths are only practical along barriers such as lakes, rivers, cliffs, or airports. Local governments should develop policies to preserve barrier edges for use as multi-use paths.

Local Street Connectivity – Poor connections between people and destinations often result in longer trips and more vehicle miles traveled. Cars must travel farther to reach a destination that has no direct route from their point of origin. In addition, poor connectivity makes travel by alternative modes difficult or impossible, since longer trip lengths making biking and walking impractical.

Traffic Calming – Where appropriate, local governments should consider the use of traffic calming techniques and reduced street widths to minimize negative impacts of traffic on neighborhoods. Traffic calming is a strategy that can improve livability in residential neighborhoods, by reducing motor vehicle speeds, traffic hazards, and noise. Some traffic calming strategies include traffic circles, speed bumps, street trees, road surface modifications, and narrowing of residential streets.

Part 6

Financial Plan

Introduction

This part consists of a single chapter that presents all of the financial assumptions used to create the financially constrained project list for the street and transit system, as required by federal law. Financially constraining projects is particularly important for the RVMPO region because of federal and state air quality conformity requirements, described in the Air Quality Conformity Determination published by the RVMPO for this plan.

Forecasts of state and federal revenue sources are developed cooperatively by a statewide working group consisting of ODOT staff and representatives from all Oregon MPOs and public transportation agencies. These forecasts have most recently been updated in 2011 to reflect federal requirements and are the basis of the financial forecasts used in the update of the 2013-2038 RTP.

Federal Regulations for Financial Constraint

Federal legislation sets forth guidelines that seek to ensure that the needs identified in the RTP are balanced with resources expected to be available over the planning period. Guidelines were first established in the federal Safe Accountable Flexible Efficient Transportation Equity Act -A Legacy for Users (SAFETEA-LU). The current transportation act, Moving Ahead for Progress in the 21st Century (MAP-21), continues the SAFETEA-LU requirements, although rulemaking which will occur after adoption of this RTP may alter MPO planning requirements to some degree. It is anticipated that such changes wouldn't necessarily prompt revision of this plan.

A financial plan that demonstrates how the adopted long-range transportation plan can be implemented, indicates resources from public and private sources that are reasonably expected to be made available to carry out the plan, and recommends any additional financing strategies for needed projects and programs.

Furthermore: The financial plan may include, for illustrative purposes, additional projects that would be included in the adopted long-range transportation plan if reasonable additional resources beyond those identified in the financial plan were available. For the purpose of developing the long-range transportation plan, the metropolitan planning organization and State shall cooperatively develop estimates of funds that will be available to support plan implementation.

Federal and state revenue projections were provided by ODOT in a document titled *Financial Assumptions for the Development of Metropolitan Transportation Plans* in February 2011. Most of the revenue projections of federal and state funds used in the RTP are based on the projections provided in this document.

Table 6.1: Documents Consulted for Financial Plan

Jurisdiction	Transportation Planning Document	Date
Ashland	Ashland TSP	Update in-progress 2013
Talent	Talent TSP	June 2001
Phoenix	Phoenix TSP	1999
Jacksonville	Jacksonville TSP	June 2009
Medford	Medford TSP	November 2004
Central Point	Central Point TSP	December 2008
Eagle Point	Eagle Point TSP	December 2010
Jackson County	Jackson County TSP White City TSP	March 2004
ODOT	Coordination with ODOT Finance Section	March - December 2012

Street and Transit System Funding

This section provides details on the funding required to implement the capital projects in Part 5: Regional Transportation System Improvements. Funding has been estimated over the 25-year duration of the plan and is linked to projects in Part 5 to establish the RVMPO's financially constrained Tier 1 project list.

Tier 1 projects are in the plan based on their ability to fulfill RTP goals and to be implemented and funded within the 2038 planning horizon. Funds shown in this part establish financial constraint. They were developed in consultation with the ODOT, Oregon MPOs, and the RVMPO jurisdictions, consistent with federal and state requirements for determining financial constraint.

Information for this part also was drawn from the documents listed on Table 6.2.Regional Transportation System Revenue Sources. The Federal, State and local revenue sources that are used to fund regional transportation system projects and programs are described below.

Table 6.2: RVMPO Revenue Forecast – All Sources

Jurisdiction	Revenues - Sources Percent of Total						Totals
	Federal	State	Local				
			SDC's	Fees	Other	RVMPO Future Discretionary Funds	
Ashland	2%	34%	2%	49%	6%	8%	**100%**
Central Point	3%	36%	19%	18%	23%	0%	**100%**
Eagle Point	0%	20%	2%	13%	0%	64%	**100%**
Jacksonville	8%	50%	3%	39%	0%	0%	**100%**
Medford	2%	33%	7%	38%	1%	18%	**100%**
Phoenix	0%	30%	15%	24%	8%	23%	**100%**
Talent	1%	43%	7%	14%	2%	33%	**100%**
RVTD	Federal	State	Local				
			Property Taxes		Farebox		
	56%	12%	20%		12%		**100%**

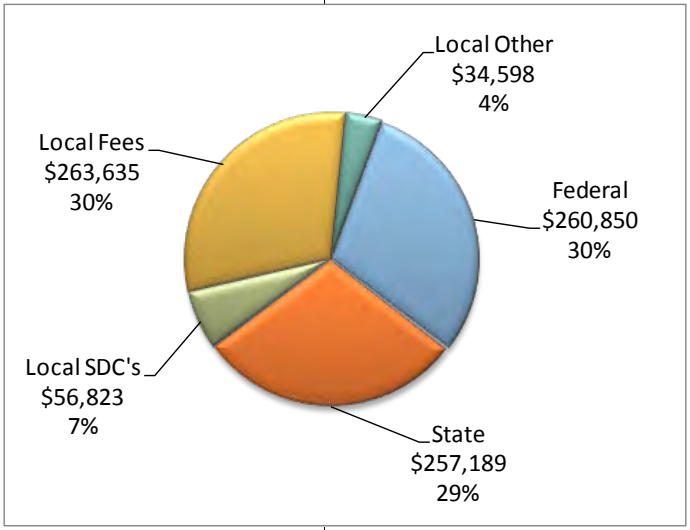
Funding used primarily for the road network are described below. Details about transit funding sources and sums follow, beginning on page 11.

Summary estimates of capital funding availability required for RVTD, Medford, Central Point, and Phoenix, Ashland, Talent, Jacksonville and Eagle Point projects and programs are shown in Table 6.2 on this page.

The table shows how the various revenue sources are expected to contribute as a percentage of total revenues to the jurisdictions through 2038. As the table shows, the primary transportation funding source in the region is the State Highway Fund, which varies from 30 to 50 percent of the annual revenues for the RVMPO cities.

On the following page, Figure 6.1 shows the sources of funding that are reasonably expected to be available to support the RVMPO regional street system for the 2013-2038 RTP. Local funds make up the largest share of revenues (30%), slightly ahead of federal and state revenues.

Figure 6.1: RVMPO Street System Revenue Forecast – All Sources ($ x $1,000).



A comparable chart, Figure 6.2 in the transit section on page 11 shows the sources of funding that are reasonably expected to be available to support the RVMPO transit system for the 2013-2038 RTP. Federal funds make up the largest share (56%) of transit revenues, followed by Local (20%) and State revenues (12%).

Federal Revenue Sources

Interstate Maintenance --USC Title 23.119 – With funding from the Highway Trust Fund, this program funds resurfacing, restoring, rehabilitating, and reconstructing the Interstate Highway program in the continental United States, Alaska and Puerto Rico. Expansion of the capacity of any Interstate highway or bridge, where such new capacity consists of one or more new travel lanes [that are not high-occupancy vehicle lanes or auxiliary lanes,] is not eligible for funding under this section.

Surface Transportation Program (STP) – The STP, an intermodal block-grant-type program, provides funds for a broad range of transportation uses. Projects can include highway and transit capital projects, carpool projects, bicycle and pedestrian facilities, planning, and research and development. STP funds are allocated to the State and sub-allocated to MPOs, cities (outside of an MPO), and counties on a formula basis by the Oregon Transportation Commission.

Congestion Mitigation and Air Quality Program (CMAQ) – The Intermodal Surface Transportation Efficiency Act (ISTEA) created the CMAQ program to deal with transportation related air pollution. States with areas that are designated as non-attainment for ozone or carbon monoxide (CO) must use their CMAQ funds in those non-attainment areas. A state may use its C MAQ funds in any of its particulate matter (PM_{10}) maintenance areas (such as the RVMPO planning area, which has achieved attainment status) if certain requirements are met. The projects and programs must either be included in the air quality State Implementation Plan (SIP) or be good candidates to contribute to attainment of The National Ambient Air Quality Standards (NAAQS). If a state does not have any non-attainment areas, the allocated funds may be used for STP or CMAQ projects. CMAQ requires a 10.27 percent local match unless certain requirements are met.

ODOT Enhance Program – The OTC and ODOT are changing how the State Transportation Improvement Program (STIP) is developed due to declining revenues. The STIP will no longer be developed as a collection of programs tied to specific pools of funding dedicated to specific transportation modes or specialty programs.

The primary objective of this change is to enable ODOT to take care of the existing transportation assets while still providing a measure of funding to enhance the state and local transportation system in a truly multimodal way.

At the core of this new approach is a single application process for all projects that will be funded under the ***Enhance*** side of the STIP. The OTC will select ***Enhance*** projects based on recommendations developed by local governments, public agencies and citizen representatives through a process conducted by the Metropolitan Planning Organizations (MPOs), where applicable, and the Area Commissions on Transportation (ACT).

Project activities that are eligible for ***Enhance*** category funds include:

- Bicycle and/or Pedestrian facilities on or off the highway right-of-way
- Development STIP (D-STIP) projects (development work for projects that will not be ready for construction or implementation within the four years of the STIP)
- Modernization (projects that add capacity to the system, in accordance with ORS 366.507)
- Most projects previously eligible for Transportation Enhancement funds
- Projects eligible for Flex Funds (the Flexible Funds program funded Bicycle, Pedestrian, Transit and Transportation Demand Management (TDM) projects, plans, programs, and services)
- Protective Right-of-Way purchases
- Public Transportation (capital projects only, not operations)
  Safe Routes to School (infrastructure projects)
  Transportation Alternatives (new with MAP-21, the federal transportation authorization)
- Transportation Demand Management

STP Safety Funds – Each state must set aside 10 percent of its base STP funds for safety programs (hazard elimination, rail-highway crossings, etc.). The match rate for safety projects is 80 percent federal, 20 percent state or local.

Highway Bridge Replacement and Rehabilitation Program (HBRR) – The HBRR Program provides funds to replace or maintain existing bridges; new bridges are not eligible for funding under this program. Currently, Bridge Replacement and Rehabilitation funds are distributed through the STIP process. In the future, these funds will be distributed according to the Unified Bridge Program, a rating system that indicates the condition and traffic level on each bridge in the State.

Hazard Elimination Program (HEP) – The HEP provides funding for safety improvement projects on public roads. Safety improvement projects may occur on any public road and must be sponsored by a County or City. To be eligible for federal aid, a project should be part of either the financial element of a Transportation System Plan or the annual listing of rural projects by ODOT. However, they do not have to be part of the approved STIP to receive STIP funding.

Timber Receipts – The United States Forest Service (USFS) shares 25 percent of national forest receipts with counties. By Oregon law (ORS 294.060), counties then allocate 75 percent of the receipts to the road fund and 25 percent to local school districts. Counties' share of USFS timber receipts is no longer directly tied to the level of timber harvests. Under current legislation, counties are guaranteed payments on a schedule that reduces this support by 3 percent annually over the next decade. The guaranteed payments are now considered minimums, so actual receipts could be greater if timber harvest levels increase.

State Revenue Sources

State Highway Fund – The major source of funding for transportation capital projects statewide is the State Highway Fund. The Highway Fund derives its revenue through fuel taxes, licensing and registration fees, and weight-mile taxes assessed on Freight carriers. Revenues have historically been divided as follows: 15.57 percent to cities, 24.38 percent to counties, and

60.05 to ODOT. Revenue from increased tax rates will be shared on a 20-30-50 percent basis, respectively. County shares of the Fund are based on the number of vehicle registrations, while the allocations to the cities are based on population.

OTIA – Oregon Transportation Investment Act – The 2001 Legislature took the first two of three major steps toward solving Oregon's highway infrastructure problems. House Bill 2142, also referred to as the Oregon Transportation Investment Act I (OTIA I), increased several Driver and Motor Vehicle fees to secure $400 million in bonds to increase lane capacity and improve interchanges ($200 million), repair and replace bridges ($130 million), and preserve road pavement ($70 million).

Favorable bond rates resulted in the passage of the second phase of the OTIA program during the first legislative session in 2002. OTIA II added $50 million for projects to increase lane capacity and improve highway interchanges, $45 million for additional bridge projects, and $5 million to preserve road pavement.

The $500 million in bonds from OTIA I and II was combined with matching funds from local governments. This allowed ODOT and local governments to deliver transportation projects across Oregon worth a total of $672 million.

Projects for the first two phases of the OTIA program were selected through an extensive public input process. Local governments and area commissions on transportation worked together to forward project lists to the Oregon Transportation Commission, which approved the final choices. The OTC received requests for about five times as much funding as was available—an indication of the unmet needs that still exist. All projects in the first two phases of the OTIA program were completed by 2009.

Building on the success of the first two phases of the OTIA program, the 2003 Legislature addressed Oregon's problems of aging bridges—and the state's economic downturn. Governor Kulongoski signed the third phase of the OTIA program into law on July 28, 2003. OTIA III uses existing ODOT funds and federal advance construction money, as well as increases in title, registration, and other Driver and Motor Vehicle fees, to bond a total of $2.46 billion. Further information about OTIA can be found at: http://egov.oregon.gov/ODOT/HWY/OTIA/

Jobs & Transportation Act (JTA)

In 2009, the Legislature authorized ODOT to fund a list of projects totaling $960.3 million. This is in addition to modernization

amounts required under ORS 366.507. Of the $960.3 million, $840 million is authorized to be financed through the sale of bonds, and the remaining $120.3 million is to be financed through cash flow. Revenue needed to pay for the projects and their debt service is provided by the increased tax and fee rates contained in House Bill (HB) 2001 (2009).

HB 2001's revenue for highways, roads and streets increases in steps. This includes the revenue raised by:

- Light vehicle registration fees
- Light vehicle title fees
- License plate manufacturing fee
- Miscellaneous vehicle trip permit fees
- Heavy vehicle registration fees (January 1, 2010)
- Weight-mile tax and related heavy vehicle fees (October 1, 2010)
- Gasoline and diesel tax increase (January 1, 2011)

HB 2001 raises $300 million per year. The money will be distributed as follows:

- $3 million per year to the Travel Information Council until 2020.
- $24 million per year to ODOT.
- The balance of the money, about $273 million per year, is distributed as follows:
    - 20 percent (about $54.6 million per year) to city street programs based on population.
    - 30 percent (about $81.9 million per year) to county road programs based on vehicle registration.
    - 50 percent (about $136.5 million per year) to ODOT for the state highway program. The money is allocated as shown below. It may also be used to pay debt service on bonds.
        - 33 percent or about $45 million to highway maintenance, preservation and safety.
        - 15.75 percent or about $21.5 million to highway modernization program.
        - 51.25 percent or about $70 million to bond repayment and the 2009 Transportation Projects Account for the 2009 Transportation Projects program.

Special Public Works Fund (SPWF) – The State of Oregon allocates a portion of state lottery revenues for economic development. The Oregon Economic Development Department

provides grants and loans through the SPWF program to construct, improve and repair infrastructure in commercial/industrial areas to support local economic development and create new jobs. The SPWF provides a maximum grant of $500,000 for projects that will help create or retain a minimum of 50 jobs.

Traffic Control Projects (TCP) – The State maintains a policy of sharing installation, maintenance, and operational costs for traffic signals and luminar units at intersections between State highways and city streets (or county roads). Intersections involving a State highway and a city street or county road that are included on the statewide priority list are eligible to participate in the cost sharing policy. ODOT establishes a statewide priority list for traffic signal installations on the State Highway System. The priority system is based on warrants outlined in the Manual for Uniform Traffic Control Devices. Local agencies are responsible for coordinating the statewide signal priority list with local road requirements.

State Highway Fund Bicycle/Pedestrian Program – ORS 366.514 requires at least 1percent of the Highway Fund received by ODOT, counties, and cities be expended for the development of footpaths and bikeways. ODOT administers its bicycle/pedestrian funds, handles bikeway planning, design, engineering, and construction, and provides technical assistance and advice to local governments concerning bikeways.

Immediate Opportunity Fund (IOF) – The IOF is intended to support economic development in Oregon by funding road projects that assures job development opportunities by influencing the location or retention of a firm or economic development. The fund may be used only when other sources of funding are unavailable or insufficient, and is restricted to job retention and committed job creation opportunities. To be eligible, a project must require an immediate commitment of road construction funds to address an actual transportation problem. The applicant must show that the location decision of a firm or development depends on those transportation improvements, and the jobs created by the development must be "primary" jobs such as manufacturing, distribution, or service jobs.

Special City Allotment (SCA) – ODOT sets aside $1 million per year to distribute to cities with populations less than 5,000. Projects to improve safety or increase capacity on local roads are reviewed annually and ranked on a statewide basis by a committee of regional representatives. Projects are eligible for a maximum of $25,000 each.

Local Revenue Sources

System Development Charges (SDCs) – Systems Development Charges are fees paid to local jurisdictions by developers and are intended to reflect the increased capital costs incurred by a jurisdiction or utility as a result of a development. Development charges are calculated to include the costs of impacts on adjacent areas or services, such as parks and recreation use, streets or utilities. The SDC typically varies by the type of development. Within the RVMPO, virtually all jurisdictions now have SDCs in place, at varying levels.

Street Utility Fees (SUFs) – Most city residents pay water and sewer utility fees. Street utility fees apply the same concepts to city streets. A fee is assessed to all businesses and households in the city for use of streets based on the amount of traffic typically generated by a particular use. Street utility fees differ from water and sewer fees because usage cannot be easily monitored. Street user fees are typically used to pay for maintenance projects.

Revenue Bonds – Revenue bonds are financed by user charges, such as service charges, tolls, admissions fees, and rents. Revenue bonds could be secured by a local gas tax, street utility fee, or other transportation-related revenue stream.

Special Assessments/Urban Renewal Agency/Local Improvement Districts (LIDs) – Special assessments are charges levied on property owners for neighborhood public facilities and services, with each property assessed a portion of total project cost. They are commonly used for such public works projects as street paving, drainage, parking facilities and sewer lines. The justification for such levies is that many of these public works activities provide services to or directly enhance the value of nearby land, thereby providing direct financial benefits to its owners.

Urban renewal agencies are essentially a form of a special assessment district. Areas having thus funding mechanism in place include Medford, Talent, Jacksonville, Phoenix and the White City Area of Jackson County.

Local Improvement Districts are legal entities established by local government to levy special assessments designed to fund improvements that have local benefits. Through an LID, streets or other transportation improvements are constructed and a fee is assessed to adjacent property owners. LIDs are currently being used by MPO jurisdictions.

Developer-Paid Improvements – To an increasing degree, developers are funding the entire or a major portion of transportation improvements required to make a specific development project possible. Many Tier 2 projects assume developer financing that is not yet committed. This financial plan includes only developer-funded projects for which written agreements have already been put in place.

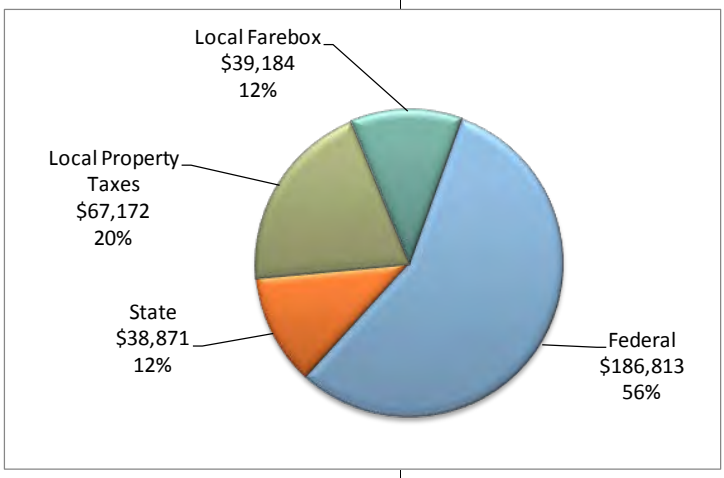
Transit System Revenue Sources

Transit services in the RVMPO are provided by the Rogue Valley Transportation District (RVTD), which relies on federal, state, and local funding sources. Revenues from these sources have been estimated for this plan in Table 6.5 and are described below. Further information on the assumptions used to estimate revenues are located at the end of this section.

Federal Transit Revenue Sources

The Federal Transit Administration (FTA) carries out the federal mandate to improve public transportation systems. It is the principal source of federal assistance to help urban areas (and, to some extent, non-urban areas) plan, develop, and improve comprehensive mass transportation systems. The FTA provides all but one source (TDM/Rideshare) of federal funding to the RVTD. The FTA's programs of financial assistance to the RVTD include Section 5307 and Title XIX programs. TDM/Rideshare funding is provided by the Federal Highway Administration (FHWA). Federal grant funds are allocated to transit districts and other eligible providers by ODOT through the State Transportation Improvement Plan (STIP) process.

Figure 6.2: RVMPO Transit System Revenue Forecast – All Sources ($ x $1,000)



Transit Section 5307 and 5309 – The Section 5307 Formula Grant Program makes funds available based on a statutory formula to urbanized areas (over 50,000 population); when the local urban population reaches 200,000 Section 5309 Formula Grant Program takes over where 5307 is then dropped. For this RTP analysis, it is assumed this change will occur in 2020. For capital projects, the match rate is 80 percent federal, 20 percent state or local. Capital funds can be used for any capital and planning activity. For operating assistance, the match rate is 50 percent, 50 percent state or local operating assistance is capped at a percentage of the total federal, Section

5307/5309 apportionment for each urban area.

Title XIX – This fund source pays for non-medical transportation services for those with disabilities.

TDM/Rideshare – This funding is received from the Federal Highway Administration to promote Transportation Demand Management and Ridesharing activities managed by RVTD. Ridesharing activities sponsored by RVTD include their carpool matching service for commuters in the transit district. Other TDM activities undertaken by RVTD include the monitoring and promotion of the group pass program such as those offered by Bear Creek Corporation and Rogue Community College and the School Education Program.

RVMPO STP Funding – In April 2002, the Land Conservation and Development Commission (LCDC) approved the RVMPO's "Alternative Measures" proposal (described in detail in Appendix B). One of the approved measures directs half of the RVMPO's STP funds to alternative transportation projects through the year 2020. The measure (see Alternative Measure 7 in Appendix B) stipulates that funds are used to expand transit service, or, if RVTD is successful with a local funding package, to fund bicycle/pedestrian projects and projects that support transit- and pedestrian-oriented mixed use developments ("TOD"-type development). The RTP assumes this funding for RVTD will continue through 2034.

The RVMPO's STP funding availability is estimated to be approximately $45.4 million between 2005 and 2030. Thus, assuming that RVTD will continue to receive half this amount, this would provide nearly $23 million in funding over the planning period of this RTP. STP funds are to be used for funding transit capital or maintenance and cannot be directly used to fund transit operations. However, the effect of this increased funding will be to free up funding for transit operations.

State Transit Revenue Sources

State Special Transportation Fund (STF) – ODOT's Public Transit section administers a discretionary grant program derived from state cigarette-tax revenues that provides supplementary support for transit-related projects serving the elderly and disabled. RVTD uses their allocation for Valley Lift operational support. A competitive process has been established for awarding STF funds, which are programmed on an annual basis.

In-Lieu-of (Tax) – In some areas of Oregon, a payroll tax is levied to support transit. In areas without this payroll tax, such as the area

within the RVTD boundaries, the state pays an "in-lieu of" tax to transit districts equal to the amount that would have been paid by state employees who work within district boundaries.

Local Revenue Sources

Property Taxes – Within the Rogue Valley Transportation District, a portion of the property tax revenue (18 cents per $1000 assessed valuation) collected by the county goes to RVTD. RVTD currently levies a property tax base of about $1.9 million, which can increase 3 percent each year.

Farebox Revenues and Bus Pass Revenues – Farebox revenues, the fares paid by users of transit systems, and bus-pass revenues both are fees paid directly by users of the transit system. Such fees cover about 20 percent of RVTD's operating costs.

Other – Other funding includes interest on investments, sale of surplus equipment, sale of compressed natural gas (CNG), vehicle leasing, advertising, marketing, and an STF administrative allotment.

Revenue Projections

Projecting revenues over long time periods – in this case, 25 years – necessarily involves making several assumptions that may or may not prove valid. For example, changing social, economic and political conditions cannot be predicted, yet these factors play important roles in determining future funding levels for regional transportation system and local street improvement projects. In general, revenue projections for federal and state revenue sources described here rely on information provided by RVMPO member jurisdictions and ODOT.

In preparing the 2038 Regional Transportation Plan it has became apparent that the region is dealing with a markedly different financial plan than contained in current and previous RTPs. Changes in federal guidance, an updated, statewide long-range financial forecasting process, and closer collaboration between RVMPO and ODOT are creating a pool of estimated financial resources that is nearly 25 times the size of revenues considered to be available in the previous RTP. Most of the increase is due to direction RVMPO received to include sources such as Congestion Mitigation and Air Quality funds and Transportation Enhancement receipt estimates (now Transportation Alternatives and part of the ODOT Enhance program) in our accounting of available funds. Previously, we simply reported estimated funds; we did not include these sums on the tabulations of available funds.

Between the time that ODOT and Oregon MPOs met to develop the long-range financial forecasts and the development of this RTP, Congress passed MAP-21. With the new transportation act, projections for funding are falling. It is expected that the next long-range financial forecast will contain lower funding estimates. Such a change, if it occurs would not require an update of this plan. The next scheduled update, in 2017, will capture the changes.

This change is just another example of the uncertainty of long-range forecasting.

Responding to Risk

Developing revenue forecasts over the long range requires assumptions about a broad range of unknowns, from fuel costs, consumption and sales, to levels of political support – federal, state and local – for transportation. A reasonable assumption, or set of assumptions, one year can change drastically with an election, or a shift in the economy. Circumstances underpinning some assumptions can change rapidly, such as enactment of a new transport act, while others, such as the recent downward tick in gasoline consumption, develop over months and years. Given the resulting level of uncertainty associated with assumptions in this plan, it is important to remember that the plan is reviewed and updated every four years. The frequent re-evaluation of the financial assumptions helps to ensure their usefulness.

The revenue estimates include assumptions that while responsible and solidly based on history may not come to pass. Long-range projections and listed projects should be considered with caution. To address a revenue shortfall, additional funds would have to be found, or some planned projects identified in Part 5 would have to be delayed.

Matching the financial uncertainty is the initiation locally of a new kind of regional planning process. The RVMPO area is emerging from a decade-long land use planning effort – Regional Problem Solving – with identified urban growth areas extending well beyond the horizon of this plan. RPS sets the stage for region-level planning to enhance existing corridors and develop new corridors. Member jurisdictions are in the process of updating plans, including Transportation System Plans, to be consistent with RPS.

TSPs are critical to the development of RTP project lists. Through the TSP process, needs on the local level are identified and addressed. Projects developed in TSPs flow into the RTP. As this RTP update is being drafted, cities are continuing their TSP updates, so details about many long-range projects have yet to be

determined. This magnifies the level of uncertainty, especially beyond funding commitments programmed through 2015.

With the RVMPO on the cusp of region-level planning at far greater detail than has previously occurred, this RTP is identifying broad areas of need and revenues for the projects and strategies yet to emerge. Identified, available funds that are not expected to be needed for identified and constrained projects total roughly $24 million and will finance three reserve strategies. Through the reserves, RVMPO will be able to financially constrain important projects that rise to priority ranking. This will enable the RVMPO to amend those projects into the plan without delaying necessary work. The reserves are financially constrained, using revenue sources that are consistent with statewide forecasts, and "reasonably expected to be made available," as required by federal law. However, restrictions exist on the use of certain funds within the reserves. Those restrictions will have to be taken into account as projects emerge and move toward amendment into the RTP.

Long-Range Reserves are:

Identified Need would fund implementation of TSP projects, and other projects brought forward through local planning efforts, including projects that support Alternative Measures and in particular Alternative Measure 7, which directs half of the urban area's STP allocation to transit and other transportation alternatives. These are projects identified as needed in the future by the local planning processes, however, they have not been examined by the RVMPO for their capacity to further regional transportation goals, or impact on air quality conformity. Generally, these projects require additional planning before advancing.

Project Development would provide funds to allow strategies, or high-level project concepts to be developed into projects that would be competitive for construction funds. This fund could constrain planning and right-of-way acquisition. It would signal the region's commitment to seeing a project through to completion.

Immediate Need would help to ensure that unexpected needs such as an emerging safety concern or unforeseen expenses on a constrained project can be addressed. These funds could be phased in to replace revenues in current (MTIP) projects, if necessary.

RVMPO RTP Funding Forecasts, Assumptions

Tables on the following two pages summarize the RTP funding forecasts through 2038 and the assumptions made to develop the forecasts.

Table 6.3 on the following page shows the projected 25-year capital funding scenario for regional transportation system and local street projects. Transportation revenue estimates for RVMPO cities are shown by funding source. The estimated non-capital needs (e.g., operation and maintenance) are then subtracted to yield the final column – "capital funds available" - which will be used to fund RTP projects.

Because the RVMPO comprises only a portion of the Jackson County and Oregon Department of Transportation (ODOT) jurisdictional boundaries, revenue estimates have not been similarly identified for these agencies. Rather, projections of capital funding availability for RVMPO projects funded by these agencies have been made based on agency-provided documentation and historical revenues. Capital funding availability for Jackson County and ODOT assumes that non-capital (operation and maintenance) needs are fully funded, consistent with Jackson County and ODOT policies.

In addition to 25-year revenue projections, Table 6.3 shows estimated costs for implementation of the RTP Tier 1 projects. On the following pages, Table 6.4 describes the financial assumptions made by the RVMPO to calculate revenues.

The analysis shows an anticipated shortfall in revenue for all regionally significant transportation projects planned by the jurisdictions. Planned projects for which funding cannot be identified are in the Tier 2 category, which is discussed in detail in Chapter 7.4: Future Challenges.

Amounts shown in the table are in $1,000's.

Table 6.3: Projected Capital Funding Scenario – Regional Transportation System Project List (x$1,000)

Jurisdiction	Time Frame	Street System Revenues ($ x 1,000)						Non-Capital Needs	Capital Funds Avail.	Tier 1 Regional & Federally Funded	RVMPO Future Discretionary Funds
		Federal	State	Local			Total				
				SDC's	Fees	Other					
Ashland	short	$2,521	$7,798	$319	$8,934	$3,202	$22,775	$16,313	**$6,462**	**$3,263**	**$0**
	medium		$12,920	$577	$17,385	$1,539	$32,422	$29,407	**$3,014**	**$6,217**	**$3,203**
	long		$17,974	$904	$30,032	$1,881	$50,791	$46,145	**$4,645**	**$10,517**	**$5,872**
Central Point	short	$3,160	$6,636	$4,299	$3,573	$6,424	$24,092	$4,751	**$19,341**	**$5,782**	**$0**
	medium		$10,994	$5,333	$4,855	$10,500	$31,681	$6,781	**$24,901**	**$1,124**	**$0**
	long		$15,294	$7,804	$8,196	$4,250	$35,544	$12,372	**$23,173**	**$6,156**	**$0**
Eagle Point	short	$376	$3,280	$217	$1,916	$0	$5,790	$4,203	**$1,587**	**$10,255**	**$8,668**
	medium		$5,435	$393	$3,463	$0	$9,291	$7,596	**$1,694**	**$15,340**	**$13,646**
	long		$7,560	$615	$5,424	$0	$13,599	$11,896	**$1,703**	**$30,785**	**$29,082**
Jacksonville	short	$916	$1,078	$64	$869	$0	$2,926	$1,797	**$1,130**	**$1,061**	**$0**
	medium		$1,786	$115	$1,408	$0	$3,309	$3,030	**$280**	**$0**	**$0**
	long		$2,485	$181	$1,901	$0	$4,566	$4,327	**$239**	**$0**	**$0**
Medford	short	$10,074	$28,944	$5,491	$40,653	$900	$86,062	$53,989	**$32,074**	**$18,463**	**$0**
	medium		$47,956	$9,161	$51,398	$1,350	$109,866	$101,566	**$8,299**	**$11,170**	**$2,871**
	long		$66,713	$15,070	$72,932	$1,650	$156,365	$167,072	**-$10,707**	**$104,545**	**$74,857**
Phoenix	short	$0	$1,752	$452	$727	$0	$2,931	$2,510	**$420**	**$0**	**$0**
	medium		$2,902	$879	$1,415	$595	$5,792	$4,537	**$1,255**	**$1,981**	**$726**
	long		$4,038	$2,923	$4,703	$1,807	$13,471	$13,250	**$221**	**$6,292**	**$6,071**
Talent	short	$341	$2,347	$390	$741	$0	$3,818	$2,568	**$1,250**	**$0**	**$0**
	medium		$3,888	$676	$1,286	$500	$6,350	$4,641	**$1,709**	**$2,602**	**$893**
	long		$5,409	$960	$1,825	$0	$8,193	$7,268	**$925**	**$8,988**	**$8,063**
Jackson Co. (RVMPO Area)	short	These figures are not applicable to the MPO area - see assumptions table.							**$7,070**	**$7,070**	**$0**
	medium	These figures are not applicable to the MPO area - see assumptions table.							**$4,000**	**$8,141**	**$4,141**
	long	These figures are not applicable to the MPO area - see assumptions table.							**$6,000**	**$91,369**	**$85,369**
ODOT (RVMPO Area)	short	These figures are not applicable to the MPO area - see assumptions table.							**$224,855**	**$224,855**	**$0**
	medium	These figures are not applicable to the MPO area - see assumptions table.							**$12,500**	**$0**	**$0**
	long	These figures are not applicable to the MPO area - see assumptions table.							**$67,500**	**$67,500**	**$0**
Street System Totals		**$260,850**	**$257,189**	**$56,823**	**$263,635**	**$34,598**	**$629,633**	**$506,018**	**$445,539**	**$643,476**	**$243,462**

RVTD	Time Frame	Transit Revenues ($ x 1,000)					Transit Expenses	Shortfall
		Federal	State	Local		Total		
				Property Taxes	Farebox			
	short	$34,010	$5,237	$13,278	$7,746	$60,270	$63,265	**-$2,995**
	medium	$53,223	$11,221	$22,280	$12,996	$99,720	$110,062	**-$10,342**
	long	$99,580	$22,413	$31,614	$18,442	$172,049	$179,387	**-$7,338**

Table 6.4: 2013-2038 Revenue Assumptions

Jurisdiction	Revenues						Non-Capital Needs	Capital Funds Avail.
	Federal	State	RVTD	Local				
				SDC's	StreetUtilityFees (SUFs)	Other		
Ashland	ODOT (February 2011) estimates that approximately $98 million in Enhance funds will be available to the RVMPO from 2013-2038. ODOT (February 2011) estimates that $117 million in CMAQ funds will be available to the RVMPO from 2016-2038 @ 5.6% annual increase (funds for 2013-2015 already committed). ODOT (February 2011) estimates that $133 million in STP funds will be available to the RVMPO from 2016-2038 @ 5.6% annual increase (funds for 2013-2015 already committed). 50% of these funds have been committed to transit (RVTD) through the year 2020. Beginning in 2021, 50% of STP funds will go to alternative transportation projects and programs. $8.2M of the MPO's short term (2013-15) STP has been programmed for specific projects in the RTP. $3.3M in STP remains unprogrammed through the short-range (through 2018). Short-range unprogrammed STP, as well as all medium and long-range STP funds are assumed to be available for projects included in the RTP. Other federal sources have been assumed for the short-range period only. These include CMAQ ($8.2M), Transportation Enhancement ($1.4M), and a State Parks grant to Medford for $500K.	ODOT (February 2011) provided estimates for Hwy Funds for 2013-2038 for total MPO area: $64M - Short Range $106M - Medium Range $148M - Long Range Total City Share = Total of all funds available to incorporated cities in Oregon. Current Law - RVMPO City Share = % of city's population divided by incorporated cities total population e.g., Ashland population - 20,255 / 2,684,812 = 0.0075 * $165.8 million (2013 current law) = $1.2 million Current Law - Jackson County City Share (population within RVMPO) = % of population divided by incorporated cities total population	Revenues: 5307 - $1.9 in 2103, 5.6% annual increase. Title XIX - $189K in 2013, 2% annual increase. TDM - $135K in 2013, 1% annual increase. STF - $367K in 2013, 3.1% annual increase. In-Lieu-of Tax - $408K in 2013, 6.1% annual increase. Property Taxes - $2.1M in 2013, 1.5% annual increase. Farebox - $1.2M in 2013, 1.5% annual increase. RVMPO STP - 50% of RVMPO projected STP out to 2020. 5309 - $ ODOT long range financial projections. 5310 - $703K annually. Expenditures: Operations - $2.8M in 2013, 2% annual increase. Alt Operations - $1.8M in 2013, 3% annual increase. Maintenance - $2.4M in 2013, 3% annual increase. Admin - $1.5M in 2013, 2.5% annual increase. Legislative - $56K per year. Capital Match - $32K per year.	SDC's are expected to be about $50K in 2013 and increase at 2.5% through 2038.	Street Utility Fees are expected to be about $1,364K in 2013 and increase by 3.5% per year through 2038.	Other revenues include intergovernmental and misc. and are expected to average about $171K per year, except in 2013 when approximately $2.2M in other funds will be available.	2013 expenses include: admin ($984K), maintenance ($1.3M) and RVTD bus pases ($275K). An annual increase of 3.5% and 2.5% is assumed for admin&maintenance expenses, respectively, through 2038.	Capital funds available for cities in the RVMPO equal the amounts in the "Revenues" column minus the amounts in the "Non-Captial Needs" column.
Central Point				SDC's are expected to be about $587K in 2013 and increase by about 1% per year through 2038.	Street Utility Fees are expected to be $473K in 2013 and increase by 2.5% per year until 2038.	Other revenues are expected to be $6.4M Short Range, $10.5M Medium Range and $4.3M Long Range. Revenues are from developer and urban renewal contributions.	2013 expenses include administration and maintenance ($620K). An annual increase of 3% has been assumed for these expenses through 2038.	
Eagle Point				SDC's are expected to be about $34K in 2013 and increase at 2.5% per year.	Street Utility Fees are expected to be about $300K in 2013 and increase by 2.5% per year.	Other revenues will contribute about $15K per year and total about $390K between 2013 and 2038.	2013 expenses include: admin ($271K) and maintenance ($387K). An annual increase of 2.5% is assumed for these expenses through 2038.	
Jacksonville				SDC's are expected to be about $10K per in 2013 and increase at 2.5% per year.	Franchise Fees are expected to be about $141K in 2013 and increase by 1.0% per year.	There are no "other" revenues expected.	Expenses include: admin ($36K) and maintenance ($252K). An annual increase of 2% has been assumed for admin and 1.5% for maintenance to 2038.	
Medford				SDC's (3% annual increase) are expected to be about $900K in 2013, drop by 16% in 2017 and increase at about 3.0% per year thereafter.	Street Utility Fees (1.5% annual increase) are expected to be about $7.5M in 2013, drop by 33% and increase by about 1.5% per year thereafter.	Other revenues include plan review fees at $150K per year.	Expenses include:admin, maintenance and debt service. Short Range - $54M; Medium Range - $102M and Long Range - $167M	
Phoenix				SDC's are expected to be about $69K in 2013 and increase at an average of 2.5% per year.	Street Utility Fees are expected to be about $111K in 2013 and increase by about 2.5% per year.	Includes $595K in developer contributions in medium range and $1.807M from Urban Renewal in long range.	2013 expenses include: admin ($37K) and maintenance ($356K). An annual increase of 2.5% has been assumed for these expenses through 2038.	
Talent				SDC's are expected to be about $61K in 2013 and increase at 2.5% in the short/medium terms, dropping to 1.5% increase in the long term.	SUFs are expected to be about $116K in 2013, increase 2.5%/yr in the short/medium terms: increase 1.5%/yr in long term.	Medium-range includes $500K in urban renewal funds.	2013 expenses include: admin ($122K) and maintenance ($280K). An annual increase of 2.5% has been assumed for these expenses through 2038.	
Jackson Co. (MPO Area)	Based on historic allocations, capital funding availability is assumed to be $.4 million per year in short term years, $.5 million in medium term years, and $.6 million in long-term years. Added to short-term funding availability is: $2.4 million for Table Rock Rd - Wilson Rd to Elmhurst St; $200k for traffic signal at Table Rock & Wilson Rd; $720k CMAQ for Peachy Rd: Walker to Hillview; $1.756 million TE for Bear Creek Greenway Pine to Upton; and $1.8 million for Foothill Rd, Corey to Atlantic two-lane road.							
ODOT (MPO Area)	Short term (2013-2018) project funding is $221,905,000. Medium term (2019-2027) project funding is $12,500,000. Long term (2028-2038) projejct funding is $67,500,000. Funding for Interstate maintenance, operations, safety, and preservation at $3,540,000/year.							

Part 7

Evaluation & System Performance

Chapter 7.1, Air Quality

Introduction to Part 7

Evaluation divides into two areas: input evaluation and outcome evaluation. Input evaluation is about evaluating the merits of and prioritizing the various projects and programs for funding and for inclusion in the plan. These are the criteria and review procedures described in Part 4: Plan Implementation. Part 7 looks at some results of the decisions made, the projects funded and included in the plan This Part describes air quality impacts, relationship of projects to a variety of environmental features, and impacts on future travel conditions – specifically on congestions. Finally, the last chapter addresses some anticipated unmet and future needs, including funding for new roadways and addressing climate change.

Introduction

To receive transportation funding or approvals from the Federal Highway Administration and the Federal Transit Administration, state and local transportation agencies with plans, programs or projects in nonattainment or maintenance areas, must demonstrate that they meet the transportation conformity requirements of the federal Clean Air Act, as implemented in specific federal and state transportation conformity rules. To meet the requirements, Metropolitan Planning Organizations (MPOs) must show that the anticipated emissions resulting from implementation of transportation plans, programs and projects are consistent with and conform to the purpose of the State Implementation Plan (SIP) for air quality. A SIP is a plan mandated by the Clean Air Act and developed by the state that contains procedures to monitor, control, maintain and enforce compliance with the National Ambient Air Quality Standards. SIPs are required to be developed once a region has violated the standards.

Within the RVMPO area, demonstration of conformity to two SIPs in required: a carbon monoxide maintenance plan, or SIP, within the Medford Urban Growth Boundary (UGB) of 2002, and a particulate (PM_{10}) plan within the entire RVMPO planning area. The RVMPO is required to show through analysis that through the horizon of the plan and with the growth the plan forecasts the standards and requirements of the SIPs will be maintained.

The full analysis is contained in a separate document, The Rogue Valley Metropolitan Planning Organization Air Quality Conformity Determination. The AQCD document describes the current status of the two pollutants the RVMPO must report on, the state and federal legal requirements and how the RVMPO met those requirements.

Conformity Findings

The AQCD for this plan shows that with the implementation of the RVMPO 2013-2038 Regional Transportation Plan and Amended 2012-2015 Metropolitan Transportation Improvement Program current federal air quality standards for regional transportation conformity will continue to be met in Medford and in the Medford-Ashland Air Quality Maintenance Area.

Table 7.1.1: Estimates of Carbon Monoxide Emissions

	2015	2020	2028	2038
CO Budget	26,693 lbs/day	32,640 lbs/day	32,640 lbs/day	32,640 lbs/day
Estimated CO Emissions *with* Transit Service	22,734 lbs/day	20,918 lbs/day	18,483 lbs/day	22,015 lbs/day
Estimated CO Emissions *without* Transit Service	22,889 lbs/day	20,981 lbs/day	18,521 lbs/day	22,072 lbs/day

Specifically, analysis show that the emission budgets in the SIPs will not be exceeded. The budget serve as limits guaranteeing that if a region remains with the budget, Clean Air Act standards will be met.

In the RVMPO, analysis of future travel conditions identified in this plan shows that estimated emissions of carbon monoxide within the Medford UGB and particulate matter with the Air Quality Maintenance Area are lower than permitted in the corresponding SIPs.

Table 7.3.2: Estimates of Particulate Emissions

	2015	2020	2028	2038
PM_{10} Budget	3,754 tons/year	3,754 tons/year	3,754 tons/year	3,754 tons/year
Emissions *with* Transit Service	1,649 tons/year	1,769 tons/year	1,970 tons/year	2,213 tons/year
Estimated PM_{10} Emissions *without* Transit Service	1,647 tons/year	1,770 tons/year	1,972 tons/year	2,214 tons/year

Because this plan identifies financial uncertainties about the future of transit service, federal and state agencies asked the RVMPO to demonstrate conformity with and without transit service. The financial analysis (see Part 6) finds that identified funds expected to be available are not sufficient to maintain existing transit service. Therefore existing service is not fiscally constrained and cannot be included in the RTP. Additional funds could be identified in the future to prevent service reductions, at which point the RTP would be amended. The AQCD was developed to address this range of transit options.

The AQCD shows the extremes of what could transpire. Elimination of all transit is not expected, but RVTD does not have service reduction plans. Therefore the only option for analysis was to eliminate it entirely from the travel model. The RVMPO Version 3 travel demand model was run with and without the transit service inputs. The "with transit" scenario envisions existing transit service (without the expanded evening and Saturday service funded through 2014 with Congestion Mitigation and Air Quality program funds) extending through 2038. The second analysis estimated emissions without transit.

Tables 7.1.1 and 7.1.2 are summaries of the air quality analysis taken from the conformity document.

Why the RVMPO Demonstrates Conformity

An AQCD is required whenever the Regional Transportation Plan (RTP) or Metropolitan Transportation Improvement Program (MTIP) is updated, or every four years, whichever comes first. The U.S. Department of Transportation (USDOT) conformed the current RTP April 27, 2009. USDOT must make the conformity determination before the plan and program can go into effect.

In the Rogue Valley Metropolitan Planning Organization area, the conformity document must show that through the horizon of the plan and program air quality requirements for carbon monoxide (CO) and particulate matter (PM_{10}) will be met. Specifically:

> **Carbon Monoxide**—The area encompassed by the Medford urban growth boundary (UBG) was re-designated from nonattainment to attainment by the U.S. Environmental Protection Agency (EPA) in 2002, and the emissions budget shown above for CO from transportation (mobile) sources was deemed adequate to maintain air quality.
>
> **PM_{10}—**The area within the Medford-Ashland Air Quality Maintenance Area, which is entirely within the RVMPO planning area, was re-designated from nonattainment to attainment by EPA in 2006, and the emissions budget shown above for PM_{10} from transportation (mobile) sources was deemed adequate to maintain air quality.

Although the conformity area for each pollutant differs, the process for showing conformity is similar. Analysis by the RVMPO found that through the horizon of the RTP (2038) and the MTIP (2015), and in intervening years, emissions from transportation will not exceed emission budgets, as shown in the tables above.

Actions to be taken

The RVMPO Policy Committee, as the policy board for the federally designated Metropolitan Planning Organization in the urbanized area that includes Medford and Ashland, must formally adopt the findings described in this report. Then USDOT and the federal Environmental Protection Agency confer on the analysis. Ultimately, USDOT will make a conformity determination based on this document. At that time, the RVMPO's 2013-2038 plan will go into effect, as will any necessary amendment to the 2012-2015 MTIP.

Basis of the analysis

The analysis uses computer models to project the amounts of CO and PM_{10} anticipated in the respective control areas from on-road transportation. The region's travel demand model, developed jointly by RVMPO and ODOT, estimates the amount of vehicle travel anticipated, expressed as vehicle miles traveled (VMT). Emission factors are generated using an EPA-approved model. From these calculations, future emissions are estimated. The model takes into account several key factors that can change over time including population and employment growth, land-use changes, changes to the transportation system and motor vehicle technology.

Details of the Air Quality Conformity Determination

This report shows that with the implementation of the 2038 RTP and amended 2015 MTIP all current federal and state requirements for on-road transportation emissions within the planning area will be met. For the Medford UGB area, this means that on-road transportation-related emissions of CO will not exceed the budget for CO established by Oregon Department of Environmental Quality and approved by EPA in 2002. For the entire Medford-Ashland Air Quality Maintenance Area, an area within the RVMPO planning area, PM_{10} emissions from on-road transportation will not exceed the budget set by ODEQ and approved by EPA in 2006. This means that transportation projects will not impede the area in continuing to meet air quality requirements.

In addition to the analysis itself, this report details how required consultation among appropriate agencies and organizations and the public occurred.

Part 7

Evaluation & System Performance

Chapter 7.2, Environmental Considerations

Introduction

The Environmental Considerations Chapter includes a discussion of potential environmental impacts, avoidance and mitigation activities at the policy and strategy level rather than from a project-specific level. This analysis is a specific requirement of the Moving Ahead for Progress for the 21st Century (MAP-21), signed into law in 2012.

This discussion was developed in consultation with federal, state and tribal wildlife, land management, and regulatory agencies, as shown on Table 7.2.1 on the next page.

Consultation

RVMPO consulted with the agencies listed in table 7.2.1 to both write and review this chapter.

Environmental mitigation activities are defined in MAP-21 as strategies, policies, programs, actions and activities that over time will serve to minimize or compensate for the impacts to or disruption of elements of the human and natural environment associated with the implementation of the Regional Transportation Plan (RTP).

MAP-21 requires that metropolitan planning organizations, as part of the consultation process, discuss types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. These activities should also be developed in consultation with Federal, State and tribal wildlife, land management and regulatory agencies (23 U.S.C. 134(i)(2)(D)).

To fulfill this requirement, a comparison of projects in the RTP to historic and environmentally-sensitive areas was conducted to determine the environmental impacts and potential mitigation activities that could be implemented in areas where a project intersects a resource area.

Table 7.2.1: RTP Environmental Considerations Agency Consultation.

Oregon Department of Environmental Quality (DEQ)	Oregon Department Of State Lands (DSL)
Oregon Department of Fish and Wildlife	Oregon Department of Transportation (ODOT)
Oregon Department of Land and Conservation (DLCD)	U.S. Army Corps of Engineers (USACE)
Oregon State Historic Preservation Office (SHPO)	U.S. Department of Commerce, National Marine Fisheries Service (NMFS)
U.S. Department of Transportation Federal Highway Administration (FHWA)	U.S. Department of Transportation Federal Transit Administration (FTA)
U.S. Environmental Protection Agency (EPA)	U.S. Fish and Wildlife Service (USFWS)

MAP-21 requires a discussion of potential mitigation activities for each environmental resource affected by the RTP. These activities will be considered if the project, at the time of implementation, would produce any affect on the environment.

This RTP includes projects that are expected to receive federal funds, regionally significant projects for air quality purposes and projects that receive federal funds, while other environmental laws and regulations are applicable regardless of the funding source. This chapter will outline the applicability of those laws and regulations as related to expected funding.

Inventory and Mapping

The RVMPO inventoried historic and natural resources within the MPO planning boundary. The work was coordinated with the appropriate federal, state, tribal, wildlife, land management and regulatory agencies.

The RVMPO collaborated with consultation partners to identify and obtain the most current, complete and accurate data possible from which to develop the inventory in this chapters. Much of the

data used was collected by RVCOG as part of a National Academies project as part of the Strategic Highway Research Program (Contract # SHRP C-21(B), TRB Funding Source: DOT-7555-002). The 15-month project (March 2011 through May 2012) allowed RVCOG to construct an ecological framework for the Rogue Valley.

This framework consists of a library of Geographical Information Systems (GIS) shape files (data layers); and a set of maps highlighting ecologically important areas, linkages within and outside of the valley, and conflicts with planned transportation projects or existing transportation structures (e.g., culverts). A stakeholder committee representing diverse interests and a technical committee of local resource experts aided and guided the process. The project homepage is located at http://rvcog.org/MN.asp?pg=NR_TRB_Home_Page and copies of the project reports, links to TRB and SHRP_2 can be found at http://www.rvcog.org/mn.asp?pg=NR_TRB.

Data was incorporated into GIS to create the maps that illustrate important environmental areas. Inventory and resource data are included in the discussion sections of this chapter; all maps appear in numerical order at the end of the chapter.

Environmental Considerations Maps 7.2.1 through 7.2.9 provide information pertaining to:

- Prime Agricultural Soils, Orchards, and Vineyards
- Wetlands, floodplain and natural areas
- Ecologically Sensitive Areas
- Impaired water bodies, fish-passage barriers (dams, culverts).
- Wildlife movements
- Wildlife collision hotspots
- Wildlife collision fatalities
- Fish passage barriers
- Mitigation sites
- Archeologically and historically sensitive areas

Details about selected maps appear below, with more in depth discussion of issues surrounding environmental features in the sections that follow. Map pages begin on Page25.

Prime Agricultural Soils, Orchards, and Vineyards, Map 7.2.1 -- RTP projects that are located on agricultural soils (irrigated soils classes 1-4). This soil information is derived from U. S.

Department of Agriculture (USDA) soils data, which categorize soils into eight capability classes.

Wetlands, Floodplain and Natural Areas Inventory, Map 7.2.2 – illustrates RTP projects that intersect the National Wetlands Inventory, Medford Local Wetlands Inventory, FEMA's 100 Year Floodplain.

Ecologically Sensitive Areas, **Map 7.2.3 –** Areas of ecological importance based on the type and quality of habitat, presence of rare species, and other factors. The Ecologically Sensitive Areas represent one of the final products produced for the TRB project. Data layers, modeling methods, and modeling products were reviewed by the project team, a technical group, and stakeholders. More information on the project methodology, modeling results, and maps can be found at http://rvcog.org/MN.asp?pg=NR_TRB_Home_Page.

Data modeled to create the ecologically sensitive areas includes floodplains, BLM Resource Natural Areas, wetlands, vernal pool habitat, BLM Areas of Critical Environmental Concerns, USFS Botanic Areas, ORBIC Rare Species Data, vegetation, endangered species habitat, fish habitat (Coho, Chinook, and Steelhead), Spotted Owl activity centers, BLM Flora and Fauna sites, wildlife data (deer and elk), and important plant sites.

Wildlife Movements, Map 7.2.4 – illustrates RTP projects that overlap with ODFW wildlife movement data, which are key movement areas for wildlife, emphasizing areas that cross paved roads.

Wildlife Collision Hotspots Map 7.2.5 – Deer road kill (tallies by milepost) collected by ODOT, collated by ODFW, and digitized by RVCOG.

Wildlife Collision Fatalities (Species), Map 7.2.6 – All wildlife species except deer killed along state highways (tallies by milepost) collected by ODOT, collated by ODFW, and digitized by RVCOG.

Fish Passage Barriers, Salmonid Habitat, and TMDL (Water Quality Limited) Streams, Map 7.2.7 – Identifies fish passage barriers (primarily culverts and dams) and illustrates RTP projects that intersect with Salmonid habitat (Coho salmon, Chinook Salmon, and Steelhead) and TMDL approved streams (water quality limited streams).

Wildlands Rogue Valley Mitigation Bank and ODOT Vernal Pool Mitigation/Conservation Bank Map 7.2.8 – illustrates the locations of the current public and private mitigation banks. Streams for which management plans (Total Maximum Daily Load action plans) have been approved are shown on **Map 7.2.7**. Mitigation discussion begins on Page 10

Archaeologically Sensitive Areas, National Historic Sites, Districts and Road, Map 7.2.9 – The National Parks Service National Register of Historic Places and the Medford, Ashland and Jacksonville National Historic Districts are mapped with the RTP projects. In addition, archaeologically sensitive areas identified in the region are mapped with RTP projects. The sensitive areas were created by Archaeologist Jeff LaLande for the TRB project, with funding provided by the National Academies and ODOT.

The RTP projects that intersect the archaeologically sensitive areas have a greater potential likelihood for containing possibly significant archaeological resources than do other portions of the valley floor. If projects do not intersect historic layers, this does not mean that the projects will not have impacts that will require compliance with laws or regulations.

Environmental Justice

Environmental Justice encompasses three fundamental principles, listed in the box at right. These principles work to identify and appropriately address disproportionately high and adverse health or environmental effects on minority and low-income populations. Environmental Justice stems from Title VI of the Civil Rights Act of 1964 and Executive Order 12898 of 1994. The latter, Executive Order 12898, states that federal agencies incorporate achieving Environmental Justice into their missions. RVMPO maintains a separate civil rights plan: http://rvmpo.org/files/Environ-Justice-Plan-FinalDoc-11-23-2010.pdf

Environmental Justice: Fundamental Principles

1. Avoid, minimize, or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations.

2. Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.

3. Prevent the denial of, reduction in, or significant delay of these protections for minority and low-income populations.

One of the Rogue Valley Regional Transportation Plan Environmental Justice goals is to achieve equal protection from environmental and health hazards and equal access to decision-making for all citizens of the Rogue Valley in an effort to promote quality of life.

Environmental Justice principles are addressed through policy, as well as through actions by the RVMPO to promote equality.

Through constant and consistent assessment the RVMPO will work to assure Environmental Justice. Environmental Considerations in Planning
It is both possible and appropriate to begin considering the environmental consequences of any policy, project, and/or program for addressing transportation deficiencies. However, such consideration is not expected to be at the same level of detail as may be required by the National Environmental Policy Act (NEPA). It is important to note that a NEPA process is required for any transportation project receiving either Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funding.

Early Consideration of Environmental Consequences – A common principle of environmental laws and regulations is a stepped process that focuses on:

- Avoiding impacts to resources;
- Minimizing those impacts that are unavoidable, and
- If impacts are not avoidable, mitigating for those impacts.

If these processes can be considered at a regional level, projects may be able to advance through required environmental processes more quickly than projects whose impacts must be evaluated and considered independently.

Use of Environmental Information

Environmental information is typically collected and analyzed in the transportation planning process. The RVMPO maintains a GIS source of environmental data that can be used to identify and document potentially affected environmental resources. This information can then be used to identify opportunities to avoid or minimize environmental impacts of any alternative transportation solutions being considered, modify alternatives being considered, or potentially eliminate alternatives with unacceptable or greater environmental consequences.

In addition, the RVMPO and RVCOG have actively worked on projects, including the TRB project to identify locations of ecological and historical significance, and overlay the information with planned transportation projects.

Maps 7.2.1 through 7.2.8 were created by overlaying the planned transportation projects with environmental data including wetlands and vernal pools, floodplains, fish (salmonid) habitat, wildlife critical habitats and ecologically sensitive areas.

Documentation – Environmental information and/or analyses used in the planning process, and environmental impact avoidance or minimization actions taken, should be thoroughly documented. This will allow information to be used again, or incorporated as evidence of mitigation, resulting in effective and expedited environmental review.

Evaluation of Impacts

The evaluation of the impacts a roadway project has on natural areas and historic resources shall take into account (23 CFR Part 777.7):

1. The importance of the impacted wetlands and natural habitats
2. The extent of roadway impacts on the wetlands and natural habitats
3. Actions necessary to comply with the Clean Water Act, Section 404; the Endangered Species Act of 1973; and other relevant Federal statutes
4. Evaluation of the importance of the impacted wetlands and natural habitats shall consider:
    a. Wetland and natural habitat functional capacity
    b. Relative importance of these functions to the total wetland or natural habitat resource of the area
    c. Other factors such as uniqueness, aesthetics, or cultural values; and
    d. Input from the appropriate resource management agencies through interagency coordination.
5. A determination of the highway impact should focus on both the short and long-term effects of the project on wetland or natural habitat functional capacity.

Avoidance, Minimization, Mitigation

The RVMPO, utilizing GIS, species accounts, soil types and other relevant data, seeks to avoid or minimize environmental impacts. Where impacts cannot be avoided, efforts will be made to ensure appropriate mitigation. Additionally, the RVMPO works with other agencies to provide greater benefits to the environment regionally. Additional discussion of avoidance, minimization and mitigation appears in subsequent sections addressing specific resources.

The Rogue Valley Council of Governments has a Natural Resource Department that coordinates and facilitates resource projects within the region. Subsequently, this internal knowledge of natural resources, combined with regional collaboration, will lead to

improved avoidance measures and natural resource mitigation activities.

Mitigation is the attempt to offset potential adverse effects of human activity on the environment. Mitigation is the last step of the avoidance and minimization process. The National Environmental Policy Act regulations define mitigation (40 CFR 1508.20) as follows:

1. Avoiding adverse impacts by not taking an action.
2. Minimizing impacts by limiting the degree of action.
3. Rectifying by repairing, rehabilitating, or restoring the affected environment.
4. Reducing or eliminating impacts over time through preservation and maintenance activities.
5. Compensating for an impact by replacing or providing substitute resources or environments. In most mitigation agreements, more of a resource or habitat must be provided than was originally present. Ratios greater than 1:1 are required in part to compensate for unrealized losses and the inability of technology to completely restore the natural environment.

Wetlands and Natural Habitats

The RVMPO encourages progressive approaches to wetlands and natural habitat mitigation. These approaches include the development of conservation and mitigation banking agreements or the purchase of intact natural areas. Conservation and mitigation banks differ to some degree. Mitigation bank could refer to mitigation of any habitat, although they are typically referring to wetland mitigation per federal guidance for Compensatory Mitigation for Losses of Aquatic Resources, Federal Register / Volume 73, Number 70, Thursday, April 10, 2008 / Rules and Regulations, Army Corps of Engineers (COR), 33 CFR Parts 325 & 332, Environmental Protection Agency (EPA), 40 CFR Part 230.

Whereas conservation banks are oriented toward endangered, threatened and other at-risk species; habitats are selected and managed based upon the needs of those specific species. Roadway projects are linear, often resulting in many small, incremental impacts. Subsequently, on-site mitigation sometimes results in isolated wetlands and natural habitat that might not provide benefits commensurate with costs and time required to establish wetland and natural habitat functions.

Wetland or habitat banks have the ability to provide more wetland or habitat values and benefits per acre; consequently, the increased habitat benefits result in greater benefits to fauna, and often result in increased biodiversity. It is noteworthy that the mitigation area needs to receive sufficient management to ensure their functions will be sustained in perpetuity. In some cases it may be mutually beneficial, both in preserving the environment and creating an effective transportation system, to preserve the same or similar habitats in relatively close proximity to the habitats being impacted. The RVMPO recognizes that the Rogue Valley provides valuable habitat along the Pacific flyway, one of four flyways nationwide. Therefore, the RVMPO will strive to lessen impacts to habitats upon which species are dependent.

Additionally, efforts will be made to establish and maintain regional collaboration, both in identifying potential mitigation areas and ensuring their management in perpetuity.

Reducing Impacts – There are a number of actions that can be taken to minimize the impact of roadway projects on wetlands or natural habitats (23 CFR Part 777.9).

- Avoidance and minimization of impacts to wetlands or natural habitats through realignment and special design, construction features, or other measures.
- Compensatory mitigation alternatives, either inside or outside of the right-of-way. This includes, but is not limited to, such measures as on-site mitigation, when that alternative is determined to be the preferred approach by the appropriate regulatory agency; improvement of existing degraded or historic wetlands or natural habitats through restoration or enhancement on or off site; creation of new wetlands; and under certain circumstances, preservation of existing wetlands or natural habitats on or off site. Restoration of wetlands is generally preferable to enhancement or creation of new wetlands.
- Improvements to existing wetlands or natural habitats. Such activities may include, but are not limited to, construction or modification of water level control structures or ditches, establishment of natural vegetation, re-contouring of a site, installation or removal of irrigation, drainage, or other water distribution systems, integrated pest management, installation of fencing, monitoring, and other measures to protect, enhance, or restore the wetland or natural habitat character of a site.

Mitigation Banks

The RVMPO encourages the use of mitigation banks, or other habitat preservation measures, to offset habitat impacts. Banks will be approved in accordance with the Federal Guidance for Compensatory Mitigation for Losses of Aquatic Resources, Federal Register / Volume 73, Number 70, Thursday, April 10, 2008 / Rules and Regulations, Army Corps of Engineers (COR), 33 CFR Parts 325 & 332, Environmental Protection Agency (EPA), 40 CFR Part 230, or other agreement between appropriate agencies. Where feasible, the MPO will attempt to collectively conserve habitat areas that provide greater environmental benefits. Mitigation and conservation areas are shown on map 7.2.8

Mitigation Bank Areas in the RVMPO

MAP-21 requires MPOs to provide a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities. This section of the chapter provides an overview of the potential areas to carry out mitigation activities.

Wildlands Rogue Valley Vernal Pool Bank

Wildlands Rogue Valley Vernal Pool Bank – A private vernal pool mitigation bank being developed near Eagle Point. Wildlands, Inc. has been discussing conservation easement options with Southern Oregon Land Conservancy (SOLC) and private landowners in the area. Phase One of bank will be 154 acres. Later phases will be developed adding approximately 110 acres.

ODOT Vernal Pool Bank – Oregon Department of Transportation (ODOT) has a vernal pool / wetland mitigation bank near Central Point which is used for ODOT projects. ODOT began an extensive search for prospective vernal pool complex bank sites in 2005. Several prospective sites were viewed in the field by staff from ODOT, the U.S. Fish and Wildlife Service (USFWS), the Oregon Department of Fish and Wildlife (ODFW), the U.S. Army Corps of Engineers (Corps), the Oregon Department of State Lands (DSL), the Oregon Department of Environmental Quality (DEQ), the National Marine Fisheries Service (NMFS), and the U.S. Environmental Protection Agency (EPA).

Preference for the selected site was supported by all agencies based on the presence of a large parcel of high quality vernal pool complex habitat and the adjacent The Nature Conservancy (TNC)

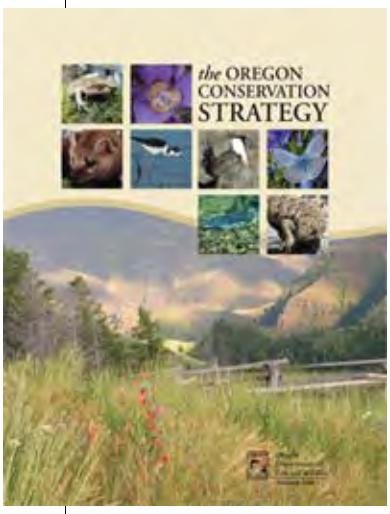
Whetstone Preserve, which contributes to the sustainability and viability of the Bank site.

The selected vernal pool complex site (Bank) is located near the intersection of Newland and Truax Roads, in White City, Jackson County, Oregon. The two parcels that comprise the 80.23 acre site are located west of and directly adjacent to the Nature Conservancy's Whetstone Savanna Preserve (a registered Oregon Natural Heritage Resource) and are of similar character.

The adjacent preserve's acreage is approximately 144 acres of which roughly 80 acres is high functioning. Cumulatively, once bank establishment is complete approximately 160 acres of contiguous high functioning vernal pool complex will be protected and under management to sustain wetland functions and values.

Wildlife Habitat

The Oregon Department of Fish and Wildlife's (ODFW) follows a conservation strategy that focuses on habitat restoration and maintenance to address the needs of game and nongame species. The strategy highlights specific actions that can conserve Oregon's fish and wildlife when the chances of success are greatest before they become sensitive or endangered.



Cover of The Oregon Conservation Strategy guide

The strategy provides information about species and habitats in every region in Oregon and the issues affecting their present and future health. This information is included in the RTP for the purpose of:

Landowners and land managers who want to improve conditions for at-risk wildlife;
Agencies and organizations interested in making conservation investments more effective and efficient; and
Oregonians who want a better understanding of the conservation issues of concern in their area.

The link below offers more information on the ODFW Conservation Strategy for Oregon:
http://www.dfw.state.or.us/conservationstrategy/contents.asp

Conservation Strategy for Oregon – Klamath Mountains Ecoregion – The RVMPO is situated within the Klamath Mountains ecoregion which covers much of southwestern Oregon, including the Umpqua Mountains, Siskiyou Mountains and interior valleys and foothills between these and the Cascade Range. Several popular and scenic rivers run through the ecoregion,

including: the Umpqua, Rogue, Illinois, and Applegate. Within the ecoregion, there are wide ranges in elevation, topography, geology, and climate. The elevation ranges from about 600 to more than 7400 feet, from steep mountains and canyons to gentle foothills and flat valley bottoms. This variation along with the varied marine influence support a climate that ranges from the lush, rainy western portion of the ecoregion to the dry, warmer interior valleys and cold, snowy mountains.

The Klamath Mountains ecoregion boasts a high rate of species diversity, including many species found only locally. In fact, the Klamath-Siskiyou region was included in the World Wildlife Fund's assessment of the 200 locations most important for species diversity world-wide.
The region is particularly rich in plant species, including many pockets of endemic communities and some of the most diverse plant communities in the world. For example, there are more kinds of cone-bearing trees found in the Klamath Mountains ecoregion than anywhere else in North America. In all, there are about 4,000 native plants in Oregon, and about half of these are found in the Klamath Mountains ecoregion.

The ecoregion is noted as an Area of Global Botanical Significance (one of only seven in North America) and world "Centre of Plant Diversity" by the World Conservation Union. The ecoregion boasts many unique invertebrates, although many of these are not as well studied as their plant counterparts.
For more information on the Klamath Mountains Ecoregion click on the link below:
http://www.dfw.state.or.us/conservationstrategy/document_pdf/b-eco_km.pdf

Habitat Conservation Opportunities

Conservation Opportunity Areas (COAs) are landscapes where broad fish and wildlife conservation goals would be best met. COAs were developed to guide voluntary, non-regulatory actions. There are three (3) COAs located within the RVMPO planning area. They are described below.

North Medford area – This unique area provides important low elevation habitat for and includes the Denman Wildlife Area, Upper and Lower Table Rocks, Agate Desert Preserve, and the Whetstone Savannah Preserve.

Area contains many endemic, rare plants and is important for migrating and nesting waterfowl.

Key habitats are: aquatic; grasslands and oak savanna; riparian; and wetlands.

Key species are: horned lark; purple Martin; upland birds; waterfowl; Coho salmon; fall Chinook salmon; summer and winter steelhead; fairy shrimp;

Identified in other planning efforts:

- Oregon Biodiversity Project Conservation Opportunity Areas
- Oregon's Important Bird Areas (Denman WA, Table Rocks, Whetstone Savanna)
- The Nature Conservancy Ecoregional Assessment

Antelope Creek area – This area encompasses the foothills east of Medford. The low elevation site provides a diversity of habitats for both terrestrial and aquatic species.

Key species are: fall Chinook salmon; winter steelhead; common king snake.

Identified in other planning efforts:

- American Fisheries Society Aquatic Diversity Areas
- Oregon Biodiversity Project Conservation Opportunity Areas
- The Nature Conservancy Ecoregional Assessment
- The Oregon Plan Core Salmon Areas

Siskiyou Crest-Soda Mountain – Located on the edge of three ecoregions, The Cascade-Siskiyou National Monument within this opportunity area was established for its "spectacular biological diversity."

The area provides habitat for a large number of species on the edge of their range, forming rare communities and species interactions.

Key habitats are: aquatic; grasslands and oak savanna; late successional mixed conifer forests; pine-oak woodlands; and wetlands. Recommended conservation action calls for working to restore fire regime to historical and natural range of variation.

Key species are: Siskiyou Mountains salamander; blue-gray gnatcatcher; great gray owl; northern spotted owl; willow flycatcher; Jenny Creek sucker; and fisher.

Identified in other planning efforts:

- American Fisheries Society Aquatic Diversity Areas

- Oregon's Important Bird Areas (Siskiyou Peak, Cascade-Siskiyou National Monument)
- The Nature Conservancy Ecoregional Assessment (Siskiyou Crest site, Soda Mountain site)

Barriers to Wildlife Movement

Example of wildlife passageway under busy highway in Florida

Barriers to fish and wildlife movement are a key conservation issue for the RVMPO. Roads, dams and other structures act as barriers to the movement of fish and wildlife. These barriers reduce total habitat, create challenges to animal dispersal and reproduction and make wildlife more vulnerable to injury and death.

ODFW is working with the Oregon Department of Transportation, county transportation departments, and other partners to identify and reduce fish passage barriers and areas where wildlife mortality on highways occurs. ODFW's fish passage rules can be found here: http://www.dfw.state.or.us/fish/passage/ (OAR Chapter 635 Division 412).

ODFW notes that stream crossing designs must meet fish passage criteria in order to provide fish passage for Oregon's native migratory fish species. Barriers to migration are a big challenge to recovery for the fish species in Bear Creek. Numerous tributaries have significant barriers near their confluence with Bear Creek. Restoration of native fish populations will lag if fish are not able to utilize the habitat available in the watershed, including urban stream areas.

During a project near a stream, it may be possible to utilize equipment and personnel to do smaller scale restoration projects on the nearby waterbody, such as adding some minor retrofits to improve fish passage. This can be scoped with ODFW pre-project.

ODOT is a cooperator on the Oregon Wildlife Movement Strategy, an interagency partnership to inventory and prioritize wildlife movement barriers on the state highway system. ODOT's Geo-Environmental Section is developing a Wildlife Collision Prevention Plan that addresses Federal Highway Administration and Oregon Department of Fish and Wildlife concerns for animal-vehicle collisions on the state highway system.

The effects of roads on wildlife can be mitigated through the design and construction of underpasses and overcrossings. For more information on wildlife and roads, click on the links below:
http://www.wildlifeandroads.org/decisionguide/
http://www.defenders.org/programs_and_policy/habitat_conservation/habitat_and_highways/index.php

Addressing Impaired Water Resources

The Rogue Valley, like many regions in the United States, has experienced development and modification of the natural landscape. Subsequently, modifications of the natural landscape have led to water resource impacts. Surface waters and associated vegetation have been altered, leaving bodies of water with impairments, such as increased temperatures, decreased dissolved oxygen levels and other concerns.

Table 7.2.2: Rogue River Basin Streams Located within the Rogue Valley MPO with Approved TMDL Plans

Stream Segments (All listed streams are by river mile (RM), unless otherwise stated)	Parameters Covered in 2008 TMDL		
	Bacteria		Temperature
	E. coli	Fecal Coliform	
Antelope Creek (RM: 0 to 19.7)	S, FWS		S
Lake Creek (RM: 0 to 7.8)	S, FWS		S
Little Butte Creek (RM: 0 to 16.7)	S, FWS	S, FWS	S
Nichols Branch (RM: 0 to 2.7)	S, FWS		
North Fork Little Butte Creek (RM: 0 to 6.5)	FWS		S
South Fork Little Butte Creek(RM: 0 to 16.4)	S		S

Key: S=summer June 1st - September 30th FWS = fall/winter/spring October 1st - May 31st. Source: Rogue Basin TMDL – ODEQ, Dec. 22, 2008

As a result of combined impairments to water bodies across the nation, the Clean Water Act was established, including a system for identifying and working to repair impaired water bodies. The system for identifying impaired water bodies is known as the 303(d) list and requires states to identify impaired waters within their state. The list identifies both the body of water and what impairments it has. The states are then required to prioritize their impaired water bodies and develop action plans, known as total maximum daily loads (TMDLs), to improve water quality of the listed systems.

TMDLs for the streams within the RVMPO (Bear Creek and Rogue River Basins) have been approved that meet the requirements of Section 303(d) of the Federal 1972 Clear Water Act.

Map 7.2.7 illustrates TMDL water bodies and dams; Tables 7.2.2 and 7.2.3 list TMDL stream segments within the RVMPO (Bear Creek and Rogue River Basins) along with their identified impairments. See Table 7.2.4 for a list of fish, wildlife and plant species including their status at the local, state or federal levels. (For example, State Species of Concern or Federally Threatened.).

Table 7.2.3: Bear Creek Basin Streams within the RVMPO with approved TMDL plans.

Stream Segments (All listed streams are from mouth to headwaters, unless otherwise stated)	Parameters Covered in 2007 TMDL					Parameters Covered in 1992 TMDL					
	Bacteria	Temperature	Sediments	Flow	Habitat	DO	Nutrient [P]	pH	Toxics	Chlorophyll(a)	Periphyton
Ashland Creek (Mouth to Ashland City)	Y										
Ashland Creek (Mouth to Ashland STP)							I		I		
Baldy Creek		S									
Bear Creek (Mouth to Neil Creek)	Y	S		*	*	Y	I	Y	I	S	Y
Butler Creek	FWS	S									
Carter Creek		S									
Coleman Creek	Y	S									
Crooked Creek	Y	S									
Emigrant Creek (mouth to dam)		S						Y			
Emigrant Crk (dam to Green Mtn. Crk)		S									
Griffin Creek	Y	S									
Hobart Creek		S									
Jackson Creek	Y	S									
Larson Creek	Y	S									
Lazy Creek	Y										
Lone Pine Creek		S									
Meyer Creek	Y	S									
Neil Creek (mouth to I-5)		S									
Payne Creek	Y										
Reeder Reservoir			Y								Y
Tyler Creek		S									
Walker Creek		S									

Y=year round; S=summer June 1-September 30; I = irrigation Season May1-November 30; FWS = fall/winter/spring October 1-May 31; * Status change; sediment and habitat modification are considered a source of pollution but not a pollutant, and therefore are not parameters covered in the 2004 TMDL.

Source: Rogue Basin TMDL – ODEQ, December 22, 2008

Stormwater Monitoring and Management

Stormwater is the flow of water created by impermeable surfaces, such as roads, highways, bridges, sidewalks and parking lots. There are additional forms of development that contribute to stormwater runoff, such as commercial and residential buildings. Ultimately, the combinations of these impervious surfaces prevent water from infiltrating and percolating through the soils and into the groundwater (groundwater recharge). Consequently, water that used to be available through groundwater, as well as seeps, which may be needed by streams and other surface waters during the summer months may no longer be available. Therefore, a variety of interrelated impacts can occur.

A consequence of decreasing groundwater is a decrease in the amount of water available to surface waters, such as through seeps or springs. Typically during the warmer months when water levels are lower, seeps may be needed to augment stream flows in order to prevent surface waters (e.g., streams) from becoming shallow and warmer. Surface waters that do not receive appropriate inflow from seeps or springs may not properly function. Subsequently, the lower volumes of surface water lead to temperature increases which result in changes to biota.

Impervious surfaces also lead to increased flows during months with high precipitation. Precipitation runs off and flows downhill (path of least resistance), and ends up in a receiving water body. It is noteworthy that increased runoff causes increased flows (seasonal peaks) which in turn cause scour and erosion, often resulting in modifications to the shape of the stream channel. For example, months with a lot of rain create peak flows in stream systems from the increased water being conveyed to them as a result of an increase in impervious surfaces. Consequently, stream channels can scour and banks can erode resulting in the channel being altered and subsequent changes to habitats and composition of species.

As stormwater runoff flows over ground surfaces, it can pick up debris, chemicals, dirt, and other pollutants and flow into a storm sewer system or directly to a lake, stream, river, wetland, or coastal water. Anything that enters a storm drain is discharged untreated into the water bodies. Pollutants commonly found in stormwater include nutrients (nitrogen and phosphorus), oil, bacteria, fertilizers, and metals (e.g., copper, lead, and zinc from automobile brake pads).

Impacts to habitats and the wildlife can result from roads and other impervious surfaces. Erosion and scour that changes a stream channel will modify flow, vegetation and temperature, and subsequently favor species adapted to the newly created conditions. In addition, pollutants draining from roads and parking lots can contribute to impaired water quality and degraded wildlife habitat. Therefore, care in the design of the transportation system is important.
Stormwater discharge is regulated under the Clean Water Act, Section 402.

Historic and Archeological Considerations

Protection of historic and archeological resources must be considered as part of the decision-making process for transportation projects. Map 7.2.9 illustrates and provides additional information regarding national historic sites, districts and roads.

Numerous laws and regulations call for preservation and/or enhancement of cultural resources. These include the Department of Transportation (DOT) Act of 1966, the Federal-Aid Highway Act of 1968, the National Environmental Policy Act of 1969, the National Historic Preservation Act of 1966, the Archeological Resource Protection Act of 1979 and the Surface Transportation and Uniform Relocation Assistance Act of 1987. In addition, regulations by the Council on Environmental Quality (40 CFR, Part 1500-1508) and the Advisory Council on Historic Preservation (ACHP) (36 CFR, Part 800) have been promulgated to assure that effects on historic properties are considered in the development of federal undertakings. Historic properties are any historic district, site, building, structure or object included in, or eligible for inclusion in, the National Register of Historic Places.

Transportation officials are required to make a good faith effort to identify historic properties that may be affected by a transportation project. A discussion of the effects on historic properties must be included in the environmental documentation. This discussion is to be commensurate with the importance of the historic properties as well as the magnitude of the project's impacts on those properties.

The primary provisions related to historic preservation for transportation projects are Section 106 of the National Historic Preservation Act and Section 4(f) of the DOT Act. These provisions are applicable to actions that require federal approval or are undertaken with federal funds.

Section 106 of the National Historic Preservation Act of 1966 (NHPA) as amended through 2000 requires federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on the undertaking. The historic preservation review and consultation process mandated by Section 106 is outlined in regulations issued by ACHP. Revised regulations, "Protection of Historic Properties" (36 CFR Part 800), became effective January 11, 2001 and were further amended in August 2004..

Federal agencies are responsible for initiating Section 106 review, most of which takes place between the agency and state and tribal officials. Appointed by the governor, the State Historic Preservation Officer (SHPO) coordinates the state's historic preservation program and consults with agencies during Section 106 review. Agencies also consult with officials of federally recognized Indian tribes when tribal lands or historic properties of significance to such tribes are involved. Some tribes have officially designated Tribal Historic Preservation Officers (THPOs), who function as a SHPO on tribal lands, while others designate representatives to consult with agencies as needed.

At this time, none of the Tribes in the Region have a THPO. The MPO will consult with the Confederated Tribes of Grande Ronde; Confederated Tribes of Siletz; and Cow Creek Band of Umpqua Indians for each Regional Transportation Plan update. The appropriate Tribe to consult will be determined based upon historic and current information provided.

According to the Advisory Council on Historic Preservation, Section 106 review and consultation requires federal agencies to do the following:

Determine if Section 106 of the NHPA applies to a given project and, if so, initiate consultation;
Gather information to decide which properties in the project area are listed in or eligible for the National Register Historic Places;
Determine how historic properties might be affected;
Explore alternatives to avoid or reduce harm to historic properties; and
Reach agreement with the SHPO/THPO (and the ACHP in some cases) on measures to resolve any adverse effects to historic properties.

Another protection to park and wildlife areas is provided by Section 4(f) of the U.S. Department of Transportation Act of 1966. This environmental regulation applies to projects that receive Department of Transportation (FHWA or FTA) funds. Section 4(f) (recodified in 49 USC 303, but still known as Section 4(f)) includes provisions prohibiting federal transportation agencies from using land from a significant publicly owned park, recreation area, wildlife or waterfowl refuge, or any land from an historic site of national, state, or local significance unless:

There is no feasible and prudent alternative to the use of land, and The action includes all possible planning to minimize harm to the property resulting from use.

In assessing the environmental effects of an action through the National Environmental Policy Act process, FHWA includes an evaluation of the use of land protected under Section 4(f). The environmental regulations for applying Section 4(f) to transportation project development can be found at 23 CFR 771.135. For other detailed guidance on applying the requirements of Section 4(f), the FHWA wrote the Section 4(f) Policy Paper, which discusses such topics as the history of Section 4(f), alternatives analysis, mitigation, and how Section 4(f) relates to other statutes and regulations which protect the same types of resources, including Section 106 of the National Historic Preservation Act.

In order for FHWA field offices to make key determinations on projects having minor impacts or a net benefit on areas protected by Section 4(f), the agency issued several Nationwide Section 4(f) Programmatic Statements. Section 4(f) is considered by the preservation community to be one of the most effective tools in the protection of historic properties. But its stringent standards and interpretations by various court rulings have had the transportation community seeking revisions to provide more flexibility in implementing the law.

Additional information on archaeologically sensitive areas was provided on map 7.2.9. This data was compiled by Archaeologist Jeff LaLande, with funding provided by the National Academies and ODOT.

The Archaeologically sensitive areas (Native American) layer is based on the Jeff LaLande's >40 years of local experience and current knowledge relative to which Bear Creek Valley terrain types (i.e., within the area located below about the 2,000-foot

elevational contour) would have a greater potential likelihood for containing *possibly significant Native archaeological resources* than do other portions of the valley floor. Examples of significant resources would include winter villages and major seasonal camps.

Note: As compiled in December 2011, this map layer does not yet reference valley-bottom sites that may have been recorded since 1990 in the Oregon State Historic Preservation Office's archaeological-site database.

The Early Settlement archaeologically sensitivity areas reflect the compiler's: (1*)* current knowledge of those urbanized areas (or locations of former major mining camps) where relatively intact/potentially significant early-historic archaeological deposits may yet remain, as well as: (2) results from the compiler's 2011 review of Jackson County's initial (1854) U.S. General Land Office (GLO) township-survey plats that give the approximate locations of *selected* original Donation Land Claim (DLC) settlers' cabins and farmhouses in the valley bottom.

Note: The selection of DLC sites was based on the compiler's best [not-field-checked] judgment as to just which of the various 1854-mapped structural sites would have a *comparatively higher likelihood of still containing intact historic-period archaeological deposits than would other mapped DLC locations*. (The locations of the selected cabin sites are approximate at best; if future transportation development or other projects were to be planned for such locations, a qualified land surveyor should consult the original GLO survey notes in an attempt to pinpoint a more accurate location.)

RTP Projects and Environmental Features

Table 7.2.4 below lists 2013-2038 projects that intersect with a resource identified in this chapter. The projects are identified with RTP project number, location, description and timing, and the corresponding environmental resource or feature. The environmental and historic resources and concerns addressed in the chapter and listed in the tables below are: Ecologically Sensitive Areas, National Historic Districts, Archaeologically Sensitive Areas, wetlands listed in the Medford Local Wetlands Inventory and/or National Wetlands Inventory; vernal pool Critical Habitat; 100-year floodplain; and fish habitat (Coho, Chinook, and Steelhead habitat). Projects are mapped with environmental features beginning on Page 25. The 1973 Endangered Species Act is appended to the end of this chapter.

Table 7.2.4: RTP Projects. environmental consideration

RTP #	Timing	Location	Project Description
Ecologically Sensitive Areas And Project Intersect			
325	short	Arrowhead Trail, Black Wolf Lane to Pebble Creek	Extend collector, bike lanes, sidewalk
327	short	Havenwood Dr-Barton Rd to Rolling Hills Dr	Extend collector, bike lanes, sidewalks
809	short	Foothill Rd., Corey Rd. to Atlantic St.	New two lane rural major collector + signal
909	short	I-5 N Ashland Interchange	Replace Bridge
949	short	OR 99 at Creel Rd	Provide sidewalk
332	medium	Alta Vista Rd-S Shasta to Robert Trent Jones Blvd	Urban upgrade, bike lanes, sidewalks
861	medium	Table Rock Rd: Mosquito Lane to Antelope Rd	Widen from 2 to 4 lanes
720	long	Helm/Hilltop, Rapp Rd to Belmont Rd	Construct new RR district collector street
National Historic District and Project Intersect			
120	short	Laurel St RR crossing	RR crossing improvements
160	short	Hersey St: N. Main to Oak	Sidewalk construction
404	short	Jacksonville	First & Main St streetscape
Archaeological Sensitive Areas and Project Intersect			
160	short	Hersey St: N. Main to Oak	Sidewalk construction
325	short	Arrowhead Trail, Black Wolf Lane to Pebble Creek	Extend collector, bike lanes, sidewalk
326	short	Buchanan Av-Linn Rd to Fargo St	Extend collector, bike lanes, sidewalks
328	short	Lava Street to Stevens Rd	Extend collector, bike lanes, sidewalks
329	short	S Shasta Av: Hwy 62 to Arrowhead Tr	Urban upgrade, bike lanes, sidewalks
330	short	Stevens Rd: East Main to Palima Dr	Urban upgrade, bike lanes, sidewalks
313	medium	Alta Vista Rd at Shasta Way	Signal intersection
332	medium	Alta Vista Rd-S Shasta to Robert Trent Jones Blvd	Urban upgrade, bike lanes, sidewalks
334	medium	S Royal Av: Old Hwy 62 to Loto St	Urban upgrade, bike lanes, sidewalks
335	long	Alta Vista Rd: Robert Trent to Riley Rd	Urban upgrade, bike lanes, sidewalks
336	long	Hannon Dr: West Linn Rd to Nick Young Rd	Urban upgrade, bike lanes, sidewalks
337	long	Nick Young Rd: Hannon Rd to OR62	Urban upgrade, bike lanes, sidewalks
338	long	Riley Rd: Stevens Rd to Alta Vista	Urban upgrade, bike lanes, sidewalks
339	long	West Linn Rd: OR 62 to Dahlia Terrace	Urban upgrade
862	long	Old Stage Rd: Winterbrook to Taylor	Widen existing travel lanes to rural collector standards
National Wetlands and Project Intersect			
308	short	Sienna Hills	Extend road from Barton Rd to Rolling Hills Dr
809	short	Foothill Rd., Corey Rd. to Atlantic St.	New two lane rural major collector + signal
857	short	Pine street-Upton Rd	BCG trail construction
165	long	Clear Creek Dr	Extend road to connect with N. Mountain Ave

Table 7.2.4: RTP Projects. environmental consideration

RTP #	Timing	Location	Project Description
Vernal Pool Critical Habitat and Project Intersect			
809	short	Foothill Rd., Corey Rd. to Atlantic St.	New two lane rural major collector + signal
860	medium	Foothill Rd: Vilas to Corey Rd	Widen existing travel lanes to rural collector standards
861	medium	Table Rock Rd: Mosquito Lane to Antelope Rd	Widen from 2 to 4 lanes
100 Year Floodplain and Project Intersect			
162	medium	Washington St extension	Extend street to Tolman Cr Rd, bike lanes, sidewalks
859	medium	Foothill Rd: Coker Butte to Vilas Rd	Widen existing travel lanes to rural collector standards
219[1]	long	Table Rock Rd. & Vilas Rd Intersection	Widen to increase capacity
821[2]	long	Table Rock Rd: I-5 Crossing to Biddle	Add center turn lane I-5 to Biddle, add 2 travel lanes bet Biddle &Airport Rd, Sidewalk + bike lanes
Fish Habitat (Steelhead, Coho and Chinook Salmon used Summer and Winter Steelhead) and Project Intersect			
160	short	Hersey St: N. Main to Oak	Sidewalk construction
324	short	Eagle Point	Mattie Brown Park paving
506[3]	short	S. Holly St Extension – Garfield Ave to Holmes Way	Construct street
812[4]	short	Table Rock Rd – Wilson Rd to Elmhurst St	Urban upgrade, realign Gregory Rd intersection
854[5]	short	Peachy Rd paving	Pave and improve road from Walker Ave to Hillview, Ashland
857	short	Pine street-Upton Rd	BCG trail construction
902	short	I-5: Fern Valley Interchange, Unit 2	Widen I-5 bridge and Fern Valley Rd. to five lanes; replace
904[6]	short	OR 140 Freight Improvements	Upgrade existing roads to create freight corridor linking Hwy 140 at Hwy 62 (existing terminus), White City to I-5 at Exit 35 Central Point.
5008	short	Medford	Larson Creek BCG-Ellendale

[1] Swanson Creek and Lone Pine Creek are fish bearing streams nearby. Restoration opportunities are available on Lone Pine Creek.

[2] Project crosses Bear Creek and Lone Pine Creek. Significant barriers present at Lone Pine culvert.

[3] Crooked Creek

[4] Project crosses Whetstone Creek and Swanson Creek, both fish bearing streams. Riparian restoration is occurring on these streams.

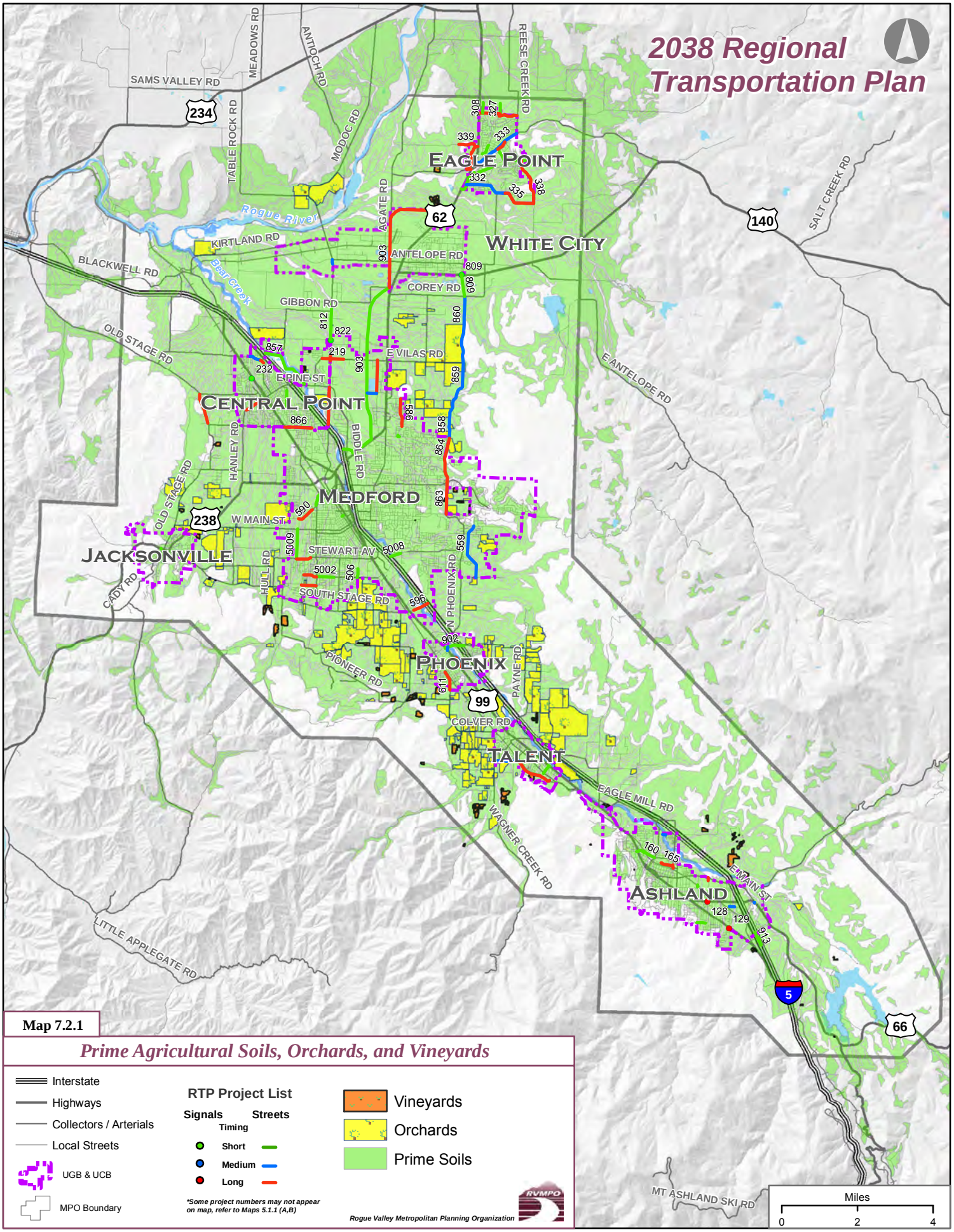
[5] Tolman Creek, Clay Creek, Hamilton Creek

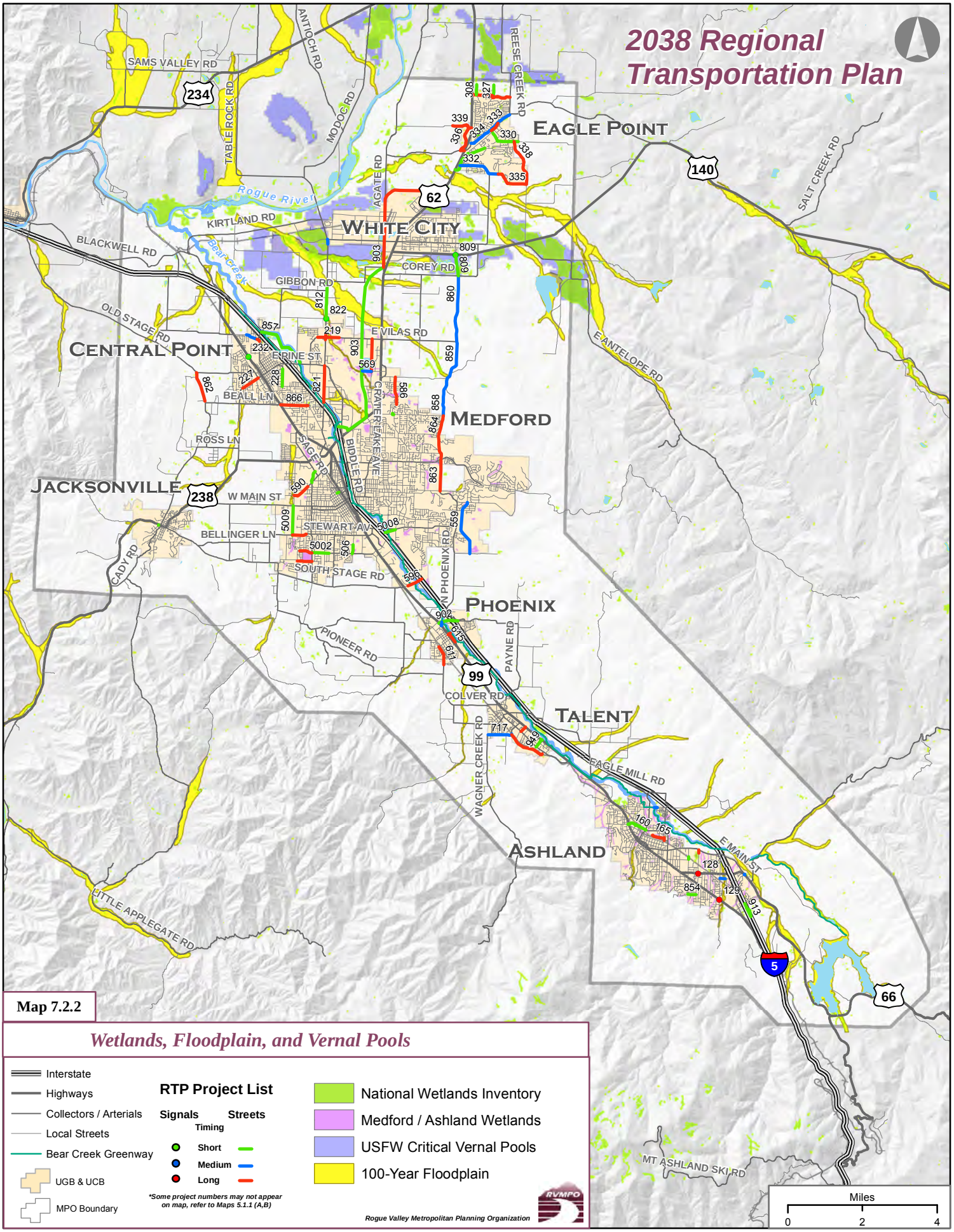
[6] Bear Creek, Jackson Creek, Griffin Creek, Dean Creek, Willow Creek, Middaugh Creek*, Upton Slough *, Whetstone Creek, Dry Creek*, Antelope Creek *historic fish use; current fish use suspected but not confirmed at this point

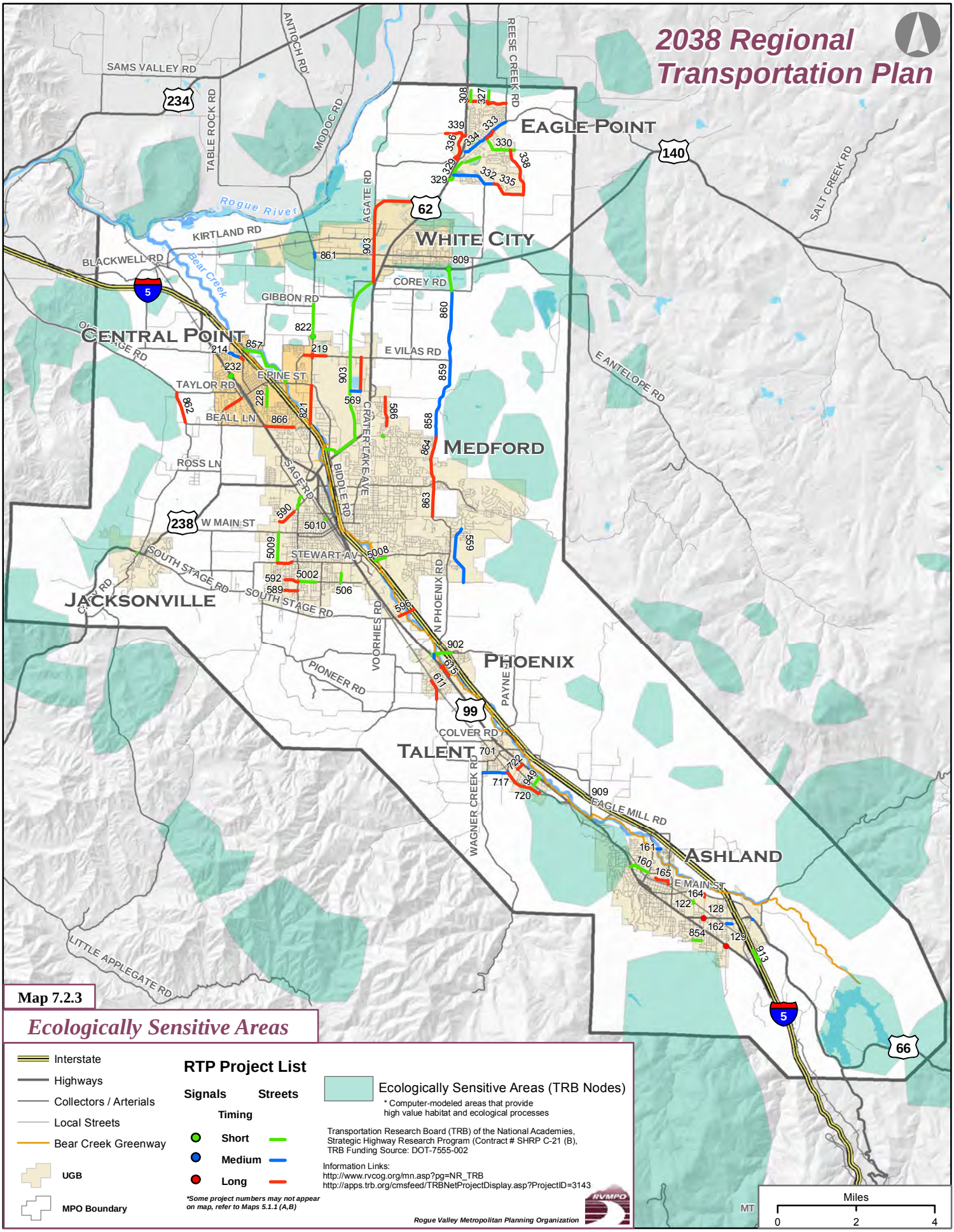
Table 7.2.4: RTP Projects. environmental consideration

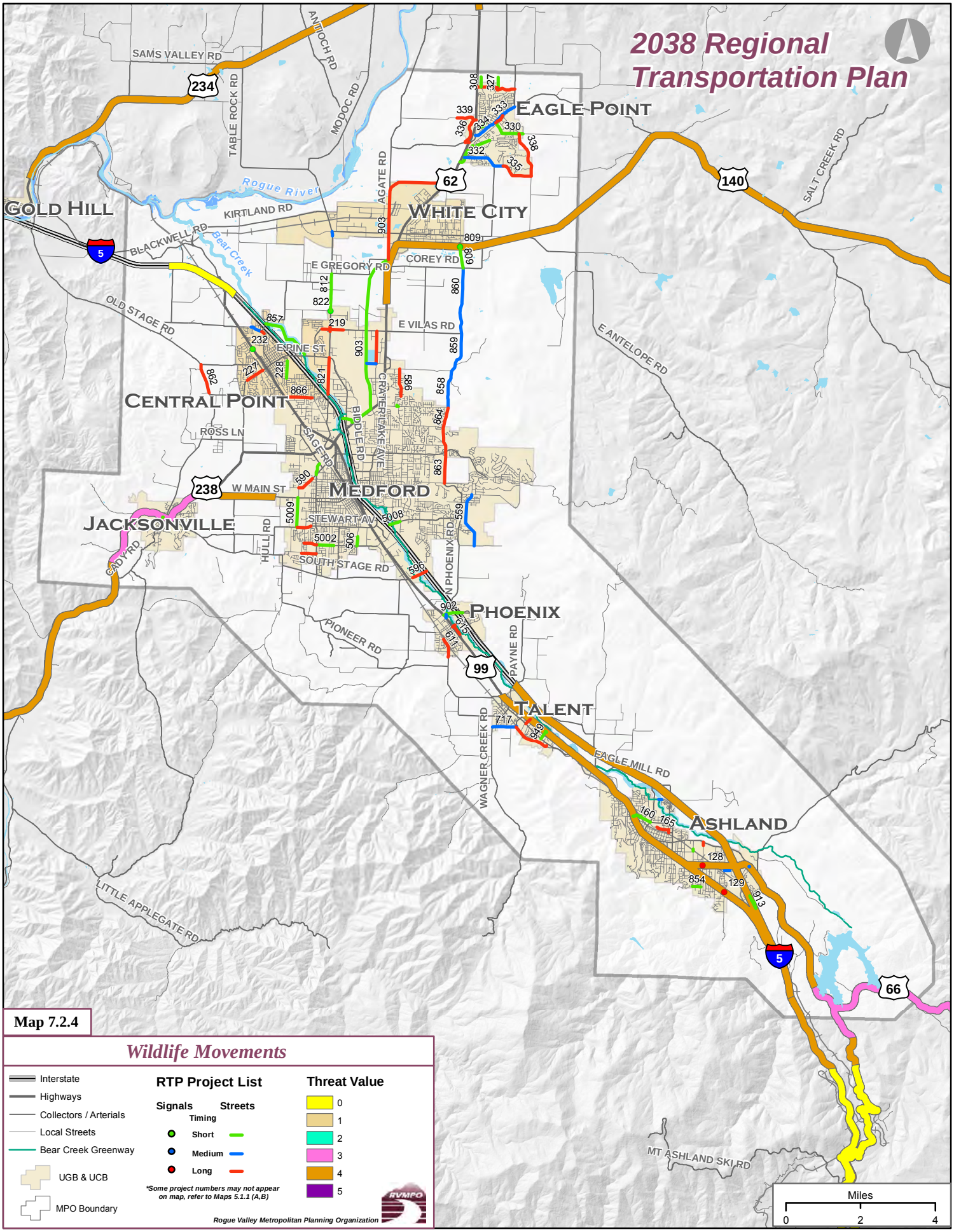
RTP #	Timing	Location	Project Description
161	medium	E. Nevada Street	Extend street to Kestrell Pw, bike lanes, sidewalks
214	medium	Scenic Av, Mary's way to Middle school	Urban upgrade, bike lanes, sidewalks
559	medium	Stanford Rd., Coal Mine Rd. to Cherry Lane.	Construct new three lane street with bike lanes and sidewalk
717[7]	medium	Rapp Rd, RR tracks to Wagner Cr Rd	Rebuild, upgrade to urban major collector standards
227[8]	long	W. Pine St., Hanley St. to Haskell St.	Widen 3 lanes, bike lanes, sidewalks, urban upgrade
322	long	Ped Path, Lotto St to Butte Cr Mill	Path adjacent to west side of creek
596	long	South Stage Rd Extension	3-lane extension of S. Stage Rd over I-5
720[9]	long	Helms/Hilltop, Rapp Rd to Belmont St	Construct new collector street
821	long	Table Rock Rd: I-5 Crossing to Biddle	Add center turn lane I-5 to Biddle, add 2 travel lanes bet Biddle &Airport Rd, Sidewalk + bike lanes

[7] Wagner Creek
[8] Project crosses Griffin and Jackson, both fish bearing streams.
[9] Wagner Creek


2038 Regional Transportation Plan
SAMS VALLEY RD
MEADOWS RD
ANTIOCH RD
REESE CREEK RD
TABLE ROCK RD
MODOC RD
EAGLE POINT
WHITE CITY
Rogue River
AGATE RD
KIRTLAND RD
ANTELOPE RD
BLACKWELL RD
Bear Creek
COREY RD
GIBBON RD
OLD STAGE RD
E VILAS RD
E ANTELOPE RD
E PINE ST
CENTRAL POINT
HANLEY RD
BIDDLE RD
MEDFORD
W MAIN ST
JACKSONVILLE
CADY RD
STEWART AV
HULL RD
SOUTH STAGE RD
N PHOENIX RD
PIONEER RD
PHOENIX
PAYNE RD
COLVER RD
TALENT
EAGLE MILL RD
WAGNER CREEK RD
ASHLAND
E MAIN ST
LITTLE APPLEGATE RD
MT ASHLAND SKI RD
SALT CREEK RD
234
62
140
238
99
5
66
Map 7.2.1
Prime Agricultural Soils, Orchards, and Vineyards
Interstate
Highways
Collectors / Arterials
Local Streets
UGB & UCB
MPO Boundary
RTP Project List
Signals
Streets
Timing
Short
Medium
Long
*Some project numbers may not appear on map, refer to Maps 5.1.1 (A,B)
Vineyards
Orchards
Prime Soils
Rogue Valley Metropolitan Planning Organization
RVMPO
Miles
0
2
4


2038 Regional Transportation Plan
SAMS VALLEY RD
ANTIOCH RD
REESE CREEK RD
TABLE ROCK RD
MODOC RD
EAGLE POINT
SALT CREEK RD
AGATE RD
Rogue River
KIRTLAND RD
WHITE CITY
BLACKWELL RD
Bear Creek
COREY RD
GIBBON RD
OLD STAGE RD
E VILAS RD
E ANTELOPE RD
CENTRAL POINT
E PINE ST
BEALL LN
CRATER LAKE AVE
MEDFORD
ROSS LN
STAGE RD
BIDDLE RD
JACKSONVILLE
W MAIN ST
STEWART AV
BELLINGER LN
CADY RD
SOUTH STAGE RD
N PHOENIX RD
PHOENIX
PIONEER RD
PAYNE RD
COLVER RD
TALENT
WAGNER CREEK RD
EAGLE MILL RD
ASHLAND
E MAIN ST
LITTLE APPLEGATE RD
MT ASHLAND SKI RD
234
62
140
238
99
5
66
Map 7.2.2
Wetlands, Floodplain, and Vernal Pools
Interstate
Highways
Collectors / Arterials
Local Streets
Bear Creek Greenway
UGB & UCB
MPO Boundary
RTP Project List
Signals
Streets
Timing
Short
Medium
Long
*Some project numbers may not appear on map, refer to Maps 5.1.1 (A,B)
National Wetlands Inventory
Medford / Ashland Wetlands
USFW Critical Vernal Pools
100-Year Floodplain
Rogue Valley Metropolitan Planning Organization
RVMPO
Miles
0
2
4


2038 Regional Transportation Plan
SAMS VALLEY RD
234
TABLE ROCK RD
ANTIOCH RD
MODOC RD
REESE CREEK RD
EAGLE POINT
140
SALT CREEK RD
Rogue River
KIRTLAND RD
AGATE RD
62
WHITE CITY
BLACKWELL RD
Bear Creek
5
GIBBON RD
COREY RD
CENTRAL POINT
E VILAS RD
E ANTELOPE RD
TAYLOR RD
E PINE ST
BEALL LN
CRATER LAKE AVE
MEDFORD
ROSS LN
SAGE RD
BIDDLE RD
238
W MAIN ST
STEWART AV
SOUTH STAGE RD
JACKSONVILLE
VOORHIES RD
N PHOENIX RD
PIONEER RD
PHOENIX
99
PAYNE
COLVER RD
TALENT
WAGNER CREEK RD
EAGLE MILL RD
ASHLAND
E MAIN ST
LITTLE APPLEGATE RD
66
MT
Miles
0
2
4
Map 7.2.3
Ecologically Sensitive Areas
Interstate
Highways
Collectors / Arterials
Local Streets
Bear Creek Greenway
UGB
MPO Boundary
RTP Project List
Signals
Streets
Timing
Short
Medium
Long
*Some project numbers may not appear on map, refer to Maps 5.1.1 (A,B)
Ecologically Sensitive Areas (TRB Nodes)
* Computer-modeled areas that provide high value habitat and ecological processes
Transportation Research Board (TRB) of the National Academies, Strategic Highway Research Program (Contract # SHRP C-21 (B), TRB Funding Source: DOT-7555-002
Information Links:
http://www.rvcog.org/mn.asp?pg=NR_TRB
http://apps.trb.org/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=3143
Rogue Valley Metropolitan Planning Organization
RVMPO


2038 Regional Transportation Plan
Map 7.2.4
Wildlife Movements
Interstate
Highways
Collectors / Arterials
Local Streets
Bear Creek Greenway
UGB & UCB
MPO Boundary
RTP Project List
Signals
Streets
Timing
Short
Medium
Long
*Some project numbers may not appear on map, refer to Maps 5.1.1 (A,B)
Threat Value
0
1
2
3
4
5
Rogue Valley Metropolitan Planning Organization
Miles
0
2
4
GOLD HILL
EAGLE POINT
WHITE CITY
CENTRAL POINT
MEDFORD
JACKSONVILLE
PHOENIX
TALENT
ASHLAND
SAMS VALLEY RD
ANTIOCH RD
MODOC RD
TABLE ROCK RD
AGATE RD
SALT CREEK RD
Rogue River
KIRTLAND RD
BLACKWELL RD
Bear Creek
E GREGORY RD
COREY RD
OLD STAGE RD
E VILAS RD
E ANTELOPE RD
E PINE ST
CRATER LAKE AVE
BIDDLE RD
ROSS LN
SAGE RD
W MAIN ST
STEWART AV
HULL RD
GADY RD
SOUTH STAGE RD
N PHOENIX RD
PIONEER RD
PAYNE RD
WAGNER CREEK RD
EAGLE MILL RD
LITTLE APPLEGATE RD
MT ASHLAND SKI RD
234
62
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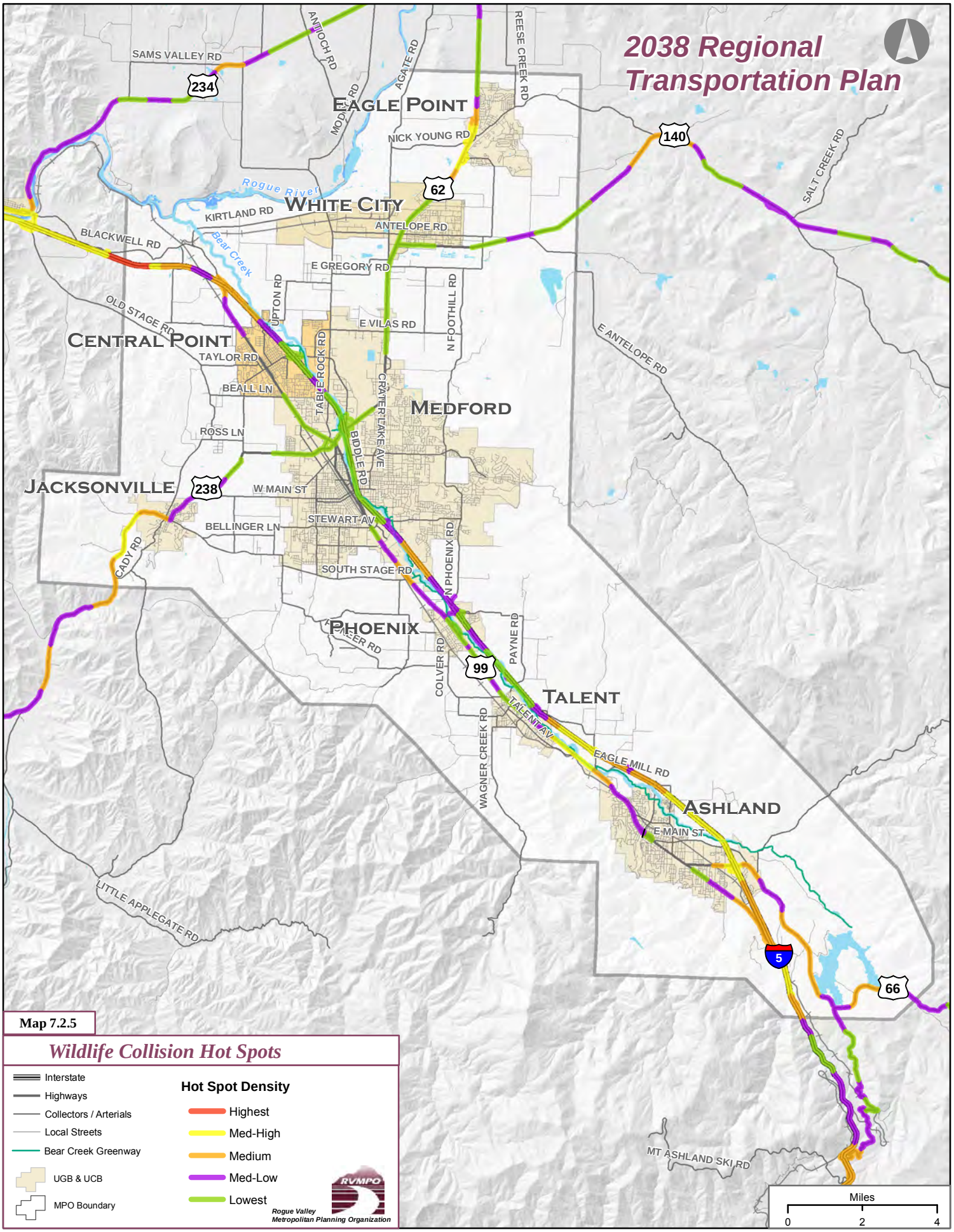
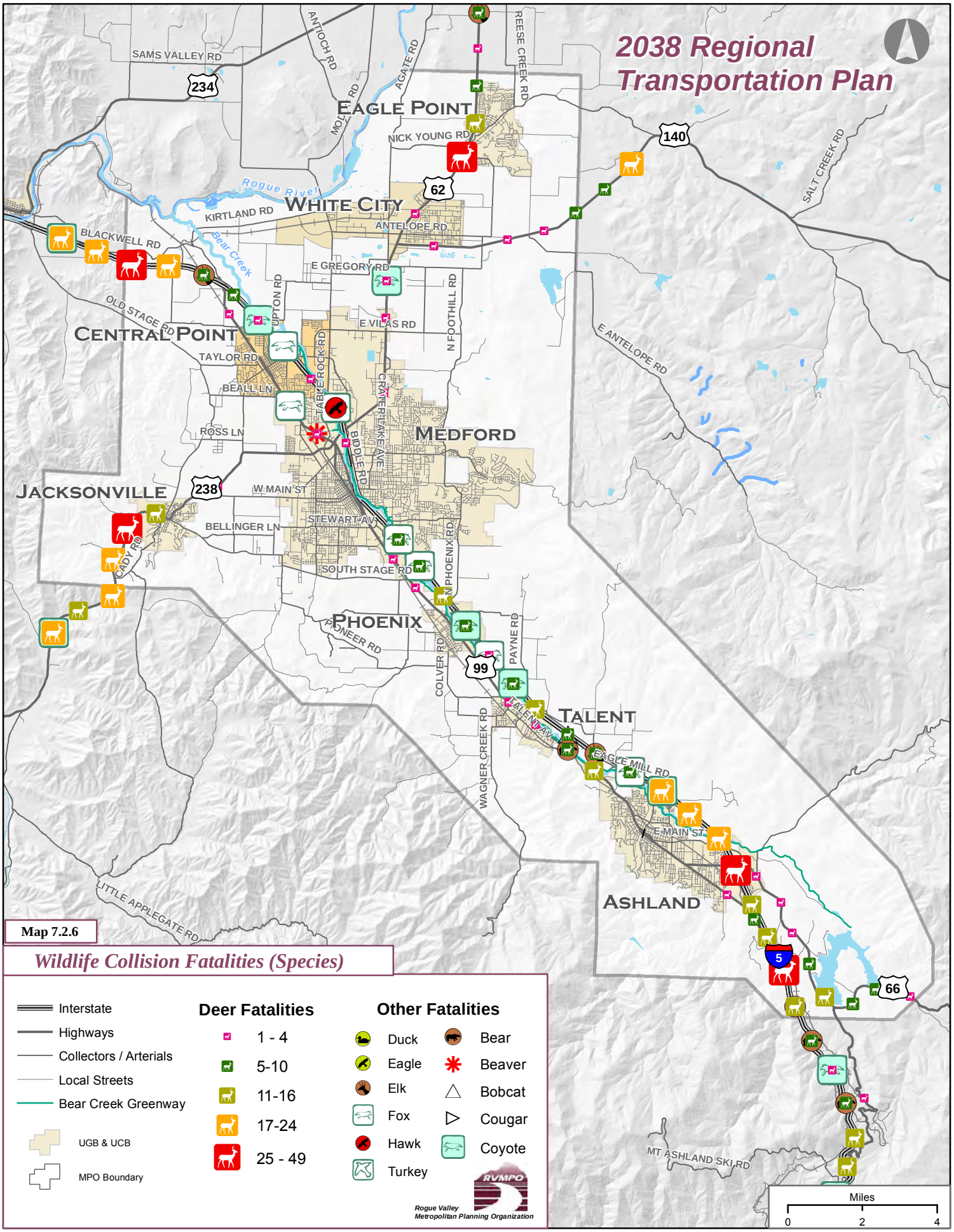
66


2038 Regional Transportation Plan
SAMS VALLEY RD
234
ANTIOCH RD
AGATE RD
REESE CREEK RD
EAGLE POINT
NICK YOUNG RD
140
SALT CREEK RD
Rogue River
62
WHITE CITY
KIRTLAND RD
ANTELOPE RD
BLACKWELL RD
Bear Creek
E GREGORY RD
UPTON RD
N FOOTHILL RD
OLD STAGE RD
E VILAS RD
E ANTELOPE RD
CENTRAL POINT
TAYLOR RD
TABLE ROCK RD
CRATER LAKE AVE
BEALL LN
MEDFORD
ROSS LN
BIDDLE RD
JACKSONVILLE
238
W MAIN ST
STEWART AV
BELLINGER LN
CADY RD
SOUTH STAGE RD
N PHOENIX RD
PHOENIX
COLVER RD
PAYNE RD
99
TALENT
TALENT AV
EAGLE MILL RD
WAGNER CREEK RD
ASHLAND
E MAIN ST
LITTLE APPLEGATE RD
5
66
MT ASHLAND SKI RD
Miles
0
2
4
Map 7.2.5
Wildlife Collision Hot Spots
Interstate
Highways
Collectors / Arterials
Local Streets
Bear Creek Greenway
UGB & UCB
MPO Boundary
Hot Spot Density
Highest
Med-High
Medium
Med-Low
Lowest
RVMPO
Rogue Valley Metropolitan Planning Organization


2038 Regional Transportation Plan
EAGLE POINT
WHITE CITY
CENTRAL POINT
MEDFORD
JACKSONVILLE
PHOENIX
TALENT
ASHLAND
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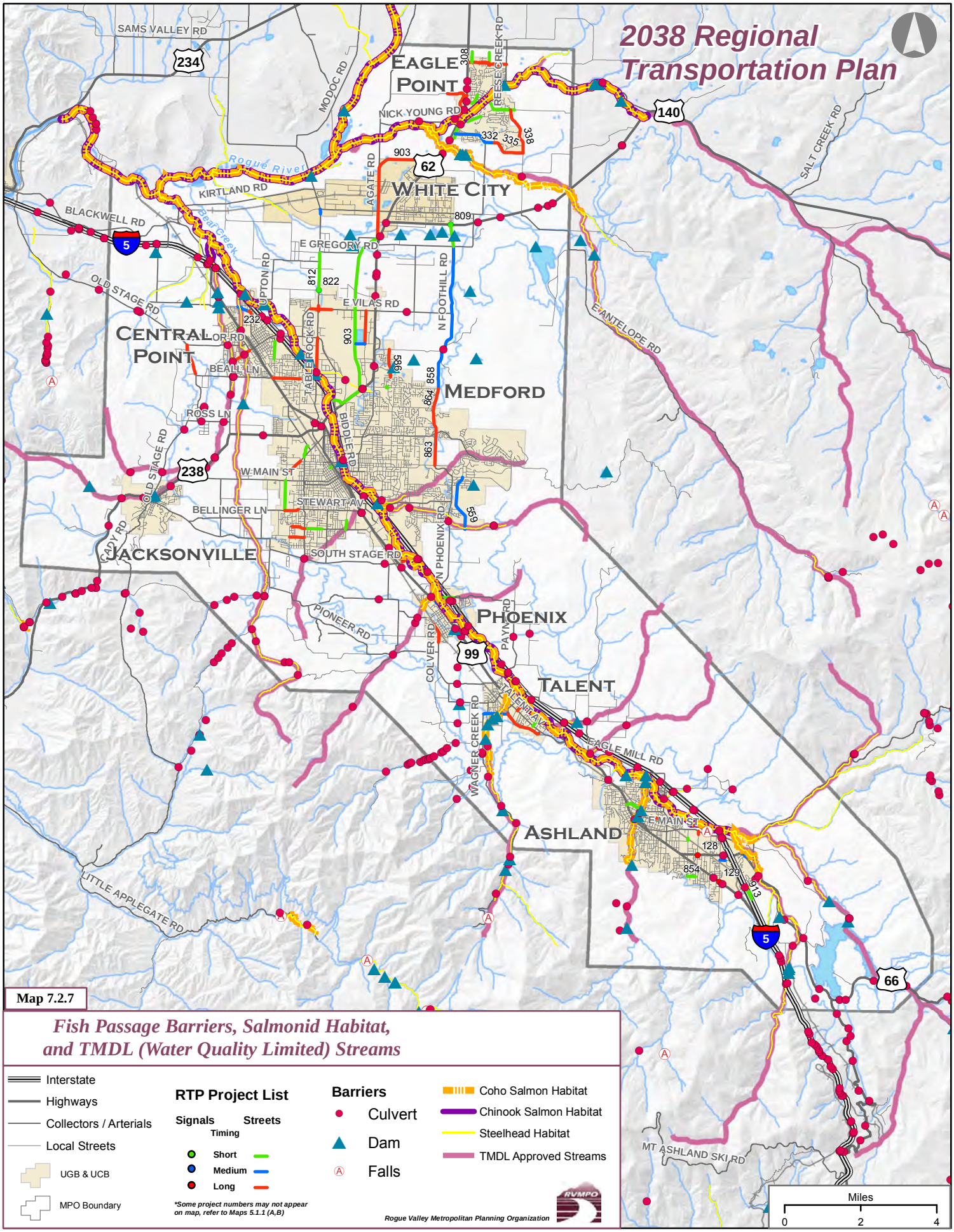
ANTIOCH RD
AGATE RD
REESE CREEK RD
NICK YOUNG RD
KIRTLAND RD
ANTELOPE RD
SALT CREEK RD
BLACKWELL RD
Rogue River
Bear Creek
E GREGORY RD
UPTON RD
N FOOTHILL RD
E VILAS RD
E ANTELOPE RD
OLD STAGE RD
TAYLOR RD
BEALL LN
TABLE ROCK RD
CRATER LAKE AVE
BIDDLE RD
ROSS LN
W MAIN ST
BELLINGER LN
CADY RD
STEWART AV
SOUTH STAGE RD
N PHOENIX RD
PIONEER RD
COLVER RD
PAYNE RD
WAGNER CREEK RD
TALENT AV
EAGLE MILL RD
E MAIN ST
LITTLE APPLEGATE RD
MT ASHLAND SKI RD
234
62
140
238
99
5
66
Map 7.2.6
Wildlife Collision Fatalities (Species)
Interstate
Highways
Collectors / Arterials
Local Streets
Bear Creek Greenway
UGB & UCB
MPO Boundary
Deer Fatalities
1 - 4
5-10
11-16
17-24
25 - 49
Other Fatalities
Duck
Eagle
Elk
Fox
Hawk
Turkey
Bear
Beaver
Bobcat
Cougar
Coyote
RVMPO
Rogue Valley Metropolitan Planning Organization
Miles
0
2
4


2038 Regional Transportation Plan
EAGLE POINT
WHITE CITY
CENTRAL POINT
MEDFORD
JACKSONVILLE
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NICK YOUNG RD
KIRTLAND RD
BLACKWELL RD
E GREGORY RD
E VILAS RD
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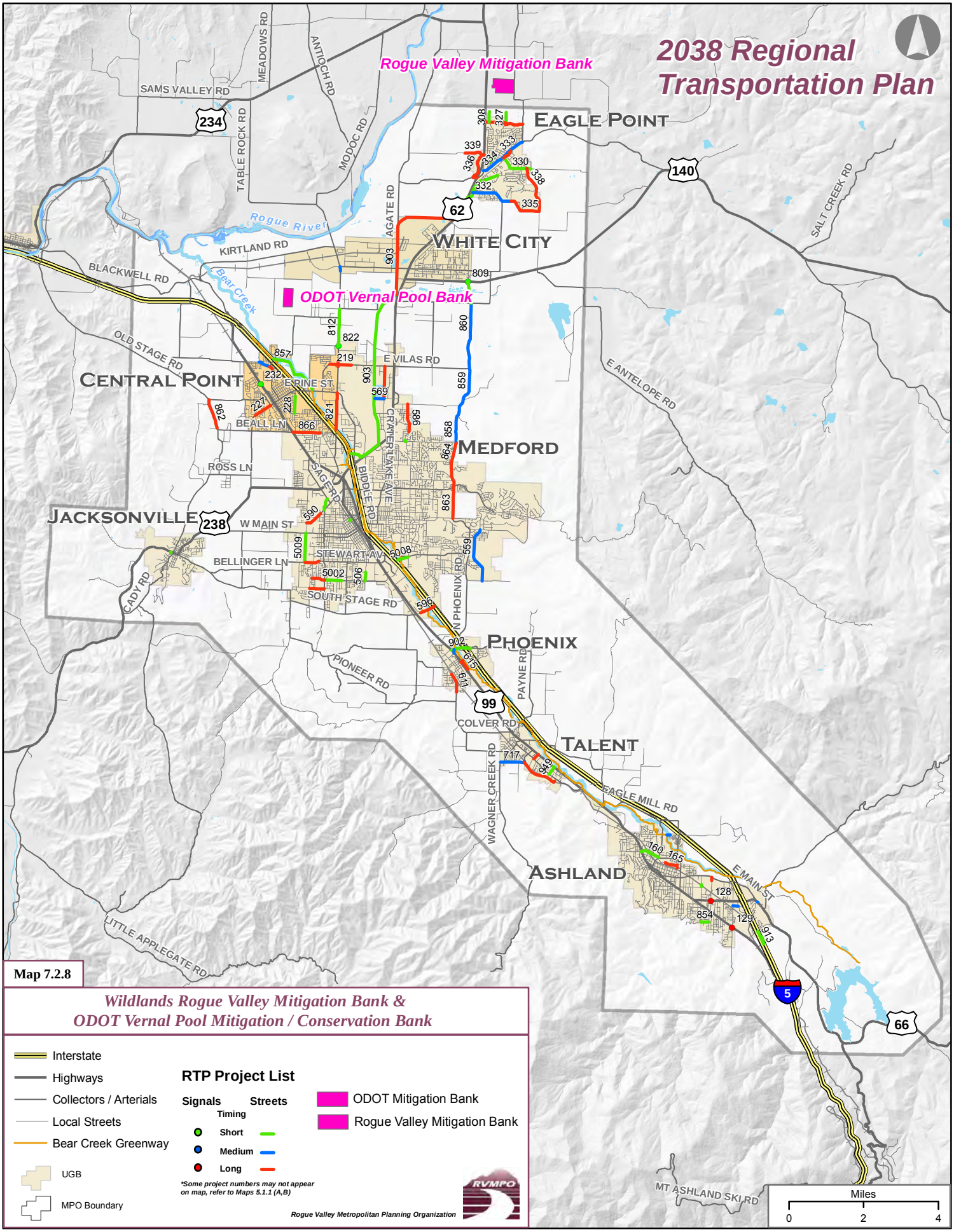
BEALL LN
ROSS LN
W MAIN ST
STEWART AVE
BELLINGER LN
SOUTH STAGE RD
PIONEER RD
E ANTELOPE RD
SALT CREEK RD
EAGLE MILL RD
MAIN ST
LITTLE APPLEGATE RD
MT ASHLAND SKI RD
Rogue River
Bear Creek
234
62
140
5
238
99
66
Map 7.2.7
Fish Passage Barriers, Salmonid Habitat, and TMDL (Water Quality Limited) Streams
Interstate
Highways
Collectors / Arterials
Local Streets
UGB & UCB
MPO Boundary
RTP Project List
Signals
Streets
Timing
Short
Medium
Long
*Some project numbers may not appear on map, refer to Maps 5.1.1 (A,B)
Barriers
Culvert
Dam
Falls
Coho Salmon Habitat
Chinook Salmon Habitat
Steelhead Habitat
TMDL Approved Streams
Rogue Valley Metropolitan Planning Organization
RVMPO
Miles
0
2
4



Map 7.2.8

Wildlands Rogue Valley Mitigation Bank &
ODOT Vernal Pool Mitigation / Conservation Bank

- Interstate
- Highways
- Collectors / Arterials
- Local Streets
- Bear Creek Greenway
- UGB
- MPO Boundary

RTP Project List

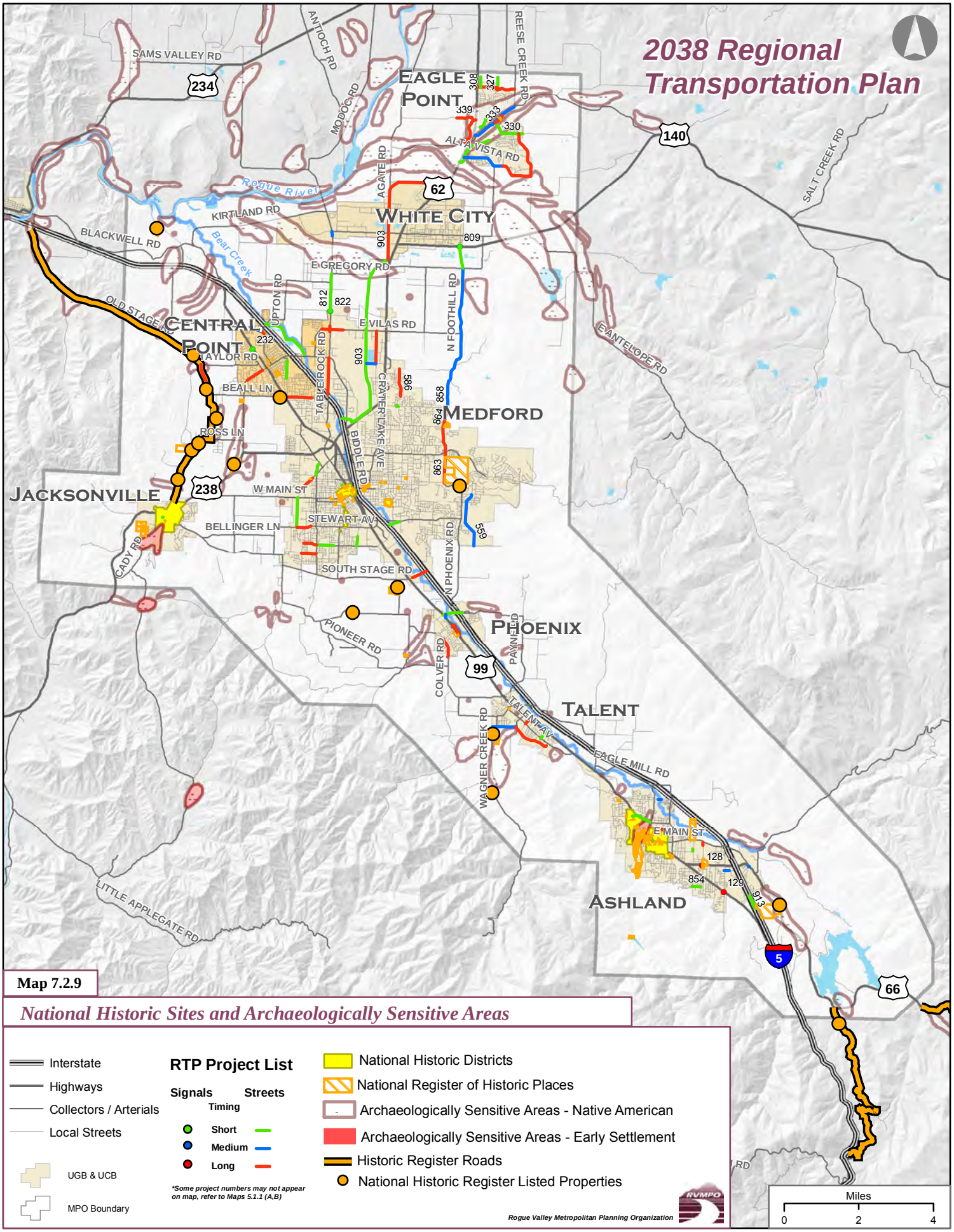
Signals — **Timing**: Short, Medium, Long

Streets

- ODOT Mitigation Bank
- Rogue Valley Mitigation Bank

**Some project numbers may not appear on map, refer to Maps 5.1.1 (A,B)*

Rogue Valley Metropolitan Planning Organization


2038 Regional Transportation Plan
SAMS VALLEY RD
234
ANTIOCH RD
MODOC RD
EAGLE POINT
308
327
339
333
330
REESE CREEK RD
ALTA VISTA RD
140
SALT CREEK RD
AGATE RD
62
Rogue River
KIRTLAND RD
WHITE CITY
BLACKWELL RD
Bear Creek
903
809
E GREGORY RD
812
822
UPTON RD
N FOOTHILL RD
OLD STAGE RD
CENTRAL POINT
232
E VILAS RD
E ANTELOPE RD
TAYLOR RD
TABLE ROCK RD
CRATER LAKE AVE
586
858
BEALL LN
MEDFORD
ROSS LN
BIDDLE RD
864
863
JACKSONVILLE
238
W MAIN ST
STEWART AVE
BELLINGER LN
559
CADY RD
SOUTH STAGE RD
N PHOENIX RD
PIONEER RD
PHOENIX
COLVER RD
99
PAYNE RD
TALENT
TALENT AVE
WAGNER CREEK RD
EAGLE MILL RD
E MAIN ST
128
854
129
913
ASHLAND
LITTLE APPLEGATE RD
5
66
Map 7.2.9
National Historic Sites and Archaeologically Sensitive Areas
Interstate
Highways
Collectors / Arterials
Local Streets
UGB & UCB
MPO Boundary
RTP Project List
Signals
Streets
Timing
Short
Medium
Long
*Some project numbers may not appear on map, refer to Maps 5.1.1 (A,B)
National Historic Districts
National Register of Historic Places
Archaeologically Sensitive Areas - Native American
Archaeologically Sensitive Areas - Early Settlement
Historic Register Roads
National Historic Register Listed Properties
Rogue Valley Metropolitan Planning Organization
RVMPO
Miles
0
2
4

ENDANGERED SPECIES ACT OF 1973

Text of the Act is printed below for reference.

FINDINGS.— The Congress finds and declares that:

Various species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation;

Other species of fish, wildlife, and plants have been so depleted in numbers that they are in danger of or threatened with extinction;

These species of fish, wildlife, and plants are of esthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people;

The United States has pledged itself as a sovereign state in the international community (to conserve to the extent practicable the various species of fish or wildlife and plants facing extinction, pursuant to:

Migratory bird treaties with Canada and Mexico;

The Migratory and Endangered Bird Treaty with Japan;

The Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere;

The International Convention for the Northwest Atlantic Fisheries; The International Convention for the High Seas Fisheries of the North Pacific Ocean;

The Convention on International Trade in Endangered Species of Wild Fauna and Flora; and

Other international agreements; and

Encouraging the States and other interested parties, through Federal financial assistance and a system of incentives, to develop and maintain conservation programs which meet national and international standards is a key to meeting the Nation's international commitments and to better safeguarding, for the benefit of all citizens, the Nation's heritage in fish, wildlife, and plants.

PURPOSES.—The purposes of this Act are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in subsection (a) of this section.

POLICY.—(1) It is further declared to be the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act. (2) It is further declared to be the policy of Congress that Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species.

Download the entire ESA in PDF [147 kb]
Federally listed Threatened, Endangered, Proposed, Candidate Species and Species of Concern under the jurisdiction of the Fish and Wildlife Service (FWS) which may occur within Jackson County, Oregon are listed below.

Listed Species

Birds: northern spotted owl
Crustaceans: vernal pool fairy shrimp
Plants: Gentner's fritillary, large-flowered woolly meadowfoam; Cook's lomatium; and Kincaid's lupine

Candidate Species
Mammals: fisher
Insects: Mardon skipper Plants Siskiyou mariposa lily

Species of Concern
Mammals: Pallid bat; Red tree vole; Townsend's western big-eared bat; California wolverine; silver-haired bat; long-eared myotis bat; fringed myotis bat; long-legged myotis bat; Yuma myotis bat

Birds: northern goshawk; tricolored blackbird; western burrowing owl; olive-sided flycatcher; yellow-breasted chat; acorn woodpecker; Lewis' woodpecker; mountain quail; band-tailed pigeon; white-headed woodpecker; Oregon vesper sparrow; purple martin

Reptiles and Amphibians: Northern Pacific pond turtle; coastal tailed frog; common king snake; California mountain king snake; Del Norte salamander; Siskiyou Mountains salamander; Northern red-legged frog; foothill yellow-legged frog; Cascades frog.

Fish: Jenny Creek sucker; Pacific lamprey; coastal cutthroat trout and coho. Chinook are not listed as threatened under the federal Endangered Species Act in the Rogue watershed. Several species are listed on Oregon’s sensitive species list, including coho, summer steelhead, and Pacific lamprey.

Insects: Denning's agapetus caddisfly; Franklin's bumblebee; Siskiyou chloealtis grasshopper; Green Springs Mountain farulan caddisfly; Sagehen Creek goeracean caddisfly; Schuh's homoplectran caddisfly; Siskiyou carabid beetle.

Plants: Rogue canyon rock cress; Crater Lake rock-cress; Greene's mariposa lily; broad-fruit mariposa lily; Umpqua mariposa-lily; Howell's camassia; Baker's cypress; clustered lady's-slipper; Siskiyou willow-herb; wayside aster; Henderson's horkelia; Bellinger's meadowfoam; dwarf woolly meadowfoam; Mt. Ashland lupine.

Part 7

Evaluation & System Performance

Chapter 7.3, Performance Measures

Introduction

Performance measures in this chapter are forecasts of future travel conditions—specifically traffic congestion. The forecasts are estimates produced by the RVMPO's travel demand model. The model, computer software that performs a series of calculations, is based on information the RVMPO obtained about future population and employment. Estimates of the numbers of people, jobs and their locations within the region are critical to the model. Also, the transportation network itself is represented in the model. The current system, including numbers of lanes, locations of intersections, signals, turn lanes and lane widths all can be significant to traffic flow and road capacity. Future conditions for all of these factors are estimated in consultation with local, state and federal agencies and governments, and are incorporated into the model for specific future years.

RVMPO Model

The model itself, the information and running the software, is a cooperative project between RVMPO and ODOT's Transportation Planning and Analysis Unit. The process of updating the model is described in Chapter 2.2, Future Conditions. This chapter looks at some of the results, or outputs, of the model – the answers the model provides to question about road capacity, congestion and delays.

The model provides answers on a regional level for a variety of analyses. Beyond the generalized, region-scale outputs that are reported in this chapter, and in the Air Quality Conformity Determination, the RVMPO model (version 3) is the foundation for more detailed analyses that jurisdictions, developers and project managers conduct to estimate fine-grained conditions such as: How much traffic will be generated by a particular development, what road will be affected and to what extent?; How much traffic can be accommodated at a particular location and what happens to traffic conditions if a lane is added, or access points changed?; How large does a facility such as a freeway interchange have to be in terms of number of lanes and their length to accommodate future anticipated traffic?

For this RTP update, the model was asked to provide answers to some basic questions about performance of the transportation system in future years, given the plan's forecasts for growth. Results are described in the following sections.

Table 7.3.1: Future Conditions

	2015	2020	2028	2038
Lane Miles	990	992	995	1015
Lane Miles Congested[1]	10	13	25	38
Percent Lane Miles Congested	1%	1%	3%	4%
Mean Travel Time[2]	6.43	6.56	6.83	6.94
Vehicle Miles Traveled[3]	283,620	305,377	343,880	384,686
Vehicle Hours Traveled	6,331	6,831	7,745	8,815

1) Congestion defined as demand to capacity of 0.9 and greater. To compare, 1.0 indicates a failing segment of roadway with vehicles delayed, at times to a near standstill.

2) Duration of modeled average trip, in minutes

3) Total number of miles driven by all motorists, daily

A note about model data in this chapter: The model version used in this analysis is Version 3-Conformity developed for the regional air quality conformity process, which requires RVMPO to estimate conditions base on the full build out of the Hwy 62 Expressway, modeled as a four-lane, limited-access route between the North Medford I-5 interchange and Dutton

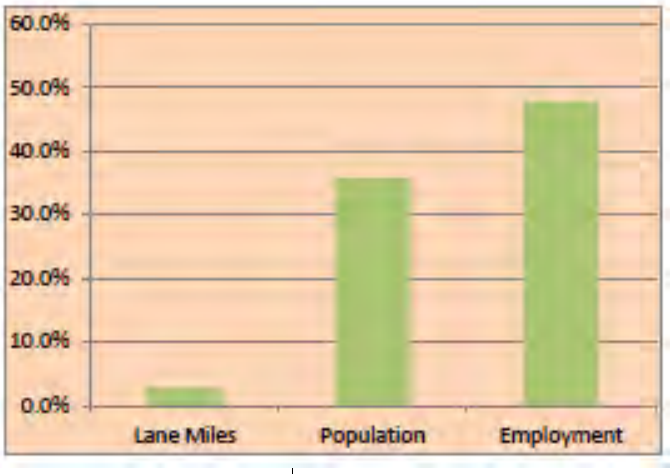
Road, White City. Right-of-way acquisition is constrained in this plan, but full construction is not. A segment is to be built beginning in 2014 between roughly Poplar Road and Corey Road.

Future Congestion

Generally, travel demand modeling shows that the region can expect congestion to increase. Table 7.3.1 above shows conditions throughout the RVMPO at four points in the future.

Planned roadway capacity projects alone are not expected to keep pace with the region's anticipated growth, despite the inclusion of the Hwy 62 Expressway. Through 2038, this plan anticipates an expansion of the regional transportation system of 28 lane miles, or roughly an increase of 2.8 percent increase. Meanwhile, population is expected to increase by nearly 36 percent (from about 193,010 to 262,099), and employment by 48 percent (from 82,770 jobs to 122,348). These modeled estimates are based on existing local plans and coordination with jurisdictions.

Table 7.3.2: RTP Projections for Population, Employment, System Capacity Increases



As Table 7.3.1 shows, with implementation of the 2034 RTP the amount of congested roadways will increase from about 8 lane miles today to 49 lane miles in 2034. If no improvements were made to roads (none of the RTP projects implemented), congested lane miles would increase to 54 by 2034, as shown in the column on the far right in Table 7.3.1.

Traffic ebbs and flows given the time of day. Locally, most roads at most times of the day are – and will continue to be – fairly clear and free-flowing. To look at congestion, the times of highest, or peak, travel are isolated. Traffic counts are taken continuously over multiple days, show that the peak hour in most cases is late afternoon to very early evening – the evening commute hours. Because of this travel pattern, many transportation demand management programs seek to offer travel alternatives so that fewer motorists are driving at the peak hours.

Table 7.3.3: 2030 Congestion Comparison, Rogue Valley, Bend, Corvallis areas

	Population	Lane Miles	Total Congested Lane Miles[2]	Percent Congested
RVMPO[1]	232,636	995	25	3%
BMPO- Bend Area	119,009	759	43	6%
CAMPO- Corvallis Are	86,638	421	75	18%

1) RVMPO estimates are 2028, consistent with RTP

2) Congestion defined as demand/capacity of 0.9

Performance Comparison

In considering how good or bad delay conditions are here, it can be

helpful to look at conditions forecasted for other areas. In this case, the RVMPO is comparing model estimates to similar estimates for RTPs in two other Oregon MPOs — Bend MPO (BMPO) and Corvallis Area MPO (CAMPO). Both of these MPOs are smaller than RVMPO in terms of population as well as geographic area. Table 7.3.3 show the comparison, with future year (2030) forecasts for Bend and Corvallis and 2028 for RVMPO, consist with RTP data. In all cases, RVMPO assumptions include full build out of funded RTP projects and full build-out of the Hwy 62 Expressway, which is not constrained.

Congested Roads

Travel conditions on several key roads were examined with the model. Results on Table 7.3.4 and .5 show estimated base year 2006 and future conditions. Travel conditions expressed are peak hour conditions, which are calculated to be typical conditions a motorist is likely to encounter at the late afternoon-early evening hours – the time of the greatest amount of travel in the RVMPO region.

Table 7.3.4: Model-estimated traffic volumes, 2006

Demand/Capacity Ratios	Hwy 62	Hwy 62 Bypass	I-5	Foothill Rd	N Phoenix Rd	Hwy 99 South	Hwy 99 Mid	Hwy 99 North	Table Rock Rd	Hwy 238
No Congestion	38	0	124	12	10	57	14	21	15	18
Congestion	7	0	0	0	0	0	0	0	0	0
High Congestion	2	0	0	0	0	0	0	0	0	0
Total Lane Miles	47	0	124	12	10	57	14	21	15	18

Because of its length, Hwy 99 is split into three segments for this analysis: the south segment runs from South Ashland RVMPO boundary to the Garfield Road, Medford intersection (roughly the South Medford Interchange. The mid section runs north through Medford to the Hwy. 238 intersection (the Big X. The north segment continues north through Central Point to the Seven Oaks Interchange. The numbers in the columns in these two tables are

Table 7.3.5: Model-estimated traffic volumes, 2038

Demand/Capacity Ratios	Hwy 62 (old)	Hwy 62 Bypass	I-5	Foothill Rd	N Phoenix Rd	Hwy 99 South	Hwy 99 Mid	Hwy 99 North	Table Rock Rd	Hwy 238
No Congestion	30	34	105	7	6	55	11	17	16	18
Congestion	6	0	17	4	2	2	3	2	0	1
High Congestion	7	1	0	3	2	0	0	1	0	0
Total Lane Miles	43	35	122	14	10	57	14	20	16	19

the number of lane miles on a particular road that are at the traffic volume ranges indicated in the first column

Congestion is expressed as a ratio of travel demand, or number of vehicle trips to roadway capacity available to accommodate vehicles. High congestion indicates too many vehicles attempting to travel on the segment of road, causing delay. The estimates report peak hour travel - travel at certain hours in the day, generally mid-afternoon in the Rogue Valley. (Peak hour varies from region to region, dependent on conditions such as shift changes and school hours.) Congestion on the roads shown on these tables can lead to delays on intersecting roads as well.

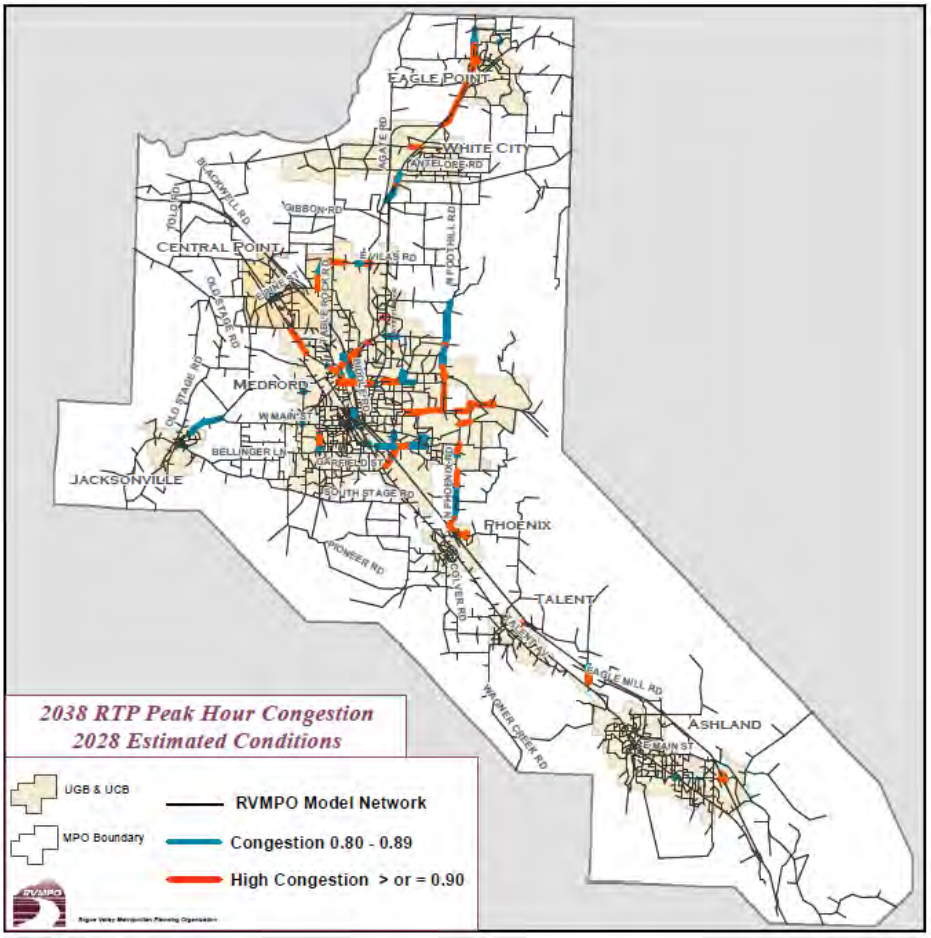
Locations for estimated future congestion are identified by year on the maps on the following pages.

Congestions Maps

Maps below indicate locations where the RVMPO travel demand model estimates potential for congestion in future years.

Years shown are 2028 and 2038. By viewing the maps in succession, it's possible to see how, where and when congested conditions are likely to expand.

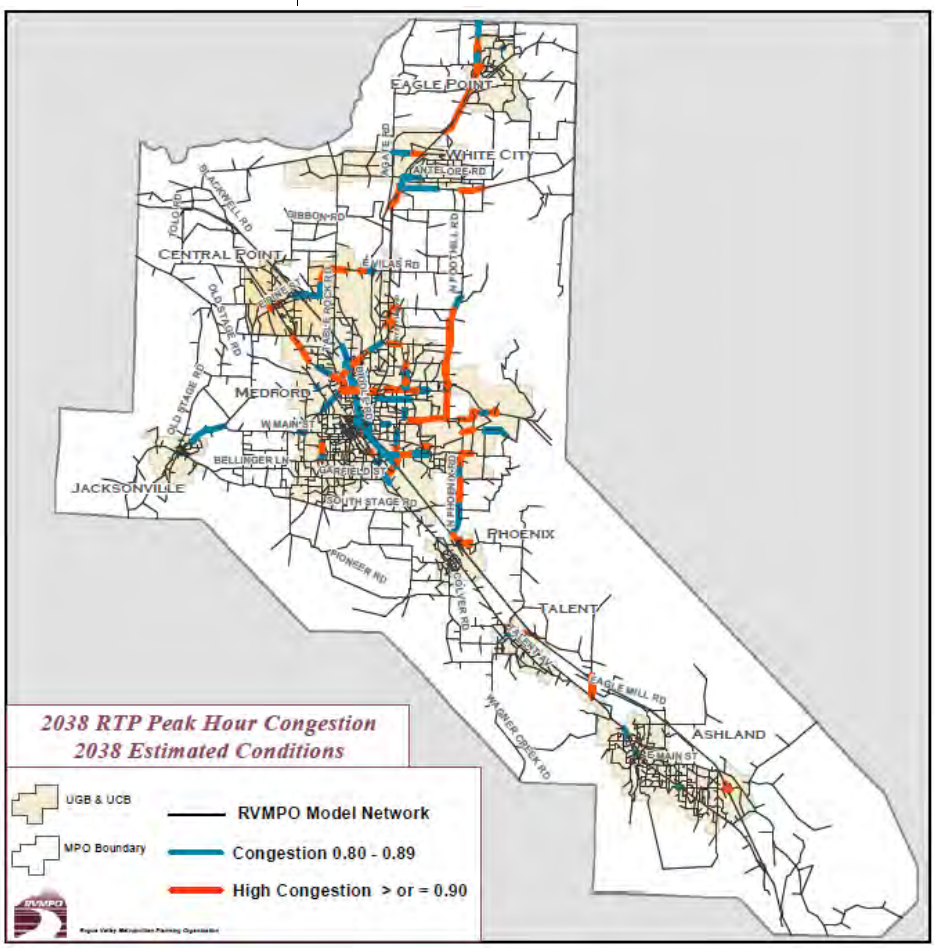
It is important to consider that these maps, like other analysis in this chapter, are based in the construction of the new Hwy 62 expressway (also called bypass) from north Medford to White City. Because this route is in the model, the existing highway is shown as congestion free.



Rather than showing with absolute certainty future congested conditions, these maps indicate the locations most vulnerable to traffic pressures. The futures shown here are far from certain because RVMPO jurisdictions are in agreement that

additional funds will need to be indentified for projects not yet in the plan. Beyond that, there are projects being planned, but are not included in this analysis because RTP projects must be financially constrained, as described in Part 6: Financial Plan.

Projects that could help address congestion, but do not have identified funds, are presented in Chapter 7.4, Future Challenges. For instance, Medford and Jackson County are seeking funds to improve sections of North Phoenix and Foothill roads.



Part 7

Evaluation & System Performance

Chapter 7.4, Future Challenges

Introduction

Just as every possible improvement to the transportation system isn't contained in the RTP, not all issues that are bound to occur between now and 2038 can be identified. This chapter highlights some issues and concerns that are beginning to take shape now on the horizon and presents them in terms of how they may impact future transportation planning.

The topics are:

- Unfunded, but identified and needed projects
- Projects of long-term regional potential
- Potential new air quality requirements
- Integration of the Regional Problem Solving project.

Unfunded Street System Projects

Federal planning requirements limit RTP projects to those for which full funding has been identified. Both the cost estimates and

the anticipated funding must be reasonable and based on accepted guidelines. However, many more projects are planned by RVMPO member jurisdictions, as shown on Table 7.4-1 below.

Table 7.4-1: Tier 2, Not Funded Projects

These projects are in local Transportation System Plans (TSPs),

PROJECT NUMBER	LOCATION	DESCRIPTION	COST
Ashland			
137	Normal Ave., from current terminus to E. Main St.	Extend street	$1,479,064
	Ashland Total		**$1,479,064**
Central Point			
234	E-W Hamrick Rd. Extension (S. of E. Pine St.)	Extend to intersect with Penninger Dr.	$1,200,000
240	Penninger Rd. Extension South	Extend Penninger Rd. from E. Pine south across Bear Crk to Hamrick	$145,800
245	Penninger Rd. Extension North	Extend from E. Pine St. to Beebe Rd.	$10,566,108
246	Bursell Road Improvements	Urban Upgrade from Hopkins Road to Beal Lane	$2,506,000
			$14,417,908
Eagle Point			
318	N. Shasta Ave. to Teakwood Ave.	Add bridge connecting Teakwood Ave. and Shasta Ave.	$3,950,000
324	Lava Street to Stevens Rd. Arterial extension	Extend Lava St. to Stevens Rd.	$2,610,600
326	Onyx St. Extension - Shasta to Tabor	Extend Onyx Road from Shasta Avenue to Tabor	$212,000
331	Shasta Avenue from Main to Alta Vista	Upgrade Shasta Avenue to arterial from Main Street to Alta Vista	$2,451,000
	Eagle Point Total		**$9,223,600**
Jacksonville			
401	Pair-a-Dice Ranch Rd., OR 238 to city limits	Construct two-lane arterial connector (city share w/ in UGB)	$7,032,000
	Jacksonville Total		**$7,032,000**
Medford			
583	Lone Pine Rd., Foothill Rd. to Cherry Ln.	Construct new three lane street with bike lanes and sidewalks	$13,316,800
584	Tamarack Rd., Mc Andrews Rd. to Lone Pine Rd. extension	Construct new two lane street with bike lanes and sidewalks	$9,500,400
585	Bellinger-Cunningham, Hull Rd. to Orchard Home Rd.	Construct new three lane street with bike lanes and sidewalks	$5,326,720
591	Cherry Ln., Hillcrest St. to Lone Pine Rd.	Construct new two lane street with bike lanes and sidewalks	$2,533,440
	Medford Total		**$30,677,360**
Phoenix			
625	Oak St., OR 99 to Fern Valley Rd.	Extension of Oak St., including I-5 overcrossing	$23,440,000
	Phoenix Total		**$23,440,000**
Talent			
723	Belmont R/R X-ing	Construct new R/R X-ing w/ gates, new collector street	$879,000
	Talent Total		**$879,000**
Jackson County			
	None		
RVTD			
1070	Transit bus replacement	Scheduled replacement--12 vehicles needed through 2020	$4,800,000
1071	Transit bus replacement	Scheduled replacement--6 vehicles needed through 2025	$2,550,000
1072	Transit bus replacement	Scheduled replacement--15 vehicles needed through 2030	$6,750,000
1073	Transit bus replacement	Scheduled replacement--8 vehicles needed through 2025	$3,800,000
1074	Transportation Center	Rebuild/expand existing Medford Front Street Station	$2,750,000
			$20,650,000
ODOT			
	None		
			$0
		Tier 2 Total	**$107,798,932**

and the communities are anticipating that they will occur. Once funding is identified, the RVMPO may list them in the RTP projects list; before then the RVMPO lists these projects as "Tier 2." Tier 2 projects cannot be relied upon for metropolitan planning purposes. They are not considered to be planned projects in the RTP. However, they can be analyzed and listing these projects here serves to identify unmet transportation system needs.

Unfunded Transit System Projects

A significant gap exists between projected revenues described in Part 6 Financial Plan and the projected implementation costs for maintaining Rogue Valley Transportation District's current service, as well as the desired additional activity identified here. RVTD has identified a potential property tax increase as a new funding source. An increase would require approval by local voters.

Projects of Long-Term Regional Potential

Beyond Tier 2 projects, which are the product of local planning and are listed in adopted TSPs, are a few projects that have been only generally discussed. These projects of long-term regional potential address several regional concerns about how to approach possible future projects that do not yet appear, or appear only partially, in an adopted TSP and yet still may be important to remember as plans are refined. The Jackson County TSP contains a policy regarding Long-Term Potential corridors (LTPs) as a method of addressing conceptual projects that may also be of value to the RTP process. From the Jackson County TSP:

Policy 4.2.1-M, Jackson County establishes Long-term Potential (LTP) Comprehensive Plan corridor areas where planning for future road connections beyond the planning horizon of the TSP are probable."

Strategies:

Review LTP overlay designations at least once every ten years to determine whether protection of the corridor is still warranted based on an analysis that determines if the corridor is still a probable location for a future road connection.

If a road is planned at a future time within a LTP corridor, then the LTP corridor designation will be removed. The presence of an LTP designation provides no 'special status' for planning a transportation improvement, such as the need for exceptions to the Statewide Planning Goals. Where a proposed transportation connection passes through both city and county jurisdictions, coordination and consensus are required for the project to become part of the regional transportation plan. For the city portion of a proposed new route to have any viability it must be connected to a Jackson County portion. Under RVMPO procedures, such a route, even if funding were available, could not be in the Tier 1 regional project list unless the County TSP includes it in its adopted Tier 1 plan.

Two LTPs are addressed here:

- Jacksonville Arterial Connector Refinement Plan; and
- South Stage Road Long-Term Potential Corridor.

Jacksonville Arterial Connector Refinement Plan -- Jacksonville's TSP identifies an alternative connection for through traffic on Hwy 238 and contemplates a northern arterial connector being extended from the current intersection of Hwy 238 and west to Pair-a-dice Ranch Road on the north of Jacksonville. The connection has been considered for over 40 years with both a northerly and southerly route analyzed. Either alignment would require crossing resource land, although in different proportions, outside the acknowledged urban growth boundary. Jacksonville's TSP finds that the alternative connection is needed to address livability issues, in particular the downtown area.

Downtown Jacksonville is nationally recognized as Oregon's, "most extensive and complete example of late 19th century inland commercial and mining community" (National Park Service). It attracts many high-end retail and dining establishments and it's a regional entertainment destination during the summer months. Through traffic on the highway that runs through the center of the downtown – particularly heavy truck traffic – is seen as detrimental to the unique character of the city. In 2004, the Oregon Department of Transportation formally recognized downtown Jacksonville as a Special Transportation Area (STA). The livability needs identified in Jacksonville's TSP remain unmet.

While construction of any facility is not expected to be necessary within the planning horizon, preservation and recognition of this connection is important now to protect what may be a critical connection sometime in the future. A significant portion of this area is currently zoned Exclusive Farm Use (EFU) and therefore is protected from residential and commercial development under current EFU land use protections. However, this protection is not entirely complete. EFU allows for substantial structural improvements to occur when in conjunction with a farm use.

Stage Road Long-Term Potential Corridor – Medford's TSP contemplates South Stage Road being extended from its current terminus at Hwy. 99 to east of I-5, with an overcrossing of the freeway. A corridor overlay described in Jackson County's TSP protects the area where an arterial extension of South Stage Road east of I-5 to North Phoenix Road (not including the freeway overcrossing) would be located. The corridor overlay will protect the area necessary to connect the facility contemplated in the Medford TSP, creating a link between Hwy. 99 and North Phoenix Road. From a connectivity standpoint, an arterial in this area

would provide a well-spaced connection across I-5 and Bear Creek between the South Medford Interchange and the Fern Valley Interchange. The ongoing development in southeast Medford and northeast Phoenix is going to continually increase the need for an additional connection in this area. While construction of any facility is not expected to be necessary within the planning horizon, preservation and recognition of this connection is important now to protect what is likely to be a critical connection sometime in the future.

This area is currently zoned EFU and therefore is protected from residential and commercial development under current EFU land use protections. However, this protection is not entirely complete. EFU allows for substantial structural improvements to occur when in conjunction with a farm use. Prevention of development that would be incompatible with a future transportation connection within this corridor is the primary reason for this overlay.

Potential New Air Quality Requirements

Three air quality issues are the subject of growing interest and, in some areas, new controls to protect human health and the environment. For one, $PM_{2.5}$, laws already are in place, and two Oregon communities have been found in violation of air quality standards. For another, climate change, discussion and proposed controls are being discussed at both the state and federal level. Looking at these issues separately:

$PM_{2.5}$ – These are the very fine particles that can lodge deeply in the lungs and cause health problems. The RVMPO region has limits in place for the larger PM_{10} particles, but not for 2.5. So far the region has not violated the federal standards for 2.5, but the state continues monitoring. So far, voluntary controls adopted by most RVMPO cities, have been effective in reducing 2.5 levels. As long as standards are not violated, controls like the Air Quality Conformity process required for PM_{10} will not be established.

Ozone – For the past few years, EPA has been considering tightening the standard for ground-level ozone (smog) from 0.075 parts per million to between 0.060 and 0.070. The final decision originally was expected in mid-2012, but has been delayed for additional research, review and evaluation. Depending on where a new limit (if any) falls the Rogue Valley region could be found in nonattainment for ozone at some point in the future. The designation would trigger new requirements for RVMPO plans and programs.

Ground-level ozone is one of six criteria pollutants regulated by EPA. The others are particulate matter, nitrogen dioxide, carbon monoxide, sulfur dioxide, and lead. The RVMPO area is a

maintenance area for particulates and the Medford UGB is a maintenance area for carbon monoxide.

EPA has proposed to act based on studies showing that high concentrations of ozone can reduce lung function and increase respiratory symptoms, aggravating asthma or other respiratory conditions. Ozone exposure also has been associated with increased susceptibility to respiratory infections, medication use by asthmatics, doctor visits, and emergency department visits and hospital admissions for individuals with respiratory disease. Ozone exposure may also contribute to premature death, especially in people with heart and lung disease. Human effects have been detected at the 0.060 level. High ozone levels can also harm sensitive vegetation and ecosystems. Ozone is most readily formed on warm, sunny days when the air is stagnant.

2007-2009 Ozone (ppm) (3yr avg of 4th highest 8hr avg)	
Portland	0.064
Salem	0.064
Eugene	0.061
Medford	**0.067**
Hermiston	0.063
Bend	0.060*

One year of data
Source: Oregon DEQ

Once nonattainment designations take effect, state and local governments have three years to develop implementation plans outlining how areas will attain and maintain the standards by reducing air pollutant emissions contributing to ground-level ozone concentrations.

Climate Change – The Oregon governor's advisory group has issued recommendations to reduce greenhouse gas emissions from all sources including transportation. Additionally, recent rulemaking has established voluntary targets for MPO areas to reduce travel – and thereby emissions – from light-duty vehicles.

The state estimates that roughly 17 percent of Oregon greenhouse gas emissions come from transportation. The advisory group's recommendations include greater use of walking, biking, transit and carpooling in urban areas, and increased use of low-emitting vehicles.

Emission reporting requirements for industry already have been established in the state. The governor set a goal of beginning to reduce greenhouse gas emissions by 2010, and by 2020 to achieve greenhouse gas levels 10 percent less than 1990 levels, with an ultimate goal to achieve greenhouse gas levels 75 percent below 1990 levels by 2050.

Regional Problem Solving Process

Since 2000, the RVMPO jurisdictions have been collaborating on a long-range regional plan intended to accommodate a population of 270,000 over an estimate 50-year plan horizon. Through the Oregon Regional Problem Solving Process, the jurisdictions

created a Greater Bear Creek Valley Regional Plan to indentify lands for development beyond the horizon of conventional plans, including the Regional Transportation Plan.

The RPS plan has been adopted into the Jackson County Comprehensive Plan, and adopted by the six cities involved. The region is waiting on the final approval action, acknowledgement by the state Land Conservation and Development Commission.

LCDC has indicated its approval, and this RTP begins the implementation of RPS. Through consultation with member jurisdictions and air quality conformity consultation agencies (EPA, ODEQ, ODOT, FHWA and FTA), RVMPO has incorporated the growth assumptions of RPS into the travel demand model update. For the last 10 years of this plan, some urban development has been moved into the RSP growth areas consistent with the RPS land use and density standards.

Further implementation work is anticipated. RPS requires the future growth areas to be master planned prior to urbanization, including provisions for transportation. Issues to be addressed are expected to include: identifying future congestion points, and developing potential multi-modal solutions including new transportation corridors and their funding.

RVMPO has had input into the RPS plan. Land use scenarios were analyzed to help policy makers evaluate the impacts various land use decisions may have on transportation. Procedures for protecting future transportation corridors and funding future transportation solutions were identified and evaluated. As RPS growth areas begin to be developed, additional demands for transportation planning are anticipated.

Also, RVMPO conducted a demonstration master planning process, which identified transportation and land uses in one identified growth area in Central Point. Based on the demonstration, RVMPO published a guide for other RPS cities use as they begin urbanizing growth areas.

Appendices

2013-2038
Regional Transportation Plan

Appendix A

TRANSPORTATION PLANNING ACRONYMS AND TERMS

ACT:	Area Commission on Transportation
ADA:	Americans with Disabilities Act
ADT:	Average Daily Traffic
AQMA:	Air Quality Maintenance Area
CAAA:	Clean Air Act Amendments
CBD:	Central Business District
CMAQ:	Congestion Mitigation & Air Quality
CO:	Carbon Monoxide
COATS:	California Oregon Advanced Transportation Systems
DLCD:	Department of Land Conservation and Development
EMME/2:	Computerized Transportation Modeling Software
EPA:	Environmental Protection Agency
FFY:	Federal Fiscal Year: from October 1 to September 31.
FHWA:	Federal Highway Administration
FTA:	Federal Transit Administration
FTZ:	Foreign Trade Zone
FY:	Fiscal Year: (Oregon state fiscal year from July 1 to June 30)
GCP:	General Corridor Planning
GIS:	Geographic Information Systems
HOT:	High Occupancy Toll lane with extra charge for single occupants
HOV:	High Occupancy Vehicle lane for vehicles with more than one occupant
HPMS:	Highway Performance Monitoring System
I/M or I & M:	Inspection and Maintenance Program for emissions control
ISTEA:	Intermodal Surface Transportation Efficiency Act (1991), replaced by **TEA-21**, the Transportation Equity Act for the 21st century, expired in 2003
ITS:	Intelligent Transportation Systems
JJTC:	Jackson-Josephine Transportation Committee
LOS:	Level of Service, a measure of traffic congestion from A (free-flow) to F (grid-lock)
LRT:	Light Rail Transit, self-propelled rail cars such as Portland's MAX
MAP-21	Moving Ahead for Progress in the 21st Century; 2013 transportation act.
MIS:	Major Investment Study
MOU:	Memorandum of Understanding
MPO:	Metropolitan Planning Organization, a planning body in an urbanized area over 50,000 population which has responsibility for developing transportation plans for that area
MTIP:	Metropolitan Transportation Improvement Program (same as TIP)
NAAQS:	National Ambient Air Quality Standards
NARC:	National Association of Regional Councils
NHS:	National Highway System

NPTS:	Nationwide Personal Transportation Survey
NTI:	National Transit Institute
OAR:	Oregon Administrative Rules
ODFW:	Oregon Department of Fish and Wildlife
ODOT:	Oregon Department of Transportation
ORS:	Oregon Revised Statutes
OTC:	Oregon Transportation Commission, ODOT's governing body
OTP:	Oregon Transportation Plan
PC:	MPO Policy Committee
PAC	RVMPO Public Advisory Council
PL Funds:	Public Law 112, Federal Planning Funds
PM_{10}:	Particulate Matter of less than 10 Micrometers
$PM_{2.5}$:	Particulate Matter of less than 2.5 Micrometers
RPS	Regional Problem Solving, long range regional land use plan, 2013
RTP:	Regional Transportation Plan
RVACT:	Rogue Valley Area Commission on Transportation
RVCOG:	Rogue Valley Council of Governments
RVIA:	Rogue Valley International Airport
RVTD:	Rogue Valley Transportation District
SAFETEA-LU	Safe Accountable Flexible Efficient Transportation Equity Act: A Legacy for Users, the current 6-year surface transportation act, expired Sept. 2009
SIP:	State Implementation Plan
SOV:	Single Occupancy Vehicle
STA:	Special Transportation Area
STIP:	Statewide Transportation Improvement Program
STP:	Surface Transportation Program
TAC:	RVMPO Technical Advisory Committee
TAZ:	Transportation Analysis Zones
TCM:	Traffic Control Measures
TDM:	Transportation Demand Management
TIP:	Transportation Improvement Program
TOD:	Transit Oriented Development
TPAU:	Transportation Planning Analysis Unit
TPR:	Transportation Planning Rule
TRADCO:	Transportation Advisory Committee
TSM:	Transportation Systems Management
TSP:	Transportation System Plan
UGB:	Urban Growth Boundary
UPWP:	Unified Planning Work Program
US DOT:	U.S. Department of Transportation
VMT:	Vehicle Miles of Travel

Appropriation - Legislation that allocates budgeted funds from general revenues to programs that have been previously authorized by other legislation. The amount of money appropriated may be less than the amount authorized.

Authorization - Federal legislation that creates the policy and structure of a program including formulas and guidelines for awarding funds. Authorizing legislation may set an upper limit on program spending or may be open ended. General revenue funds to be spent under an authorization must be appropriated by separate legislation.

Capital Costs - Non-recurring or infrequently recurring cost of long-term assets, such as land, buildings, vehicles, and stations.

Conformity Analysis - A determination made by the MPOs and the US DOT that transportation plans and programs in non-attainment areas meet the "purpose" of the SIP, which is to reduce pollutant emissions to meet air quality standards.

Emissions Budget - The part of the SIP that identifies the allowable emissions levels for certain pollutants emitted from mobile, stationary, and area sources. The emissions levels are used for meeting emission reduction milestones, attainment, or maintenance demonstration.

Emissions Inventory - A complete list of sources and amounts of pollutant emissions within a specific area and time interval (part of the SIP).

Exempt / Non-Exempt Projects - Transportation projects which will not change the operating characteristics of a roadway are exempt from the Transportation Improvement Program conformity analysis. Conformity analysis must be completed on projects that affect the distance, speed, or capacity of a roadway.

Federal-aid Highways - Those highways eligible for assistance under Title 23 of the United States Code, as amended, except those functionally classified as local or rural minor collectors.

Functional Classification - The grouping of streets and highways into classes, or systems according to the character of service that they are intended to provide, e.g., residential, collector, arterial, etc.

Key Number - Unique number assigned by ODOT to identify projects in the TIP/STIP.

Maintenance - Activities that preserve the function of the existing transportation system.

Maintenance Area - "Any geographical region of the United States that the EPA has designated (under Section 175A of the CAA) for a transportation related pollutant(s) for which a national ambient air quality standard exists." This designation is used after non-attainment areas reach attainment.

Mobile Sources - Mobile sources of air pollutants include motor vehicles, aircraft, seagoing vessels, and other transportation modes. The mobile source related pollutants of greatest concern are carbon monoxide (CO), transportation hydrocarbons (HC), nitrogen oxides (NOx), and particulate matter (PM_{10}). Mobile sources are subject to a different set of regulations than are stationary and area sources of air pollutants.

Non-attainment Area - "Any geographic region of the United States that the EPA has designated as non-attainment for a transportation related pollutant(s) for which a national ambient air quality standard exists."

Regionally Significant – From OAR 340-252-0030 (39) "Regionally significant project" means a transportation project, other than an exempt project, that is on a facility which serves regional transportation needs, such as access to and from the area outside the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves, and would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum:
(a) All principal arterial highways;
(b) All fixed guideway transit facilities that offer an alternative to regional highway travel; and
(c) Any other facilities determined to be regionally significant through interagency consultation pursuant to OAR 340-252-0060.

3C - "Three C's" = continuing, comprehensive, and cooperative - This term refers to the requirements set forth in the Federal Highway Act of 1962 that transportation projects in urbanized areas be based on a "continuing, comprehensive transportation planning process carried out cooperatively by states and local communities." ISTEA's planning requirements broadened the framework for such a process to include consideration of important social, environmental and energy goals, and to involve the public in the process at several key decision making points.

Appendix B

RVMPO Alternative Measures

Appendix B addresses state requirements for Alternative Measures. Status report on the region's conformity with these requirements is given.

Alternative Measures

In April 2002 the Land Conservation and Development Commission (LCDC) approved Alternative Measures to bring the RVMPO's 2000 Regional Transportation Plan interim update into compliance with the state's Transportation Planning Rule (TPR). The RVMPO developed these measures because modeling of the 2000 RTP showed that the region could expect a 2.5% per capita VMT reduction over the 20-year planning period, falling short of the TPR's 5% per capita VMT reduction requirement. The Alternative Measures meet requirements for an alternative measure of reduced reliance on the automobile, as specified in section 660-012-0035(5).

LCDC's approval, however, was conditioned on completion of certain tasks to clarify the manner in which compliance would be measured. The RVMPO completed that work in 2004, and findings are at the end of this section.

This appendix contains:

1. Alternative Measures Development
2. Selection of Measures
3. Alternative Measures Summary (table)
4. RVMPO Findings
5. LCDC Findings Regarding Alternative Measures
6. RVMPO Alternative Measures Implementation
7. Technical Memorandum: Refine Tracking Criteria, Alternative Measures
8. Technical Memorandum: Determination of Development that Satisfies Tracking Criteria

1. Alternative Measures Development

In April 2000, the RVMPO adopted an "Interim Update" of the Rogue Valley Regional Transportation Plan (RTP). The updated RTP contained a financially constrained project list, including projects identified in local TSPs from the cities of Medford (draft version), Central Point (draft version), and Phoenix (final version). Projects from Jackson County and ODOT, as well as a financially constrained transit plan from the Rogue Valley Transportation District (RVTD) were also included in the updated RTP.

Although the update of the RTP brought the region into compliance with Federal planning requirements, the RTP's compliance with the State's Transportation Planning Rule (TPR) remained an outstanding issue.

The RVMPO's development of an alternative measure began with an inventory of possible measures. Early in the development process, the RVMPO chose to a select a set of measures as an alternative to the TPR's per capita VMT measure. Table B-1 lists the measures and the source from which six of the seven alternative measures were selected. The measure of alternative transportation funding was developed later in the process.

Table B-1 Potential Alternative Measures Used in Selection Process

Type	Measure	Source
Alt. Modes	Mode share (alternative modes & SOV)	TPR 0035 (5)(d)
	Percent non-SOV commuter during peak-hour	Oregon Benchmark #73/ TPR 0035 (5)(d)
	Percent non-auto trips	Lane Council of Governments
Transit	Transit service hours per capita	RVTD
	Percent of population with access to public transit	RVRTP Evaluation Criteria/TPR 0035 (5)(d)
	Transit ridership, service hours, and frequency	RVRTP Evaluation Criteria
	Percent transit mode share on congested corridors	Lane Council of Governments
TDM	Percent employees participating in a trip-reduction program	Staff
	Percent employees participating in Trans. Mgmt. Assoc. (TMAs)	Staff
Automobile	Per capita vehicle trips	TPR 0035 (5)(d)
	Per capita vehicle occupancy	2000-2020 Interim RVRTP, Appendix G
	Per capita vehicle miles of travel (VMT)	RVRTP Evaluation Criteria/TPR 0035 (4)(a)
	Per capita vehicle-hours traveled (VHT)	RVRTP Evaluation Criteria/TPR 0035 (5)(d)
Infrastructure	Proportion of collectors and arterials w/ wide curb/bike lanes	RVRTP Evaluation Criteria/TPR 0035 (5)(d)
	Priority bikeway miles	Lane Council of Governments
	Proportion of collectors and arterials w/ sidewalks	RVRTP Evaluation Criteria/TPR 0035 (5)(d)
	Priority sidewalk miles	Staff
	Acres of zoned Transit-Oriented Development (TOD)	Lane Council of Governments
	Percent of dwelling units built in TODs	Lane Council of Governments
	Percent of new "total" employment in TODs	Lane Council of Governments

Throughout the development of the RVMPO's alternative measures, extensive meetings were held to solicit input from the public and RVMPO member jurisdictions. Table B-2 below summarizes the public participation and agency coordination effort that accompanied the development and approval of the RVMPO's alternative measures.

Table B-2 RVMPO Alternative Measures Public Participation Meetings

Entity	Date of Meeting	Purpose of Meeting/Outcome
Public Advisory Council	March 20, 2001	Update/Discussion
	May 15, 2001	Discussion/Recommendation to Policy Committee for approval
	July 24, 2001	
RVMPO Technical Advisory Committee	February 14, 2001	Update/Discussion
	March 14, 2001	
	April 11, 2001	
	May 2, 2001	
	June 20, 2001	
	August 8, 2001	Discussion/Recommendation to Policy Committee for approval
RVMPO Policy Committee	February 27, 2001	Update/Discussion
	March 27, 2001	
	April 24, 2001	
	May 22, 2001	
	June 26, 2001	
	September 6, 2001	Discussion/Approval/Forward Alternative Measures proposal to LCDC
Jackson County Bicycle Advisory Committee	March 28, 2001	Update/Discussion
Transportation Advocacy Committee (TRADCO)	April 16, 2001	Update/Discussion
	May 15, 2001	
	June 12, 2001	
	July 10, 2001	
RVTD	May 29, 2001	Discussion of use of Surface Transportation Program (STP) funds for increased transit service (with RVTD Staff)
Phoenix	May 30, 2001	Discussion of use of Surface Transportation Program (STP) funds for increased transit service (with RVMPO representatives)
Jackson County	May 31, 2001	
Central Point	June 5, 2001	
Medford	June 5, 2001	
Jackson County Board of Commissioners	June 12, 2001	Discussion of use of Surface Transportation Program (STP) funds for increased transit service

2. Selection of Measures

Based on the input received from RVMPO member jurisdictions, the public, DLCD staff and other State and Federal agencies that participated in the development process, seven measures of reduced automobile reliance were adopted as an alternative to the TPR's per capita VMT reduction measure. Each of the seven measures is discussed below in detail. Adopted 5-year benchmarks and 20-year targets for each of the measures are summarized at the beginning of the measure descriptions and again at the end of the chapter in Table B-13.

Measure 1: Transit, bicycle and walking mode share

As with the per capita VMT reduction measure, this measure is intended to demonstrate a shift in travel behavior away from the automobile. This shift is anticipated to result from the region's planned improvements in the transit, bicycle and pedestrian infrastructure, as well as from the implementation of planned Transit-Oriented Developments (TODs). The benchmarks and target for this measure are shown in Table B-3. A three-fold increase in transit mode share (from 1% to

3%) and a 35% increase in bicycle and walking (non-motorized) mode share (from 8.2% to 11%) have been set as 20-year targets for this measure.

Progress on this measure would be determined at 5-year intervals using the best available information at that time. Today's best information source is the RVCOG travel demand model, which can be (and has been) used to predict mode share over the 20-year planning period. Current modeling of the financially constrained RTP indicates that, in 20 years, transit mode share will remain about the same (increase to 1.2%) and bicycling and walking mode share will decrease from 8.2% to 7.7%. This modeling effort assumed that transit service levels will be reduced and that only three of the seven proposed TOD sites will be developed. Conservative assumptions concerning bicycling and walking were also implemented in the model.

Given the mode share levels predicted by the RVCOG travel demand model, the benchmarks and target identified for the mode share measure represent significant increases in alternative mode use. It is believed that changes in the urban environment to which the model currently lacks a high degree of sensitivity, such as the development of mixed-use, pedestrian friendly areas, (as described later in this proposal) will result in the higher figures shown in Table B-3. Due to the timing of construction of the mixed-use, pedestrian friendly areas, changes in travel behavior will proceed more slowly in the first 10 years of the planning period than in the final 10 years.

Table B-3 Adopted 20-Year Target for Mode Share

Measure	How Measured	2000	2005	Benchmark 2010	Benchmark 2015	Target 2020
Measure 1: Transit and bicycle/pedestrian mode share	The percent of total daily trips taken by transit and the combination of bicycle and walking (non-motorized) modes. Determined from best available data (e.g., model output and/or transportation survey data).	% daily trips transit: 1.0 bike/ped: 8.2	% daily trips transit: 1.2 bike/ped: 8.4	% daily trips transit: 1.6 bike/ped: 8.4	% daily trips transit: .2 bike/ped: 9.8	% daily trips transit: 3.0 bike/ped: 11

Measure 2: Percentage of Dwelling Units within ¼-Mile Walking Distance of 30-Minute Transit

This measure is intended to demonstrate improvements in transit accessibility. A walking distance of ¼ mile from a dwelling is assumed to provide reasonable pedestrian access to a transit line. Only those transit lines that provide at least 30-minute service will be counted towards meeting the benchmarks and target shown in Table B-4. Progress on this measure would be tracked through GIS.

A GIS analysis of current tax lot, street, geographic and transit data was used to determine the percentage of dwelling units in the MPO that are within ¼ mile walking distance to RVTD transit lines. The result of this effort is shown on a map included as Attachment A – Existing and Future Transit Service. The GIS analysis showed that 12% of dwelling units in the MPO are currently within ¼ mile walking distance to 30-minute transit service.

Today, two of RVTD's transit lines provide 30-minute service, one provides 45-minute service, three provide 60-minute service, and one provides 90-minute service. During the 20-year planning period, all of these routes are planned to go to at least 30-minute service frequency with 15-minute service during the peak hours to routes serving TOD areas (assuming increased transit

revenues). In addition, a large percentage of new development in the RVMPO area is planned to occur along existing or future transit lines. These changes are expected to result in an increase in the transit accessibility measure from 12% to 50% over the 20-year planning period. Table B-4 shows the 5-year benchmarks and 20-year target for the adopted measure.

Table B-4 Adopted 20-Year Target for Transit Accessibility

Measure	How Measured	2000	2005	Benchmark 2010	Benchmark 2015	Target 2020
Measure 2: % Dwelling Units (DUs) w/in ¼ mile walk to 30-min. transit service	Determined through GIS mapping. Current estimates are that 12% of DUs are within ¼ mile walking distance of RVTD transit routes.	12%	20%	30%	40%	50%

Measure 3: Percentage of collectors and arterials with bicycle facilities

The RVMPO programs projects along collector and arterial streets within the MPO boundaries. Consistent with the TPR, the RVMPO's policy is for these facilities to include bicycle lanes or, in rural areas, shoulders with a width greater than four feet. The measure is intended as a way to track the progress of including these facilities on the MPO's street network and as a way to demonstrate improved accessibility for bicyclists.

Progress on this measure would be determined through GIS analysis. 21% of collectors and arterials in the MPO have provisions for cyclists, i.e., 4 foot or greater shoulders or bike lanes. Projects included in the latest Draft RVRTP project listing show that these figures will increase to approximately 60%. Proposed 5-year benchmarks and 20-year targets are shown below in Table B-5.

Table B-5 Proposed 20-Year Target for Bicycle Facilities

Measure	How Measured	2000	2005	Benchmark 2010	Benchmark 2015	Target 2020
Measure 3: % Collectors and arterials w/ bicycle facilities	Determined through GIS mapping. Current estimates are that 21% of collectors and arterials in the MPO have provisions for bicyclists.	21%	28%	37%	48%	60%

Measure 4: Percentage of collectors and arterials in TOD areas with sidewalks

The RVMPO has identified seven areas that are currently planned for mixed-use, pedestrian friendly development or are in downtown areas (Table B-1). This measure is intended to demonstrate improvements in pedestrian accessibility in these portions of the MPO area - where pedestrian access is most critical.

Attachment C - *Existing and Future Pedestrian Facilities* - shows that 47% of the collectors and arterials in the TOD/Downtown areas of Central Point, Medford, and Phoenix have sidewalks. Analysis of the projects planned in the draft RVRTP Street System (Attachment D), shows that another 29% of these facilities will have sidewalks by the year 2020. This brings the total sidewalk coverage within the TOD/Downtown areas in the MPO to approximately 75%. Proposed 5-year benchmarks and 20-year targets are shown below in Table B-6.

Table B-6 Adopted 20-Year Target for Pedestrian Facilities

Measure	How Measured	2000	2005	Benchmark 2010	Benchmark 2015	Target 2020
Measure 4: % Collectors and arterials in TOD areas w/ sidewalks	Determined through GIS mapping. Current estimates are that 46% of collectors and arterials in TOD areas have sidewalks.	47%	50%	56%	64%	75%

Table B-7 shows how the number of bicycle/pedestrian projects in the draft RVRTP project list compares to all the projects listed in the RTP. All projects are included on the financially constrained (Tier 1) project list.

Table B -7 – Draft RVRTP Street System Project List Statistics

Jurisdiction	Total Projects	Bike/Ped Projects	% Bike/Ped Projects	Bike/Ped Project Costs
Jackson County	55	27	49%	$22,320,000
Medford	79	15	19%	$7,375,000
Central Point	41	9	22%	$3,864,000
Phoenix	33	26	79%	$4,004,000
MPO Total	**208**	**77**	**37%**	**$37,563,000**

Measure 5: Percent of New Dwelling Units in Mixed Use/Pedestrian-Friendly Areas and Measure 6: Percent of New Employment in Mixed Use/Pedestrian-Friendly Areas

The objective of these measures is to demonstrate progress towards creating mixed use, pedestrian-friendly developments in the MPO. Progress towards meeting the benchmarks and targets for this measure would be determined by monitoring development after the appropriate land use and development regulations have been adopted. Mixed use, pedestrian-friendly development occurring within downtown areas in Medford, Central Point, and Phoenix, as well as within proposed TOD sites, would count towards meeting the benchmark and target figures shown below in Table B-8. The benchmarks and targets shown in the table represent the accumulated development occurring since year 2000.

Table B -8 Adopted 20-Year Targets for Mixed-Use Pedestrian Friendly Development

Measure	How Measured	2000	2005	Benchmark 2010	Benchmark 2015	Target 2020
Measure 5: % Mixed-use DUs in new development	Determined by tracking building permits - the ratio between new DUs in TODs and total new DUs in the region.	0%	9%	26%	41%	49%
Measure 6: % Mixed-use employment in new development	Estimated from annual employment files from State – represents the ratio of new employment in TODs over total regional employment.	0%	9%	23%	36%	44%

Tables B-9 and B-10 show mixed-use housing (dwelling unit) and employment projections by RVMPO jurisdiction. Numbers shown in the tables represent the accumulated increase from year 2000 "base year" conditions. The unincorporated portion of Jackson County is not anticipated to include any mixed-use development during the planning period. Detailed population, employment, and housing information from the 2000-2020 RVMPO travel demand model was

used to estimate the figures shown in these tables. Downtown and future TOD areas were analyzed for new dwelling units and employment. Agricultural and industrial employment was not included in the calculations due to the unlikelihood of these uses locating in either a downtown or a TOD.

Table B -9 Mixed Use Housing Projections – RVMPO Jurisdictions

Jurisdiction	Category	2005	2010	2015	2020	2020%
Medford	New DU (total)	1578	4126	5667	7581	61%
	Mixed-Use DU	158	1238	2834	4604	
Central Point	New DU (total)	555	1098	1715	2423	39%
	Mixed-Use DU	55	274	600	945	
Phoenix	New DU (total)	179	345	514	738	41%
	Mixed-Use DU	18	103	180	302	
Jackson County	New DU (total)	386	638	930	1225	0%
	Mixed-Use DU	0	0	0	0	
MPO Total	New DU (total)	2697	6206	8827	11967	49%
	Mixed-Use DU	231	1616	3614	5851	

Table B -10 Mixed Use Employment Projections – RVMPO Jurisdictions

Jurisdiction	Category	2005	2010	2015	2020	2020%
Medford	New Emp (total)	3078	6156	9234	12312	48%
	Mixed-Use Emp	308	1539	3694	5956	
Central Point	New Emp (total)	405	811	1216	1622	48%
	Mixed-Use Emp	41	243	486	778	
Phoenix	New Emp (total)	165	330	495	660	26%
	Mixed-Use Emp	8	50	99	173	
Jackson County	New Emp (total)	273	546	820	1093	0%
	Mixed-Use Emp	0	0	0	0	
MPO Total	New Emp (total)	3922	7843	11765	15686	44%
	Mixed-Use Emp	357	1832	4279	6907	

RVMPO Transit-Oriented/Mixed-Use, Pedestrian-Friendly Development
(For the purposes of this proposal, the term "TOD" is used interchangeably with the "Mixed-Use, Pedestrian Friendly Development" term used in the Transportation Planning Rule (TPR).)

Transit-oriented development (TOD) is a way to locate people near transit services while decreasing their dependency on automobiles. While sprawling development patterns necessitate use of automobiles for virtually every trip, TODs - through the creation of higher-density, mixed-use, pedestrian districts - increase the convenience of walking, bicycling, and transit and thereby reduce automobile dependency.

In 1999, the RVMPO undertook a Transit-Oriented Design and Transit Corridor Development Strategies Study (TOD Study). The TOD Study outlined recommendations for ten TOD sites in Central Point, Medford, Phoenix, and White City (in unincorporated Jackson County). The study was intended to provide an alternative land use scenario that would bring the MPO into compliance with the TPR's VMT reduction requirement. Although modeling of the TOD Study's recommended land use patterns did not yield the TPR-mandated 5% reduction in VMT per capita, many of the Study's land use recommendations are being implemented.

Ten candidate high-growth areas, previously identified in the 1995 RTP, were analyzed in the TOD Study. Of the original ten TOD sites, three are proceeding towards development, three are undergoing analysis and four have been removed from consideration. The three TOD sites closest to development are the Central Point TOD, the Medford SE Plan, and the Phoenix City Center Plan. The following is a brief summary of the current status of TOD development in the RVMPO.

Central Point TOD - Status
Central Point completed amendments to its official maps and implementing ordinances establishing a fully compliant TOD center in the northwest section of the city. Infrastructure needs, particularly transportation, have been thoroughly reviewed. Residential neighborhoods have been constructed in the southern half of the development, with public and commercial phases expected to be developed when a new rail crossing is completed. Planning for second TOD in northeastern Central Point has begun.

Medford TOD Development - Status
The City of Medford has been working on plans for four potential TOD sites under consideration within the City. These four sites are Downtown, Southeast, Delta Waters and West Medford. The City is committed to TOD concepts, and is already working to implement its adopted Southeast Plan, a large development employing Smart Development principles.

Phoenix City Center TOD - Status
Phoenix has developed a mixed-use plan for the City Center area that incorporates TOD policies and standards consistent with the MPO's TOD Study. The TOD site includes much of the existing downtown area, and the City is committed to urban-centered, pedestrian-friendly growth. The City has conducted a marketing feasibility study for an independently prepared City Center Plan and will adopt amendments to its municipal code that foster transit-oriented development.

Measure 7: Alternative Transportation Funding
This measure has been developed to demonstrate the RVMPO's commitment to implementing the alternative transportation projects upon which many of the proposed measures rely. Funds made available to the RVMPO through the Surface Transportation Program (STP) are the only funds over which the RVMPO has complete discretion. RVMPO jurisdictions have agreed to direct 50% of this revenue stream, historically used for vehicular capacity expansion projects, towards alternative transportation projects. STP funds would be used to expand transit service, or, if RVTD is successful with a local funding package, to fund bicycle/pedestrian and TOD-development supportive projects. Table B-12 shows adopted 5-year benchmarks and 20-year targets for this measure.

Table B-11 – Adopted 20-Year Target for Alternative Transportation Funding

Measure	How Measured	2000	2005	Benchmark 2010	Benchmark 2015	Target 2020
Measure 7: Alternative Transportation Funding	Funding committed to transit or bicycle/pedestrian/TOD projects. Amounts shown represent ½ of the MPO's estimated accumulation of discretionary funding (STP).	N/A	$950,000	$2.5 Million	$4.3 Million	$6.4 Million

*STP revenue estimates developed by Oregon Department of Transportation.

Without the additional operating revenues provided through this measure (or through some other source), current revenue projections show that RVTD will be required to cut service and eliminate routes in the MPO. The RTP identifies a financially constrained (Tier 1) transit system that provides greatly reduced service in the MPO, along with a "preferred" (Tier 2) transit system, providing several additional routes as well as faster headways. RVTD will be pursuing a local funding package in the near future to finance the Tier 2 transit plan. If voters approve this package, RVTD will not require STP funds in order to cover funding shortfalls. It is therefore proposed that, should RVTD's new fund source become a reality, the STP transit allocation proposed in this measure instead be directed to RTP bicycle/pedestrian projects and projects that facilitate the development of TOD sites.

The following list of priorities for STP–funded transit projects has been developed in consultation with MPO jurisdictions. The list is intended as a starting point for determining how STP funds will be spent by the Rogue Valley Transportation District. Projects are not listed in any particular order.

STP Funding Priorities for Rogue Valley Transportation District (RVTD)

- Central Point: RVTD will increase service on Route 40 (Central Point) to 30 minute headways and provide service to the TOD site when feasible.
- Medford: RVTD will serve the Southeast Plan Area (Medford TOD) when feasible.
- Phoenix: RVTD will improve transit stops within Phoenix; and RVTD will explore ways to improve Hwy 99 (Main Street) pedestrian crossing to a northbound transit stop, and in the interim, will provide shuttle service for this purpose.
- Jackson County: RVTD will increase transit service to White City .

3. Alternative Measures Summary (Table)

Table B-13 summarizes the seven adopted alternative measures along with 5-year benchmarks and 20-year targets. Five findings based on the requirements of the Transportation Planning Rule's section 660-012-0035(5) conclude the RVMPO's alternative measures proposal.

Table B-12 - RVMPO Adopted Alternative Measures for TPR Compliance

Measure	How Measured	2000	2005	Benchmark 2010	Benchmark 2015	Target 2020
Measure 1: Transit and bicycle/pedestrian mode share	The percent of total daily trips taken by transit and the combination of bicycle and walking (non-motorized) modes. Determined from best available data (e.g., model output and/or transportation survey data).	% daily trips transit: 1.0 bike/ped: 8.2	% daily trips transit: 1.2 bike/ped: 8.4	% daily trips transit: 1.6 bike/ped: 8.4	% daily trips transit: .2 bike/ped: 9.8	% daily trips transit: 3.0 bike/ped: 11
Measure 2: % Dwelling Units (DUs) w/in ¼ mile walk to 30-min. transit service	Determined through GIS mapping. Current estimates are that 12% of DUs are within ¼ mile walking distance of RVTD transit routes.	12%	20%	30%	40%	50%
Measure 3: % Collectors and arterials w/ bicycle facilities	Determined through GIS mapping. Current estimates are that 21% of collectors and arterials in the MPO have provisions for bicyclists.	21%	28%	37%	48%	60%
Measure 4: % Collectors and arterials in TOD areas w/ sidewalks	Determined through GIS mapping. Current estimates are that 46% of collectors and arterials in TOD areas have sidewalks.	47%	50%	56%	64%	75%
Measure 5: % Mixed-use DUs in new development	Determined by tracking building permits - the ratio between new DUs in TODs and total new DUs in the region.	0%	9%	26%	41%	49%
Measure 6: % Mixed-use employment in new development	Estimated from annual employment files from State – represents the ratio of new employment in TODs over total regional employment.	0%	9%	23%	36%	44%
Measure 7: Alternative Transportation Funding	Funding committed to transit or bicycle/pedestrian/TOD projects. Amounts shown represent ½ of the MPO's estimated accumulation of discretionary funding (STP).	N/A	$950,000	$2.5 Million	$4.3 Million	$6.4 Million

4. RVMPO Findings

1. Achieving the targets for the adopted alternative measures will result in a reduction in reliance on automobiles.
2. Achieving the targets for the adopted alternative measures will accomplish a significant increase in the availability and convenience of alternative modes of transportation.
3. Achieving the targets for the adopted alternative measures is likely to result in a significant increase in the share of trips made by alternative modes, including walking, bicycling, and transit.
4. VMT per capita is unlikely to increase by more than 5%.
5. The adopted alternative measures are reasonably related to achieving the goal of reduced reliance on the automobile as described in OAR 660-012-0000.

5. Alternative Measures Implementation

Since LCDC's approval of the Alternative Measures, the RVMPO and member jurisdictions have undertaken a number of projects to implement the measures. Several cities are, or are planning to, update Transportation System Plans. Phoenix and Central Point, as this RTP update

goes to adoption, are revising their zoning ordinances to include conditions that are expected to foster compliance with the measures.

Prior to this RTP update two projects have been undertaken by the RVMPO to directly address the commission's conditions: refinement of Alternative Measures 5 and 6; and creation and adoption of an Integrated Land Use Plan (ILUTP). Refinement of Measures 5 and 6 is contained in the following two sections. These sections include a city-by-city report on activities that support the measures. The RVMPO is working with member cities to draft an ILUPT. The ILUTP work is to be completed by June 2005.

Both of these projects address LCDC concerns about Alternative Measure 3 and the need for a safe, convenient network of bicycle facilities within the planning horizon. Bicycle system features addressed in the refinement of Measures 5 and 6 and the ILUTP include bicycle routes on roadways as well as routes off the road system, establishment of connections to key community and regional destinations, and secure bicycle parking.

6. Benchmark status

Several Alternative Measures relate to land use and, therefore, are closely linked with work of the RVMPO and member jurisdictions to develop and implement integrated land use and transportation plans. In particular, two measures set benchmarks for the percentage of new dwelling units and employment growth that must occur within compact, mixed-use, pedestrian, and transit-friendly neighborhoods. By 2007, this kind of development must have accounted for 9 percent of development in the RVMPO since 2000. Each of the seven measures has such interval benchmarks standards to gauge the region's progress toward meeting the measure's intended outcome. This memo reports on analysis conducted in summer 2008 into whether the benchmarks are being achieved. It provides RVMPO member jurisdictions with a progress report on the extent to which the region is consistent with the Alternative Measures.

This analysis encompasses the entire RVMPO and all seven measures where previous analyses have focused on various RVMPO jurisdictions and a limited number of measures. Appendix C of the 2005 Regional Transportation Plan (RTP) contains discussion of the Alternative Measures and also contains The LCDC Order approving the measures. The "Findings of Fact and Conclusions of Law" regarding the Measures. Conclusion 6.c. states that: "The alternative measures shall be used to measure progress towards achieving reduced automobile reliance unless the adopted MPO plan achieves a 5 percent reduction in VMT per capita within 20 years of the adoption of the plan." Analyses contained in this memo serve to meet this finding.

Summary Findings

The analyses described in this memorandum show that the region, for the most part, is meeting or exceeding the Alternative Measures benchmarks through 2007. As shown on the summary table on page 2, the only measure the region is failing to meet is transit, bicycle and walking mode share (Measure 1). A significant reduction in transit service in 2006 because of a funding shortfall could be the cause of the ridership decline recorded here.

Table 1, below, shows the degree to which the RVMPO is meeting goals established in the Alternative Measures. The requirements will grow more demanding in the future, which may necessitate adoption of new provisions in local land use codes.

Table B-13: RVMPO Alternative Measures and 2007 Benchmark Analysis

Measure	How Measured	2000	Benchmark 2005	Measured 2007	Benchmark 2010	Benchmark 2015	Target 2020
Measure 1: Transit and bicycle/pedestrian mode share	The percent of total daily trips taken by transit and the combination of bicycle and walking (non-motorized) modes. Determined from best available data (e.g., model output and/or transportation survey data).	%daily trips transit: 1.0 bike/ped: 8.2	%daily trips transit: 1.2 bike/ped: 8.4	%daily trips transit: 0.9 bike/ped: 7.3	% daily trips transit: 1.6 bike/ped: 8.4	% daily trips transit: 2.2 bike/ped: 9.8	% daily trips transit: 3.0 bike/ped: 11
Measure 2: % Dwelling Units (DUs) w/in ¼ mile walk to 30-min. transit service	Determined through GIS mapping. Current estimates are that 34% of DUs are within ¼ mile walking distance of RVTD transit routes.	12%	20%	34%	30%	40%	50%
Measure 3: % Collectors and arterials w/ bicycle facilities	Determined through GIS mapping. Current estimates are that 37% of collectors and arterials in the MPO have provisions for bicyclists.	21%	28%	37%	37%	48%	60%
Measure 4: % Collectors and arterials in TOD areas w/ sidewalks	Determined through GIS mapping. Current estimates are that 56% of collectors and arterials in TOD areas have sidewalks.	47%	50%	55%	56%	64%	75%
Measure 5: % Mixed-use DUs in new development	Determined by tracking building permits - the ratio between new DUs in TODs and total new DUs in the region.	0%	9%	10%	26%	41%	49%
Measure 6: % Mixed-use employment in new development	Estimated from annual employment files from State – represents the ratio of new employment in TODs over total regional employment.	0%	9%	17%	23%	36%	44%
Measure 7: Alternative Transportation Funding	Funding committed to transit or bicycle/pedestrian/TOD projects. Amounts shown represent ½ of the MPO's estimated accumulation of discretionary funding (STP).	N/A	$950,000	$1.4 Million	$2.5 Million	$4.3 Million	$6.4 Million

Table B-13 shows the measures and benchmarks as they were adopted. The "as measured" numbers in the 2007 column are the results of recent measurements made as described in the

"How Measured" column of the Table. Through this analysis, staff discovered that almost all benchmarks are being met. Measure 1 is a sticking point and conjecture is that this is mainly due to the Rogue Valley Transit District's (RVTD) ongoing funding problems. Further contributing to this shortfall in meeting benchmarks for Measure 1 is the fact that the valley simply does not experience the congestion levels one might consider necessary in order to get people to abandon their automobiles for the longer commutes associated with transit.

The following section contains description of each measure and how the benchmark analysis was performed.

MEASURE 1: TRANSIT AND BICYCLE/PEDESTRIAN MODE SHARE

Performance here was measured and determined by utilizing the best available data such as model output and/or by researching available transportation survey data. According to Table B-13 in 2007, .9% of RVMPO daily trips were conducted on the local transit system (Rogue Valley Transportation District – RVTD) and bicycle/pedestrian trips accounted for 7.3% of the total daily trips. This data was acquired by analyzing transportation model output and through analysis of results generated by review of transportation survey results. As can be further seen in Table I, these percentages fall short of measurements taken in similar fashion in 2005.

There could be several reasons for this fall in percentages, but as it relates to transit, RVTD has endured some difficult budget times. There have been both route and service cuts making an increased ridership all but impossible to achieve. Reasons for the dip in the bicycle/pedestrian percentages can be tied to the booming economy experienced between 2005 and 2007 when people felt more "cash flush" and opted to drive their cars with little care for gas prices. While this circumstance has abated since mid-2007, another factor possibly contributing to the lower percentages of bike riding and walking could be the fact that the RVMPO simply does not experience sufficient amounts of congestion that might force people to decide to leave their cars home and walk or bike to work.

As can be seen in Table B-13 , these percentages are needing to be increased in order to meet 2010, 2015, and 2020 benchmarks and targets. It is likely that even with RVTD funding being problematic these days that the higher price of gasoline will contribute to an increase in percentage shares of these modes of travel. This thought is supported by a June 22, 2008 article in the local Mail Tribune newspaper which detailed a recent increase in RVTD ridership, most likely due to the escalating price of gasoline. The article further noted that ridership could be increased even further with expansion of RVTD service which is a lofty goal in the face of RVTD's current funding and route/service cuts.

MEASURE 2: PERCENT OF DWELLING UNITS WITHIN ¼ MILE WALK OF THIRTY MINUTE TRANSIT SERVICE

Results here were measured through Geographic Information System (GIS) mapping software. The data was compiled by utilizing GIS and Jackson County Assessor Tax Codes for (existing) 2008 taxlots to determine non-vacant housing in the RVMPO in 2007. The study found that

there were 51,883 dwelling units in the RVMPO and that 17,684 of those dwelling units were within ¼ mile of RVTD transit service. In the year 2000, MPO staff measured 12% of all RVMPO dwelling units within the prescribed ¼ mile distance. By 2007, this figure had jumped to 34%, exceeding the established 2010 benchmark of 30%.

MEASURE 3: PERCENTAGE OF COLLECTORS/ARTERIALS WITH BICYCLE FACILITIES

Results related to this measure were also measured by utilizing GIS software. Through this measurement, RVMPO staff found that 37% of MPO roadways had bike lanes on at least one side of RVMPO collector and arterial roadways. As measured for 2007, out of a total of 3,866,156 linear feet of collectors and arterials in the MPO, 1,422,583 linear feet, or 37%, were collectors and arterials with bike lanes. The MPO has already attained the 2010 benchmark percentage. For purposes of these analyses, state and city standards for bike facilities may differ. However, if a local jurisdiction considers a facility a bike path, it was counted. Furthermore, if a bike facility met state standards, RVMPO staff counted those facilities as well.

MEASURE 4: PERCENTAGE OF COLLECTORS AND ARTERIALS IN TOD AREAS WITH SIDEWALKS

For purposes of this entire analysis, not just this specific measure, a TOD area is considered to be one of three things: a transit-oriented development, an activity area, and/or a downtown/central business district. Again, goals established here were measured by utilizing GIS software. In the year 2000, approximately 47% of collector and arterial streets in TODs (Transit Oriented Developments) had sidewalks on at least one side. As measured for 2007, this figure had risen to 55%. In 2007, the RVMPO had 93,925 total linear feet of collectors and arterials in designated TOD areas. Of that total, at least 51,678 linear feet were improved with sidewalks on at least one side. This 55% figure for 2007 is edging extremely close to the 56% benchmark set for 2010.

MEASURE 5: PERCENTAGE OF NEW DWELLING UNITS IN MIXED-USE/PEDESTRIAN-FRIENDLY AREAS

Measurements here were determined by tracking building permits and comparing the ratio between new dwelling units in TODs (considered a mixed-land-use overlay) and total new dwelling units in the MPO. From 2000 through 2007, 8,609 new dwelling units were permitted inside the RVMPO boundary. Of those, 863 dwelling units were permitted at a density of 10 units per acre or greater (lot size no larger than 4,356 square feet per unit) within designated TODs, downtowns and activity centers. This represents a figure of 10% in 2007. The 10% figure slightly exceeds the 2005 benchmark, but falls far short of the 2010 benchmark percentage of 26%.

It is reasonable to conclude that the 26% benchmark may not be attainable based on past development trends. However, RVMPO staff will continue to monitor the situation. It is conceivable that petrol prices will cause any permits issued to be within established TODs or at least within ¼ mile of qualifying commercial buildings. Anticipated dwelling location within

these areas could be expected with the rising cost of gasoline. Additionally, smaller lot sizes may become more attractive as the trend toward an aging population continues.

MEASURE 6: PERCENTAGE OF NEW EMPLOYMENT IN MIXED-USE/PEDESTRIAN FRIENDLY AREAS

Data and measurements here were estimated through review of annual employment files issued from the State of Oregon. The percentages quoted here represent a ratio of new employment in TODs (mixed-use developments) as compared with total new employment in the MPO. According to assumptions contained in the currently adopted Regional Transportation Plan (RTP) for the MPO, a total of 13,256 new jobs were created in the MPO in the period 2000-2007. Of this total, 2,257 jobs have been created in qualified TOD/downtown/activities center locations. The ratio represented here is 17% which is well above the 2005 benchmark of 9% and a little short of the 2010 benchmark of 23%.

MEASURE 7: ALTERNATIVE TRANSPORTATION FUNDING

This represents funding committed to transit or bicycle/pedestrian/TOD projects. Amounts listed are intended to represent half of the RVMPO's established accumulation of discretionary Surface Transportation Program (STP) funding. As of 2007 this amount was determined to be $1.4 million. The specific sums shown as benchmarks and the target for this measure are estimates based on the best financial forecasts available at the time the measure was adopted (2002). The actual financial commitment of this measure is half of the total STP allocation.

The RVMPO has fulfilled this measure by allocating the funding to RVTD for enhanced transit service. The measure calls for the funds to "be used to expand transit service, or, if RVTD is successful with a local funding package, to fund bicycle/pedestrian and TOD-development supportive projects."

Table B-14 on the following page summarizes RVMPO funding to RVTD since the measures were acknowleged.

.Table B-14- RVMPO Funding to RVTD, 2002-2012 (as of Feb. 18, 2009)

Key #	Project Description	Year	Fund Source	RVMPO Share
	MPO STP Transfer	2002	STP	$252,022
	MPO STP Transfer	2003	STP	$368,077
13243	MPO STP Transfer	2004	STP	$563,380
13244	MPO STP Transfer	2005	STP	$607,439
13365	MPO STP Transfer[1]	2006	STP	$644,533
13366	MPO STP Transfer	2007	STP	$593,720
14435	MPO STP Transfer	2008	STP	$582,083
14436	MPO STP Transfer	2009	STP	$645,467
15661	MPO STP Transfer	2010	STP	$660,049
15662	MPO STP Transfer	2011	STP	$688,237
New	MPO STP Transfer	2012	STP	$814,368
New	MPO STP Transfer	2013	STP	$838,505
	MPO STP Transfer	2014	STP	$887,953
	MPO STP Transfer	2015	STP	$940163
			Total STP	**$8,503,276**
13548	RVTD Employer Trip Reduction Incentive Programs	2006	CMAQ	$59,222
13549	RVTD Rogue Valley TMA Programs	2006	CMAQ	$109,471
13552	RVTD Multi-modal Enhancement Programs	2006	CMAQ	$21,535
13554	RVTD Passenger Information Systems Programs	2006	CMAQ	$923,322
15246	Diesel Bus Replacement	2008	CMAQ	$940,370
15666	RVTD On-board Diagnostic System - ITS	2011	CMAQ	$98,703
17168	Expanded Transit Service	2012	CMAQ	$1,081,756
			Total CMAQ	**$3,234,379**
	Total STP and CMAQ 2002 to 2015			**$11,737,655**

[1] This 2006 MPO STP transfer amount includes $65,000 for the operation of RVTD Route 4 for the month of August 2006.

SUMMARY:

In conclusion, 2007 measurements show that the reagon generally is meeting Alternative Measure benchmarks. All but one of the 2005 benchmarks have been exceeded and two 2010 benchmarks have already been exceeded or equaled as well. Four other 2010 benchmarks are shown to be attainable.

OUTSTANDING ISSUE:

Until such a time that the Alternative Measures are amended by the Land Conservation and Development Commission, the Department of Land Conservation and Development assumes that the Benchmarks and Targets of the acknowledged Alternative Measures will be extended on subsequent updates of the RTP/RTSP to correspond with the timeframe of each update, unless the region can show that there will be a 5% decline in VMT per capita over the planning period (OAR 660-012-0035). Additionally, it is assumed that an analysis of the region's performance regarding each of the Alternative Measures be conducted during subsequent RTP updates. Since this RTP update did not include the aforementioned work, in order to comply with the TPR, within 1 year of adoption of the RTP, the region will need to adopt amendments to the relevant regional or local transportation system plan that make the regional transportation plan and the applicable transportation system plans consistent with one another and compliant with the TPR.