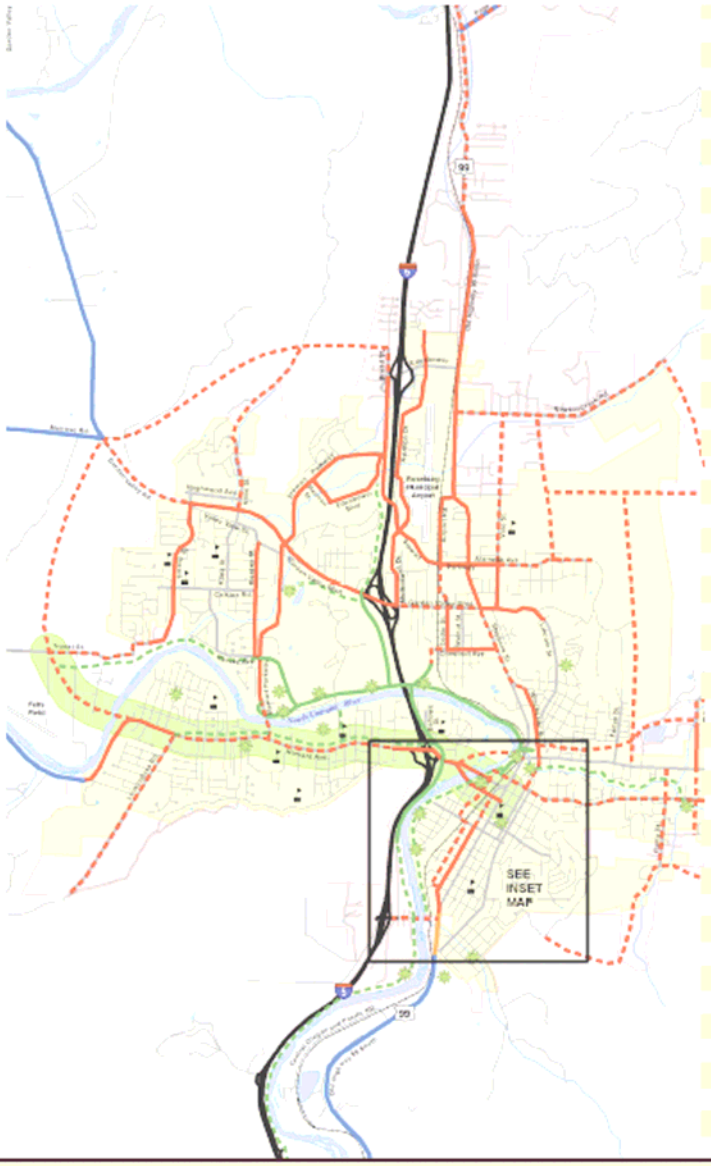

City of Roseburg

Transportation System Plan

December 2006

This project is partially funded by a grant from the TGM Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by the federal Transportation Equity Act for the 21st Century (TEA -21), local government, and the State of Oregon funds.

City of Roseburg

Transportation System Plan

Adopted December 11, 2006
Ordinance No. 3249

This project is partially funded by a grant from the TGM Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by the federal Transportation Equity Act for the 21st Century (TEA-21), local government, and the State of Oregon funds.

Acknowledgments

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Glossary

ADA	Americans with Disabilities Act of 1990 (federal)
ADT/AWDT	Average Daily Traffic/Average Weekday Traffic
AMP	Access Management Plan
ATR	Automated Traffic Recorder
CIP	Capital Improvement Plan
CORP	Central Oregon and Pacific Railroad
DEQ	Oregon Department of Environmental Quality
DLCD	Oregon Department of Land Conservation and Development
ESA	Endangered Species Act
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GRATS	Greater Roseburg Area Transportation Study
HCM	Highway Capacity Manual
HOV	High Occupancy Vehicles, typically 2-or-more person carpools and vanpools, and bus transit
LCDC	Land Conservation and Development Commission
LOS	level-of-service
LUDO	Land Use and Development Ordinance
MPO	Metropolitan Planning Organization
Multimodal	The various modes of transportation typically addressed in a TSP, including passenger car, carpool/vanpool, transit, freight/truck, and rail. Aviation is typically discussed separately, except for ground transportation access to and from airports.
MUTCD	Manual on Uniform Traffic Control Devices. The MUTCD contains standards for all traffic control devices as well as criteria (“warrants”) for the installation of traffic signals.
NBIS	National Bridge Inspection Standards
NHS	National Highway System, a federal designation
OAR	Oregon Administrative Rules
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
ORNHP	Oregon Natural Heritage Program
ORP	Oregon Rail Plan
ORS	Oregon Revised Statutes
OTC	Oregon Transportation Commission
OTP	Oregon Transportation Plan
PHF	Peak Hour Factor
PSE	Plans, Specifications, and Estimates, part of construction documents for projects
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, the current federal transportation

	act
SOV	single occupant vehicles
STA	Special Transportation Area
STIP	Statewide Transportation Improvement Program, which lists all projects programmed to receive federal and state funds over the next three years
TAC	Technical Advisory Committee
TAZ	Traffic Analysis Zone
TDM	Transportation Demand Management
TEA-21	the recently-expired federal transportation act
TPAU	ODOT's Transportation Planning Analysis Unit
TPR	Transportation Planning Rule. Defines the specific requirements for a transportation system plan under Oregon State law (Statewide Planning Goal 12, Transportation)
TSM	Transportation System Management
TSP	Transportation System Plan
UGA/UGB	Urban Growth Area/Urban Growth Boundary
URCOG	Umpqua Regional Council of Governments, dissolved 2006
V/C	volume-to-capacity ratio
VHT	vehicle hours traveled
VMT	vehicle miles traveled

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Chapter 1: Goals and Objectives

Introduction

The City of Roseburg is located in southern Oregon on Interstate 5 and serves as the county seat and regional center of Douglas County. In 2003, the population within the city limits was estimated at 20,480[1]. Within the larger Urban Growth Boundary (UGB) area, the population was estimated at 28,000 with a daytime population estimated to be in excess of 65,000[2]. The planning area includes all of the transportation facilities within the City of Roseburg's UGB. In addition, the City is examining potential expansion of the UGB in the Transportation Analysis Zone (TAZ) 52; the future analysis includes a sensitivity analysis of the proposed UGB expansion.

This Transportation System Plan (TSP) provides guidance and regulatory tools so that the City can develop its transportation system through coordinated policies and planned improvements over the next 20 years. It also identifies planned transportation facilities and services needed to support planned land uses identified in the Comprehensive Plan in a manner consistent with the Transportation Planning Rule (OAR 660-012) and the Oregon Transportation Plan. More generally, this TSP helps to accomplish the following goals:

- Assure adequate planned transportation facilities to support planned uses over the next 20 years;
- Provide certainty and predictability for locating new public streets, roads, highway improvements, and other planned transportation improvements;
- Provide predictability for land development; and
- Help reduce the costs and maximize the efficiency of public spending on transportation facilities and services by coordinating land use and transportation decisions.

From a legal perspective, Oregon State law (Statewide Planning Goal 12, Transportation) requires that all Oregon communities prepare a transportation plan to address existing and future access and circulation needs of the community. The Transportation Planning Rule (TPR) further defines the specific requirements for a transportation system plan, and directs cities and counties to develop strategies that make it more convenient for people to walk, bicycle, use transit, and drive less to meet their daily needs. Practically speaking, the TSP can help to avoid building unneeded, redundant, or unwanted public infrastructure and assist local officials in making short-term decisions that do not contradict future investment plans.

The transportation modes addressed in this TSP include:

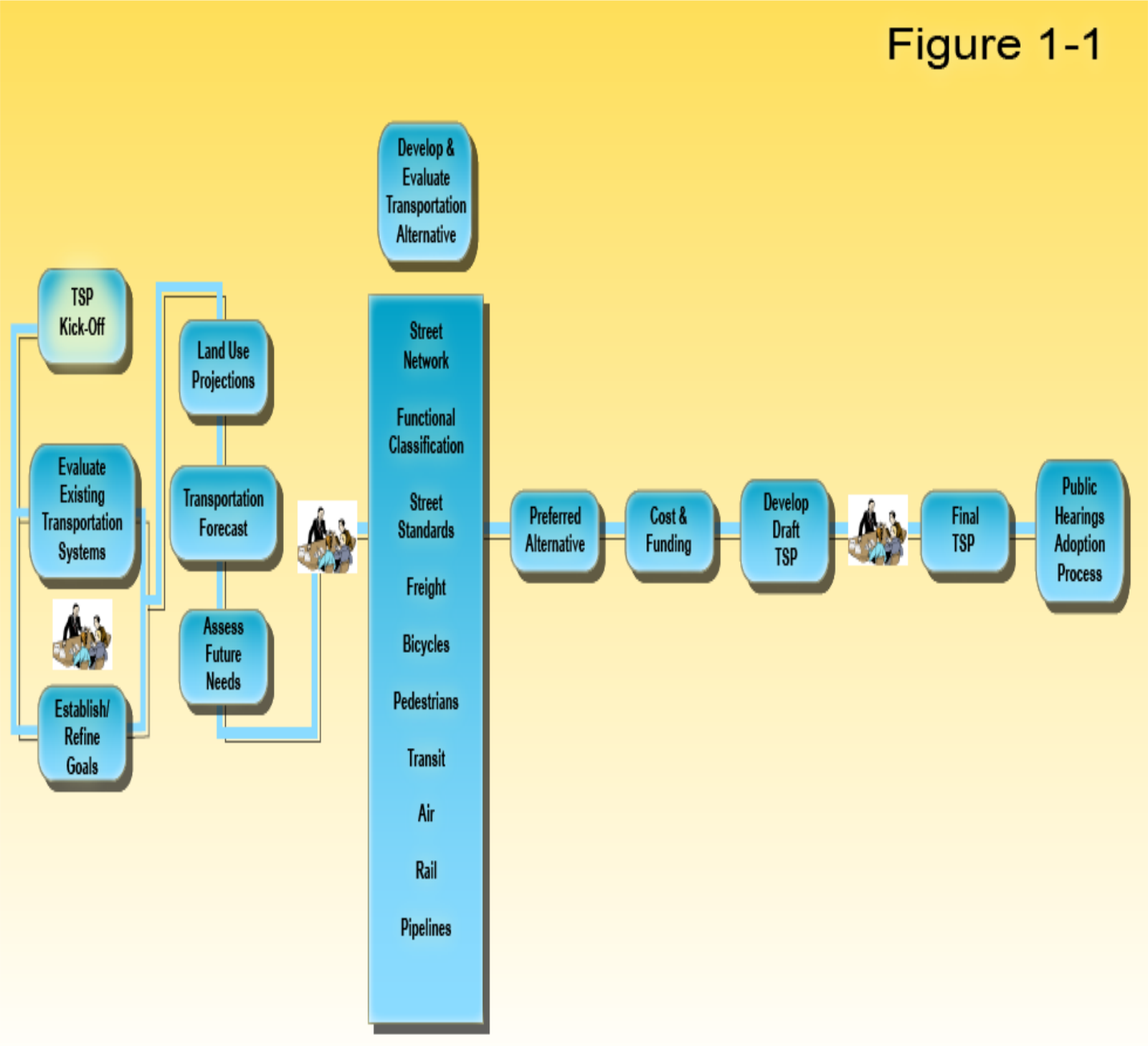
- Motor vehicles (autos, trucks/freight)
- Public transportation
- Bicycles
- Pedestrians
- Other modes (rail, air, pipelines)

[1] Portland State University Estimate, 2003.
[2] Based on comments received from the City of Roseburg and ODOT, 2006.

Each of these modes is addressed in separate chapters of this TSP, which was developed during several months of extensive transportation planning and engineering analysis as summarized in **Error! Reference source not found.**.

TSP Work Approach

City of Roseburg



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The key steps to the plan development process were:

- Inventory transportation system and collect data
- Evaluate existing conditions
- Project future travel demand
- Identify transportation deficiencies and needs by mode
- Develop draft improvement strategies
- Develop preferred action plans
- Develop cost estimates and identify funding sources
- Finalize the TSP

Throughout the plan process, the citizens of Roseburg were given important opportunities to comment upon and shape the emerging plan through public open house meetings. A public TSP kick-off meeting was held on December 15, 2004, to introduce the TSP planning process and purpose to the community, and to provide an opportunity for the public to give input on the TSP goals and objectives and transportation issues in the city. A subsequent public open house was held on May 26, 2005, to present transportation system improvement alternatives, and to give the public an opportunity to provide comments regarding the proposed improvements. In addition, a joint Planning Commission and City Council work session open for public comment was held on July 21, 2005.

A Technical Advisory Committee (TAC) met throughout the project to provide technical review and comment on TSP work products; to provide local, regional, and state policy direction; and to accept or make recommendations on project deliverables. The TAC was responsible for ensuring that TSP activities were consistent with other planning efforts in the area.

Goals and Objectives

The TSP goals and objectives serve as the basis for the TSP for needs analysis, policy and ordinance development, and project selection (see Figure 1-2). These goals and objectives reflect the transportation goals of the City and the overall transportation vision for the Roseburg UGB. The goals and objectives will maximize mobility, safety, efficiency, and accessibility to the transportation system and will address the requirements of the Oregon Transportation Planning Rule (TPR) and the 1992 Oregon Transportation Plan (OTP).

Goal 1. Overall Transportation System

Provide a transportation system for the Roseburg planning area that is safe, efficient, and accessible.

Objectives:

A. Manage projected travel demand consistent with community, land use, environmental, economic, and livability goals.

B. Use the Transportation System Plan as the legal basis and policy foundation for decisions involving transportation issues.

C. Ensure that adequate access for all emergency services vehicles is provided throughout the City.

D. Promote transportation safety through a comprehensive program of engineering, education, and enforcement.

E. Enhance safety by prioritizing and mitigating high collision locations within the City.

F. Designate safe routes from residential areas to schools, and identify transportation improvements needed to ensure the safety of Roseburg's children.

G. Provide satisfactory levels of maintenance to the transportation system in order to preserve user safety, facility aesthetics, and the integrity of the system.

H. Maintain access management standards for streets consistent with city, county, and state requirements to reduce conflicts among vehicles, trucks, bicycles, and pedestrians.

I. The City shall regularly consult with pedestrian, cycling, and the disabled communities regarding transportation needs, plans, and improvements.

Goal 2. Enhanced Livability

Enhance the livability of Roseburg through the location and design of transportation facilities to be compatible with the characteristics of the built, social, and natural environment.

Objectives:

A. Enhance the livability of Roseburg through proper location and design of transportation facilities. Design streets, highways, and multi-use paths to be compatible with the existing and planned characteristics of the surrounding built, social, and natural environment.

B. Locate and design recreational and multi-use paths to balance the needs of human use and enjoyment with resource conservation and social attractions in areas identified in the Comprehensive Plan.

C. Design roadways to enhance livability by ensuring that aesthetics and landscaping are an integral part of Roseburg's transportation system.

D. Manage the transportation system for adequate and efficient operations.

Figure 1-2
Goals and Objectives Relationship

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E. Construct all transportation facilities to meet the requirements of the Americans with Disabilities Act and other applicable federal and state regulations. A comprehensive list of federal and state regulations is included in Appendix D.

F. The City shall every 3 to 5 years use the walkability and bikeability checklists as a tool to help determine how walkable and bikeable Roseburg is, and where improvements are needed.

G. In order to improve the health of Roseburg's citizens and reduce the dependence on automobiles for all travel, developments or improvement plans will promote walking or cycling for many trips.

H. The design of Roseburg, its neighborhoods, and transportation systems shall encourage walking, bicycling, or other activities that would help more residents reach the recommended 30 minutes each day of moderately intense physical activity.

Goal 3. Transportation and Land Use

Maximize the efficiency of Roseburg's transportation system through effective land use planning.

Objectives:

A. Facilitate development or redevelopment on sites that are best supported by the overall transportation system and that reduce motor vehicle dependency by promoting walking, bicycling, and transit. This may include altering land use patterns through changes to type, density, and design.

B. Plan land uses to increase opportunities for multi-purpose trips.

C. Support mixed-use development.

D. Integrate transportation and land use into development ordinances.

Goal 4. Street System

Provide a well planned, comprehensive street system that serves the needs of the Roseburg UGB.

Objectives:

A. Develop a street classification system to provide an optimal balance between mobility and accessibility for all transportation modes consistent with street function.

B. Design the street system to safely and efficiently accommodate multiple travel modes within public rights-of-way.

C. Balance the needed street function for all travel modes with adjacent land uses through the use of context-sensitive street and streetscape design techniques.

D. Improve existing streets in the Roseburg UGB to City street design standards.

E. Undertake efforts to reduce per capita vehicle miles traveled (VMT) and single occupancy vehicle (SOV) demand through transportation demand management (TDM) strategies.

Goal 5. Balanced Transportation System

Facilitate the development of bus stops, bike lanes, sidewalks, and multi-use paths in the Roseburg UGB to provide more transportation options for Roseburg residents and visitors.

Objectives:

A. Develop a safe, complete, attractive, efficient, and accessible system of pedestrian way and bicycle ways including bike lanes, shared roadways, multi-use paths, and sidewalks.

B. Provide connectivity to each area of the City for convenient multimodal access. Ensure pedestrian, bicycle, transit, and vehicle access to schools, parks, employment, and recreational areas, and the Roseburg core city area by identifying and developing improvements that address connectivity needs.

C. Implement Roseburg street standards that recognize the multi-purpose nature of the street right-of-way for utility, pedestrian, bicycle, transit, truck, and auto use, and recognize these streets as important to the community identity.

D. Develop neighborhood and local connections to provide adequate circulation into and out of neighborhoods.

E. Construct multi-use paths where they can be developed with satisfactory design components that address safety, security, maintainability, and acceptable uses.

F. Work with regional and local public transportation providers to identify opportunities to improve public transportation service within the City and to surrounding communities.

G. Recognizing that maintenance is a major source of complaints and a widely cited reason for lack of use, increase maintenance of pedestrian and bicycle lanes and facilities.

H. The City shall investigate, and as appropriate, adopt incentives to promote ridesharing, walking, cycling (such as best parking spaces for carpools, covered/locked bike parking with fewer auto spaces, covered shelter for carpoolers or transit users, etc.)

I. The City shall educate the public about, and enforce laws protecting pedestrians and cyclists as one way to promote those activities.

J. The City shall regularly consult with state-wide pedestrian and bicycle groups regarding bicycle and pedestrian improvement ideas, safety, education, and improvements.

K. The City shall actively seek representatives from the pedestrian, cycling, and disabled communities on public works commission and similar groups.

L. City plans and the Land Use and Development Ordinance need to address the need to maximize the comfort level of driving (such as fewer distractions and driveways, increase site distances, etc.) consistent with the needs for access.

Goal 6. Transportation that Supports Economic Development

Facilitate the provision of a multimodal transport system for the efficient, safe, and competitive movement of goods and services to, from, and within the Roseburg UGB.

Objectives:

A. Promote accessibility to transport modes that fulfill the needs of freight shippers.

B. Balance the needs of moving freight with community livability.

C. Provide safe routing of hazardous materials consistent with federal guidelines, and provide for public involvement in the process.

D. Designate arterial routes and freeway access are essential for efficient movement of goods. Design these facilities and adjacent land uses to reflect the needs of goods movement.

E. Encourage and support the operation, maintenance, and expansion of facilities and services provided at or near the Roseburg Regional Airport that accommodate passenger air travel, air cargo, and charter services.

F. Provide for the current and future needs of commercial and general aviation and facilities, consistent with the Roseburg Regional Airport Master Plan. Protect public investment at the Roseburg Regional Airport by allowing compatible land use and development within the airport environs to be consistent with the Roseburg Regional Airport Master Plan.

G. Promote the appropriate location of regional pipeline systems to enhance security, local service, and efficiency.

H. Meet federal and state safety compliance standards for operation, construction, and maintenance of the rail system.

I. Consider the needs of railroad transportation facilities to enhance economic resources. Add railroad safety components for railroad to be compliant with safety standards.

J. Plan for future parking in downtown Roseburg by addressing future parking needs.

K. Manage on-street parking in downtown Roseburg to assist in slowing traffic, facilitating pedestrian movement, and efficiently supporting local businesses and residences consistent with the land use and mobility goals for each street.

L. Require an appropriate supply and design of off-street parking facilities to promote economic vitality, neighborhood livability, efficient use of urban space, and reduced reliance on single occupancy motor vehicles.

Goal 7. Funding Transportation System Improvements

Implement the transportation plan by working cooperatively with federal, state, regional, and local governments, the private sector, and residents. Create a stable, flexible financial system for funding transportation improvements.

Objectives:

A. Regularly update the City's System Development Charges for transportation system projects.

B. Regularly update the costs contained in the System Development Charges for transportation system projects to reflect increases in the rate of inflation.

C. Coordinate transportation projects, policy issues, and development actions with all affected governmental units in the area. Key agencies for coordination include Douglas County, Oregon Department of Transportation, URCOG, and Umpqua Transit.

D. Participate in regional transportation, growth management, and air quality improvement policies. Work with agencies to assure adequate funding of transportation facilities to support these policies.

E. Maintain a current Capital Improvement Program (CIP) that establishes the City's construction and improvement priorities, and allocates the appropriate level of funding.

F. Establish rights-of-way at the time of land division or site development and, where appropriate, officially secure them by dedication of property.

G. Working in partnership with Oregon Department of Transportation, Douglas County, and other jurisdictions and agencies, develop a long-range financial strategy to make needed improvements to the transportation system and support operational and maintenance requirements.

H. Establish and provide adequate funding for maintenance of the capital investment in transportation facilities.

I. Ensure System Development Charges (SDCs) are available for all transportation modes.

Chapter 2: Review of Existing Plans, Policies, and Standards

Overview

This chapter reviews existing plans, policies, and standards and identifies important transportation and land use issues that were considered in the preparation of the *Roseburg Transportation System Plan* (TSP). A variety of transportation studies, transportation plans, and other transportation-related documents have been produced by various jurisdictions in the past, and the relevance of these documents to the Roseburg TSP varies widely. This chapter provides a synopsis of several documents, including the *Oregon Transportation Plan*, all Oregon Department of Transportation (ODOT) modal plans, *2004-2007 Statewide Transportation Improvement Program* (STIP), *Intercity Passenger Policy and Program, the Freight Moves the Oregon Economy Report,* as well as environmental documents, Douglas County documents, and other transportation studies. Several City of Roseburg documents were reviewed, including the *City of Roseburg Ten Year Capital Improvement Plan,* the City of Roseburg's *Land Use and Development Ordinance*, and the *Comprehensive Plan*. These documents contain goals and policies for the city related to transportation.

Summary of Plans

Following are summaries of relevant plans grouped at the state, county/regional, and local levels.

State Documents

Oregon Statewide Planning Goal 12. Transportation

Since 1973, Oregon has maintained a strong statewide program for land use planning, and the foundation of that program is a set of 19 statewide planning goals. These goals express the state's policies on land use and on related topics, such as citizen involvement, housing, and natural resources.

Oregon's statewide goals are achieved through local comprehensive planning. State law requires each city and county to adopt a comprehensive plan, and the zoning and land-division ordinances needed to put the plan into effect. The local comprehensive plans must be consistent with the statewide planning goals. Plans are reviewed for such consistency by the State's Land Conservation and Development Commission (LCDC). When LCDC officially approves a local government's plan, the plan is said to be "acknowledged." It then becomes the controlling document for land use in the area covered by that plan.

Transportation is addressed by Goal 12. Goal 12 is to provide and encourage a safe, convenient, and economic transportation system. Goal 12 states that a transportation plan shall 1) consider all modes of transportation including mass transit, air, water, pipeline, rail, highway, bicycle, and pedestrian; 2) be based upon an inventory of local, regional, and state transportation needs; 3) consider the differences in social consequences that would result from utilizing differing combinations of transportation modes; 4) avoid principal reliance upon any one mode of transportation; 5) minimize adverse social, economic, and

environmental impacts and costs; 6) conserve energy; 7) meet the needs of the transportation disadvantaged by improving transportation services; 8) facilitate the flow of goods and services so as to strengthen the local and regional economy; and 9) conform with local and regional comprehensive land use plans. Each plan shall include a provision for transportation as a key facility.

Transportation Planning Rule (TPR) Oregon Administrative Rule (OAR) 660-012

The TPR implements Oregon Statewide Planning Goal 12. The TPR directs cities and counties to develop balanced transportation systems addressing all modes of travel including motor vehicles, transit, bicycles, and pedestrians. The TPR envisions development of local plans that will promote changes in land use patterns and transportation systems that make it more convenient for people to walk, bicycle, use transit, and drive less to meet their daily needs. A fundamental issue in local and regional transportation system plans is a strategy to reduce reliance on the automobile.

The purpose of the rule is to promote safe, convenient, and economic transportation systems and coordination between affected levels of government in all steps of a transportation system plan (TSP). The TPR requires jurisdictions throughout Oregon to prepare and adopt local or regional transportation plans that are incorporated into their respective comprehensive plans.

Access Management OAR 734-051 (Division 51)

Division 51 governs the permitting, management, and standards of approaches to state highways to ensure safe and efficient operation of the state highways.

The purpose of the Division 51 rules is to provide a safe and efficient transportation system through the preservation of public safety, the improvement and development of transportation facilities, the protection of highway traffic from the hazards of unrestricted and unregulated entry from adjacent property, and the elimination of hazards due to highway grade intersections. These rules establish procedures and criteria used by the Department to govern highway approaches, access control, spacing standards, medians, and turning movement restrictions in compliance with statewide planning goals and in a manner compatible with acknowledged comprehensive plans and consistent with Oregon Revised Statutes (ORS), Oregon Administrative Rules (OAR), and the 1999 Oregon Highway Plan (OHP).

Access Management is a broad set of techniques that balance the need to provide efficient, safe, and timely travel throughout the state with the need to allow access to individual destinations. The goals of Access Management are to reduce congestion, reduce accident rates, lessen the need for highway widening, conserve energy, and reduce air pollution.

State of Oregon Transportation Plan

The Oregon Department of Transportation (ODOT) utilizes several planning documents to guide transportation planning efforts and transportation system improvements in the state. The Oregon Transportation Plan (OTP) is ODOT's guiding policy document. The OTP and its modal components represent the State's Transportation System Plan and drive all transportation planning in Oregon. The plans provide a framework for cooperation between ODOT and local jurisdictions and offer guidance to cities and counties for developing local modal plans. The following lists the different modal plans that have been established and the year the plan was adopted by the Oregon Transportation Commission (OTC):

- Oregon Transportation Plan, 1992
- Aviation System Plan, 2000
- Bicycle/Pedestrian Plan, 1995
- Transportation Safety and Action Plan, 1995
- Public Transportation Plan, 1997
- Oregon Highway Plan, 1999
- Rail Freight and Passenger Plan, 2001

Oregon Transportation Plan (1992)

The Oregon Transportation Commission adopted the Oregon Transportation Plan in September 1992. The OTP has three elements: 1) Goals and Policies; 2) Transportation System; and 3) Implementation. The OTP meets a legal requirement that the OTC develop and maintain a plan for a multimodal transportation system for Oregon. Further, the OTP implements the Federal Intermodal Surface Transportation Efficiency Act (ISTEA) requirements for the state transportation plan. The OTP also meets land use planning requirements for State agency coordination and the Goal 12 Transportation Planning Rule. This rule requires ODOT, the cities, and the counties of Oregon to cooperatively plan and develop balanced transportation systems.

Oregon Aviation System Plan (2000)

The Aviation System Plan applies general policies from the Oregon Transportation Plan to the State's public-use aviation system. It calls for an aviation system marked by efficiency, accessibility, environmental responsibility, connectivity among places and transportation modes, safety, security, and financial stability. The Aviation System Plan provides forecasts and inventories for public access airports in the State. Some key issues that affect development of the aviation component of the Roseburg TSP are the following:

- Local governments own most airports, but have limited resources available for airport maintenance and improvement.

- The federal government owns most of the navigational system.
- FAA determines funding levels and prioritization of expenditures.

There are two airports in the Roseburg UGB, the Roseburg Regional Airport and the George Felt Airport. The nearest airport with commercial service is in Eugene about 70 miles to the north. More detailed aviation facility descriptions are provided in the existing conditions chapter of this TSP.

Oregon Bicycle and Pedestrian Plan (1995)

The goal of this Plan is to provide safe, accessible, and convenient bicycling and walking facilities in the state, and to support and encourage increased levels of bicycling and walking. The plan identifies policies, classification of bikeways, construction and maintenance guidelines, and suggested actions to achieve these objectives. These actions address the need to: 1) provide bikeway and walkway systems that are integrated with other transportation systems; 2) create a safe, convenient, and attractive bicycling and walking environment, and 3) develop education programs that improve bicycle and pedestrian safety.

Oregon Transportation Safety and Action Plan (1995)

The *Oregon Transportation Safety Action Plan* was developed to be the safety element for the *Oregon Transportation Plan (OTP)*. It is one of several modal or multimodal plans called for in the OTP that defines, in greater detail, system improvements, legislative needs, and financial needs. These plans provide guidance for investment decisions that are reflected in the *Statewide Transportation Improvement Program (STIP)*, the *Highway Safety Plan,* and the operating budgets of implementing agencies.

This plan established the most important safety priorities for Oregon by identifying 70 actions relating to all modes of transportation, and addresses roadway, driver and vehicle characteristics. Included in this plan is specific guidance regarding the way safety issues should be considered in local transportation planning. Thus, local transportation plans, as well as modal and corridor plans, should consider the following:

- Involvement in the planning process of engineering, enforcement, and emergency service personnel as well as local transportation safety groups
- Safety objectives
- Resolution of goal conflicts between safety and other issues

Oregon Public Transportation Plan (1997)

This plan is primarily focused on public transportation in metropolitan and urban areas. The minimum level of service standards (for communities with population of at least 2,500 located within 20 miles of an urban central city) that apply in year 2015 are as follows:

- Coordinate intercity senior and disabled services with intercity bus and van services open to the general public.
- Coordinate local public transportation and senior and disabled services to intercity bus services.
- Provide an accessible ride to anyone requesting services.
- Provide at least 1.7 annual hours of public transportation service per capita with fixed-route, dial-a-ride, or other service types.
- Provide at least one accessible vehicle for every 40 hours of service.
- Provide a backup vehicle for every 3.5 vehicles.
- Provide daily peak hour commuter service to the core areas of the central city.
- Provide a guaranteed ride home program to all users of the public transportation system and publicize it well.
- Provide park-and-ride facilities along transit route corridors to meet reasonable peak and off-peak demand for such facilities.
- Maintain vehicles and corresponding facilities in a cost-effective manner and replace vehicles when they reach suggested retirement age.
- Establish ridematching and demand management programs in communities of 5,000 where there are employers with 500 or more workers who are not already covered by a regional ridematching/demand management program.

In addition to public transportation, the plan also describes minimum level of service standards for intercity bus and passenger rail.

Oregon Highway Plan (1999)

This plan defines policies and investment strategies for Oregon's State highways for the next 20 years. It further refines the goals and policies of the Oregon Transportation Plan and is part of Oregon's Statewide Transportation Plan. The Highway Plan has three main elements:

1. The Vision presents a vision for the future of the State highway system, describes economic and demographic trends in Oregon, future transportation technologies, summarizes the policy and legal context of the Highway Plan, and contains information on the current highway system.

2. The Policy Element contains goals, policies, and actions in five policy areas: system definition, system management, access management, travel alternatives, and environmental and scenic resources.

3. The System Element contains an analysis of state highway needs, revenue forecasts, investment strategies, implementation strategies, and performance measures.

The Highway Plan gives policy and investment direction to corridor plans and transportation system plans that are prepared around the State, but leaves the responsibility for identifying specific projects and modal alternatives to these local planning efforts.

Specifically relevant to the Roseburg UGB are performance measure standards and access management standards for Old Highway 99, OR 138, and Interstate 5, which are included in the Highway Plan.

Oregon Rail Plan (2001)

The Oregon Rail Plan (ORP) is the first comprehensive assessment of the state's rail planning, freight rail, and passenger rail systems since the 1992 *Oregon Rail Passenger Policy and Plan* and the 1994 *Oregon Rail Freight Plan*. This plan provides an updated overview of the rail system in Oregon. It outlines the state rail planning process and examines specific rail lines in detail that may be eligible for State or federal financial assistance. The plan examines service trends for low-density rail lines, which are increasingly being served by short haul (Class III) railroads. In addition, the plan describes minimum level-of-service standards for freight and passenger rail systems in Oregon.

The activities of the regional carrier Central Oregon & Pacific Railroad (CORP) dominate railroading in Southwestern Oregon. The CORP main line south of Eugene through Roseburg and on to Medford is a former Southern Pacific line that was purchased by CORP January 1, 1995. While the railroad operates through service between Medford and Roseburg, most traffic either heads north out of Roseburg or south out of Medford. A large wood products operation at Dillard (just south of Roseburg) contributes the bulk of the traffic on the northern end of the line. The closest AMTRAK passenger rail service is located in Eugene.

Intercity Passenger Policy and Program (2000)

The focus of the Intercity Passenger Program is on evaluating and supporting bus, rail, and air intercity passenger transportation services in Oregon. The State Transportation Planning Rule requires that all communities include planning for intercity passenger facilities in their transportation system plans.

Intercity passenger facilities are those locations where passengers traveling from one city to another can transfer from one travel mode to another. Typically, intercity passenger facilities include train stations, bus terminals, airports, and some transit transfer facilities. Intercity passenger facilities should also accommodate transfers between intercity travel modes and local modes such as local transit, taxis, shuttles, bikeways, sidewalks, and the automobile. Although it is most convenient to have all local and interurban travel modes serve one facility, this is not always possible given geographic, historic, or land utilization reasons.

The Oregon Department of Transportation receives federal money annually to fund transit projects around the state. Fifteen percent of this must be used to support travel among rural communities. Under the Oregon Transportation Commission's rural transportation policy, the Public Transit Division tries to ensure that all communities with populations of 2,500 or more have reasonable access to round-trip-in-a-day transportation to the next largest

market economy. ODOT has three ratings for intercity passenger networks in Oregon: adequate service, inadequate service, and missing service. Roseburg is listed as having adequate service to Sutherlin, Myrtle Creek, and Eugene, but missing service to Winston.

Roseburg has two airports and Greyhound bus service, and Umpqua Transit provides some intercity local transit. There is no passenger rail service in Roseburg.

Statewide Transportation Improvement Program (STIP), 2004-2007

Oregon's Statewide Transportation Improvement Program is the state's transportation capital improvement program, which fulfills the requirements of the Transportation Equity Act for the 21st Century (TEA-21). The STIP lists the schedule of transportation projects for the four-year period from 2004 to 2007. It is a compilation of projects utilizing various federal and state funding programs, and includes projects on the state, county, and city transportation systems as well as projects in the National Parks, National Forests, and Indian Reservations.

The improvement projects programmed in the 2004-2007 STIP for the Roseburg UGB are shown in Table 2-1.

The STIP is not a planning document; rather, it is a project prioritization and scheduling document developed through various planning processes involving local and regional governments, transportation agencies, and the interested public. Through the STIP, ODOT allocates resources to those projects that have been given the highest priority in these plans. See the 2004-2007 STIP for a complete list of projects.

I-5 State of the Interstate Report (2000)

The Oregon Department of Transportation (ODOT) completed the *I-5 State of the Interstate Report* in June 2000. The report provides an assessment of the existing and forecasted safety, geometric, and operating conditions along the entire length of Interstate 5 from California to Washington. The document covers a wide range of issues, including:

- Overview of related plans, policies, and studies
- Trends in population, employment, land use, and transportation
- Existing and forecasted conditions for each I-5 interchange and mainline freeway segment
- Environmental conditions and potential development impact areas
- Opportunities for short-term improvements

Within ODOT's Region 3 – which encompasses southern Oregon, including Roseburg – the report states that travelers will experience significant congestion on I-5 by 2020. Many interchanges in this region are expected to have intersections at ramp terminals operating at an unacceptable level of congestion if no improvements are made. The problems associated with interchanges are expected to occur in the more populated portions of the corridor.

2003 ODOT Highway Design Manual

The 2003 ODOT Highway Design Manual provides uniform standards and procedures for ODOT. It is intended to provide guidance for the location and design of new construction, major reconstruction, resurfacing, restoration or rehabilitation projects. It has 14 chapters that cover the design specifications for all aspects of a multimodal transportation system including roadway designs, bike and pedestrian facility designs, and public transportation facilities.

The manual is required to be used by ODOT personnel for all planning, development, and construction projects located on state highways. The manual should also be used by local planners in determining design requirements for state highways in TSP's, Corridor Plans, and Refinement Plans. Applicable highways in the Roseburg UGB are OR 138 and Interstate 5.

Douglas County Documents

Douglas County Comprehensive Plan (Transportation Element) (2004)

The purpose of the Transportation Element is to address, in detail, Statewide Planning Goal 12 and to assist in the development of an effective and efficient transportation network that is compatible with the environment, local and adjacent jurisdictions, and land use planning.

The Transportation Element contains findings concerning:

- The background and existing conditions that affect Douglas County's transportation system;
- A description of Douglas County's transportation facilities;
- A County roadway network plan; and
- A Bikeway Master Plan and Policies.

Also contained are general transportation goals, as well as detailed discussions of the road, rail, air, waterways, pipeline, pedestrian and bicycle transportation modes, and the transportation disadvantaged.

Table 2-1. 2004-2007 STIP – Programmed Improvement Projects for the Roseburg UGB

2004-2007 STIP (Approved)							
Key	**Section**	**Route**	**Highway Name**	**Total Cost**	**Description**	**Status**	**Year (FFY)**
11728	I-5 (MP 125) & OR138E (MP 0.10) 2 SIGNAL REBUILDS	I-5	PACIFIC	$600,000	SIGNAL REBUILD, UPGRADE SIGNAL PHASING AND ADD LEFT-TURN LANE	PSEDOC	2005
13255	DOUGLAS COUNTY FAIRGROUND/SHADY BR MULTI-USE PATH			$957,000	CONSTRUCT MULTI-USE PATH AT DOUGLAS COUNTY FAIRGROUNDS/SHADY BRIDGE	PSEDOC	2007
13467	SUTHERLIN-ROSEBURG PROJECT (amended)	I-5	PACIFIC	$49,794,000	REPLACE BR#S 07565A, 07563A, 07631&A, 07627A&B, 07628A&B, 07629B, INLAY/OVERLAY WIDEN OR138W	PSEDOC	2005
13532	I-5: EXIT 129 - NORTH UMPQUA RIVER BRIDGES (amended)		PACIFIC	$59,463,000	REPLACE STRUCTURES 07632, 07663C, 07663A, AND REALIGN INTERCHANGE	PSEDOC	2006
11851	OR 99: N UMPQUA RIVER (OLD WINCHESTER) BRIDGE REHAB (amended)	OR-99	OAKLAND-SHADY	$9,379,000	BRIDGE WIDENING, REHAB FLOOR BEAMS.	PSEDOC	2007

Source: Oregon Statewide Transportation Improvement Program, 2004-2007

Douglas County Transportation System Plan (2004)

The State of Oregon's Goal 12, the Transportation Planning Rule, requires ODOT, the cities, and the counties of Oregon to cooperatively plan and develop balanced transportation systems. Douglas County's TSP fulfills this planning requirement. Douglas County's TSP is comprised of compiled elements from its Comprehensive Plan as well as a few supporting documents. Listed below is a synopsis of relevant sections in the County's TSP.

Douglas County Comprehensive Plan Chapter 13: Transportation Element
Douglas County TSP provides volume to capacity (V/C) standards to county roads. The standards for a given route vary based on the urban or rural nature, speeds, and surrounding land use designations. The volume to capacity ratio is a measure of roadway congestion. This ratio is calculated by dividing the number of vehicles passing through a section of road during the peak hour by the capacity of the section. The classification system is as follows with the associated v/c standard: Principal Highway, V/C = 0.70; Arterial, V/C = 0.85; Major Collector, V/C = 0.90; Minor Collector, V/C = 0.95; Necessary Local, V/C = 0.95.

Douglas County Comprehensive Plan Chapter 15: Land Use Element
The Land Use Element of the Comprehensive Plan has sections that address transportation issues for urban areas, urban unincorporated areas, and rural communities. As a part of transportation planning in urban unincorporated areas, urban area circulation plans were completed for five of the six urban unincorporated areas in Douglas County. They were completed for Gardiner, Glide, Green, Tri-City, and Winchester Bay. There were five major objectives that factored into the development of these plans:

1. Provide convenient access to all existing and future residential, commercial, industrial, and public areas.

2. Ensure safety of vehicular movement.

3. Keep through traffic out of neighborhoods.

4. Ensure that streets are economically planned.

5. Ensure the adequate access of emergency vehicles to all dwellings.

In addition to the circulation plans, the Land Use Element presents the street classification system, other standards, and an implementation strategy for the circulation plans.

Support Document to the Transportation Element of the Douglas County Comprehensive Plan
This document provides supplemental information in support of the Transportation Element. It provides a detailed discussion of roads, rail, air, waterways, pipeline, public transportation, pedestrian and bicycle transportation, and the transportation disadvantaged. Information is also provided on vehicle trip generation by land use type. Compiled in the

Appendix is a list of state and county major roads and a compilation of project lists found in the Douglas County TSP including needed/planned projects and desirable/future projects.

Douglas County Bikeway Master Plan (2004)
This document describes the popularity and multiple benefits of bicycling and establishes the need for long-range coordinated bicycle facilities planning. The Plan identifies, among other things, the existing bikeway system, construction guidelines, and bicycle safety education.

Local Documents

City of Roseburg Urban Area Comprehensive Plan (rev. 1993)

The City's original Comprehensive Plan was adopted in 1982 and was updated in 1993. It is a long-range general policy guide that identifies and plans for future needs in the physical, social, economic, administrative, and financial policy and infrastructure. The Comprehensive Plan was intended to prepare the city for future growth, in compliance with Oregon's Statewide Planning Goals.

The Transportation Element of the Comprehensive Plan provides for reviews traffic studies, defines roadway functional classifications, details existing conditions, and establishes a goal for the Roseburg transportation system. The goal of the Comprehensive Plan's Transportation Element is to develop and maintain a safe, convenient, and economic transportation system that minimizes community disruption and promotes the timely, orderly, and energy-efficient movement of people and goods around and through the urban area. The Comprehensive Plan subsequently details 11 objectives and 15 supporting policies to reach this goal.

While the Comprehensive Plan primarily serves as a guide for improvements to the urban area's street circulation system, the Transportation Element also considers other modes of transportation such as public transit, air, rail, bicycle, and pedestrian facilities. Also, as this plan is designed to address the integration of all aspects of land use and transportation, several of the other Elements have relevance to the TSP as well.

City of Roseburg Land Use and Development Ordinance (LUDO) (rev. 2004)

The City's LUDO is designed to provide and coordinate regulations in the Roseburg Urban Area governing the development and use of lands and to implement the *Roseburg Urban Area Comprehensive Plan*. It guides the design and approval process for land use development applications, and also contains design standards for transportation improvements required as a condition of development approval.

City of Roseburg Ten-Year Capital Improvement Plan (CIP) (2004)

The CIP proposes improvements to the City of Roseburg's transportation system, particularly those parts of the system that are most affected by population growth such as

arterials and collectors. Increased demand on these types of streets, which are already the most heavily used, can lead to safety problems and unwanted delay.

The CIP provides an approximate cost estimate for each of the 18 proposed improvements. The projects have also been prioritized to assist the City in effectively implementing the improvements.

These projects may be partially or fully funded through the development of a Transportation System Development Charge.

Greater Roseburg Area Transportation Study (GRATS) (1996)

The Greater Roseburg Area Transportation Study was completed in 1996 as a precursor to the TSP. This study provided a long-term analysis of multimodal transportation system needs in the area extending from south of the Green-Winston area to Winchester on the north, a larger area than the Roseburg UGB. This document summarizes the results of the public participation process, analyses of existing and future transportation conditions, evaluations of Transportation Demand Management strategies, and identifies alternatives that address regional transportation needs.

The preferred alternative relied extensively on land use policies to reduce travel demand that were never formally adopted. The document, however, provides a substantial amount of information useful for the TSP.

City of Roseburg Bikeway Master Plan (1988)

The City's 1988 *Bikeway Master Plan* provides an inventory of completed and planned bikeways throughout the City. Although it is a dated document, at the time it was written the City already had established a system of multi-use paths. In the 16 years following the *Bikeway Master Plan*, most of the planned bikeways have been designated throughout the City, and include both designated bike lanes and shared bike routes.

City of Roseburg Urban Growth Management Agreement (1994)

The City's Urban Growth Management Agreement with Douglas County provides for the joint management of the Roseburg Urban Growth Area and for the coordination of land use activity in identified areas of mutual interest. It reaffirms the City's planning authority within the UGB on City land and Douglas County's planning authority within the UGB on county-owned land. The guiding document in both cases is the City of Roseburg's Comprehensive Plan. The point of this document is to make sure that future planning efforts of the City and County are consistent and coordinated.

Additionally, there is a supplemental section on development standards and a Zoning Plan. Areas of mutual interest are the Charter Oaks Area and the Roseburg Regional Airport.

Local Plans and Studies

In addition to the aforementioned plans and studies, there are other transportation studies that have been produced for specific facilities in the Roseburg UGB. Following are relevant traffic/transportation studies that have been performed at the street or corridor level.

Diamond Lake Boulevard/OR 138E Access Management Plan (AMP) (2003)

The Oregon Department of Transportation and the City of Roseburg jointly prepared this access management plan for State Highway 138 in Roseburg. It was developed to increase the linkage of State access management requirements with local land use, local street circulation, and economic development goals.

The Diamond Lake Boulevard corridor was generally developed before access management, land use criteria, and general development standards were codified. This access management plan presents a comprehensive inventory of all public and private approaches to the highway and provides short, medium, and long-range recommendations for access removal and consolidation, traffic signals, local street circulation, and future street connections. AMP policies and standards will be applied at the time of redevelopment and new development.

Garden Valley Corridor Traffic Signal Study (2002)

This 2002 study evaluated the signals on Garden Valley Boulevard between NE Stephens Street and NW Kline Street, identified problems and gave recommendations for operational upgrades and information on the installation of Opticom in the corridor. Opticom is a preemption system that turns a traffic signal to a green phase when activated by an approaching emergency service vehicle.

Garden Valley Boulevard Corridor Study (1992)

This study identifies corridor and local roadway improvement options that, either singly or in combination, have the potential for enhancing traffic circulation patterns and accommodating anticipated area development.

After following a standard corridor study process (assess existing conditions, develop future traffic volumes, develop, evaluate, and select a preferred alternative), 12 multi-faceted micro-level improvements were identified, that if implemented could relieve future traffic congestion.

At the time the document was written, none of the improvement projects had been ranked, prioritized, or implemented.

Land Development Traffic Impact Analysis Stewart Parkway (1992)

Stewart Parkway is of key significance to mobility in Roseburg and new development has and will increase traffic on the Parkway. The purpose of this study was to:

1) estimate the future traffic volumes that will be using the Stewart Parkway corridor as a result of the North Roseburg I-5 Interchange and the potential land development in the area, and

2) determine the roadway configuration that will be required to serve these volumes at an acceptable level of service. A number of conclusions and recommendations were made to address this issue.

Local Zoning, Subdivision Ordinances, and Associated Street Engineering Standards

Zoning: The following table presents the City of Roseburg's local zoning categories.

Table 2-2. Roseburg's Local Zoning Categories

Comprehensive Plan Land Use Designation	Zoning Classification	Abbreviation
Public, Semi Public	Public Reserve	PR
	Airport District	AP
Parks/Open Space and Hazard Areas	Public Reserve	PR
	Residential Open Space	RO
Low Density Residential	Low Density Residential	R-1-10
	Single-Family Residential	R-1-7.5
	Single-Family Residential	R-1-6
	Limited Commercial	C-1
Medium Density Residential	Limited Multiple-Family Residential	MR-14
	Medium Density Multiple-Family Residential	MR-18
	Limited Commercial	C-1
High Density Residential	Multiple-Family Residential	MR-29
	High Density Multiple-Family Residential	MR-40
	Limited Commercial	C-1
Professional Office	Professional Office	PO
Commercial	Limited Commercial	C-1
	Community Commercial	C-2
	General Commercial	C-3
	Mixed Use	MU
Industrial	Light Industrial	M-1
	Medium Industrial	M-2
	Heavy Industrial	M-3
	Mixed Use	MU

Subdivision Ordinances: Following are the requirements that subdivision preliminary plans, improvement plans, partitions, and common boundary line adjustments must adhere to[3]:

- Conformity with the Comprehensive Plan.
- Conformity with the Zoning Chapter.
- The internal street system must be completed and connected to the adjoining city street system.
- Undeveloped but developable parcels in a subdivision must be laid out so when developed in the future, they will conform to standards.
- Parcels must have direct access to a public road.
- The subdivider may be subject to additional, special studies before approval is given.

Street Engineering Standards: Section 4.150 of the City of Roseburg's *Land Use and Development Ordinance* specifies standards for streets and roads.

Table 2-3. Standard Street Widths

Type of Street	Right-of-Way Width	Paving Width[1]
Arterials	70' – 120'[2]	40' – 80'[2]
Collector Streets and All Business Streets Other than Arterials	60' – 70'[4]	40' – 48'[2]
Local Streets in Single-Family Density Areas	60'	34'
Cul-de-Sacs	60'	34'
Circular Ends of Cul-de-Sacs	96'[3]	80'[3]
All Streets Not Specifically Provided for Above	60'	34'

[1] Measured from face-to-face of curbs.
[2] The approving authority may require a width within the limits shown, based upon adjacent physical conditions, safety of the public and the traffic needs of the community, sidewalk width, and in accordance with other specifications of the Ordinance.
[3] Measured by diameter of circle constituting circular end.
[4] Right-of-Way to 70 feet may be required with wider sidewalks.

In addition to street widths, this section covers generalities (dedication, special safety requirements), reserve strips, intersection angles and offsets, topography, and expectations for future street extensions. It also covers cul-de-sacs, street naming, grades and curves, and rules for subdivisions that are adjacent to arterial or collector streets.

[3] A variance from these provisions may be granted in hardship cases.

Other Documents and Guides

In addition to the documents listed above, two specialized documents exist that have an impact on the Roseburg Transportation System Plan.

Downtown Roseburg Master Plan (1999)

Since the late 1960's a number of planning efforts have been completed to help guide the development of Downtown Roseburg to stimulate economic development, promote quality development, and create a vibrant and appealing town center. As the resource extraction economy in Oregon wanes, an economic restructuring has been occurring in many cities where those industries once dominated, including Roseburg.

Through an extensive public input process, several issues were identified to improve the vibrancy of Downtown Roseburg. Key concepts and issues were developed and actionable items identified, some of which relate to the transportation system.

- Circulation, signage, and linkages to other city districts are poor.
- The Downtown parking building is an outstanding asset.
- Downtown should be a regional shopping destination.
- Need linkages to the riverfront area.
- Need for improved bicycle and pedestrian facilities.

The plan closes with time-staggered implementation strategies and a listing of potential funding mechanisms.

Roseburg Regional Airport Master Plan Update 1995-2014 (1996)

This master plan forecasts airport facility requirements, includes a 20-year development program and identifies methods to implement airport-related programs for the planning period 1995-2014. This document includes an airport inventory, service forecasts, facility requirements, airport plans, land use and environmental relationships, and a financial plan.

As this facility parallels I-5, the airport's ability to acquire land is constrained. This constraint, paired with projected increases in daily customer visits, will impact the transportation system. As the Airport Impact Overlay District is modified, allowable abutting land uses may need to be changed. There are different transportation system requirements needed for commercial, industrial, and residential zones.

Governor's Executive Orders on Quality Development and Sustainability (2003)

Sustainability (EO 03-03): This executive order is intended to support and drive the goals of the Oregon Sustainability Act (Act) adopted by the Legislature in 2001. This Order directs state employees to move the State of Oregon closer to a more "sustainable" state. The reasoning is that the state should not trade one essential aspect of well-being for another, but take actions that will sustain all of Oregon's assets.

> "Sustainability is doing business with an eye to the triple bottom line - economy, community, and environment. Oregon state government must define sustainability, produce goals within state government to achieve sustainability, identify challenges to achieving sustainability and measure our performance based on sustainability."[4]

In accordance with ORS 184.423 Section 2 (5), ODOT is one of the agencies that is required to develop and implement a sustainability plan.

Quality Development (EO 00-23)*:* The Governor established the following Quality Development Objectives (QDO) for the State of Oregon by Executive Order No. EO00-23:

- Promote compact development within urban growth boundaries to minimize the cost of providing public services and infrastructure and to protect resource land outside urban growth boundaries.
- Give priority to a quality mix of development that addresses the economic and community goals of a community and region.
- Encourage mixed use, energy-efficient development designed to encourage walking, biking, and transit use.
- Support development that is compatible with a community's ability to provide adequate public facilities and services.
- Facilitate development that is compatible with community and regional environmental concerns and available natural resources.
- Support development that provides for a balance of jobs and affordable housing within a community to reduce the need to commute long distances between home and work, thereby minimizing personal commuting cost as well as the public and societal cost of expanding the transportation infrastructure.
- Promote sustainable local and regional economies in order to provide jobs for residents and financial support for community services.

These Quality Development Objectives guide state agency actions in community development. The Governor established a Community Solutions Team comprised of representatives from the Oregon Department of Transportation, Department of Environmental Quality, Oregon Economic and Community Development Department, Oregon Housing and Community Services Department, and the Department of Land Conservation and Development. These agencies are to:

1. Ensure that agency actions are consistent with the QDO.
2. Each Director of the Community Solutions Team Agency shall designate staff to implement the executive order and develop a training program to implement the QDO.
3. Submit a report to the Governor on how each agency will implement the QDO.

[4] http://www.oregonsolutions.net/execOrder/sustain_eo.cfm

4. Implement an ongoing mechanism to ensure coordination among major programs affecting community development.

5. Submit a report to the Governor's office on how the QDO are being implemented.

6. Use population and employment forecasts developed or approved by the Department of Administrative Service's Office of Economic Analysis in coordination with Oregon's 36 counties to plan and implement programs and activities.

Through the Community Solutions Teams, local priority projects are identified that need multi-agency coordination for successful completion.

Land Use and Development

The City of Roseburg is the largest city in Douglas County and acts as a regional hub for commerce. Roseburg's Urban Growth Area (UGA) was established in 1982 and has not been significantly altered since that time. The decades that followed have seen population increase from 16,644 in 1980 to 20,017 in 2000, an increase of 20 percent. The City acts as the industrial, commercial, and service hub for Douglas County and its economy has expanded such that Roseburg has also become a center of commerce, health, and other professional services.

As growth continues, past studies have found that the amount of land available for development within the current Urban Growth Area is becoming insufficient to meet future development needs. The Umpqua Regional Council of Governments (URCOG) has found that most of the level land within the UGA has been developed or is being held for needed commercial and industrial expansion, leaving housing developers in particular with limited opportunities on land that is more constrained and costly to develop. In order to more clearly determine the status of available land, the URCOG was commissioned to produce an updated Urban Growth Area Study for the City of Roseburg.

The URCOG study will be in three parts: the Buildable Lands Inventory, the Housing Type and Density Study, and the Housing Needs Analysis. The Buildable Lands Inventory is the foundation upon which to determine what land is currently available and whether the existing supply will meet projected future needs.

Below is a summary of the initial draft results of this study:

- There is a total of 43.8 acres of commercially zoned and designated land available within the UGB.
- There are about 185 acres of buildable industrial land in the UGB.
- There are approximately 1,326 unconstrained buildable acres of land designated for residential use and zoned for residential, agricultural, forest, grazing, and woodlot uses available within the existing UGB as of February 4, 2004.
- The analyses performed to produce the preliminary report indicate that the City will need to add about 1,000 acres of land to its net buildable residential land inventory

to meet the needs of its projected population to the year 2024, based upon an annual average population growth rate of 2.5%.

Roseburg's Planning Commission is considering several different options to address this shortage and final decisions will be made after the writing of this document. Strategies include:

- Create higher densities
- Annex all lands inside the UGB and apply city densities
- Expand the UGB to include Charter Oaks - West side north of the Umpqua south of Garden Valley Blvd - at the end of Troost Street
- Expand the UGB to include hillside areas east of town both north and south of Diamond Lake Blvd
- Expand UGB to include the Melrose area (Garden Valley Blvd outside town)

Environmental Documents

Several environmental conservation and protection policies and programs may have bearing on the Roseburg TSP. Applicable policies and programs have been summarized below.

The Oregon Natural Heritage Program

The Oregon Natural Heritage Program (ORNHP) is a cooperative, interagency effort to identify the plant, animal, and plant community resources of Oregon. ORNHP maintains comprehensive databases for Oregon biodiversity, concentrating on the rare and endangered plants, animals, and ecosystems. Site-specific information is available from ORNHP.

The Oregon Natural Heritage Program has three main program areas. It works to voluntarily establish natural areas in Oregon, manages the Rare and Endangered Invertebrate Program for the State of Oregon, and manages the Oregon Natural Heritage Databank, containing comprehensive information on ecologically and scientifically significant natural areas in the state.

The Oregon Natural Heritage Databank is Oregon's most comprehensive database of rare, threatened, and endangered species and includes site-specific information on the occurrences, biology, and status of over 2,000 species throughout Oregon. It includes the state's only database of natural vegetation, with descriptions and information on the occurrences and protected locations of all known ecosystem types. The Natural Heritage Data System provides information to guide implementation of the Natural Heritage Plan, including the selection of natural areas for registration and dedication.

When identifying transportation projects it will be necessary to take environmental concerns into account. The ORNH databank can inform what rare species are known to be in or near

a project site. A list of threatened or endangers species known to be present in Douglas County is in Appendix C. Site-specific information is available from ONRHP.

The Oregon Department of Environmental Quality

The Oregon Department of Environmental Quality (DEQ) is a regulatory agency whose job is to protect the quality of Oregon's Environment. DEQ is responsible for protecting and enhancing Oregon's water and air quality, for cleaning up spills and releases of hazardous materials, and for managing the proper disposal of hazardous and solid wastes. In addition to local programs, the Environmental Protection Agency (EPA) delegates authority to DEQ to operate federal environmental programs within the state such as the Federal Clean Air, Clean Water, and Resource Conservation and Recovery Acts. The DEQ is also authorized by the EPA to regulate hazardous waste in Oregon. Proper hazardous waste management is an integral part of protecting Oregon's land, air, and water systems.

A number of fact sheets are available from the DEQ website[5] that identify what constitutes hazardous waste, how to report it, and who to contact to research site-specific hazardous waste.

Oregon Department of Fish and Wildlife

The Oregon Department of Fish and Wildlife's (ODFW) mission is to protect and enhance Oregon's fish and wildlife and their habitats for use and enjoyment by present and future generations. More information about the Department's regulations and restrictions can be found on ODFW's website[6].

Statewide Planning Goal 5 – Natural Resources

The Oregon Department of Land Conservation and Development's (DLCD) Goal 5's intent is "[t]o protect natural resources and conserve scenic and historic areas and open spaces." Local governments, through their comprehensive plans, are required to address natural resource protection. It is a broad statewide planning goal that covers more than a dozen resources, including wildlife habitats, historic places, and mineral and aggregate resources. It was originally adopted in 1974. Goal 5 and related Oregon Administrative Rules (Chapter 660, Divisions 16 and 23) describe how cities and counties are to plan and zone land to conserve resources listed in the goal.

Goal 5 and its rules establish a five-step planning process for Oregon's cities and counties:

1. Inventory local occurrences of resources listed in Goal 5 and decide which ones are important.

2. Identify potential land uses on or near each resource site and any conflicts that might result.

[5] http://www.deq.state.or.us/pubs/factsheets.asp
[6] http://www.dfw.state.or.us/

3. Analyze economic, social, environmental, and energy (ESEE) consequences of such conflicts.

4. Decide whether the resource should be fully or partially protected, and justify the decision.

5. Adopt measures such as zoning to put that policy into effect.

Goal 5 requires that local governments inventory the following resources:

- Riparian corridors, including water and riparian areas and fish habitat
- Wetlands
- Wildlife Habitat
- Federal Wild and Scenic Rivers
- State Scenic Waterways
- Groundwater Resources
- Approved Oregon Recreation Trails
- Natural Areas
- Wilderness Areas
- Mineral and Aggregate Resources
- Energy sources
- Cultural areas

Goal 5 encourages local governments to maintain current inventories of the following resources:

- Historic Resources
- Open Space
- Scenic Views and Sites

Federal Endangered Species Act and Oregon Endangered Species Act

The federal Endangered Species Act (ESA)[7] was passed in 1973 to conserve, protect, and recover species listed as endangered or threatened, and the ecosystems upon which they depend. Under this law, species may be listed either as "endangered" with extinction or "threatened" with endangerment. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened.

[7] http://endangered.fws.gov/ESA/ESA.html

The federal and state ESAs are separate and independent, but somewhat parallel, regulatory programs that apply in different ways within Oregon. The Oregon ESA (1987) requires the “conservation” of listed species, and defines “conservation” as the use of methods and procedures necessary to bring a species to the point where measures no longer are necessary to ensure a species’ persistence over time and generations. The Oregon ESA covers plants, fish, and wildlife, but does not extend to invertebrates. There are 1,261 listings under the federal ESA in the United States. Of those, 54 listings apply to animals or plants native to Oregon.

The provisions of federal law pre-empt any less protective provisions of state law. Species native to Oregon, and which are listed under the federal ESA, are subject to the provisions of federal law. Species listed by the Oregon Fish and Wildlife Commission also are protected by state law.

For any new transportation project in Roseburg, the Oregon Natural Heritage Databank should be referenced. The ONHD is Oregon's most comprehensive database of rare, threatened, and endangered species and includes site-specific information on the occurrences, biology, and status of over 2,000 species throughout Oregon.

Chapter 3: Transportation Facilities and Services Inventory

Introduction

This chapter summarizes the transportation facilities inventory for all modes of transportation services within and adjacent to the City of Roseburg's UGB. The inventory assessed the capacity, condition, and degree of connectivity of the existing transportation system for all modes of transportation. An area-wide inventory was conducted for all facilities and services to ensure a connected and coordinated transportation system.

The inventory of the existing transportation system conducted as part of the transportation system planning process includes:

- Existing street characteristics including physical features, traffic control, functional classification, collision data, and connectivity with primary emphasis on the arterial and collector street systems
- Public transit
- Truck and rail freight
- Other surface transportation such as intercity bus and passenger rail
- Air transportation
- Pedestrian and bicycle systems

The inventory data comes from a variety of sources and field collection. This inventory provides a benchmark (basis of comparison) for future assessment of transportation conditions in Roseburg.

Overview of Roseburg's Street System

Roseburg is bisected by Interstate 5 (I-5), which generally runs in a north-south direction through town and connects to OR 138 and Old Highway 99. There are five I-5 interchanges that serve Roseburg: Exit 129 – Winchester/Wilbur, Exit 127 – Edenbower Boulevard, Exit 125 – Garden Valley Boulevard, Exit 124 – Harvard Avenue, and Exit 123 – Portland Avenue.

Old Highway 99 passes through Roseburg's UGB in the north from Sutherlin towards Winston. It runs north/south through town and connects to I-5, OR 138, and eventually to OR 42 south of Roseburg.

OR 138 runs north/south on I-5 from Sutherlin to Exit 124 – Harvard Avenue to Oak Avenue/Washington Avenue, Stephens Street, where it then runs east through town as Diamond Lake Boulevard and exits the UGB in the east. It connects to Old Highway 99 and I-5.

The street system in Roseburg largely consists of a two-way street grid system. Roseburg west of I-5 is predominantly residential, except for some concentrated commercial development on Garden Valley Boulevard, Stewart Parkway, and Harvard Avenue. The

east side of Roseburg is the oldest part of the city and is a mix of residential and commercial areas.

Roseburg has east-west connectivity by way of several routes that cross the I-5 barrier. Large roads such as Harvard Avenue, Garden Valley Boulevard, Edenbower Boulevard, and Stewart Parkway allow traffic to navigate past the physical barrier of Interstate 5.

The completed Roseburg street inventory is presented as a detailed table in Appendix A, available in a separate document. It describes roadway features including number of lanes, posted speeds, functional classification, on-street parking, intersection traffic control, sidewalks, and bicycle facilities for each road segment in Roseburg. This information was obtained through a combination of extensive field work, from City of Roseburg staff and from other governmental agencies. The Umpqua Regional Council of Governments (URCOG) provided information related to transit service. Aviation, freight-related information including trucking, freight rail, and pipelines was obtained from applicable agencies.

Street Network

This section describes the existing street circulation system within the Roseburg UGB including jurisdictional ownership and maintenance responsibilities, functional classification, physical features and traffic control, and safety.

Existing Street Functional Classification and Standards

Functional classification provides a systematic basis for determining future right-of-way and improvement needs, and can also be used to provide general guidance to appropriate desired vehicular street design characteristics. Roadway functional classification is based on the relative priority of traffic mobility and access functions that are served by the street. From a design perspective, the functions of mobility and access can be incompatible since high or continuous speeds are desirable for mobility, while low speeds are more desirable for access. At one end of the spectrum of mobility and access are freeways, which emphasize moving high volumes of traffic, allowing only highly controlled access points. At the other end of the spectrum are residential cul-de-sac streets, which provide access only to parcels with direct frontage and allow no through traffic. Between the ends of this spectrum are arterials, collectors, and local streets each with an increasingly greater emphasis on mobility. Arterials emphasize a high level of mobility for through movement; local facilities emphasize the land access function; and collectors offer a balance of both functions. Classifications can be further stratified into major and minor arterials and collectors.

The purpose of classifying roads within the study area is to provide a balanced transportation system that facilitates mobility for all modes at acceptable levels of service while providing sufficient access to adjacent land uses and ensuring neighborhood livability. Currently, ODOT, the City of Roseburg, and Douglas County use different roadway classifications and standards for roads within the study area. The Transportation Planning Rule requires that classification of streets within the City be provided. The classification must be consistent with state and regional transportation plans for continuity between adjacent jurisdictions.

The City of Roseburg applies a Street Functional Classification system to reserve future rights-of-way, determine street design, and develop future street improvement projects. As described in the City of Roseburg's Comprehensive Plan, this system is comprised of five specific designations: freeway, arterial street, collector street, local street, and cul-de-sac street.

Freeway – The highest form of roadway design. This type of facility is intended to provide for the expeditious movement of large volumes of traffic between, across, around, or through a city, region, or state. The freeway is a divided highway with full control of access. It is not intended to provide access to abutting land. Complete separation of conflicting traffic movements is provided.

Arterial Street – The primary function of an arterial street is to provide for the traffic movement between areas and across portions of a city or region, direct service to principal generators, and connect to the freeway-expressway system. A subordinate function is the provision of access to abutting land. Since the primary function of this type of street is movement of vehicles rather than access to abutting land or temporary storage of vehicles, arterial streets are subject to regulation and control of parking, turning movements, entrances, exits, and curb uses. Control of access may also be required.

Collector Street – A street that provides for traffic movement within neighborhoods and between activity centers, between arterial streets and local streets, and for direct access to abutting land.

Local Street – Provides access to abutting land. These streets serve local traffic movements and are not intended to accommodate through traffic.

Cul-de-sac Street – Functions as a local street providing access to abutting land. A cul-de-sac is not a through street and contains a turnaround.

Figure 3-1 is a map of Roseburg's roads that have a functional classification above local streets.

In order to be consistent with Oregon's Transportation Planning Rule, it is required that bike lanes be included on new or reconstructed arterial and collector streets. The intent of this requirement is to provide reasonably direct routes for bicycle and pedestrian travel. Roseburg's bicycle and pedestrian facilities are detailed in a later section of this chapter. Appendix A presents a complete list of bicycle facilities by road segment.

Different agencies in Oregon have different functional classification systems. The functional classes between jurisdictions have no correlation. Table 3-1 shows the functional classification systems used by the City of Roseburg, Douglas County, and ODOT. Douglas County further subdivides the classification into Rural and Urban roads. For this report, only the Urban Classification system is included, as this is what applies within the Roseburg UGB. Table 3-2 presents the functional classification for selected major roads by jurisdiction. Below are descriptions of the streets in Roseburg that are classified higher than a local road according to the city's classification system.

The roadways within city limits presently classified as arterials by the City of Roseburg are:

- Garden Valley Boulevard
- Harvard Avenue
- Stewart Parkway
- Edenbower Boulevard between Stephens Street and Stewart Parkway
- Diamond Lake Boulevard
- Pine Street
- Stephens Street
- Washington Avenue
- Oak Avenue

The roadways within city limits presently classified as collector streets by the City of Roseburg are:

- Troost Street
- Mulholland Drive/Aviation Drive
- Lookingglass Road
- Douglas Avenue
- Ramp Street
- Winchester Street
- Garden Valley Boulevard (east of Stephens Street)
- Vine Street
- Alameda Avenue

The roadways within the Roseburg UGB presently classified as minor collector streets by the City of Roseburg are:

- Hughwood Drive
- Harvey Avenue
- Calkins Road
- Kline Street
- Valley View Drive (between Kline Street and Stewart Parkway)
- Keasey Street
- Renann Street
- Edenbower Boulevard (between Renann Street and Stewart Parkway)
- Airport Road
- Cedar Street (north of Chestnut Avenue)
- Walnut Street (north of Chestnut Avenue)
- Chestnut Avenue

- Lincoln Street
- Fulton Street
- Rifle Range Street
- Bellows Street
- Mosher Avenue
- Lane Avenue (east of Stephens Street)
- Jackson Street (between Mosher Avenue and Douglas Avenue), and
- Main Street (south of Douglas Avenue)

Table 3-1. Functional Classification Systems

City of Roseburg	Douglas County*	ODOT*
Freeway	Principal Arterial	Interstate Highway
Arterial	Minor Arterial	Urban Principal Arterial
Collector	Collector	Urban Minor Arterial
Minor Collector	Local Access	Urban Collector
Local Street		Urban Local Street
Cul-de-sac Street	*Urban Area Classifications	*Urban is applied for areas with over 5,000 people.

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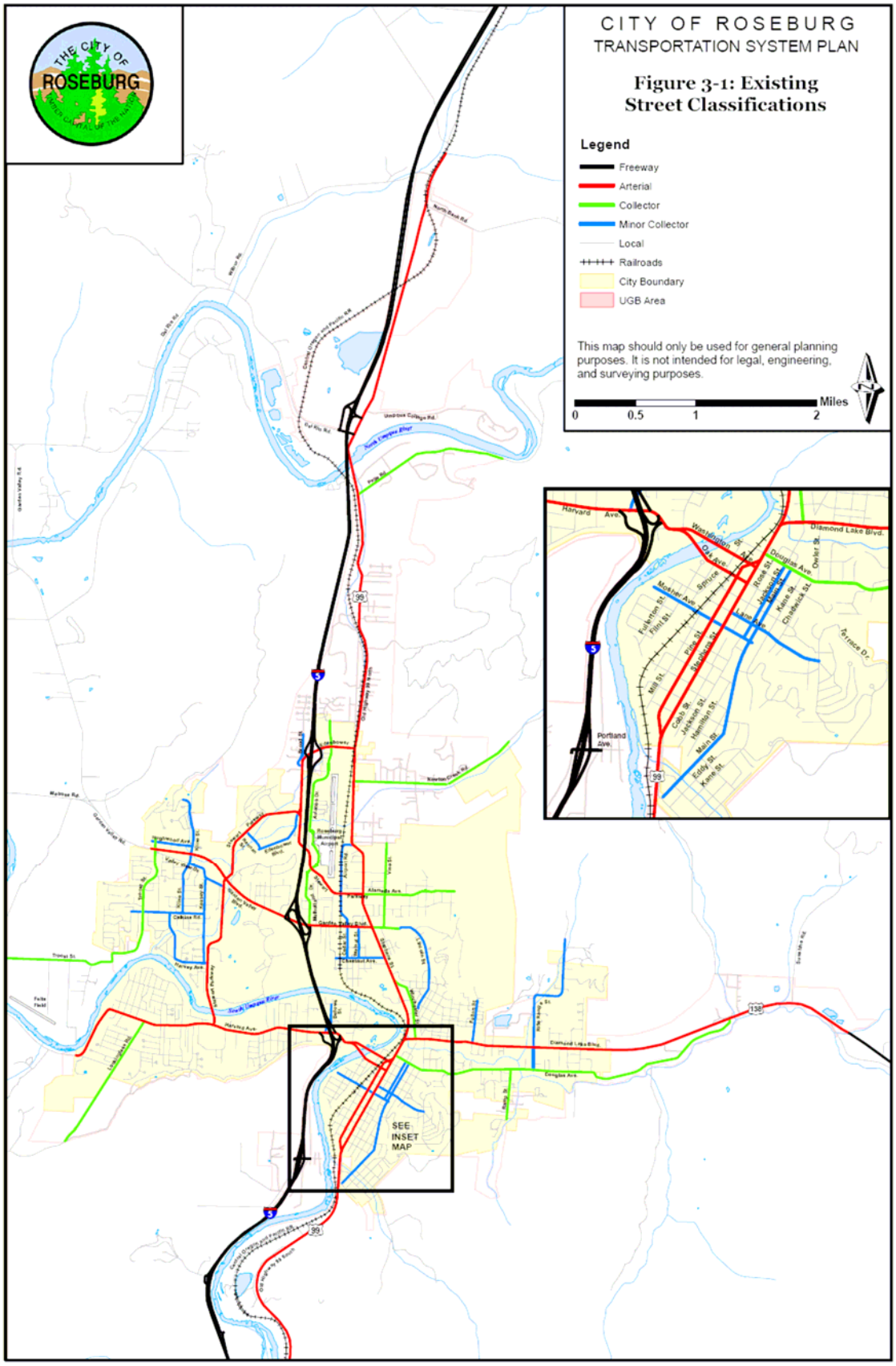
CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 3-1: Existing Street Classifications
Legend
Freeway
Arterial
Collector
Minor Collector
Local
Railroads
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
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SEE INSET MAP

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Table 3-2. Functional Classification for Major Roads in Roseburg, by Jurisdiction

Road	City of Roseburg	Douglas County	ODOT
Interstate 5	Freeway	Principal Arterial	Interstate Highway
Hwy 138/ Diamond Lake Blvd	Arterial	Principal Arterial	Principal Arterial
Stephens Street	Arterial	Minor Arterial	Principal Arterial
Lookingglass Road	Arterial	Minor Arterial	Arterial
Garden Valley Boulevard	Arterial	Minor Arterial	Minor Arterial
Alameda Street	Collector	Collector	Rural Major Collector
Stewart Parkway	Arterial	Minor Arterial	Minor Arterial
Harvard Avenue	Arterial	Minor Arterial	Minor Arterial
Douglas Avenue	Collector	Collector	Minor Arterial
Pine Street	Arterial	Minor Arterial	Principal Arterial
Oak Avenue	Arterial	Minor Arterial	Principal/Minor Arterial
Washington Avenue	Arterial	Minor Arterial	Principal/Minor Arterial

Jurisdictional Responsibilities

The Oregon Department of Transportation (ODOT), Douglas County, and the City of Roseburg all maintain portions of the existing street system within the study area. There are a number of privately maintained roads in the study area as well.

The following section presents a summary of the jurisdictional responsibility for the various streets and highways within the Roseburg UGB. Included are state highways, county roads, and city and private streets.

State-Maintained Highways

Within the planning area, ODOT-maintained facilities are Interstate 5 (I-5) and Highway 138, which includes portions of SE Oak Street, SE Washington Street, SE Stephens Street, W Harvard Avenue and NE Diamond Lake Boulevard. Table 3-3 specifies the two roads within the Roseburg UGB maintained by the State of Oregon.

Table 3-3. ODOT-Maintained Highways within the Roseburg UGB

Street	From	To	Functional Classification
Interstate 5	North UGB Line	South UGB Line	Interstate
Highway 138	North UGB Line (I-5)	East UGB Line	Principal Arterial

I-5 is a well-maintained, four-lane divided freeway with a posted speed of 65 miles per hour (mph) withn the Roseburg UGB. According to the *I-5 State of the Interstate* report, pavement conditions along I-5 are generally “good” (defined on pages 3-27). It is classified

by the 1999 *Oregon Highway Plan* as having interstate significance and serves as the primary north and south through route for traffic traveling through the area.

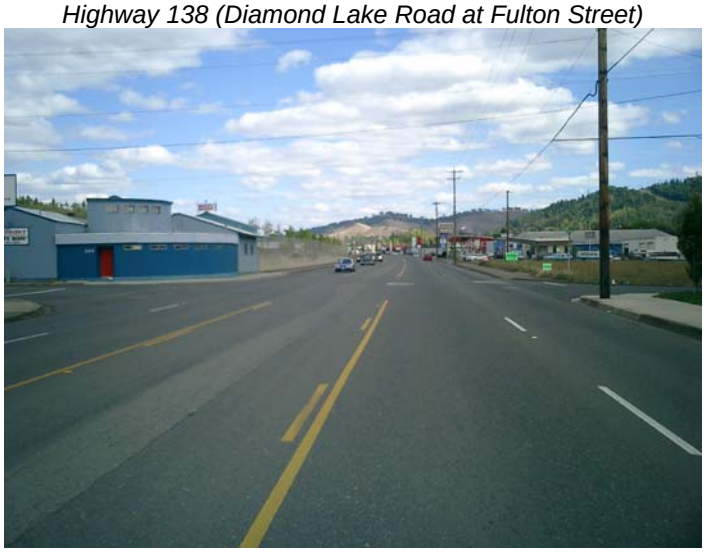
In 2003, ODOT recorded the I-5 Average Daily Traffic (ADT) at Exit 124 (Roseburg City Center) to be 44,600 vehicles in both directions. Table 3-4 presents I-5 ADT for all of the I-5 segments in the Roseburg UGB for the past three years.

Table 3-4. I-5 Average Daily Traffic at Interchanges in Roseburg, 2001-2003

Mile Post	Location	2001 ADT	2002 ADT	2003 ADT
120.79	0.30 mile north of Highway 99 Interchange	41,500	43,900	42,300
122.71	0.30 mile south of Portland Avenue Interchange	42,400	42,800	43,200
123.84	0.30 mile south of Harvard Avenue Interchange	43,400	44,200	44,600
124.78	0.30 mile south of Garden Valley Blvd. Interchange	43,300	44,000	44,500
126.83	0.40 mile south of Edenbower Blvd. Interchange	30,700	31,400	31,900
129.12	0.10 mile south of Winchester Interchange	33,100	34,900	35,200
129.75	Roseburg Automatic Traffic Recorder, 0.53 mile north of Winchester Interchange	29,900	31,500	32,000

Highway 138 is classified by the 1999 Oregon Highway Plan as having regional significance. Highway 138 runs from Elkton in the west, through Sutherlin and Roseburg, connecting to US Highway 97 to the east. Because Highway 138 connects to Highway 38 at Elkton, it is a primary connection between seaports and recreational areas on the coast and Interstate 5. Access to the Cascade Range and Central Oregon is available by way of Highway 138 east through Roseburg. Highway 138, also known as Diamond Lake Boulevard, serves both local and regional traffic.

Highway 138 (Diamond Lake Road at Fulton Street)



Highway 138 in Roseburg is part of a couplet system between Interstate 5 and Diamond Lake Boulevard. It is a five-lane highway with a posted speed of 55 mph east of Patterson Street, posted speed of 45 mph east of Cummins Street, and posted speed of 35 mph west of Cummins Street. Highway 138 between Stephens Street and I-5 is also known as Washington Avenue (westbound) and Oak Avenue (eastbound). The speed limit on Highway 138 on these roads is 30 mph.

County-Maintained Roads

Douglas County also maintains roads outside of the city limits but within the Roseburg UGB. Table 3-5 shows the streets within the Roseburg UGB maintained by Douglas County and county functional classifications above local street. The majority of these roadways are residential streets or rural roads. There are also minor collectors, major collectors, and one arterial listed in the *Douglas County Transportation System Plan* (2001).

Table 3-5. Douglas County Maintained Roads and County Functional Classification

Street	From	To	County Functional Classification
Amanda Court	Edenbower Boulevard	End	Local Street
Athena Lane	Northpark Lane	Balder Lane	Local Street
Atkinson Court	Hewitt Avenue	Cul-de-Sac	Local Street
Balder Lane	Zeus Lane	Athena Lane	Local Street
Blossom Avenue	Joseph Street	Hooker Road	Local Street
Broad Street	Edenbower Boulevard	End	Minor Collector
Buckhorn Road	State Hwy 138	Roseburg UGB	Major Collector
Calypso Lane	Northpark Lane	Balder Lane	Local Street
Carmen Street	Kirby Avenue	End	Local Street
Carolyn Lane	Hewitt Avenue	End	Local Street
Christie Street	Mercy Hills Drive	End	Local Street
Clover Avenue	Stephens Street	End	Local Street
Club Street	Stephens Street	End	Local Street
Creek Avenue	Laurel Springs	End	Local Street
Currier Street	Stephens Street	End	Local Street
Danita Lane	Mary Ann Lane	End	Local Street
Dobie Court	Kirby Avenue	Cul-de-Sac	Local Street
Douglas Avenue	Roseburg City Limits	State Hwy 138	Minor Collector
Angela Court	Edenbower Boulevard	End	Local Street
Cordelia Court	Edenbower Boulevard	End	Local Street
Kristen Court	Edenbower Boulevard	End	Local Street
Fairhill Drive	Wilson-Collins Road	End	Local Street
Firesteel Road	Stephens Street	End	Local Street
Follett Street	Newton Creek Road	End	Local Street
Frear Street	Portland Avenue	End	Local Street
General Avenue	Joseph Street	Roseburg City Limits	Minor Collector
Glencross Avenue	Stephens Street	End	Local Street
Grahm Street	Currier Street	End	Local Street
Greenley Street	Troost Street	End	Local Street
Heritage Way	Portland Avenue	Roseburg UGB	Local Street
Hewitt Avenue	Stephens Street	Atkinson Court	Minor Collector
Hooker Road	General Avenue	Keller Road	Minor Collector
Housley Avenue	Stephens Street	Johnson Street	Local Street
Hughes Loop	Knoll Avenue	End	Local Street
Hughes Street	Newton Creek Road	End	Local Street
Isabell Avenue	Stephens Street	End	Local Street
Joanne Drive	Ridge Avenue	Newton Creek Road	Local Street
Johnson Street	Houseley Avenue	Newton Creek Road	Minor Collector
Joseph Street	General Avenue	End	Local Street
Keller Road	Hooker Road	End	Local Street

Street	From	To	County Functional Classification
Kendall Street	Portland Avenue	End	Local Street
Kerr Street	Meadow Avenue	Zues Lane	Local Street
Kester Road	State Hwy 138	Roseburg UGB	Minor Collector
Kimberly Street	Mercy Hills Drive	End	Local Street
Kincaid Drive	State Hwy 138	Douglas Avenue	Local Street
Kirby Avenue	Parker Road	End	Minor Collector
Knoll Avenue	Johnson Street	Slope Street	Minor Collector
Laurel Springs Drive	Newton Creek Road	End	Local Street
Lookingglass Road	Roseburg City Limits	Roseburg UGB	Arterial
Louise Lane	Hewitt Avenue	End	Local Street
Makah Street	Navajo Avenue	End	Local Street
Marlene Drive	Newton Creek Road	End	Local Street
Mary Ann Lane	Stephens Street	End	Local Street
Meadow Avenue	Stephens Street	End	Local Street
Medford Avenue	Frear Street	End	Local Street
Mercy Hills Drive	Edenbower Boulevard	Kimberly Street	Local Street
Military Avenue	Lookingglass Road	Roseburg City Limits	Local Street
Mobridge Avenue	Stephens Street	End	Local Street
Monterey Drive	Newton Creek Road	Newport Street	Local Street
Navajo Avenue	Edenbower Boulevard	End	Local Street
Neptune Lane	Parker Road	End	Local Street
Newport Street	Newton Creek Road	Monterey Drive	Local Street
Newton Creek Road	Stephens Street	End	Major Collector
North Bank Road	Stephens Street	Roseburg UGB	Major Collector
Northpark Lane	Stephens Street	Athena Lane	Local Street
Old Melrose Road	Roseburg UGB	Roseburg City Limits	Major Collector
Page Road	Stephens Street	End	Minor Collector
Parker Avenue	Parker Road	End	Local Street
Parker Road	Newton Creek Road	Parker Avenue	Minor Collector
Pawnee Street	Navajo Avenue	End	Local Street
Peggy Avenue	Parker Road	Cul-de-Sac	Local Street
Perkins Lane	Hewitt Avenue	End	Local Street
Pioneer Road	Hooker Road	End	Local Street
Plateau Drive	Edenbower Boulevard	Edenbower Boulevard	Local Street
Pleasant Street	Stephens Street	End	Local Street
Porter Street	Newton Creek Road	Knoll Avenue	Minor Collector
Portland Avenue	Kendall Street	End	Arterial
Promise Avenue	Stephens Street	End	Local Street
Ridge Avenue	Marlene Drive	End	Local Street
River Street	Portland Avenue	End	Local Street
Russell Avenue	Stephens Street	End	Local Street

Street	From	To	County Functional Classification
Sawyer's Lane	Newton Creek Road	End	Local Street
Shaddow Ranch Lane	Roseburg City Limits	End	Local Street
Slope Street	Newton Creek Road	Knoll Avenue	Local Street
Sterling Drive	Stephens Street	End	Local Street
Sunshine Road	State Hwy 138	Roseburg UGB	Minor Collector
Sweetbrier Avenue	Edenbower Boulevard	End	Local Street
Taft Drive	Stephens Street	End	Local Street
Timberlake Avenue	Stephens Street	End	Local Street
Trust Avenue	Edenbower Boulevard	End	Local Street
Umpqua College Road	Old Highway 99	End	Minor Collector
Vine Street	Knoll Street	Garden Valley Boulevard	Minor Collector
W Angela Court	Edenbower Boulevard	End	Local Street
W Cordelia Court	Edenbower Boulevard	End	Local Street
W Kristen Court	Edenbower Boulevard	End	Local Street
Walker Court	Hewitt Avenue	Cul-de-Sac	Local Street
Walter Avenue	Edenbower Boulevard	End	Local Street
Wide Avenue	Edenbower Boulevard	End	Local Street
Wilbur Road	Roseburg UGB	Roseburg UGB	Major Collector
Wilson-Collins Road	Fairhill Drive	Roseburg UGB	Local Street
Del Rio Road	Old Highway 99	Roseburg UGB	Major Collector
Zeus Lane	Stephens Street	Balder Lane	Local Street

City-Maintained Roads

The City of Roseburg maintains a broad network of streets. The cross-sections on the majority of the streets range from two to five lanes and the speed ranges primarily between 25 mph and 35 mph. The older, south-central portion of Roseburg also contains some alleys.

Downtown Roseburg operates under a one-way grid system. The downtown area is bounded to the west by the Southern Pacific Rail lines and to the north by Diamond Lake Boulevard. Because there are no grade-separated rail crossings in the downtown area, autos, pedestrians, and bicyclists are often delayed by trains blocking the rail crossings during peak hour traffic. There are about 20 other at-grade railroad crossings in Roseburg, and no existing grade-separated crossings. Further detail is presented in the Rail section below.

The development of the areas outside of downtown has been constrained by topography, including the presence of I-5 and the South Umpqua River. Consequently, there are a relatively small number of north-south and east-west continuous routes serving the city. Continuous north-south and east-west roads within the City of Roseburg include Garden Valley Boulevard, Harvard Avenue, Stephens Street, Pine Street, Stewart Parkway, and Diamond Lake Boulevard.

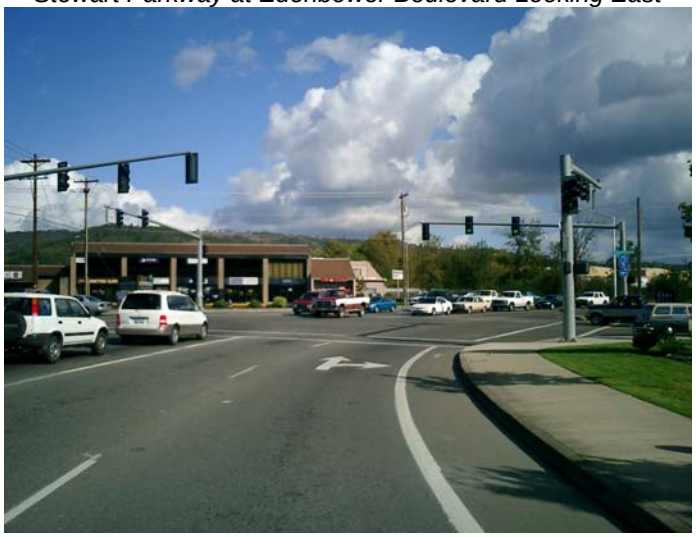
Detailed information about the physical characteristics of the existing street system in the Roseburg UGB is presented in Appendix A by street segment. Listed information includes presence of parking; presence and location of sidewalks; presence and location of bicycle lanes; presence and location of curbs; roadway condition; intersection traffic control; intersection turn lanes; and posted speeds. A brief description of the arterials in Roseburg is provided in the following paragraphs.

Edenbower Boulevard is classified as a minor collector south of Stewart Parkway and connects Renann Street, a minor collector, to Stewart Parkway an arterial. Edenbower Boulevard is classified as an arterial from Stewart Parkway to Stephens Street. This arterial section connects to one minor collector, Broad Street, and intersects one collector, Aviation Drive. Its posted speed varies from 25 mph near Vermillion to 40 mph between Aviation Dr. and Stephens St. Edenbower Boulevard provides on/off access to Interstate 5 as well as an east/west overpassing of Interstate 5. There is also an at-grade railroad crossing on Edenbower just west of Stephens Street.

Edenbower Boulevard at Stewart Parkway Looking North

Stewart Parkway runs east/west from Garden Valley East and north/south from Garden Valley West connecting two other arterials, Stephens Street in the north and Harvard Avenue in the south. Stewart Parkway crosses two other arterials, Garden Valley Boulevard and Edenbower Boulevard. It intersects one collector, Aviation Drive, and five minor collectors, Harvey Avenue, Valley View Drive, Renann Street, Edenbower Boulevard, and Airport Road. Stewart Parkway becomes Alameda Avenue, a collector, east of Stephens Street. Its posted speed varies between 35 mph near Harvey Avenue to 40 mph near Valley View Dr. There is also an at-grade railroad crossing on Stewart Parkway, just west of Airport Road.

Stewart Parkway at Edenbower Boulevard Looking East



Highway 138/Diamond Lake Boulevard runs east/west on the east side of I-5. It serves as an arterial to local residents and businesses but also as a state highway for travelers to Diamond Lake, eastern Oregon, and those connecting to Highway 97. It connects to two one-way arterials, Pine Street and Stephens Street, four collectors, Oak Avenue, Washington Avenue (which are OR 138 for a few blocks), Winchester Street and Douglas Avenue, and to two minor collectors, Fulton Street and Rifle Range Street. Oregon Highway 138 has a posted speed of between 30 and 55 mph. There are at-grade railroad crossings on Oak Avenue and Washington Avenue, just west of the Pine Street.

Highway 138/Diamond Lake at Fulton Street Looking East

Garden Valley Boulevard is an arterial that runs east to west north of downtown and is one of the few ways to cross the I-5 barrier. It intersects two arterials, Stewart Parkway and Stephens Street, and connects to two collectors, Troost Street and Mulholland Drive. Garden Valley Boulevard becomes a collector east of Stephens Street and there connects to another collector, Vine Street. It provides access to four minor collectors as well, Kline Street, Cedar Street/Airport Road, Walnut Street, and Lincoln Street. Garden Valley Boulevard provides on/off access to I-5 and an east/west overcrossing of I-5, and has a posted speed of 45 mph between Kline Street and Troost Street, and 45-50 mph from Troost Street to Melrose Road (outside of the UGB). There is an at-grade railroad crossing just west of the Airport Road intersection.

Garden Valley Boulevard at Airport Road/Cedar Street Looking East

Harvard Avenue runs east/west on the west side of I-5. It serves as an arterial to local residents and businesses and connects to three other arterials, Stewart Parkway, Washington Avenue, and Oak Avenue. It also provides access to Lookingglass Road. Harvard Avenue provides on/off access to Interstate 5 as well as an east/west underpass of Interstate 5 to provide access to downtown. Its posted speed varies from 20 mph near Keady Ct. to 40 mph between Warren Ct. and Old Melrose Rd. At its western end, the street turns into Old Melrose Road, a rural collector street that travels westward out of the city and the UGB.

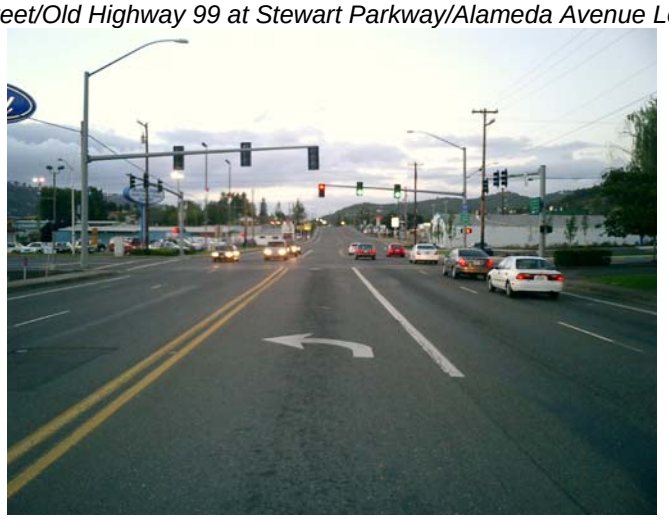
Harvard Avenue at Stewart Parkway Looking East

Washington Avenue and Oak Avenue are split one-way east/west arterials between I-5 and Stephens Street. Washington Avenue handles westbound traffic while Oak Avenue handles eastbound traffic, and they serve local traffic between downtown and the west side of town. These arterials also serve as Highway 138 to move through traffic from I-5 to Stephens Street and to Diamond Lake Boulevard. They connect to three other arterials, Stephens Street, Pine Street, and Harvard Avenue. Washington Avenue and Oak Avenue have a posted speed of 30 mph. There are at grade railroad crossings on both streets, just west of Pine Street.

Jackson Street at Washington Avenue Looking South

Stephens Street/Old Highway 99 runs north/south on the east side of I-5 for the length of the city. It serves as an arterial to local residents and businesses and also as a highway for through travelers. As Roseburg is a regional center, it draws many employees, shoppers, and service customers from places like Sutherlin to the north and Winston to the south. Old Highway 99 ties into Oregon Highway 42 a few miles south of Roseburg. Old Highway 99 is primarily known as Stephens Street through Roseburg. In downtown, Stephens Street is a northbound one-way street, the twin to southbound Pine Street. It connects to almost every other arterial in the city, and also connects to four collectors, Newton Creek Road, Alameda Avenue, Winchester Street, and Douglas Avenue. It also connects to four minor collectors, Airport Road, Chestnut Avenue, Lane Avenue, and Mosher Avenue. Stephens Street has posted speeds between 20 and 35 mph in the city limits.

Stephens Street/Old Highway 99 at Stewart Parkway/Alameda Avenue Looking North



Stephens Street/Old Highway 99 at Douglas Avenue Looking South

Pine Street/Old Highway 99 runs north/south on the east side of I-5 through downtown Roseburg. It serves as an arterial to local residents and businesses but also as a highway

for through travelers. As Roseburg is a regional center, it draws many employees, shoppers, and service customers from places like Sutherlin to the north and Winston to the south. Old Highway 99 ties into Oregon Highway 42 a few miles south of Roseburg. Pine Street through downtown is a southbound one-way street. It connects to three other arterials: Washington Avenue, Oak Avenue, and Stephens Street. It also connects to two minor collectors, Mosher Avenue and Lane Avenue. Pine Street/Old Highway 99 has a posted speed of 35 mph.

Pine Street/Old Highway 99 at Mosher Avenue Looking South

Privately Maintained Roads

There are a number of streets within the Roseburg city limits which are not maintained by a public agency. Most of these private streets are located in trailer or mobile-home parks, manufactured home parks, and other residential areas. A comprehensive list is not possible because many private roads are either not on maps or unmarked. Table 3-6 provides a list of privately maintained street segments within Roseburg that appear on maps, as of October 1, 2004.

Table 3-6. Privately Maintained Roads in Roseburg

Street	From	To
Cheston Court	Chestnut Avenue	End
Frontier Lane	Rifle Range Street	End
Linus Lane	Stewart Parkway	Van Pelt
Medical Loop	Linus Lane	Linus Lane
Medical Park Drive	Linus Lane	End
Meloy Avenue	Fairmount Street	End
Micelli Village Street	Harvard Avenue	End
Moorea Drive	Kline Street	End
Morton Drive	Douglas Avenue	Hassel Avenue
Mountain View Drive	Hill Avenue	End
Pro Shop Road	Stewart Parkway	Golf Pro Shop
Ralinda Court	Moorea Drive	Cul-de-Sac
Riverridge Avenue	Lookingglass Road	Cul-de-Sac
Van Pelt Boulevard	Linus Lane	Woodstock Drive
Dawson Road	Roseburg UGB	OR 138
Caskey Court	Stephens Street	End
College Avenue	Walnut Street	End
Ivan Street	Diamond Lake Boulevard	End
Keller Road	Hooker Road	End
Rachel Lynn Drive	Kline Street	End
Railroad Alley	Casper Street	Atlanta Street
Stacie Court	Kline Street	End
West Avenue	Alder Street	End
Williams Street	Alameda Avenue	End
Rocky Drive	Rocky Ridge Drive	End
Shale Court	Rocky Drive	End
Ruby Court	Rocky Drive	End

Right-of-Way (ROW) Widths and Number of Lanes

Table 3-7 and Table 3-8 present the existing ROW widths for locations on arterial and collector streets in Roseburg. The ROW widths were estimated using geographic information systems (GIS) data that was provided by the City of Roseburg.

Table 3-7. Right-of-Way Measurements in Roseburg

Street Name	From	To	ROW (feet)
Airport Road	Stewart Parkway	Exchange Ave.	65
Vine St.	Garden Valley Blvd.	Alameda Ave.	50-70
Alameda Ave.	east of Vine St.	Stephens St.	50
Stewart Parkway	Mulholland Dr	Airport Road	90-110
Mulholland Drive	Garden Valley	Stewart Parkway	55-70
Aviation Drive	Stewart Parkway	Edenbower Blvd.	65
Stephens St.	UGB	Edenbower Blvd.	80-100
Stephens St.	Edenbower Blvd.	Stewart Parkway	90
Stephens St.	Garden Valley Blvd.	Diamond Lake Blvd.	80-100
Lincoln St.	Garden Valley Blvd.	Odell Ave.	45-65
Winchester St.	Stephens St.	Diamond Lake Blvd.	60-65
Fulton St.	Diamond Lake Blvd.	Oswego Ave.	60
Rifle Range St.	Diamond Lake Blvd.	Spencer Ct	70
Diamond Lake Blvd.	Stephens St.	Rifle Range St.	80
Diamond Lake Blvd.	Rifle Range St.	Douglas Ave.	80-120
Douglas Ave.	Rifle Range St.	Diamond Lake Blvd.	60
Douglas Ave.	Stephens St.	Rifle Range St.	60
Lane Ave.	Stephens St.	Terrace Drive	40-60
Mosher Ave.	Main St.	railroad tracks	65
Main St.	Strong Ave.	Mosher Ave.	60
Stephens St.	Oak Ave.	Rice Ave.	60
Pine St.	Oak Ave.	Rice Ave.	60
Oak Ave.	Chadwick St.	Spruce St.	60
Washington Ave.	Chadwick St.	Spruce St.	60
Edenbower Blvd.	Stewart Parkway	Stephens St.	70-80
Stewart Parkway	Edenbower Blvd.	Garden Valley Blvd.	90-140
Stewart Parkway	Garden Valley Blvd.	Harvard Ave.	50-160
Calkins Road	Troost St.	Keasey St.	50-60
Troost St.	Calkins Road	Garden Valley Blvd.	85-110
Kline St.	Calkins Road	Garden Valley Blvd.	60
Keasey St.	Harvey Ave.	Valley View Drive	50-60
Valley View Drive	Kline St.	Stewart Parkway	60
Lookingglass Road	Harvard Ave.	Goedeck Ave.	70
Harvard Ave.	Lookingglass Rd	Stewart Parkway	65-100
Harvard Ave.	Stewart Parkway	I-5	75-100

Source: GIS data provided by the City of Roseburg

Table 3-8. Right-of-Way Measurements Outside Roseburg

Street Name	From	ROW (feet)
North Bank Road	east of Old Highway 99	50-100
Page Road	east of Old Highway 99	65
Newton Creek Road	east of Stephens St.	65
Troost St.	Calkins Road	40-90
Stephens St. South	Diamond Lake Blvd.	65-125

Source: GIS data provided by the City of Roseburg

Standards

Table 3-9 presents the City's existing Street Design Standards, which were taken from Roseburg's *Land Use and Development Ordinance* document. Listed are the existing design standards for streets, which include required right-of-way widths and pavement widths.

Table 3-9. Existing City of Roseburg Street Design Standards

TABLE A STANDARD STREET WIDTH		
Type of Street	**Right-of-Way Width**	**Paving Width [1]**
Arterials	70' -120' [2]	40' - 80' [2]
Collector Streets and All Business Streets Other than Arterials	60'-70'[4]	40'-48 [2]
Local Streets in Single-Family Density Areas	60'	34'
Cul-de-Sacs	60'	34'
Circular Ends of Cul-de-Sacs	96'[3]	80'[3]
All Streets Not Specifically Provided for Above	60'	34'

1 Measured from face-to-face of curbs.

2 The approving authority may require a width within the limits shown, based upon adjacent physical conditions, safety of the public and the traffic needs of the community, sidewalk width, and in accordance with other specifications of this Ordinance.

3 Measured by diameter of circle constituting circular end.

4 Right-of-way to 70 feet may be required with wider sidewalks.

Local roads are typically residential streets and therefore are non-striped, bi-directional roads. The number of lanes for road classifications above local road varies by location. Table 3-10 shows the number of lanes on all arterials in Roseburg as of January 2005. The number of lanes for all road segments in Roseburg can be found in Appendix A.

Table 3-10. Number of Lanes for Arterials in Roseburg (January 2005)

Street	From	To	Number of Lanes per Direction
Diamond Lake Blvd	Stephens St	UGB	2
Edenbower Blvd	Stewart Pkwy	Stephens St	1
Garden Valley Blvd	UGB	Airport Rd	2
Garden Valley Blvd	Airport Rd	Stephens St	2
Garden Valley Blvd	Stephens St	Lincoln St	1
Harvard Avenue	Madrone St	Corey Ct	2
Harvard Avenue	Corey Ct	I-5	2
Harvard Avenue	I-5	Old Melrose Rd	2
Oak Avenue	Madrone St	Parrott St	2*
Oak Avenue	Parrott St	Stephens St	3*
Stephens Street	Exchange Ave	Edenbower Blvd	2
Stephens Street	Edenbower Blvd	Wilbur Rd	1
Pine Street	Stephens St	Washington Ave	2
Pine Street	Washington Ave	Stephens St	3
Stephens Street	UGB	Edenbower Blvd	1
Stephens Street	Edenbower Blvd	Diamond Lake Blvd.	2
Stephens Street	Diamond Lake Blvd.	South of downtown	2*
Old Highway 99	South of downtown	UGB	1
Stewart Parkway	Stephens St	I-5	2
Stewart Parkway	I-5	Edenbower Blvd	2
Stewart Parkway	Edenbower Blvd	Valley View Dr	2
Stewart Parkway	Valley View Dr	Harvard Ave	1
Washington Avenue	Madrone St	Spruce St	2
Washington Avenue	Spruce St	Pine St	2*
Washington Avenue	Pine St	Stephens St	3*

* One-way streets

Pavement Type and Condition

The road pavement type in Roseburg is almost entirely asphalt and ranges in condition from very good (new streets) to very poor (potholes and major cracking). All sidewalks and curbs are concrete. Pavement conditions were rated using ODOT's pavement condition guidelines[8]. The ODOT pavement ratings follow.

Very Good
Pavement structure is stable, with no cracking, no patching, and no deformation evident. Roadways in this category are usually fairly new. Riding qualities are excellent. Nothing would improve the roadway at this time.

[8] http://odot.state.or.us/otms/pavement/pavecond.cfm

Good
Stable, minor cracking, generally hairline and hard to detect. Minor patching and possibly some minor deformation evident. Dry or light-colored appearance. Very good riding qualities. Rutting less than ½″.

Fair
Pavement structure is generally stable with minor areas of structural weakness evident. Cracking is easier to detect. The pavement may be patched but not excessively. Although riding qualities are good, deformation is more pronounced and easily noticed. Rutting less than ¾″.

Poor
Areas of instability, marked evidence of structural deficiency, large crack (alligatored) patterns, heavy and numerous patches, deformation very noticeable. Riding quality ranges from acceptable to poor. Rutting greater than ¾″.

Very Poor
Pavement is in extremely deteriorated condition. Numerous areas of instability. Majority of section is showing structural deficiency. Riding quality is unacceptable (vehicles will probably slow down).

The roadways with segments rated as very poor are shown in the following bullet list:

- Blakeley Avenue
- Blossom Avenue
- Brooklyn Avenue
- Erie Street
- Flint Street
- Floed Avenue
- Grandview Drive
- Hall Avenue
- Hamilton Street
- John Street
- Joseph Street
- Malheur Avenue
- Military Avenue
- Neuner Drive
- Ohio Avenue
- Scofield Avenue
- Shick Avenue
- Stone Avenue

- Strong Avenue
- Wide Avenue

Details about pavement types and condition for each road segment in Roseburg can be found in Appendix A. Please note that the number of segments per roadway varied depending on the number of cross-streets inventoried and does not directly measure pavement dimensions. The intent of the list is to show which roadways have segments rated as very poor and needing improvements.

On-Street Parking and Public Parking Lots

On-street parking is provided on many streets throughout Roseburg. Of the road segments inventoried, 63% (percent) have on-street parking. This includes all parking in residential, commercial, and other areas, and includes striped and non-striped on-street parking areas. The detailed listing of on-street parking locations by road segment is included in the roadway inventory sheets in Appendix A. Many City streets lack curbs, so on-street parking in residential areas occurs at drivers' discretion and as each street physically allows.

Sections 3.35.100 through 3.35.265 of Roseburg's Land Use and Development Ordinance provide the City of Roseburg's regulations for on- and off-street parking.

There is only one publicly owned parking garage in Roseburg, the Overpark Garage located at 551 SE Rose Street. The Overpark Garage provides approximately 350 parking spaces on 0.76 acres. The City also rents spaces in two surface lots, the Phillips lot and the Armory lot. The Phillips lot provides 43 parking spaces on 0.38 acres, and is located at 840 SE Stephens Street. The Armory lot, also known as the Flegel lot, provides 50 parking spaces on 0.41 acres, and is located at 1071 SE Washington Avenue. All the other lots in the City are privately owned.

Posted Speed Limits

Table 3-11 provides a listing of posted speeds for arterials and collectors in the City of Roseburg. The posted speeds for all road segments inventoried in Roseburg can be found in Appendix A.

In Roseburg, posted speeds on local streets range from 15 to 35 mph and school zones are posted at 20 mph. Private streets frequently had posted speeds of 5 or 10 mph.

Table 3-11. Posted Speeds on Arterials and Collectors Inventoried*

	Posted Speeds
Arterials	
Washington Avenue	30
Stewart Parkway	35 – 40 mph
Diamond Lake Boulevard	35 – 55 mph
Edenbower Boulevard	25 – 40 mph
Garden Valley Boulevard	30 – 45 mph
Harvard Avenue	20 – 40 mph
Oak Avenue	30
Stephens Street/Old Highway 99	35 – 55 mph
Pine Street	35
Stephens Street	20 – 35 mph
Collectors	
Garden Valley Boulevard	30
Alameda Avenue	25
Aviation Drive	40
Douglas Avenue	20 – 35 mph
Lookingglass Road	40
Mulholland Drive	25
Troost Street	20 – 25 mph
Winchester Street	35
Vine Street	20
Airport Road	35
Broad Street	25
Calkins Road	25
Chestnut Avenue	20
Edenbower Boulevard	25
Exchange Avenue	35
Fulton Street	25
Keasey Street	25
Kline Street	20 – 25 mph
Lane Avenue	25
Lincoln Street	25
Main Street	20
Mosher Avenue	25
Renann Street	25
Rifle Range Street	25 – 40 mph
Valley View Drive	25
Walnut Street	20

* Specific locations of posted speeds by roadway segment are provided in the roadway inventory sheets in Appendix A.

Stop Control Devices

There are numerous signalized intersections in Roseburg, primarily where roads intersect or meet an arterial or collector street. All traffic signals in downtown Roseburg are pre-timed; most others are traffic-actuated on one or more approaches.

ODOT maintains certain signals by way of a contract with the City of Roseburg. Stewart Parkway signals are maintained by ODOT, as well as the signals on Stephens Street, Garden Valley Boulevard, and four signals on Harvard Avenue. There are currently two coordinated signal systems in Roseburg, consisting of one coordinated signal system along Garden Valley Boulevard west of I-5 and another coordinated signal system along Harvard Avenue between Umpqua Street and Madrone Street.

Error! Reference source not found. shows the existing traffic signals in the City of Roseburg and new traffic signals programmed by the City of Roseburg to be installed.

In addition, Roseburg's *Ten-Year Capital Improvement Plan* lists five intersections that require signalization in the near future:

- Rifle Range Street at Diamond Lake Boulevard (2007-2010)
- Fulton Street at Diamond Lake Boulevard (2007-2010)
- Stephens Street at Mosher Street (2007-2010)
- Pine Street at Mosher Street (2007-2010)

Collision History

Collision data was obtained from ODOT for the years 2001-2003. ODOT gets collision data from collisions reported to the Department of Motor Vehicles (DMV). The collision data is summarized in Table 3-12, and **Error! Reference source not found.** presents high collision locations in Roseburg. Circles of Figure 3-3 show the number of collisions at each location. From 2001 to 2003, there were no fatal crashes in Roseburg. Detailed collision information, including collision locations, is included in Appendix B.

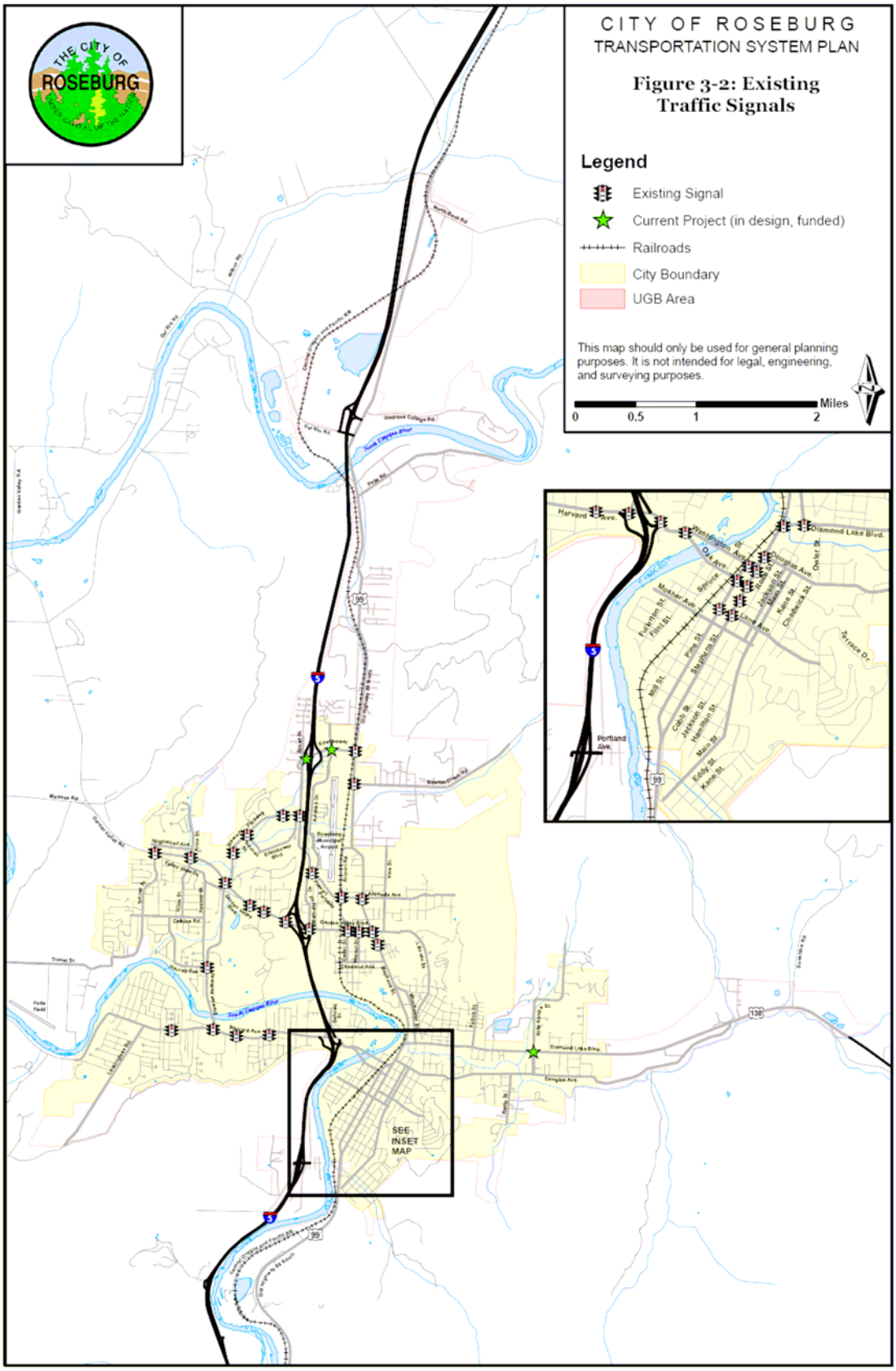

CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 3-2: Existing Traffic Signals
Legend
Existing Signal
Current Project (in design, funded)
Railroads
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
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Table 3-12. Collision Totals in Roseburg, by Type 2001-2003

Year	Collision Type	Nonfatal Crashes	Property Damage Only	Total Crashes	People Injured
2001					
	Angle	30	25	55	40
	Backing	1	21	22	2
	Fixed/Other Object	1	5	6	1
	Head-On	1	1	2	1
	Parking Movements	1	13	14	2
	Pedestrian	5	0	5	5
	Rear End	75	99	174	120
	Sideswipe - Meeting	3	1	4	3
	Sideswipe - Overtaking	2	22	24	4
	Turning Movements	64	116	180	104
	2001 Total:	**183**	**303**	**486**	**282**
2002					
	Angle	28	22	50	44
	Backing	3	12	15	3
	Fixed/Other Object	4	8	12	5
	Head-On	2	0	2	4
	Miscellaneous	1	2	3	2
	Non-Collision	0	1	1	0
	Parking Movements	1	8	9	1
	Pedestrian	5	0	5	5
	Rear End	91	88	179	128
	Sideswipe - Meeting	0	3	3	0
	Sideswipe - Overtaking	4	27	31	4
	Turning Movements	73	126	199	112
	2002 Total:	**212**	**297**	**509**	**308**
2003					
	Angle	19	29	48	27
	Backing	0	16	16	0
	Fixed/Other Object	2	12	14	3
	Miscellaneous	0	2	2	0
	Non-Collision	0	1	1	0
	Parking Movements	0	9	9	0
	Pedestrian	8	0	8	9
	Rear End	88	101	189	130
	Sideswipe - Meeting	0	2	2	0
	Sideswipe - Overtaking	4	22	26	5
	Turning Movements	56	98	154	78
	2003 Total:	**177**	**292**	**469**	**252**

Source: Collision Data provided by Oregon Department of Transportation for years 2001-2003.

If a collision type is not listed, no crash of that type was reported for that year.

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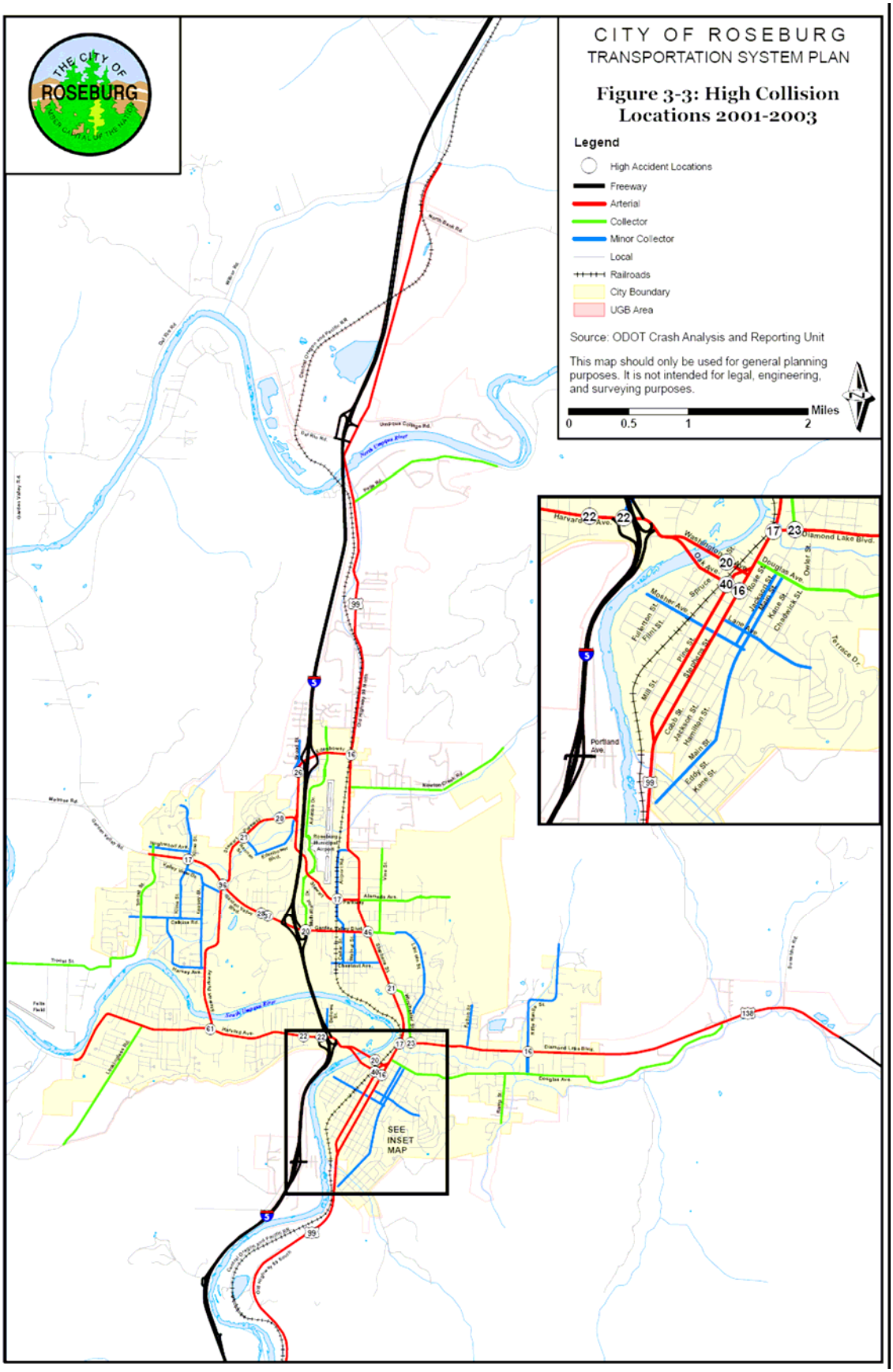
CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 3-3: High Collision Locations 2001-2003
Legend
High Accident Locations
Freeway
Arterial
Collector
Minor Collector
Local
Railroads
City Boundary
UGB Area
Source: ODOT Crash Analysis and Reporting Unit
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
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Collision data collected from ODOT show 1,464 total collisions inside the Roseburg UGB between January 2001 and December 2003. Of these, 42% (percent) occurred at the 21 locations listed in Table 3-13. Among these high collision locations, most are at the intersection of collectors and arterials, and six are at the intersection of an arterial or collector and a residential local street. A complete listing of all collision locations can be found in Appendix B.

The locations with the highest number of collisions were used to calculate collision rates per million entering vehicles (MEV)[9]. For comparison purposes, the statewide average of collisions per million entering vehicles on non-freeways in 2003 was 1.46[10]. As shown in Table 3-13, three intersections exceed the statewide average of collisions per million entering vehicles:

- Oak Avenue at Pine Street
- Garden Valley Boulevard at Stewart Parkway
- Harvard Avenue at Stewart Parkway

In addition, intersections with a collision rate per MEV greater than or near 1 were analyzed to determine the predominant collision types and causes. These intersections are included in Table 3-14, and show that most collisions are rear end collisions (i.e., following too close) or due to vehicles not adhering to stop controls.

Collisions often injure people riding in automobiles. Between 2001 and 2003, 572 of the 1,464 collisions (39 percent) had at least one recorded motorist injury, resulting in 842 people being hurt. Collisions can also injure other, non-motorized, users of the transportation system. In addition to the 36 bicyclists that were injured by automobiles, 19 pedestrians were also injured. No fatalities occurred in any of the 1,464 collisions.

[9] The Collision Rate per MEV = (number of annual accidents x 1,000,000) divided by (24-hour intersection volume x 365). Source: Institute of Traffic Engineers Traffic Engineering Handbook, 5th Edition. 1999.
[10] 2003 ODOT State Highway Crash Rate Tables, January 2005.

Table 3-13. High Collision Locations in Roseburg (2001-2003)

Location	Number of Collisions from January 1, 2001 - December 31, 2003	Number of Collisions per Year	24-Hour Total int. Entering Volume	Collision Rate per MEV*
Oak Avenue at Pine Street	40	13.3	15,630	2.34
Garden Valley Boulevard at Stewart Parkway	96	32.0	43,731	2.00
Harvard Avenue at Stewart Parkway	61	20.3	28,266	1.97
Garden Valley Boulevard at Stephens Street	46	15.3	33,524	1.25
Diamond Lake Boulevard at Rifle Range Street	16	5.3	13,294	1.10
Estelle Street at Garden Valley Boulevard	29	9.7	25,241	1.05
Airport Road at Stewart Parkway	17	5.7	15,587	1.00
Edenbower/Broad at Stewart Parkway	26	8.7	24,418	0.97
Oak Avenue at Stephens Street	16	5.3	17,620	0.83
Harvard Avenue at Umpqua Street	22	7.3	24,404	0.82
Diamond Lake Boulevard at Winchester Street	23	7.7	27,584	0.76
Garden Valley Boulevard at Kline Street	17	5.7	20,410	0.76
Edenbower Boulevard at Stephens Street	16	5.3	20,123	0.73
Stephens Street at Winchester Street	21	7.0	26,740	0.72
Bellows Street at Harvard Avenue	22	7.3	34,317	0.59
Diamond Lake Boulevard at Stephens Street	17	5.7	26,724	0.58
Garden Valley Boulevard at Mulholland Drive	20	6.7	37,524	0.49
Garden Valley Boulevard at Dogwood Street	37	12.3	ADT N/A	ADT N/A
Renann Street at Stewart Parkway	21	7.0	ADT N/A	ADT N/A
Spruce Street at Washington Avenue	20	6.7	ADT N/A	ADT N/A
Mercy Drive at Stewart Parkway	20	6.7	ADT N/A	ADT N/A
Total	**603**	**201.0**		

*MEV = million entering vehicles

Source: Collision Data provided by Oregon Department of Transportation for years 2001-2003.

Table 3-14. Predominant Crash Types and Causes at High Accident Locations

High Accident Location	Collision Rate per MEV*	Predominant Crash Type 1	Crash Cause 1	Predominant Crash Type 2	Crash Cause 2
Oak Ave. at Pine St.	2.34	Entering at angle	Ignored traffic signal		
Garden Valley Blvd. at Stewart Pkwy.	2.00	Entering at angle	Failed to yield ROW	Same direction - one stopped	Following too close
Harvard Ave. at Stewart Pkwy.	1.97	Same direction - one stopped	Following too close		
Garden Valley Blvd. at Stephens St.	1.25	Same direction - one stopped	Following too close		
Diamond Lake Blvd. at Rifle Range St.	1.10	Entering at angle	Passed stop sign	Entering at angle	Failed to yield ROW
Garden Valley Blvd. at Estelle St.	1.05	Same direction - one stopped	Following too close		
Airport Rd. at Stewart Pkwy.	1.00	Opposite direction - one turn, one straight	Improper turn		
Broad. St. at Stewart Pkwy.	0.97	Same direction - one stopped	Following too close		

*MEV = million entering vehicles

Source: Collision Data provided by Oregon Department of Transportation for years 2001-2003.

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Bridge Conditions

All bridges within the United States are inspected at a two-year minimum frequency to comply with the National Bridge Inspection Standards (NBIS), Title 23, Code of Federal Regulations, Part 650, subpart C. A “bridge” is defined as a structure which includes supports erected over a depression or an obstruction, such as water, highway, or railway, and having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet. All City of Roseburg owned and maintained bridges are inspected through a Local Agency Bridge Inspection Services contract administered by ODOT that complies with the NBIS. In addition, all bridges on interstate and state highways within Roseburg are inspected by ODOT regional bridge inspectors.

Table 3-15 provides a description of the existing bridges in the Roseburg UGB under control of the City of Roseburg. Included in the table is information about the location of each bridge, a description of the structure and the date of last inspection. The National Bridge Inventory (NBI) condition rating is in Table 3-16. The NBI condition rating is a numeric evaluation of a bridge’s sufficiency to remain in service. NBI Condition Ratings are used to describe the existing, in-place condition of the bridge as compared to a new condition. Ratings range from 0-9 with 9 being “excellent condition.” The ratings are used for evaluation of the physical condition of the deck, superstructure, and substructure components of the bridge as well as the channel. The load carrying capacity is not used in assigning these condition ratings. Also, portions of the bridge that are being supported or strengthened by temporary members are rated based on their actual condition, and not the condition of the temporary member. The following is a general description of the condition ratings:

9 - Excellent condition
8 - Very good condition
7 - Good condition
6 - Satisfactory condition
5 - Fair condition
4 - Poor condition
3 - Serious condition
2 - Critical condition
1 - Imminent failure condition
0 - Failure condition

Table 3-15. City of Roseburg Owned/Maintained Bridges

Bridge Number	Location	Bridge Description	Last Inspection
03395A	Stephens Street over Newton Creek	72', Concrete Culvert	6/2/2003
18438	Edenbower Blvd over Newton Creek	38', Prestressed Concrete Slab	6/2/2003
18439	Stewart Parkway over Newton Creek	40', Prestressed Concrete Slab	6/2/2003
18790	Garden Valley Blvd over Newton Creek	103', Concrete Culvert	6/2/2003
19045	Mercy Drive over Sweetbrier Creek	61', Prestressed Concrete Slab	6/2/2003
26T01	Stewart Parkway over Newton Creek	31', Steel Girder	6/2/2003
26T03	Douglas Avenue over Deer Creek	207', Steel Girder	9/29/2002
26T04	Jackson Street over Deer Creek	100', Reinforced Concrete Girder	6/2/2003
26T05	Stewart Park Road over S Umpqua River	327', Steel Truss	6/1/2003
26T06	Fowler Street over Deer Creek	125', Prestressed Concrete Slab	6/2/2003
26T07	Jefferson Street over Newton Creek	30', Steel Girder	6/2/2003
26T08A	Keasey Street over Newton Creek	42', Prestressed Concrete Slab	6/2/2003
26T09	Stewart Parkway over S Umpqua River	636', Prestressed Concrete Girder	6/2/2003
26T11	Rennan Street over Newton Creek	40', Prestressed Concrete Slab	6/2/2003

Source: State of Oregon Geographic Information System accessed in 2004.

Table 3-16. NBI Condition Ratings

Bridge Number	Deck	Superstructure	Substructure	Channel	Comment
03395A		7*		7	None
18438	8	8	8	7	None
18439	8	8	8	7	None
18790		7*		6	None
19045	8	8	8	8	None
26T01	5	7	8	6	Cracks with rust staining in deck soffit.
26T03	5	6	5	5	Delaminations and cracks with rust staining in deck soffit. Section loss in steel piles.
26T04	5	4	7	7	Cracks with rust staining in deck soffit. Shear cracks up to 0.03" wide in girders.
26T05	7	5	7	7	Steel section loss at some bottom chord connections.
26T06	7	7	7	7	None
26T07	7	6	7	5	Riprap undermined.
26T08A	8	8	8	5	Erosion of riprap and slight undermining.
26T09	6	6	8	7	None
26T11	8	8	7	7	None

* Culvert rating; deck, superstructure, substructure not applicable
Source: ODOT National Bridge Inventory database accessed in 2005.

In addition to the bridges owned/maintained by the City of Roseburg, there are 29 bridges within Roseburg's UGB that are maintained by other agencies. Douglas County maintains three bridges and ODOT maintains 26 bridges. These 29 bridges are listed in Table 3-17.

Table 3-17. Bridges Owned/Maintained by Douglas County and ODOT

Douglas County Owned/Maintained Bridges within Roseburg UGB	
00438	County Road 388 over Davis Creek
19C147	County Road 31 over Sutherlin Creek
19C149	Dawson Road over Deer Creek
State-Owned/-Maintained Bridges within Roseburg UGB	
00839	Old Highway 99 over N Umpqua River
02279A	Old Highway 99 over Deer Creek
06821A	Diamond Lake Boulevard over Deer Creek
07016A	Washington Avenue over S Umpqua River
07404	I-5 SB over S Umpqua River
07404A	I-5 NB over S Umpqua River
07628	I-5 NB over CO Road, Sutherlin Creek
07628A	I-5 SB over CO Road, Sutherlin Creek
07630	I-5 over Creek
07631	I-5 NB over CORP and CO Road
07631A	I-5 SB over CORP and CO Road
07632	Del Rio Road (CO) over Winchester
07667	Garden Valley Road over I-5
07668A	I-5 over Bellows Street
07668B	I-5 CON over Bellows Street
07669A	I-5 over Harvard Avenue
07670A	I-5 over Portland Avenue
07856A	I-5 over Newton Creek
08899	Oak Street over S Umpqua River
0M541	North Umpqua HWY 73 over Shick Creek
0M542	N Umpqua Hwy 138 E over Creek
0M543	N Umpqua Hwy 138 E over Creek
17235	NW Edenbower Blvd over I-5
18818	Sign Cantilever over I-5
18819	Sign Cantilever over I-5
18990	Stewart Parkway over I-5

Source: State of Oregon Geographic Information System accessed in 2004.

Bicycle Transportation System

Bicycle facilities can generally be categorized as bicycle lanes, shared facilities including widened shoulders, and bicycle paths (also known as multi-use paths). Bicycle lanes are defined as that portion of a street that is designated by striping and pavement markings for the preferential or exclusive use of bicyclists. Shared facilities include locations where the bicyclist and the motorist must share a travel lane, as well as roadway shoulders contiguous to a travel lane where space is shared by bicyclists, pedestrians, and for emergency use by vehicles. Bicycle paths are physically separated from the vehicle travel lane by an open space or barrier. A bicycle path may be located within the roadway right-of-way or on a separate right-of-way. Bicycle paths are also known as multi-use paths as they can be used by bicyclists, as well as pedestrians, joggers, skaters, and other non-motorized travelers.

In 1988, the City of Roseburg Bikeway Master Plan was completed. The Bikeway Master Plan provides an inventory of completed bicycle paths and planned bicycle paths throughout the City. When the document was written the City already had established a system of multi-use paths. In the ten years following the Bikeway Master Plan, almost all of the planned bikeways have been designated throughout the City. These bikeways include designated bike lanes and shared roadway space (signed bike routes). This proactive planning role by the City has also allowed the current bicycle system to be coordinated with the Douglas County Bicycle Plan for the past ten years.

Oregon's Transportation Planning Rule 660-012-0045 3(B) requires bicycle lanes along arterials and major collectors even if they do not generate significant bicycle traffic. Oregon Revised Statute 366.514 requires that reasonable amounts of State Highway Funds be expended by the Department of Transportation, counties, and cities to provide bikeways. ORS 366.514 requires the Department of Transportation, counties, and cities to provide bikeways on all roadway construction, reconstruction, or relocation projects with the following exceptions:

- *Where the establishment of such paths would be contrary to public safety;*
- *If the cost of establishing such paths would be excessively disproportionate to the need or probable use; or*
- *Where sparsity of population, other available ways or other factors indicate an absence of any need for such paths.*

ORS 366.514 allows highway funds to be used for maintenance and to provide walkways and bikeways independently of road construction. The Department, a city, or a county may use its highway funds for projects whose primary purpose is to provide improvements for pedestrians and bicyclists. The law requires expenditure of at least one percent of road improvement funds on bicycle and pedestrian projects in any given fiscal year of the state highway fund received by the Department, a city, or county.[11]

[11] Oregon Department of Transportation, Bicycle and Pedestrian Program, *Bike Bill and Use of Highway Funds,* July 17, 2002.

Currently, the City of Roseburg has bicycle lanes on 27 road segments inventoried with a functional classification higher than local road. From the existing conditions inventory in Roseburg, one of the major bicycle facility deficiencies identified is on Stephens Street between Garden Valley Boulevard, through downtown, and to Rice Avenue. Both Harvard Avenue and Garden Valley Boulevard are missing bike lanes. In addition, there are no bicycle lanes provided on many downtown arterials and collectors, such as parts of Washington Avenue and all of Pine Street, Mosher Avenue, Lane Avenue, and Main Street.

Tables 3-18 through 3-20 present a complete listing of bicycle facilities by road segment in Roseburg for roads that have a functional classification of collectors and arterials.

Table 3-18. Arterials and Collectors in Roseburg with No Existing Bicycle Facilities

No Bicycle Facilities Provided	From	To
Alameda Avenue	Sunset Lane	End
Calkins Road	Grove Lane	Keasey Street
Cedar Street	Chestnut Avenue	End
Chestnut Avenue	Highland Street	Cedar Street
Diamond Lake Boulevard	Stephens Street	UGB
Douglas Avenue	Stephens Street	Diamond Lake Boulevard
Fulton Street	Diamond Lake Boulevard	Tahoe Avenue
Garden Valley Boulevard	I-5	Stephens Street
Harvard Avenue	Lookingglass Road	South Umpqua River
Keasey Street	Harvey Avenue	End
Kline Street	Garden Valley Boulevard	Moorea Drive
Kline Street	Valley View Drive	Calkins Road
Lane Avenue	Stephens Street	Terrace Drive
Lincoln Street	Ross Avenue	Wright Avenue
Lookingglass Road	Goedeck Avenue	City Limit
Main Street	Strong Avenue	Mosher Avenue
Mosher Avenue	End	End
Old Highway 99	Keller Road	UGB
Pine Street	Stephens Street	Mosher Avenue
Rifle Range Street	Spencer Court	End
Stephens Street	Garden Valley Boulevard	Rice Avenue
Stewart Parkway	Park Entrance	Harvard Avenue
Troost Street	Greenley Street	UGB
Valley View Drive	Stewart Parkway	End
Vine Street	Alameda Avenue	Meadow Avenue
Walnut Street	Chestnut Avenue	Garden Valley Boulevard
Washington Avenue	Spruce Street	Stephens Street
Winchester Street	Klamath Avenue	Stephens Street

Table 3-19. Arterials and Collectors in Roseburg with Existing Bicycle Facilities

Existing Bike Lanes	From	To
Airport Road	Stewart Parkway	Exchange Avenue
Alameda Avenue	Vine Street	Stephens Street
Aviation Drive	Stewart Parkway	General Avenue
Broad Street	Navajo Avenue	Wide Avenue
Cedar Street	Garden Valley Boulevard	Chestnut Avenue
Chestnut Avenue	Cedar Street	Stephens Street
Edenbower Boulevard	Stewart Parkway	End
Edenbower Boulevard	Stewart Parkway	Renann Street
Exchange Avenue	Airport Road	Stephens Street
Garden Valley Boulevard	Stephens Street	Sunset Boulevard
Garden Valley Boulevard	UGB	I-5
Harvard Avenue	Lookingglass Road	Old Melrose Road
Harvard Avenue	Madrone Street	Umpqua Street
Keasey Street	Valley View Drive	Harvey Avenue
Lincoln Street	Ross Avenue	Sunset Boulevard
Mulholland Drive	Stewart Parkway	Garden Valley Boulevard
Oak Avenue	Harvard Avenue	Stephens Street
Old Highway 99 (marginal facilities)	Edenbower Boulevard	Keller Road
Pine Street	Stephens Street	Mosher Avenue
Renann Street	Stewart Parkway	Edenbower Boulevard
Rifle Range Street	Diamond Lake Boulevard	Spencer Court
Stephens Street (marginal facilities)	Garden Valley Boulevard	Edenbower Boulevard
Stewart Parkway	Stephens Street	Park Entrance
Troost Street	Garden Valley Boulevard	Greenley Street
Vine Street	Garden Valley Boulevard	Alameda Avenue
Washington Avenue	Spruce Street	Madrone Street
Winchester Street	Diamond Lake Boulevard	Klamath Avenue

Source: Based on field inventory conducted in fall 2004.

Table 3-20. Arterials and Collectors in Roseburg with Shoulders

Shoulder	From	To
Airport Road	Garden Valley Boulevard	Stewart Parkway
Broad Street	Walter Avenue	Navajo Avenue
Harvard Avenue	Umpqua Street	Lookingglass Road
Old Highway 99	UGB	Rice Avenue
Kline Street	Garden Valley Boulevard	Valley View Drive
Lookingglass Road	Harvard Avenue	Goedeck Avenue
Old Highway 99	Wilbur Road	Del Rio Road

Source: Based on field inventory conducted in fall 2004.

The City of Roseburg offers several multi-use paths (many needing repaving and widening) throughout its jurisdiction. There are several bicycle/pedestrian paths throughout Stewart Park whose combined lengths are approximately 18,400 feet. Another multi-use path follows the northern edge of the South Umpqua River through Stewart Parkway, passing under I-5 and then following the river around Elk Island. This 5,500-foot multi-use path terminates at Douglas Avenue and is referred to as the North Bank of South Umpqua River Path in the City of Roseburg Master Bike Plan. The Freeway Bike Trail runs along the eastern side of I-5 from the bridge at the South Umpqua River south to the Fairgrounds. This trail is approximately 8,600 feet long. There is also a multi-use path through Gaddis Park. In addition, one off-street bicycle path exists along Edenbower Boulevard between Broad Street and Stewart Parkway.

The *Douglas County Bikeway Master Plan* (1997) classifies County bicycle facilities in the vicinity of Roseburg as Class II type bikeway, Class III type bikeway, or Class IIIs type bikeway. Class II bikeways are defined by the County as a physically separated through lane/area for bicyclists and pedestrians and is located adjacent to the travel lane of motorized traffic. The other designations share the roadway with traffic and are designated by either a sign (Class IIIs) or by both signage and striping (Class III). Table 3-21 below shows the County-designated bike routes near Roseburg. Figure 3-4 provides the existing bicycle facilities in the Roseburg UGB.

Table 3-21. Douglas County Bikeway Routes in the Roseburg UGB

Route Name	Limits	Class
Del Rio Road	Del Rio Road to Old Highway 99	III
Wilbur Road	Del Rio Road to Old Highway 99	IIIs
Old Highway 99	College Road to Roseburg city limits*	III
Old Highway 99	Bridge over North Umpqua River	III
Old Highway 99	Club Street to Courier Street	II
Garden Valley Road	Roseburg city limits to Garden Valley Road	III
Umpqua College Road	Old Highway 99 to UCC	III
Page Road	Old Highway 99 to mile post 0.76	II
North Bank Road	Old Highway 99 to North Umpqua Highway	IIIs
Sunshine Road	North Bank Road to N Umpqua Highway**	IIIs
Douglas Avenue	Roseburg city limits to N Umpqua Highway	III
N Umpqua Highway	Douglas Avenue to Glide Loop Road	III
Melrose Road	Garden Valley Road to Melrose Road #13	III
Reston-Lookingglass Road	Flournoy Valley Road to Roseburg city limits	IIIs
Old Melrose Road	Roseburg city limits to Melrose Road	IIIs
Old Highway 99	Roseburg city limits to Carnes Road	III

* Excluding North Umpqua Bridge and segment between Club Street and Courier Street
**No access across river

Pedestrian Transportation System

The City of Roseburg's sidewalk system varies widely from neighborhood to neighborhood. Sidewalks exist in almost all of the downtown area and provide access to such pedestrian attractors as commercial areas and employment sites.

While downtown has good pedestrian facilities, many of Roseburg's neighborhoods either do not have sidewalks or have only a limited and disconnected sidewalk system. On the arterial and collector street system, the availability of sidewalks is somewhat erratic and often incomplete. On many blocks, the sidewalks may exist on one side of the street and be absent on the other side of the street, or partial sidewalks may be in place sporadically throughout the block, lacking continuity. These deficiencies should be addressed to provide safe linkage from residential areas to commercial areas and employment sites. Tables 3-22 and 3-23 present the sidewalk deficiencies located on arterials and collectors. presents the City's missing sidewalks on arterials and collectors. Appendix A catalogs existing sidewalks for each street segment in Roseburg.

Similar to the requirements for bicycle facilities, Oregon's Transportation Planning Rule 660-012-0045 3(B) requires sidewalks along arterials, collectors, and most local roads. ORS 366.514 requires construction of pedestrian facilities as part of all roadway construction, reconstruction, or relocation projects on arterials and major collectors where conditions permit, and will require expenditure of at least one percent of road improvement funds on bicycle and pedestrian projects.

The City of Roseburg also requires that sidewalks are constructed along new collector and arterial facilities. The City's current requirements for sidewalks meet or exceed both the TPR requirement and recommended sidewalk standards of the Oregon Bicycle and Pedestrian Plan. The City requires 6-foot sidewalks along local streets, 7-foot sidewalks along collector streets, and 8-foot sidewalks along arterial streets to be constructed with new roadway construction or with transportation improvement projects. In addition, the American Disabilities Act (ADA) requires accessible sidewalks and curb ramps.

Table 3-22. Missing Sidewalks on Arterials and Collectors in Roseburg

Street	From	To
Alameda Avenue		
Diamond Lake Boulevard	East of Patterson Street	UGB
Douglas Avenue	Ramp Street	Diamond Lake Boulevard
Fulton Street	Diamond Lake Boulevard	End
Harvard Avenue	Lookingglass Road	Old Melrose Road
Lookingglass Road	Harvard Avenue	Military Avenue
Main Street	Strong Avenue	Rice Avenue
Old Highway 99	Rice Avenue	UGB
Old Highway 99	Club Street	Wilbur Road
Rifle Range Street	Diamond Lake Boulevard	Schick Avenue
Troost Street	Greenley Street	Loma Vista Drive
Valley View Drive	Keasey Street	Kline Street
Vine Street	Alameda Avenue	Meadow Avenue

Source: Based on field inventory conducted in fall 2004.

Table 3-23. Partial Missing Sidewalks on Arterials and Collectors in Roseburg

Street	From	To
Broad Street	Walter Court	Mercy Hills Drive
Calkins Road	Keasey Street	Grove Lane
Garden Valley Boulevard	Stewart Parkway	UGB
Lane Avenue	Kane Street	Terrace Drive
Lincoln Street	Wright Avenue	Ross Avenue
Pine Street	Rice Avenue	Stephens Street
Stewart Parkway	Valley View Drive	Harvard Avenue

Source: Based on field inventory conducted in fall 2004.

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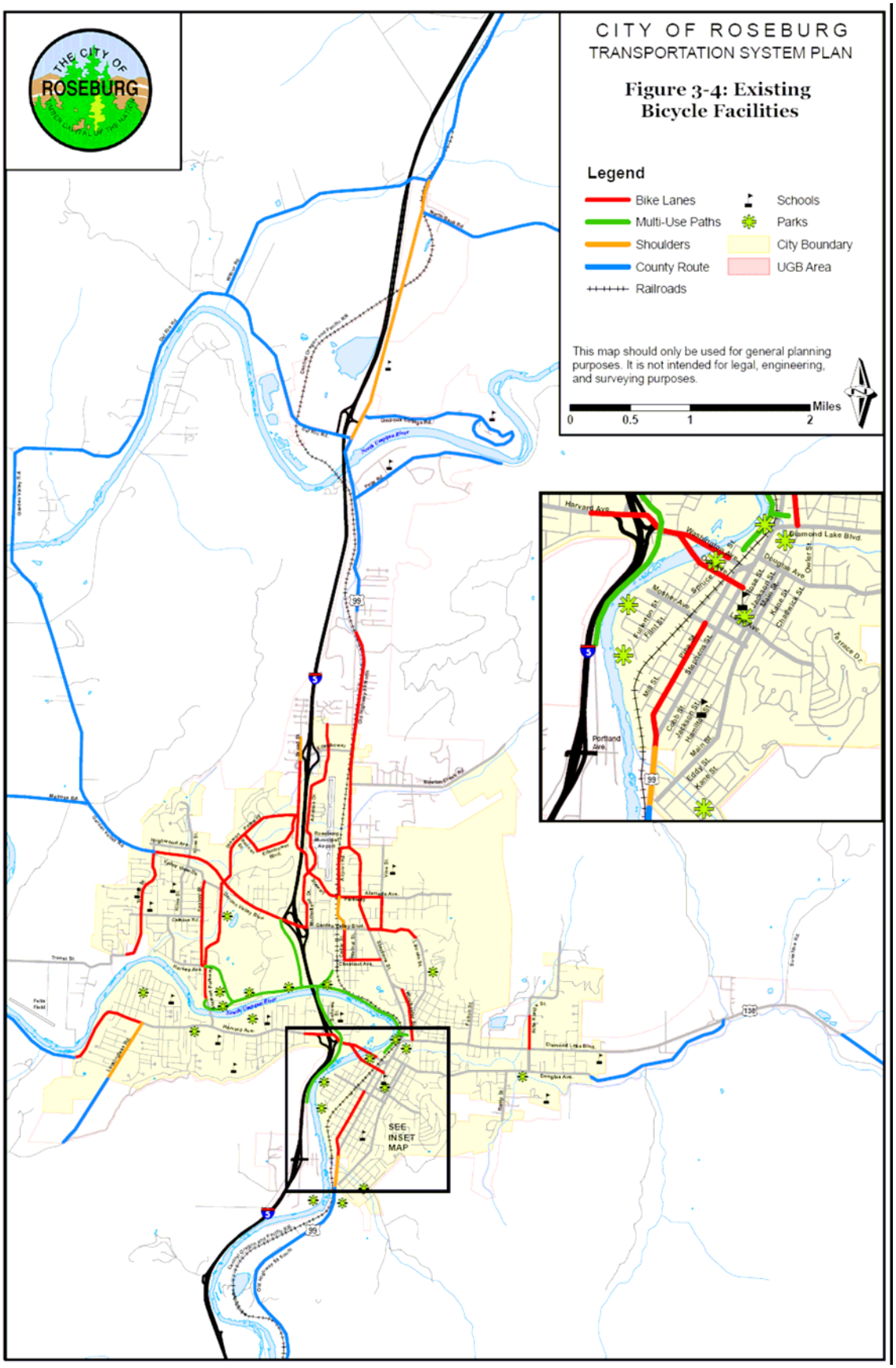
CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 3-4: Existing Bicycle Facilities
Legend
Bike Lanes
Multi-Use Paths
Shoulders
County Route
Railroads
Schools
Parks
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
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Bicycle and Pedestrian Attractors

Trip attractions can vary widely depending on the trip purpose. Employment destinations, schools, recreation facilities, and commercial areas all entice people for different reasons. The bicycle and pedestrian system in Roseburg is pretty well developed on most arterials and collectors but is very inconsistent for local streets which make getting from home to the main streets challenging and unattractive. Destinations that may well be attractive to users of such a system are either not used or under-utilized by bicyclists and pedestrians. Currently, bicyclists must compete with vehicle traffic on streets and with pedestrians on the often limited sidewalk system. Also, pedestrians must walk in the street in many places throughout the city due to lack of pedestrian facilities. Because there is not a fully developed bicycle and pedestrian network of facilities, origin and destination studies would be impractical to conduct. However, it is assumed there is a latent demand for bicycle and pedestrian trips to many attractions. Therefore, with no empirical data, the attractions listed below have been determined by anecdotal evidence and attractions typical in other cities.

Schools:

Elementary Schools

- Eastwood Elementary School – 2550 SE Waldon Ave
- Fir Grove Elementary School – 1360 W Harvard Ave
- Fullerton Elementary School – 2560 W Bradford Ave
- Hucrest Elementary School – 1810 NW Kline St
- Rose Elementary School – 948 SE Roberts Ave

Junior High

- Fremont Middle School – 850 W Keady Ct
- Joseph Lane Middle School – 2153 NE Vine St

Senior High

- Roseburg High School – 400 W Harvard Ave

Private

- Roseburg Junior Academy – 1653 NW Troost St (K – 10)
- Saint Paul Lutheran School – 750 W Keady Court (PreK – 6)
- Phoenix School of Roseburg – 3131 NE Diamond Lake Boulevard (7 – 12)
- Cobb Street Children's Learning Center – 1281 SW Walnut (K – 9)

College

- Umpqua Community College – 1140 College Road
- Workforce Training Center – 2555 Diamond Lake Boulevard
- Woolley Center – 1634 West Harvard

Parks and Arts Centers:

- Roseburg Memorial Gardens – 1056 NW Hicks St
- Amacher Park
- River Forks Park
- Riverside Park
- Stewart Park
- Deer Creek Park
- Templin Beach Park
- Gaddis Park
- Fairgrounds/Umpqua Park
- Umpqua Valley Art Center
- Betty Long Unruh Theater
- YMCA located in Stewart Park

Commercial Centers:

- Downtown
- Roseburg Valley Mall & Wal-Mart
- Newton Creek Plaza
- Sherm's Grocery
- Garden Valley Boulevard corridor
- Diamond Lake Boulevard corridor
- Harvard Avenue corridor

Government Offices:

- City of Roseburg – 900 SE Douglas Avenue
- Douglas County Health Department – 621 W Madrone Street
- Douglas County Courthouse – 1036 SE Douglas Avenue
- State of Oregon Department of Motor Vehicles – 1331 NE Cedar Street
- State of Oregon Department of Human Services – 1937 W Harvard Avenue
- US Forest Service – Corner of Edenbower Boulevard and Stewart Parkway
- Bureau of Land Management – SW corner of I-5 and Garden Valley

Major Medical Facilities:

- Mercy Medical Center – 2700 Stewart Parkway
- Harvard Medical – 1813 W Harvard Avenue
- Umpqua Community Health Center – 544 W Umpqua Street
- VA Medical Center

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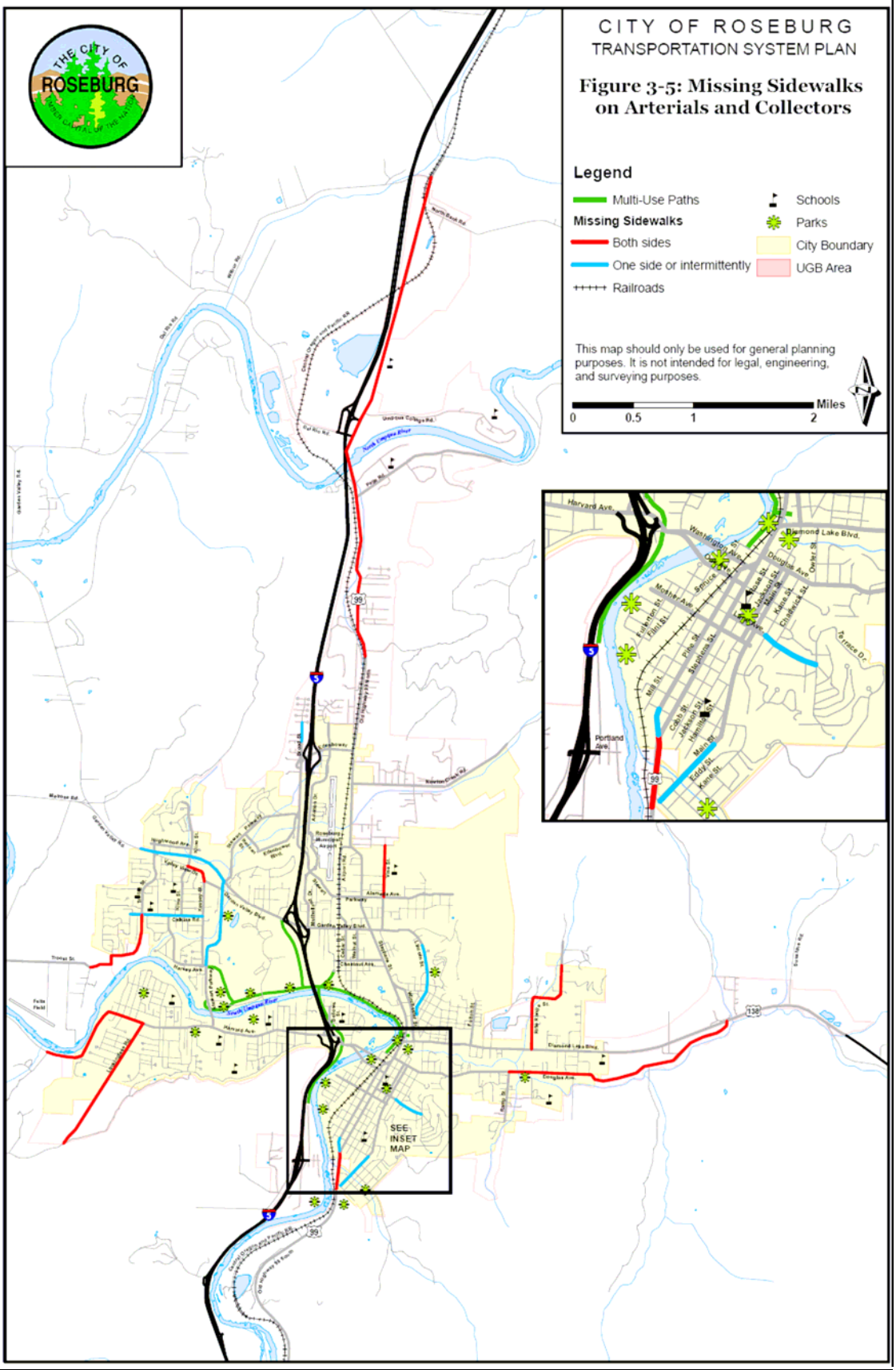
CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 3-5: Missing Sidewalks on Arterials and Collectors
Legend
Multi-Use Paths
Missing Sidewalks
Both sides
One side or intermittently
Railroads
Schools
Parks
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
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Public Transportation Services

This section describes the history and existing conditions of public transportation services available in Roseburg. Included are local public transit services offered by the Umpqua Regional Council of Governments, demand/response transit, taxi, intercity services, and other private services.

Transit service was first provided in the 1940s. This service, provided by Roseburg Transit Company, continued until 1956 as a one bus regularly scheduled transit operation in Roseburg. Toward the end of the service period, poor service caused by worn equipment led to a decline in patronage. The City did not subsidize the operations, the company subsequently went out of business.

In 1957, the Roseburg City Bus Company provided fixed-route transit service 10 hours per day, six days per week using 8-person buses. For four months, service was provided on four loops with 30-minutes headway using three buses; however, by November 1957, service was reduced to two buses and by December, the service was discontinued due to insufficient ridership and revenue. In 1958, under new ownership, the Roseburg City Bus Company restored transit service. Ownership of the company changed five times between 1958 and 1963 until the city terminated the company's franchise because of failure to follow published schedules, use of unsafe equipment, and failure to pay overdue debts. Soon afterwards, the City Council received a petition signed by 256 residents urging it not to discontinue the service.

In 1963, Evergreen Bus Lines, Inc. provided service similar to that provided by the Roseburg City Bus Company. Service was estimated to be provided regularly to 200- 300 people with about 90 percent of the rides to and from the central business district. Bus service was discontinued only five months later by the owner because of the inability to meet the budget.

In 1976, the City of Roseburg, under a demonstration project, provided fixed-route service using three 43-passenger buses. This bus service, known as the "Pumpqua Pumpkin Ride," averaged approximately 10,000 passengers per month. Funding for the service was provided by a city levy, and state and federal funds. The average cost per passenger was $1.28. The city's voters authorized two consecutive, three-year serial levies to continue service until 1984 when the third levy failed and the system was discontinued. Between 1984 and 1995, no fixed-route service was available to the residents of Roseburg and the surrounding area. Only demand-responsive paratransit has been available to service the transportation disadvantaged. This service has been provided primarily through Douglas County Health and Social Services and Dial-A-Ride services.

In 1994, another transit system was started with a three-year demonstration grant from ODOT. This transit system was operated by the Douglas County Health and Social Services Department until July 1996, at which time the Umpqua Regional Council of Governments assumed operational control of the transit system. This transit system is in operation today. The system operates five wheelchair-accessible, 15-passenger buses on three loops. The transit system operates as far north as Oakland and as far south as Winston. As is common

with many transit providers, Umpqua Regional Transit's financial stability remains uncertain, and the provider continues to seek new revenue sources to improve service operations. Table 3-24 presents transit ridership numbers in Roseburg.

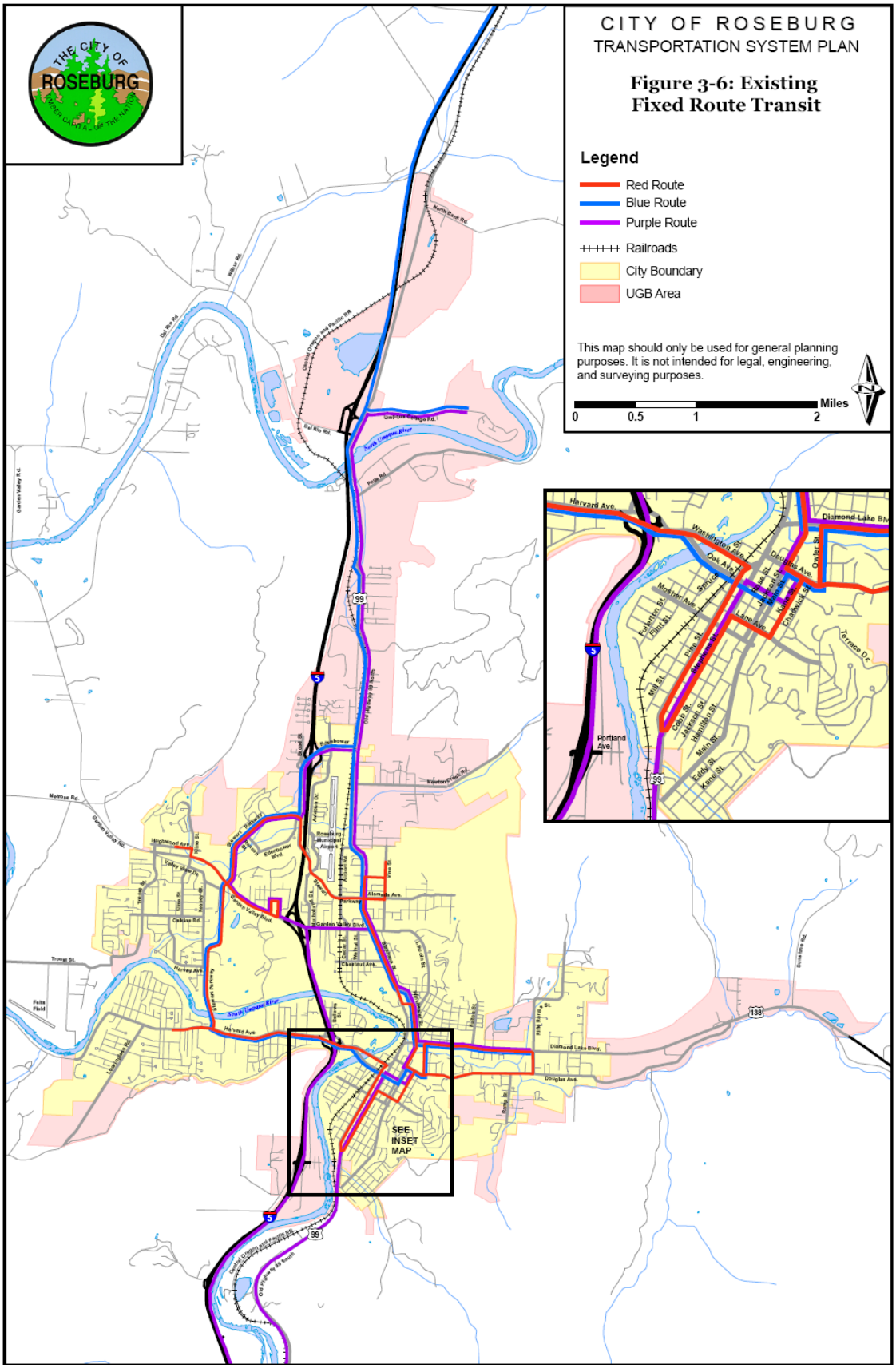
Within the community, public transportation services fulfill dual roles. On one hand, these services provide transportation for those who cannot or choose not to drive their own automobile. On the other hand, the provision of good local transit service is a key measure of quality of life within a community in that, along with walking and bicycling, it provides an alternative to driving.

Table 3-24. Roseburg's Percentage of Umpqua Transit's Total Ridership, 2000-2003

Year	Number of Roseburg Riders	Total Number of Riders	Percentage of Riders
Oct '00 - Sept '01	24,740	38,713	63.9%
Oct '01 - Sept '02	31,791	51,221	62.1%
Oct '02 - Sept '03	28,340	46,220	61.3%

Umpqua Transit operates three fixed routes in and around the greater Roseburg UGB on a set schedule. The Red Route operates entirely within the City of Roseburg; the Purple Route connects the Winston/Green area with Roseburg and Umpqua Community College (UCC); and the Blue Route connects the cities of Sutherlin and Oakland with UCC and Roseburg. The system has approximately 50 established bus stops, 40 of which are located in Roseburg. Significant destinations that may be reached include Umpqua Community College, government buildings, medical facilities, shopping and employment centers, a school, and entertainment destinations. Figure 3-6 shows the current fixed-route transit service in Roseburg. Each one-way loop on Umpqua Transit's fixed-route service takes between an hour and an hour and a half to complete.

Umpqua Regional Transit also operates Dial-A-Ride point-to-point service. The service is provided for seniors and the disabled as a scheduled door-to-door service, which requests a small donation from the riders. This service is offered Monday through Friday (except holidays) from 7:30 am to 4:30 pm, and rides generally must be scheduled at least 24 hours in advance. The Dial-a-Ride serves an area within a seven-mile radius of the downtown area. Umpqua Regional Transit also operates demand-response shopping trips for seniors and non-emergency medical transportation through Translink, the regional Medicaid brokerage. Mercy Express also provides free medical transportation to seniors, disabled persons, and low income residents Monday through Friday from 7:00 am to 3:00 pm.


CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 3-6: Existing Fixed Route Transit
Legend
Red Route
Blue Route
Purple Route
Railroads
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
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The *Douglas County Coordinated Transportation Plan*[12] identified the following deficiencies with respect to Umpqua Transit's services:

1. ADA service: While Umpqua Transit does use accessible vehicles, the system does not provide required complementary paratransit services. Under the Americans with Disabilities Act, public transit systems that operate fixed routes must offer accessible paratransit services to anyone living within ¾ of a mile of an existing route to any destination within the 1.5 mile-wide corridor. Umpqua Transit is not currently in compliance with this ADA requirement.

2. Route structure: Fixed-route ridership is relatively low in part because the system utilizes long, one-way loops that take up to 90 minutes to complete. This one-directional and infrequent service significantly reduces utilization.

3. Bus stop locations: To use the system, users must get to stops that are almost all located near commercial, medical, or educational destinations. Buses typically do not go to where transit-dependent riders (those who cannot drive or do not have access to an automobile) live. Lower income neighborhoods, trailer parks, and senior living facilities are often lacking direct access to the transit system.

4. Bus stop amenities: Few stops are marked and have protected waiting areas. The result is a lack of transit visibility in the community and reduced ridership.

5. Service hours and days: One issue of concern for transit-dependent riders is that the fixed-route transit system does not have evening hours or weekend service, which limits their mobility. Dial-a-Ride service ends at 4:30 p.m., two hours before fixed-route buses stop running.

Greyhound bus service is available in Roseburg at a station located on Stephens Street. This service originates in Portland and passes through Roseburg four times per day. Current station hours (year 2005) are:

- 7:30 a.m. to 1:00 p.m. and 3:00 p.m. to 8:00 p.m. Monday through Friday, and
- 7:30 a.m. to 1:00 p.m. and 4:00 p.m. to 6:00 p.m. on Saturdays, Sundays, and holidays.

AMTRAK does not provide passenger rail service to or from Roseburg. Rail passengers need to ride a Greyhound bus to the nearest rail station, which is at 433 Willamette Street in Eugene, Oregon. Alternatively, rail passengers can access AMTRAK via the AMTRAK Thruway bus service, which is an extension of the rail service and operates between Eugene and Ashland.

Taxi cab service and airport shuttles are also available from three companies based in Roseburg: Sunshine/Douglas County Taxi, Anania's Express Shuttle, and Bob White Tours. Taxi service is provided 24 hours per day, seven days per week to the greater Roseburg

[12] Discussion Draft of July 2005.

UGB as a demand-response service. The latter two companies provide airport shuttles to the Eugene and Medford areas, as well as to AMTRAK in Eugene.

ODOT's *Intercity Passenger Program* seeks to create or improve transportation connections between Oregon cities. The focus of the Intercity Passenger Program is evaluating and supporting bus, rail, and air intercity passenger transportation services in Oregon. The State Transportation Planning Rule requires that all communities include planning for intercity passenger facilities in their transportation system plans.

Intercity passenger facilities are those locations where passengers traveling from one city to another can transfer from one travel mode to another. Intercity facilities have multiple travel modes converging for the efficient and convenient transfer of passengers. Typically, intercity passenger facilities include train stations, bus terminals, airports, and some transit transfer facilities. Intercity passenger facilities suited for the transfer of passengers between intercity travel modes and local modes include local transit, taxis, shuttles, bikeways, sidewalks, and the automobile. Although it is most convenient to have all local and interurban travel modes serve one facility, it is not always possible given geographic, historic, or land utilization reasons.

The Oregon Department of Transportation receives federal money annually to fund transit projects around the state. Fifteen percent of this must be used to support travel among rural communities. Under the Oregon Transportation Commission's rural transportation policy, the Public Transit Division tries to ensure that all communities with populations of 2,500 or more have reasonable access to round-trip-in-a-day transportation to the next largest market economy. ODOT rates each community according to its level of intercity passenger networks in Oregon:

- adequate service,
- inadequate service, and
- missing service.

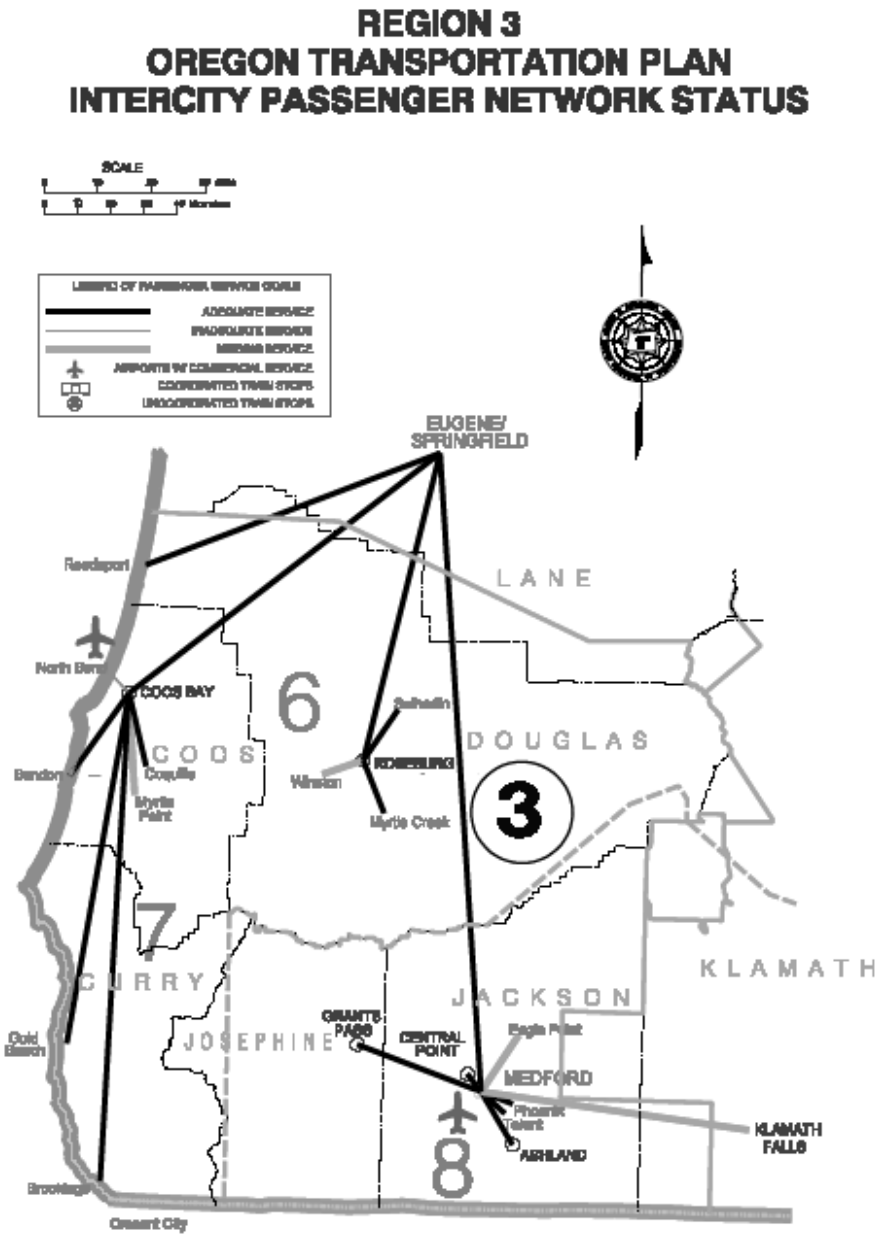
Roseburg is listed as having adequate service to Eugene/Springfield. Sutherlin and Myrtle Creek both are listed as having adequate service to Roseburg, while Winston is listed as having inadequate service to Roseburg as shown in Figure 3-7.

Intercity passenger facilities in Roseburg are comprised of the Roseburg Municipal Airport, Greyhound bus service, Umpqua Transit, bicycle and pedestrian facilities, and automobile facilities.

The *Oregon Public Transportation Plan* lists numerous service goals in order to provide minimum levels of transit service to communities. Roseburg meets many of these service goals, but there is one notable service gap. One service goal is to provide a guaranteed ride home program to all users of the public transportation system and to publicize it well. Transit service in Roseburg ends at about 7:30 p.m. on weekdays and there is no weekend service. This service deficiency may strand some workers or students who attend night classes at Umpqua Community College and should be addressed.

Telecommuting and home-based businesses are becoming more common throughout Oregon. With technological advances including improved telecommunication equipment and computers in private residences, technologies may result in the reduction of some automobile travel for commuting purposes.

Figure 3-7. ODOT's Intercity Passenger Network Status



A list of passenger transportation service providers in Roseburg and the surrounding areas follows.

Greyhound

- Bus, 7 days a week
- Fee-based service
- National transportation service

Mercy Express

- Senior Shuttle Service (Mobility Equipped)
  - Serving those 55 and older by appointment; disabled served if space available
  - Round trip transportation within Douglas County (excluding Reedsport and Scottsburg)
  - No fee, donations accepted

Seniors Escorting Seniors

- Demand Response (Mobility Equipped)
  - Seniors in Canyonville, Riddle, Tri-City, and Myrtle Creek to dining sites
  - No fee, donations accepted
  - Routine recreational trips
  - Trying to establish service for doctors' appointments for same locations, including wheelchair transportation

Seven Feathers

- Bingo Bus—Existing stops at Macy's and Abby's (Winston)

Specialized Care Mobility

- 24 hours per day/7 days per week (Mobility Equipped)
- Fee-based service

Sunshine/Douglas County Taxi

- Taxi, 24 hours per day/7 days per week
- Fee-based service
- Competitive prices to the airport

Umpqua Transit

Umpqua Regional Council of Governments

- Route Buses (Mobility Equipped)
  - Around Roseburg and loops into Oakland, Sutherlin, Green, and Winston
  - Fee-based with one transfer to another bus. Ticket books are available. Unlimited use monthly passes are available.

- Coordinates with Sutherlin Dial-a-Ride; Winston Dial-a-Ride; and Greyhound
- Charter service available

- Dial-a-Ride – Roseburg (Mobility Equipped)
  - Elderly and disabled for doctor appointments, shopping, entertainment, etc. within Roseburg city limits
  - Fee-based. Ticket books are available. Unlimited use monthly passes are available.
  - Coordinates with Route Buses, Sutherlin Dial-a-Ride, Winston Dial-a-Ride and Greyhound
  - Medical appointments for those living outside of Roseburg and whose doctors are in another city or county
  - North County bi-weekly shopping trips into Roseburg and Sutherlin
  - South County bi-weekly shopping trips into Roseburg

Freight Infrastructure and Services

Truck Facilities

The movement of goods and commodities into, out of, and through the Roseburg UGB is heavily dependent on the highway system, although freight movement also occurs via rail and pipeline modes. Freight transportation movement is a major transportation issue in Roseburg. As traffic volumes on key roadways in the city increase and constrain capacity, the impact of congestion on freight mobility becomes an important issue. Freight movement is a key to economic development. Therefore, the City of Roseburg would benefit from a regional freight movement planning study. A freight planning study would need to assess current conditions, determine potential deficiencies in moving freight, and identify projects to enhance freight movement within and through the city.

Within the Roseburg UGB, the major freight route is Interstate 5 (I-5). The Interstate is the most important freight link in the region carrying over 3,000 trucks per day through the Roseburg UGB.[13] Not only does it serve freight heading to destinations within the Roseburg UGB, but also serves a significant number of trucks passing through the region to destinations along the West Coast. Currently, the combined volume of freight transported over highway and rail modes in the I-5 corridor through the Roseburg region is estimated at 25 million tons annually, with the majority of this freight carried on the highway system. Most of the freight shippers and receivers in Roseburg are located within a few miles of I-5. Consequently, access to I-5 is critical for freight shippers in Roseburg.

Table 3-25 presents truck volumes recorded as part of the traffic volumes counted at the study area intersections and roadways for the Roseburg TSP in 2003.

[13] ODOT Transportation Data Section, Average Daily Truck Volumes, 1997.

Table 3-25. Truck Counts in Roseburg [14]

Intersection		All Truck Types	All Vehicles	Truck %
Douglas Ave	Jackson Street	8	965	0.8%
Garden Valley Blvd	Cedar Street/Airport Road	55	2365	2.3%
Garden Valley Blvd	Kline Street	33	2041	1.6%
Oak Ave	Jackson Street	5	449	1.1%
Pine Street	Mosher Ave	37	969	3.8%
Pine Street	Oak Ave	43	1661	2.6%
Stephens Street	Mosher Ave	28	1108	2.5%
Stephens Street	Washington Ave	57	1739	3.3%
Stephens Street	Winchester Street	164	2599	6.3%
Stewart Parkway	Aviation Drive/Mulholland Drive	13	1392	0.9%
Stewart Parkway	Wal-Mart Entrance	16	2191	0.7%
Troost Street	Calkins Road	5	379	1.3%
Washington Ave	Jackson Street	2	480	0.4%

Source: Based on traffic counts conducted at study intersections and roadways, ODOT, 2002-04.

Within ODOT's Region 3 (SW Oregon including Roseburg), the *I-5 State of the Interstate Report (2000)* states that travelers will experience significant congestion on I-5 by 2020. Many interchanges in this region are expected to have one or more components (i.e., ramp terminal intersection or ramp junction) operating at an unacceptable level of congestion, if no improvements are made. The problems associated with interchanges are expected to occur in the more populated portions of the corridor including the Roseburg interchanges along I-5.

Good freight mobility within the Roseburg UGB requires that the arterial and collector street system provide both an adequate level of service and good connectivity to intermodal facilities and inter-regional routes, such as I-5 and Highway 138. Some guidance on the standard of performance necessary for freight movements is found in the 1999 *Oregon Highway Plan*. The *Highway Plan* sets mobility standards using volume-to-capacity ratios (v/c) rather than Level of Service letters, to identify the presence of congestion. If the v/c ratio for a highway segment exceeds the v/c ratio established in the plan, then the highway segment does not meet ODOT's minimum operating conditions. Acceptable v/c ratios are higher for urbanized areas than for rural areas, which means that relatively greater congestion is acceptable in urbanized areas than in rural areas. Acceptable v/c ratios for freight routes are slightly lower than for other highways. This means that freight routes should be less congested than non-freight routes.

Roseburg currently has two roads officially designated in the Oregon Highway Plan as a freight route, I-5 from Washington to California and OR-42 from Coos Bay to Roseburg. The City of Roseburg has no self designated freight routes.

[14] Traffic counts conducted at study intersections and roadways in the City of Roseburg, 2002-04.

Freight Rail

The old Southern Pacific short line route that passes through Roseburg is now used primarily by Central Oregon & Pacific Railroad (CORP). The activities of CORP, the regional carrier, dominate railroading in Southwestern Oregon. CORP is Oregon's second largest short line railroad, operating on 391 route miles and 8 miles of trackage rights in the state. CORP operates in the southwestern quadrant of the state serving the southern Willamette Valley into California and the central Oregon coast. The main north-south line provides connections from Eugene-Springfield to Cottage Grove, Roseburg, Grants Pass, Medford, Ashland, and on into California. The entire length of CORP trackage is categorized as a Class III railroad. According to the *2001 Oregon Rail Plan*, the route miles of CORP comprise 16 percent of all route miles statewide.

CORP's trackage is characterized by steep grades and tight turns that limit operating speeds to about 25 to 35 mph. Forty-three miles of track are limited to an operating speed of only 10 mph. The operating speed limit of trains in Roseburg is 25 mph. CORP's line south of Medford is one of the most rugged rail lines in the western United States with gradients that approach 3.25 percent. **Error! Reference source not found.**8 illustrates the alignment of the Central Oregon & Pacific Railroad through the City of Roseburg and at-grade crossing locations. According to CORP, the condition of the tracks is in compliance with the Federal Railroad Administration (FRA) Standards for rail and equipment. However, maintaining these levels of standards is a constant and expensive process.

Since the Central Oregon & Pacific Railroad Company took over the former Southern Pacific Railroad's Siskiyou line in January 1995, rail service has increased and is now being offered six days per week. In 2004, the average number of trains traveling through Roseburg during a 24-hour period was four to six trains per day. Service increases have led to an expansion in the number of cars available to carry freight, reaching a level of approximately 28,000 cars per year. This is a significant increase over the 12,000 cars per year carried by the Southern Pacific Railroad when it operated the line. According to the *2001 Oregon Rail Plan*, CORP carries between 1 and 5 million tons of cargo each year. CORP anticipates moving 47,000 carloads in 2004, approximately 4 million tons of goods. CORP primarily transports lumber products, primarily plywood and stud lumber.

Rail service provides specific advantages for various bulk commodities or loads longer than those normally permitted on highways. Lumber and other wood products are the principal commodities transported over the Central Oregon & Pacific line. However, even with recent increases in railroad traffic, the total volume of rail freight is far less than the highway freight tonnage for the region. The rail freight portion only accounts for between 5 and 10 percent of the estimated 25 million tons annually moved through the I-5 corridor. However, if the railroad were not available to carry commodities, there would likely be an impact on state freight highway routes in southern Oregon, particularly I-5 as commodities shift to truck transport.

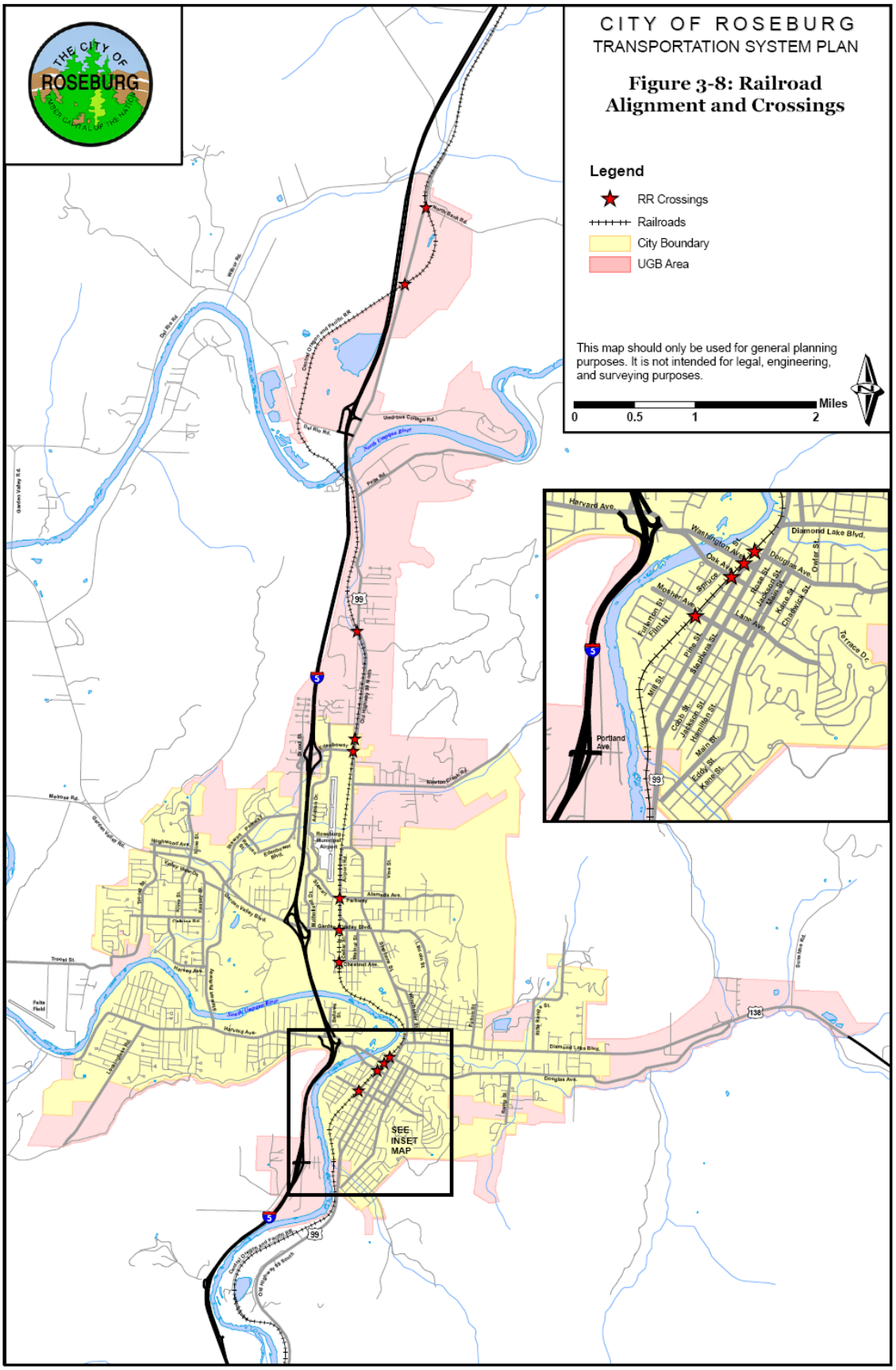
Below is the existing schedule of CORP trains in Roseburg:

- **Roseburg-Eugene Hauler (Job 508):** On duty in Roseburg at 0700 (Varies) Tuesday through Saturday. Takes train from Roseburg to the Union Pacific in Eugene. Leaves Roseburg for Eugene at 0800. Monday through Friday this train

operates with Union Pacific power on the point and mid train. On Saturdays CORP power operates the mid-train with Union Pacific power on the point.

- **Roseburg-Glendale Hauler (Job 503):** On duty at 2000 (Varies) in Roseburg on Monday and 2200 in Dillard on Tuesday through Friday. Takes train from Dillard to Glendale and swaps trains with 504/505 jobs.
- **Rice Hill Switcher (Job 100):** On duty in Roseburg at 1200 Monday through Friday. Handles the transfer of all industries between Dillard and Sutherlin. A switch run (switcher) is a train that operates in terminal areas or in road territory for short distances (normally under 100 miles) and place and pulls cars from industries along the line.[15]
- **AM Dillard Switcher (Job 102):** On duty in Roseburg at 0900 Monday through Friday. Starts off in Roseburg with switching and then takes the train to Dillard for industry switching.
- **Weekend Switcher (Job 101):** On duty time varies Saturday and Sunday. Switches the Roseburg UGB on weekends.

[15] *Oregon Rail Plan*, The Oregon Department of Transportation, 2001.


CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 3-8: Railroad Alignment and Crossings
Legend
RR Crossings
Railroads
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
Miles
0
0.5
1
2
SEE INSET MAP
Harvard Ave.
Diamond Lake Blvd.
Washington Ave.
Douglas Ave.
Oak Ave.
Spruce
Mother Ave.
Rose St.
Jackson St.
Main St.
Kane St.
Chadwick St.
Lane Ave.
Terrace Dr.
Fulerton St.
Flint St.
Pine St.
Stephens St.
Mill St.
Cobb St.
Jackson St.
Hamilton St.
Main St.
Eddy St.
Knott St.
Portland Ave.
Oxyler St.
Alameda Ave.
Parkway
Chestnut Ave.
Harvey Ave.
Douglas Ave.
Diamond Lake Blvd.
Garden Valley Blvd.
Troost St.
Melrose Rd.
Garden Valley Rd.
Roseburg Municipal Airport
Fairgrounds Rd.
Umpqua College Rd.
North Umpqua River
Pine Rd.
Del Rio Rd.
Wilson Rd.
North Bank Rd.
Central Oregon and Pacific RR
Old Highway 99 South
Stewart Pkwy.
Stephens St.
Mosher St.
Fabian St.
Rose St.
Cass St.
Mill St.
Fairgrounds Rd.
Lookingglass Rd.
Stage Line Rd.
Fairgrounds Field
5
99
138

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Railroad Crossings

Table 3-26 presents a summary of existing railroad crossings in the Roseburg UGB along with type of crossing and type of crossing protection devices.

The railroad crosses several arterials in Roseburg, which are the busiest roads in the city. This can have a significant impact on automobile traffic. When trains block the road, vehicles can back up for some distance. Additionally, because all railroad crossings in Roseburg are at-grade crossings, when the trains come through there are no alternate routes for traffic or emergency vehicles to pass. This effectively cuts the city in half temporarily. As Roseburg grows, and subsequently the demand on the transportation system grows, this will have serious repercussions. Eventually one or more crossings may need to be modified to a separated-grade crossing.

Occasionally, long delays are encountered by autos, pedestrians, and cyclists in downtown Roseburg because of the current location of the railroad's switching yards, combined with the aforementioned lack of grade-separated crossings. Changes in operating procedures in the past have improved this situation, and may be able to do so in the future, but the potential remains for long interruptions as long as the switching yards remain in the downtown area.

Table 3-26. Roseburg Railroad At-Grade Crossings

Road Name	Type of Crossing
Mosher Avenue	At Grade
Oak Avenue	At Grade
Washington Avenue	At Grade
Douglas Avenue	At Grade
Chestnut Avenue	At Grade
Garden Valley Boulevard	At Grade
Stewart Parkway	At Grade
Edenbower Boulevard (at Stephens Street)	At Grade
Hooker Rd 171	At Grade
Keller Road	At Grade
I-5 (just south of North Umpqua River)	Grade Separated
Old Highway 99 North (south of North Bank Road)	At Grade
North Bank Road	At Grade

Source: Based on field inventory conducted fall 2004.

The *Oregon Rail Plan* identifies actions that can be taken by local governments to mitigate conflicts between rail and vehicular traffic, and to improve access to freight facilities. These actions include:

- Avoid or minimize the number of future railroad at-grade crossings when new streets are planned for growing portions of the community.

- Avoid creating intersections of major streets and railroads where possible.
- Locate new parallel streets at least 500 feet from the railroad to allow for industrial development between the tracks and the highway.
- Plan community development (particularly residential uses) with sensitivity to rail noise and other potential conflicts.

Passenger Rail

Passenger rail service is not directly available in Roseburg; rail passengers can access AMTRAK via the AMTRAK Thruway bus service, which is an extension of the rail service and operates between Eugene and Ashland. Intercity passenger rail service is available in Eugene which lies on the major north/south rail line connecting California the Willamette Valley and destinations to the north. Two north/south passenger rail service routes are operated by Amtrak in the California-Oregon-Washington corridor, the Coast Starlight route and the Cascades route. The Coast Starlight provides service from Los Angeles, California, serves destinations in the Willamette Valley and then proceeds north to Seattle, Washington. The Cascades route runs from Eugene, Oregon, to Vancouver, British Columbia.

The intercity passenger rail line in Oregon is part of the federally designated Pacific Northwest High Speed Rail Corridor that connects Eugene, Oregon, with destinations in Washington State and with Vancouver, British Columbia. The federal designation gives this route preference for Federal Railroad Administration funding to develop advanced technology passenger train service. The States of Oregon and Washington, in cooperation with the Province of British Columbia, are working together to incrementally improve passenger train operations in the corridor. The Oregon Department of Transportation is developing Oregon's portion of the corridor, with the long-range goal of providing safe service at speeds of more than 100 mph in rural areas. The 2001 Oregon Rail Plan provides further guidance on the development of future passenger rail service along the I-5 corridor and elsewhere in the state.

Air Facilities

The Roseburg Regional Airport is located on the north side of Roseburg just east of Interstate 5 and is built on 184 acres owned by the City. The airport has one runway, runway 16/34 that is 4,600 feet long by 100 feet wide. The surface of runway 16/34 is asphalt and is in good condition. There are 72 aircraft tiedown positions for fixed wing aircraft, and five marked helicopter parking positions, including one marked as an emergency medical helicopter landing pad located immediately adjacent to the airport access gate. One fixed based operator (FBO) provides 100 octane aviation fuel and Jet-A fuel which is stored in two aboveground storage tanks owned by the City. The City-owned tanks are currently in compliance with EPA Storage Tank Regulations.[16]

As of November 2004, there were 96 aircraft based at Roseburg and an estimated 31,750 flights per year. Since 1973, there have been no successful scheduled commercial air service flights into Roseburg. As the Roseburg Regional Airport does not have commercial

[16] Roseburg Regional Airport Master Plan Update 1995-2014, January 1996.

flights, it limits the intercity passenger network status. Adding commercial flights would provide opportunities for people to travel further faster. The airport handles some freight transportation. Both UPS and FedEx have regularly scheduled freight shipments to the Roseburg Regional Airport.[17]

Access to the airport is provided by an entrance off Aviation Drive that connects to the south with Stewart Parkway, a major arterial within the city. Aviation Drive connects to the north with Edenbower Boulevard at the North Roseburg Interstate 5 Interchange (Exit 127). There is a small buffer of open space and then low density residential uses surround the east, west, and south ends of the airport. Also, Interstate 5 to the west and NE Stephens Street to the east act as barriers to the residential areas.

There is a second airport in Roseburg, the privately owned George Felt Airport. It is a much smaller airport with only 17 based aircraft and an estimated 1,508 annual operations. George Felt Airport has no commercial passenger or freight service.

Pipelines

There is one major natural gas pipeline transportation system in the Roseburg UGB and numerous secondary natural gas distribution lines that spur off the mainline to provide gas to residences and businesses. The major pipeline is part of a system operated by Northwest Pipeline Corporation. In addition, Avista Utilities operates a smaller pipeline transportation system in the Roseburg UGB. Specific information and locations regarding the pipelines is confidential due to security reasons.

Northwest Pipeline Corporation

The Williams Companies' subsidiary Northwest Pipeline Corporation operates a 4,100-mile-long pipeline system which carries more than 3.4 million cubic feet of natural gas to customers located between New Mexico and Washington. They provided transportation service to access British Columbia and domestic Rocky Mountain gas. Northwest Pipeline Corporation supplies a sizable percentage Oregon's gas supply. It also operates a gas transmission compressor station approximately halfway between Sutherlin and Roseburg.

Avista Utilities

Avista Utilities South provides natural gas in Oregon and California. Douglas County is one of the five Oregon counties in Avista's natural gas service area. The South operating division consists of about 32 miles of gas transmission mains and approximately 2,000 miles of gas distribution mains. Two interstate natural gas pipelines serve the South operating division, which includes service to Canyonville, Dillard, Myrtle Creek, Oakland, Riddle, Roseburg, and Winston.

Other Utilities

Other services in and throughout the Roseburg UGB own and/or operate pipelines or transmission lines for electricity, cable television and telephone services, as well as pipeline

[17] Roseburg Regional Airport Master Plan Update 1995-2014, January 1996.

transport of water and sanitary sewer. The demand for transmission lines will continue to grow as Roseburg's population grows. Other services, such as telecommunications and cable television are subject to frequent technological changes, such that current technology may be obsolete by the end of the planning horizon. The City should work with the various service providers to identify service patterns and utility corridors that make the most sense at the time a need is identified.

Waterways

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

Chapter 4: Current Conditions and Deficiencies (2004)

Introduction

This chapter describes current transportation conditions and deficiencies and needs in Roseburg. *Deficiencies* represent the difference between an existing transportation system characteristic and adopted standards for that characteristic. *Needs* represent the types of measures required to mitigate the deficiencies.[18] In this chapter, transportation needs are described for Roseburg's transportation facilities. Recommended transportation system improvements are described in the modal plans in subsequent chapters.

Existing Traffic Conditions

Traffic Volumes and 30th Highest Hour Volumes

The City of Roseburg and the Oregon Department of Transportation identified 47 intersections to analyze for the TSP planning process. Intersection turn movement counts were provided at the study intersections during weekday peak periods for 4- to 14-hour time periods by ODOT and the City of Roseburg. The traffic counts are provided in Appendix A.

ODOT traffic analysis procedures call for the annual 30th highest hour (30 HV) traffic volumes to be used to calculate volume to capacity (v/c) ratios for intersections and street segments. The 30th highest hour volume is the 30th highest hourly traffic volume experienced annually on a transportation facility.

With consultation and agreement from the Transportation Planning Analysis Unit (TPAU), the methodology to determine the 30th highest hour for current and future scenarios follows. The traffic counts and the results of traffic volume trends from ODOT's automatic traffic recorders (ATR) were used to estimate the annual 30th highest hour traffic volumes. To estimate 30th highest hour traffic volumes, the existing traffic counts were reviewed for seasonal variations. For historical traffic counts, an annual growth factor of 2.5% per year was applied to the historical 2002 and 2003 counts to increase the counts to the 2004 base year. Based on ODOT's traffic analysis procedures, the seasonal table containing the ODOT ATR data (available from ODOT's web site) may be used when there is not an ATR in a close by location of the study area. ATR locations that are representative of the study area locations with similar traffic trends may be selected and appropriate seasonal adjustments applied to raw counts. For this analysis, seasonal adjustments to all of the traffic counts were based on factors for the following ATR stations. (ATR stations were approved by TPAU, ODOT, before use in the analysis):

[18] ODOT Transportation System Planning Guidelines. May, 2001.

For the I-5 mainline and ramps:

- Roseburg ATR (station number 10-005)

For major 4-lane city streets (for example, Harvard Avenue, Diamond Lake Boulevard, and Stephens Street):

- Average of the Talent (station number 15-014) and the Klamath Falls (station number 18-018) ATRs

For all other roads in the study area:

- Brockway (station number 10-006)

Five years of traffic data (1998-2002) for the ATR stations was available from the ODOT's Web site[19]. The analysis of data (Brockway and Roseburg ATRs) revealed that August was the highest traveled month for the study area. The data from these ATR stations was used in the analysis because the stations are the closest recorders to the study area and are representative of the study area characteristics.

After the traffic counts had been collected and reviewed, one peak hour was selected for all the study area intersections. TPAU, ODOT, recommends the use of one peak hour for consistency in traffic volumes and to balance volumes between intersections.

"Peak hour" is the single hour of the day that has the highest hourly volumes. The traffic volume within this hour is generally directional. Transportation facilities should be adequately designed to accommodate demand volumes during the peak hour for efficient traffic operations.

The 15-minute time period splits in the raw traffic data were used to determine the peak hour for each count. The final selection of a peak hour was based on the majority of counts that had the same peak hour. This methodology showed that 4:15 PM to 5:15 PM was the peak hour for the study area.
The study area intersections that were analyzed for the Roseburg TSP are shown in Figure 4-1. Table 4-1 shows the actual peak hour by intersection.

Peak Hour Factor

The quality of traffic is often related to short-term fluctuations in traffic demand. Short-term peaks of traffic flow within the peak hour may exceed capacity of the roadway segment hereby creating a breakdown. For this reason, traffic facilities are analyzed to identify the "worst" 15-minute period of the peak hour. The peak 15-minute volume is calculated by dividing the full one-hour traffic volumes by an applicable peak-hour factor (PHF). This PHF is defined as the one-hour volume divided by four times the maximum 15-minute volume during that hour. Thus, PHF always ranges between 0.25 and 1.0. The maximum value of PHF equal to 1.0 occurs when the volume in each 15-minute period is equally distributed

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[19] http://www.oregon.gov/ODOT/TD/TDATA/tsm/tvt.shtml/shtml#Traffic_Volume_Tables, <last accessed October 2004>

and the lowest value of PHF equal to 0.25 occurs when the entire peak hour volume occurs in one 15-minute interval. Lower PHF values signify a greater variation in volumes during the peak hour. The PHF is as a factor used in the traffic analysis of transportation facilities.

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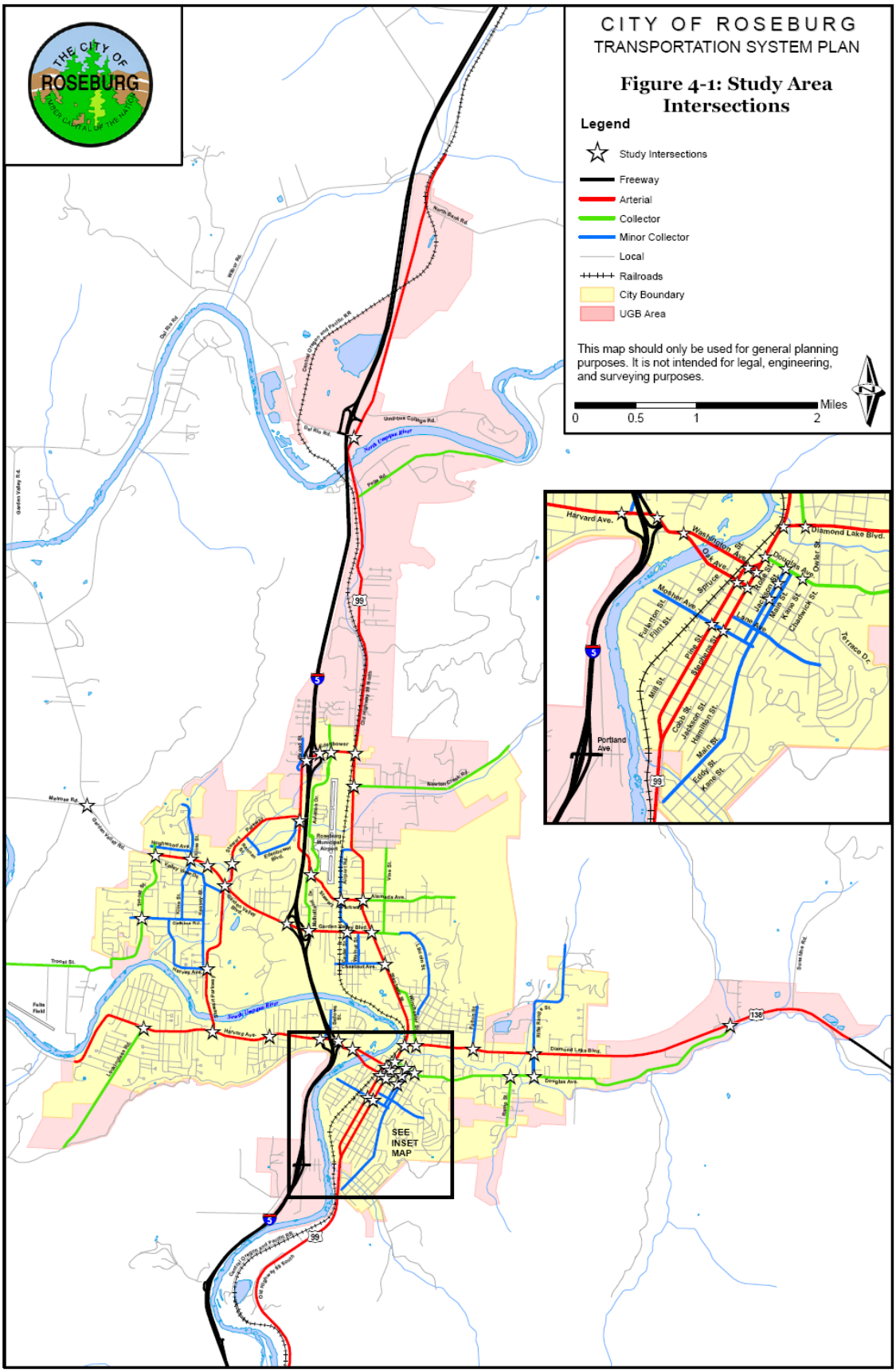
CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 4-1: Study Area Intersections
Legend
Study Intersections
Freeway
Arterial
Collector
Minor Collector
Local
Railroads
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
0
0.5
1
2
Miles
SEE INSET MAP
Harvard Ave.
Washington St.
Diamond Lake Blvd.
Douglas Ave.
Portland Ave.
Mill St.
Main St.
Eddy St.
Kenn St.
Terrace Dr.

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Table 4-1. Traffic Peak Hour by Intersection

Intersections		Counts	Count Date	Actual PM Peak Hour	
Roadway 1	Roadway 2			Start	End
Diamond Lake Blvd	Douglas Ave	4 hour	14-Oct-2002	3:45	4:45
Diamond Lake Blvd	Fulton Street	14 hour	30-Jul-2002	4:00	5:00
Diamond Lake Blvd	Jackson Street/Winchester Ave	14 hour	13-Nov-2002	4:30	5:30
Diamond Lake Blvd	Rifle Range Street	14 hour	22-Nov-2004	4:15	5:15
Douglas Ave	Jackson Street	14 hour	18-Nov-2003	4:15	5:15
Douglas Ave	Kane Street	4 hour	24-Jan-2005	4:15	5:15
Douglas Ave	Ramp Street	4 hour	1-Oct-2002	4:35	5:35
Douglas Ave	Rifle Range Street	4 hour	26-Sep-2002	4:55	5:55
Edenbower Blvd	Aviation Drive	15 hour	4-Mar-2003	4:00	5:00
Garden Valley Blvd	Cedar Street/Airport Road	4 hour	18-Nov-2003	4:15	5:15
Garden Valley Blvd	Kline Street	14 hour	18-Nov-2003	4:15	5:15
Garden Valley Blvd	Melrose	14 hour	16-Nov-2004	4:30	5:30
Garden Valley Blvd	Roseburg Valley mall	4 hour	18-Nov-2003	4:00	5:00
Garden Valley Blvd	Troost Street	14 hour	17-Nov-2004	4:30	5:30
Harvard Avenue	LookingGlass Road	14 hour	19-Nov-2004	5:00	6:00
Harvard Avenue	Steward Park Drive	4 hour	29-Nov-2004	3:00	4:00
Harvard Avenue	Stewart Parkway	14 hour	15-Nov-2004	4:30	5:30
I-5 NB on/off ramps	Edenbower Blvd (MP 127)	14 hour	5-Mar-2003	3:00	4:00
I-5 SB on/off ramps	Edenbower Blvd (MP 127)	16 hour	13-May-2003	3:00	4:00
I-5 SB off-ramp	Garden Valley Blvd/Mulholland Drive (MP 125)	14 hour	29-Nov-2004	3:45	4:45
I-5 NB off-ramp	Garden Valley Blvd/Mulholland Drive (MP 125)	14 hour	20-Apr-2004	4:15	5:15
I-5 NB on/off ramps	Harvard Avenue (MP 124)	14 hour	8-Nov-2004	4:15	5:15
I-5 SB on/off ramps	Harvard Avenue (MP 124)	14 hour	8-Nov-2004	4:30	5:30
I-5 NB on ramp	Harvard Avenue (MP 124)	24 hour	15-Dec-2004	4:15	5:15
Oak Ave	Jackson Street	4 hour	18-Nov-2003	4:15	5:15
Pine Street	Mosher Ave	14 hour	18-Nov-2003	4:15	5:15
Pine Street	Oak Ave	4 hour	18-Nov-2003	4:45	5:45
Pine Street	Washington Ave	14 hour	9-Nov-2004	4:15	5:15
Stephens Street	Chestnut Ave	4 hour	16-Nov-2004	4:15	5:15
Stephens Street	Diamond Lake Blvd	14 hour	15-Oct-2002	4:30	5:30
Stephens Street	Douglas Ave	4 hour	2-Oct-2002	4:30	5:30
Stephens Street	Edenbower Parkway	14 hour	6-Mar-2003	4:00	5:00
Stephens Street	Garden Valley Blvd	14 hour	18-Nov-2004	3:30	4:30
Stephens Street	Mosher Ave	14 hour	18-Nov-2003	4:15	5:15
Stephens Street	Newton Creek Road	14 hour	17-Nov-2004	4:15	5:15
Stephens Street	Oak Ave	2 hour	30-Nov-2004	4:15	5:15
Stephens Street	Stewart Parkway/Alameda Ave	14 hour	17-Nov-2004	4:30	5:30
Stephens Street	Washington Ave	4 hour	18-Nov-2003	4:30	5:30
Stephens Street	Winchester Ave	4 hour	18-Nov-2003	4:15	5:15
Stewart Parkway	Airport Road	14 hour	10-Nov-2004	4:15	5:15
Stewart Parkway	Aviation Drive/Mulholland Drive	4 hour	18-Nov-2003	4:15	5:15
Stewart Parkway	Edenbower Blvd	14 hour	10-Nov-2003	4:15	5:15

Intersections		Counts	Count Date	Actual PM Peak Hour	
Roadway 1	**Roadway 2**			**Start**	**End**
Stewart Parkway	Garden Valley Blvd	14 hour	18-Nov-2004	3:30	4:30
Stewart Parkway	Harvey Avenue	14 hour	15-Nov-2004	4:30	5:30
Stewart Parkway	WalMart Entrance	4 hour	18-Nov-2003	4:00	5:00
Troost Street	Calkins Road	14 hour	18-Nov-2003	4:45	5:45
Washington Ave	Jackson Street	4 hour	18-Nov-2003	4:15	5:15
Washington Ave	Madrone Street	14 hour	9-Nov-2004	3:00	4:00

PHFs were determined for each intersection analyzed as part of this study and ranged between 0.80 and 0.98 except at five locations. These five locations follow:

- Washington Avenue at Pine Street with a PHF of 0.77
- Diamond Lake Blvd. at Douglas Avenue with PHF of 0.77
- Washington Avenue at Jackson Street with a PHF of 0.73
- Douglas Avenue at Kane Street with a PHF of 0.76
- Harvard Avenue at NB I-5 on-ramp with a PHF of 0.72

The traffic at these five intersections had greater variation in traffic flow during the peak hour.

ADT for selected Roseburg roads is shown in Table 4-2 and include data from ODOT's traffic volume tables and from the 14-hour seasonally adjusted intersection counts. ADT shown represents bi-directional traffic at the location specified in the Table. As seen in Table 4-2, I-5 generates the most ADT on a typical day, for obvious reasons. The other roads in the Roseburg UGB that have the highest ADT counts include: Garden Valley Boulevard, Stephens Street (south of Diamond Lake Boulevard), Harvard Avenue, and Washington Avenue. Figure 4-2 shows the ADT volumes on roadway segments in the City of Roseburg.

Table 4-2. Existing Year (2004) Average Daily Traffic

Location	ADT Both Directions
I-5 (MP 122.71, 0.30 mile south of Fairgrounds Interchange)	43,200
I-5 (MP 123.84, 0.30 mile south of W Harvard Avenue)	44,600
I-5 (MP 124.78, 0.30 mile south of Garden Valley Road)	44,500
I-5 (MP 126.83, 0.40 mile south of North Roseburg Interchange)	31,900
I-5 (MP 129.12, 0.10 mile south of Winchester Interchange)	35,200
I-5 (MP 129.75, 0.53 mile north of Winchester Interchange)	32,000
I-5 overcrossing on Harvard Avenue	22,400
Harvard Avenue (0.01 mile west of Madrone Street)	22,400
Washington Street, 0.02 mile east of Madrone Street	8,200
Oak Street, 0.02 mile east of Madrone Street	14,300
Stephens Street (0.01 mile north of Douglas Avenue)	24,000
Diamond Lake Boulevard (0.02 mile east of Stephens Street)	14,400
Diamond Lake Boulevard (0.02 mile east of Winchester Street)	18,800
Diamond Lake Boulevard (0.02 mile east of Fowler Street)	20,700
Diamond Lake Boulevard (0.02 mile east of Casper Street)	20,200
Diamond Lake Boulevard (0.02 mile west of Rifle Range Street)	16,900
Diamond Lake Boulevard (East city limits of Roseburg, 0.14 mile east of Patterson Street)	11,500
Stephens Street 0.01 mile south of Diamond Lake Blvd, OR 138	23,500
Pine Street, 0.01 mile southwest of Stephens Street	12,500
Pine Street, 0.01 mile north of SE Oak Street	8,000
Stephens Street, 0.01 mile north of SE Washington Avenue	11,900
Stephens Street, 0.01 mile north of SE Oak Avenue	14,000
I-5 NB off-ramp (Garden Valley Blvd/Mulholland Drive (MP 125)	13,100
Garden Valley Blvd (east of Mulholland Drive/I-5 NB off-ramp)	31,900
Garden Valley Blvd (west of Mulholland Drive/I-5 NB off-ramp)	36,900
Mulholland Drive (north of Garden Valley Blvd)	7,400
Diamond Lake Blvd (west of Jackson Street/Winchester Street)	17,700
Diamond Lake Blvd (east of Jackson Street/Winchester Street)	24,600
Jackson Street (south of Diamond Lake Blvd)	7,500
Winchester Street (north of Diamond Lake Blvd)	15,900
Diamond Lake Blvd (east of Fulton Street)	21,600
Diamond Lake Blvd (west of Fulton Street)	22,100
Fulton Street (south of Diamond Lake Blvd)	200
Fulton Street (north of Diamond Lake Blvd)	800
Diamond Lake Blvd (west of Stephens Street)	17,100
Stephens Street, south of Diamond Lake Blvd	30,000
Stephens Street, north of Diamond Lake Blvd	22,400
I-5 NB off-ramp (Edenbower Blvd (MP 127))	3,900
I-5 NB on-ramp (Edenbower Blvd (MP 127))	5,100

Location	ADT Both Directions
Edenbower Blvd (east of NB I-5 on- and off- ramps)	16,000
Edenbower Blvd (west of NB I-5 on- and off- ramps)	16,700
I-5 SB off-ramp (Edenbower Blvd (MP 127))	4,600
I-5 SB on-ramp (Edenbower Blvd (MP 127))	4,200
Edenbower Blvd (east of SB I-5 on- and off- ramps)	16,100
Edenbower Blvd (west of SB I-5 on- and off- ramps)	17,600
Stephens Street, south of Edenbower Boulevard	15,700
Stephens Street, north of Edenbower Boulevard	13,800
Edenbower Blvd (west of Stephens Street)	12,400
Edenbower Blvd (west of Aviation Drive)	15,200
Edenbower Blvd (east of Aviation Drive)	13,900
Aviation Drive (south of Edenbower Blvd)	1,300
Aviation Drive (north of Edenbower Blvd)	2,700
Diamond Lake Blvd (east of Rifle Range Street)	19,200
Diamond Lake Blvd (west of Rifle Range Street)	16,600
Rifle Range Street (north of Diamond Lake Blvd)	2,300
Rifle Range Street (south of Diamond Lake Blvd)	1,800
Garden Valley Blvd (south of Melrose Road)	16,200
Garden Valley Blvd (north of Melrose Road)	10,180
Melrose Road (west of Garden Valley Blvd)	8,400
Melrose Road (east of Garden Valley Blvd)	200
Garden Valley Blvd (west of Troost Street)	16,300
Garden Valley Blvd (east of Troost Street)	20,000
Troost Street (south of Garden Valley Blvd)	5,400
Harvard Avenue (west of Lookingglass Road)	6,900
Harvard Avenue (east of Lookingglass Road)	12,600
Lookingglass Road (south of Harvard Avenue)	6,200
Harvard Avenue (west of Stewart Parkway)	19,900
Harvard Avenue (east of Stewart Parkway)	24,300
Stewart Parkway (north of Harvard Avenue)	19,600
Harvard Avenue (MP 124, west of NB I-5 ramp and High school entrance)	38,900
Harvard Avenue (MP 124, east of NB I-5 ramp and High school entrance)	33,100
I-5 NB on- off- ramp (south of Harvard Avenue, MP 124)	9,300
High school entrance (north of Harvard Avenue, MP 124)	2,800
Harvard Avenue (MP 124, west of SB I-5 on- off- ramps)	33,300
Harvard Avenue (MP 124, east of SB I-5 on- off- ramps)	33,600
SB I-5 on- off- ramps (south of Harvard Avenue)	14,000
Bellows Street (north of Harvard Avenue)	3,300
Washington Avenue (west of Pine Street)	14,600
Washington Avenue (east of Pine Street)	8,800
Pine Street (south of Washington Avenue)	9,400

Location	ADT Both Directions
Pine Street (north of Washington Avenue)	15,200
Garden Valley Blvd (west of Stephens Street)	22,300
Garden Valley Blvd (east of Stephens Street)	8,800
Stephens Street, south of Garden Valley Blvd	33,500
Stephens Street, north of Garden Valley Blvd	24,800
Newton Creek Road (west of Stephens Street)	400
Newton Creek Road (east of Stephens Street)	4,900
Stephens Street, south of Newton Creek Road	18,200
Stephens Street, north of Newton Creek Road	17,600
Stewart Parkway (west of Airport Road)	15,800
Stewart Parkway (east of Airport Road)	12,900
Airport Road (south of Stewart Parkway)	4,000
Airport Road (north of Stewart Parkway)	4,000
Garden Valley Blvd (west of Stewart Parkway)	30,900
Garden Valley Blvd (east of Stewart Parkway)	34,900
Stewart Parkway (south of Garden Valley Blvd)	19,100
Stewart Parkway (north of Garden Valley Blvd)	29,900
Harvey Avenue (west of Stewart Parkway)	6,400
Harvey Avenue (east of Stewart Parkway)	2,800
Stewart Parkway (south of Harvey Ave)	21,800
Stewart Parkway (north of Harvey Ave)	18,000
Stewart Parkway (west of Edenbower Blvd, MP 127)	27,600
Stewart Parkway (east of Edenbower Blvd, MP 127)	16,600
Edenbower Blvd (MP 127, south of Stewart Parkway)	7,500
Edenbower Blvd (MP 127, north of Stewart Parkway)	20,100
Washington Avenue (west of Madrone Street)	31,200
Washington Avenue (east of Madrone Street)	29,800
Madrone Street (south of Washington Avenue)	700
Madrone Street (north of Washington Avenue)	3,600

Source: ODOT's traffic volume tables and 14-hour seasonally adjusted intersection counts provided by ODOT.

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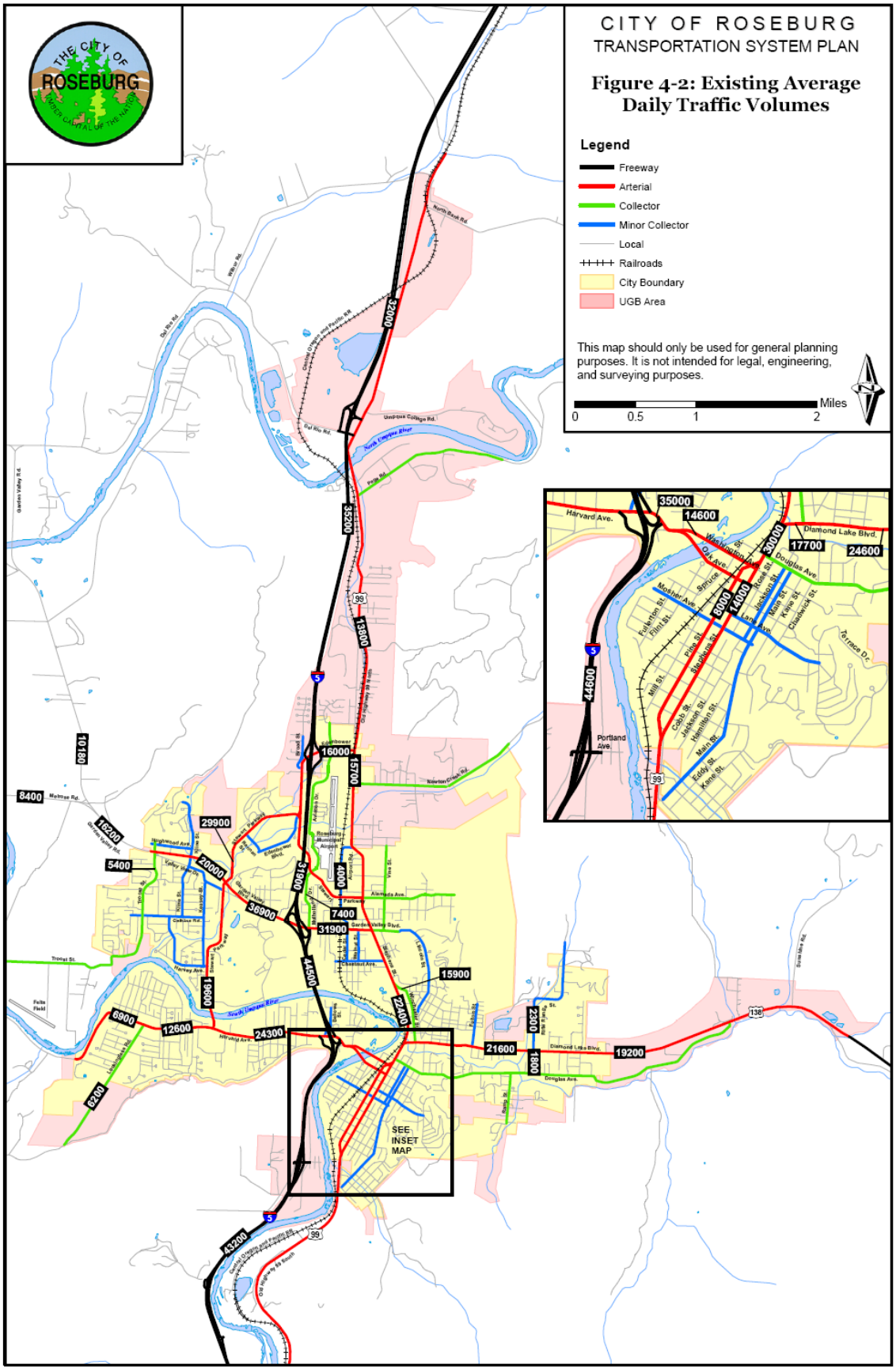
CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 4-2: Existing Average Daily Traffic Volumes
Legend
Freeway
Arterial
Collector
Minor Collector
Local
Railroads
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
Miles
0
0.5
1
2
SEE INSET MAP
92000
33200
13800
16000
15700
10180
8400
16200
5400
29900
20000
31900
36900
7400
31900
44500
15900
22400
16900
6900
12600
24300
21600
2300
1800
19200
6200
43200
35000
14600
30000
17700
24600
14000
5000
44600

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Existing (2004) PM Peak Intersection Operations Analysis

In order to determine the intersection operational performance of study area intersections and network, two primary parameters were used: delay and volume-to-capacity (v/c) ratios. "Delay" is the average amount of time a vehicle must wait at an intersection. Delay is a measure that directly relates to the driver's experience, and is the amount of time consumed in traversing the intersection. "Volume-to-capacity" (v/c) is the ratio of peak hour traffic volume to the maximum hourly volume of vehicles that can be accommodated by the roadway section (capacity). V/C measures the percentage of capacity of the roadway section that is being used during the peak hour. When the v/c ratio exceeds 1.0, auto demand exceeds the capacity of the facility to serve that demand.[22]

Another parameter commonly used to describe operating conditions of intersections and roadways is "Level of Service" (LOS). LOS for an intersection is a measure of the average delay experienced by each vehicle passing through it. It can be measured for the vehicles making each directional turning movement, using each approach leg, or as a composite average value for all vehicles using the intersection. LOS is a letter designation with LOS A representing insignificant delay (less than 10 seconds per vehicle), and F represents significant waiting. Level of service F means more than 50 seconds per vehicle for intersections with non-existent signals and more than 80 seconds per vehicle for intersections with signals. Other letters identify intermediate conditions[23].

Similar to intersection level of service, roadway LOS is reported with a letter grade designation ranging from A to F.

Level of Service A describes a condition of free flow, with low volumes and high speeds. *Level of Service B* is the zone of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. *Level of Service C i*s the zone of mostly stable flow, but speeds and maneuverability are more closely constricted by the higher volumes. *Level of Service D* is a zone that approaches unstable flow, with tolerable operating speeds, however driving speed is considerably affected by changes in operating conditions. *Level of Service E* is a zone that cannot be described by speed alone. Operating speeds are lower than in Level D, with volume at or near the capacity of the highway. *Level of Service F* is a zone in which the stoppages disrupt the traffic flow so that the volume carried by the roadway falls below its capacity; without the stoppages, the volume of traffic on the roadway would be higher, or in other words, it would reach capacity.

[22] *Highway Capacity Manual 2000*, Transportation Research Board, Washington, D.C., 2000.
[23] Dush, S. and Muhonen, G., The Language of Traffic, American Planning Association, Issue Spring 2002.

Level of Service Definitions

Level of service A represents free flow conditions. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, and pedestrian is excellent.

Level of service B is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream from Level of service A. The level of comfort and convenience provided is somewhat less than at the Level of service A, because the presence of others begins to affect individual behavior.

Level of service C is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by the interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The general level of comfort and convenience declines noticeably at this level.

Level of service D represents high-density, but stable, flow conditions. Speed and freedom to maneuver are severely restricted, and the driver or pedestrian experiences a generally poor level of comfort and convenience. Small increases in traffic flow will generally result in the occurrence of operational problems at this level.

Level of service E represents operating conditions at or near the capacity level of a given facility. All speeds are reduced to a low but relatively uniform level. Freedom to maneuver within the traffic stream is extremely difficult, and it is generally accomplished by forcing a vehicle or pedestrian to “give way” to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high. Operations at this level are usually unstable, because small increases in flow or minor perturbations within the traffic stream will cause breakdowns.

Level of service F is used to define forced or breakdown flow. This condition exists whenever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop-and-go waves, and they are extremely unstable. Vehicles may progress at reasonable speeds for several hundred feet or more, then be required to stop in a cyclic fashion. Level of service F is used to describe the operating conditions within the queue, as well as the point of the breakdown. It should be noted, however, that in many cases operating conditions of vehicles or pedestrians discharged from the queue may be quite good. Nevertheless, it is the point at which arrival flow exceeds discharge flow which causes the queue to form, and the Level of service F is an appropriate designation for such points.

Currently, the City of Roseburg has no current operational mobility standards. ODOT and Douglas County uses volume-to-capacity ratios for their performance standard. To determine existing deficiencies, the mobility standards from the 1999 Oregon Highway Plan (OHP) for state facilities and Douglas County for County facilities was used to assess the existing transportation conditions.

> *The OHP states that the maximum acceptable v/c ratio for Regional Highways outside the Portland metro area (non-MPO) and not identified as a Special Transportation Area (STA) is 0.80 where non-freeway speed limit is less-than 40 mph, and is 0.75 when non-freeway speed limit is greater-than 40 mph. For District/Local Interest roads, the acceptable ratio is 0.85 non-freeway speed limit is less-than 40 mph, and is 0.80 when non-freeway speed limit is greater-than 40 mph.*
>
> *The Douglas County performance standards for a given route vary based on the urban or rural nature, speeds, and surrounding land use designations. The County's v/c performance standards by roadway classification follows: Principal Highway, V/C = 0.70; Arterial, V/C = 0.85; Major Collector, V/C = 0.90; Minor Collector, V/C = 0.95; Necessary Local, V/C = 0.95.*

For intersections and segments maintained by the City of Roseburg, a dual performance measure was used to determine current year transportation deficiencies. To maintain consistency with County mobility standards as discussed during TSP technical advisory committee meetings, v/c ratio standards based on the County's mobility standards (v/c ratios shown above) plus the addition of a LOS performance measure standard of D or better was used to determine operational deficiencies.

Using the 30th highest hour traffic volumes, traffic operational analysis of existing conditions for the City of Roseburg was conducted using Synchro 6.0, a traffic analysis software tool which uses analysis procedures outlined in the Highway Capacity Manual (HCM) for signalized and unsignalized intersections. The HCM provides a nationally accepted, standardized analysis procedure for determining average vehicle delay, level of service (LOS), and v/c ratios at signalized and unsignalized intersections. [24]

The study area network was developed in Synchro and the intersection data were exported to *2000 Highway Capacity Software* for analysis of signalized and stop-controlled intersections. The methodology provides standardized analysis procedures to evaluate average vehicle delay (in seconds per vehicle), level of service, v/c ratios, and 95th percentile queue lengths (for signalized intersections).

Table 4-3 shows the highest v/c ratio by turn-movement and delay and LOS by approach (major street or minor street) for the unsignalized intersections. Also shown in the table are overall v/c ratio, average delay, and LOS for the signalized intersections.

The following intersections (signalized and unsignalized) exceed the applicable mobility standards pertaining to the responsible jurisdiction:

[24] *Highway Capacity Manual 2000*, Transportation Research Board, Washington, D.C., 2000.

- Diamond Lake Boulevard and Rifle Range Street
- Garden Valley Boulevard and Melrose Road
- Edenbower Boulevard and I-5 NB on/off ramps (MP 127)
- Edenbower Boulevard and I-5 SB on/off ramps (MP 127)
- Pine Street and Mosher Avenue
- Stephens Street and Mosher Avenue
- Douglas Avenue and Kane Street
- Harvard Avenue and Stewart Parkway
- Harvard Avenue and I-5 SB on/off ramps, and Bellows Street
- Pine Street and Washington Avenue
- Stewart Parkway and Edenbower Boulevard

Table 4-3. Existing PM Peak Hour Level of Service

Unsignalized Intersections		Major/Minor Street LOS	Highest V/C	Highest Delay (seconds/vehicle)	Mobility Standard
Major Street	**Minor Street**				
Diamond Lake Blvd	Douglas Ave	A/C	0.19 (Major St.)	17 (Minor St.)	0.80
Diamond Lake Blvd	Fulton Street	A/F	0.39 (Major St.)	53 (Minor St.)	0.80
Diamond Lake Blvd	**Rifle Range Street**	**B/F**	**1.34 (Minor St.)**	**325 (Minor St.)**	**0.80**
Douglas Ave	Jackson Street	C/E	0.90 (Minor St.)	42 (Minor St.)	0.90
Douglas Ave	Ramp Street	A/B	0.10 (Major St.)	11 (Minor St.)	0.90
Douglas Ave	Rifle Range Street	A/A	0.09 (Minor St.)	9.5 (Minor St.)	0.90
Edenbower Blvd	Aviation Drive	A/D	0.50 (Minor St.)	47 (Minor St.)	.85/LOS D
Garden Valley Blvd	**Melrose**	**A/F**	**1.06 (Minor St.)**	**70 (Minor St.)**	**0.95**
Harvard Avenue	LookingGlass Road	A/B	0.32 (Minor St.)	13 (Minor St.)	.85/LOS D
Edenbower Blvd	**I-5 NB on/off ramps (MP 127)**	**B/F**	**1.60 (Minor St.)**	**147 (Minor St.)**	**0.80**
Edenbower Blvd	**I-5 SB on/off ramps (MP 127)**	**B/F**	**1.20 (Minor St.)**	**84 (Minor St.)**	**0.80**
Oak Ave	Jackson Street	A/A	0.30 (Major St.)	9 (Minor St.)	.95/LOS D
Pine Street	**Mosher Ave**	**A/F**	**0.91 (Minor St.)**	**132 (Minor St.)**	**.85/LOS D**
Stephens Street	Chestnut Ave	C/D	0.61 (Major St.)	26 (Minor St.)	.85/LOS D
Stephens Street	**Mosher Ave**	**A/F**	**0.92 (Minor St.)**	**99 (Minor St.)**	**.85/LOS D**
Stephens Street	Del Rio Road/Winchester Ave	B/C	0.49 (Minor St.)	24.5 (Minor St.)	0.85
Troost Street	Calkins Road	A/A	0.23 (Major St.)	9 (Major St.)	.90/LOS D
Washington Ave	Jackson Street	A/B	0.59 (Minor St.)	13 (Minor St.)	.95/LOS D
Douglas Ave	**Kane Street**	**A/F**	**1.05 (Minor St.)**	**110 (Minor)**	**.90/LOS D**
Signalized Intersections		**LOS**	**V/C**	**Delay (seconds/vehicle)**	**Mobility Standard**
Major Street	**Minor Street**				
Diamond Lake Blvd	Jackson Street/Winchester Ave	B	0.66	18	0.80
Garden Valley Blvd	Cedar Street/Airport Road	C	0.67	28	.85/LOS D
Garden Valley Blvd	Kline Street	C	0.65	29	.85/LOS D
Garden Valley Blvd	Troost Street	A	0.51	8	0.85
Harvard Avenue	**Stewart Parkway**	**E**	**0.95**	**75**	**.85/LOS D**
Garden Valley Blvd/Mulholland Drive	I-5 NB off-ramp (MP 125)	C	0.80	27	0.80
Garden Valley Blvd	I-5 SB off-ramp (MP 125)	A	0.71	1	0.80
Harvard Avenue	I-5 NB on/off ramps (MP 124) and School Entr.	A	0.79	10	0.80
Harvard Avenue	**I-5 SB on/off ramps (MP 124) and Bellows St.**	**C**	**0.95**	**35**	**0.80**
Pine Street	Oak Ave	A	0.5	11	0.80
Pine Street	**Washington Ave**	**B**	**0.89**	**19**	**0.80**
Stephens Street	Diamond Lake Blvd	C	0.76	23	0.80
Stephens Street	Douglas Ave	B	0.60	17	0.80
Stephens Street	Edenbower Parkway	B	0.64	18	.85/LOS D
Stephens Street	Garden Valley Blvd	D	0.82	38	.85/LOS D
Stephens Street	Newton Creek Road	B	0.56	13	.85/LOS D
Stephens Street	Oak Ave	B	0.68	20	0.80
Stephens Street	Stewart Parkway/Alameda Ave	C	0.62	24	.85/LOS D
Stephens Street	Washington Ave	B	0.62	13	0.80
Stewart Parkway	Airport Road	B	0.40	14	.85/LOS D
Stewart Parkway	Aviation Drive/Mulholland Drive	C	0.53	30	.85/LOS D
Stewart Parkway	**Edenbower Blvd**	**D**	**0.99**	**53**	**.85/LOS D**
Stewart Parkway	Garden Valley Blvd	D	0.78	38	.85/LOS D
Stewart Parkway	Harvey	C	0.74	32	.85/LOS D
Stewart Parkway	WalMart Entrance	A	0.50	9	.85/LOS D
Washington Ave	Madrone Street	B	0.56	17	0.80
Harvard Avenue	Stewart Park Drive	B	0.50	11	.85/LOS D

*Bold represents instances where the mobility standard is not met

Signal Warrants 2004

Traffic signals are valuable devices for the control of vehicle, bicycle, and pedestrian traffic. Traffic control signals, properly located and operated, can have several advantages:

- Provide for orderly movement of traffic
- Can increase the traffic handling capacity of intersections
- Reduce the frequency of certain types of collisions
- Can be coordinated to provide nearly continuous movement of traffic at a definite speed along a route
- Permit minor street traffic (vehicles and pedestrians) to enter or cross continuous traffic on a major street

For unsignalized study intersections exceeding the mobility standards for appropriate jurisdictions (refer to Table 4-3), a preliminary signal warrant analysis was performed using Signal Warrant 1 in the 2003 *Manual of Uniform Traffic Control Devices* (MUTCD). This warrant is intended for application where a large volume of intersecting traffic is the principal reason for consideration of signal installation. This warrant applies to operating conditions where the traffic volume on a major street is heavy and impedes the traffic on a minor intersecting street resulting in excessive delay or hazard in entering the street. The required traffic volumes must be present for at least 8 hours of an average weekday. The minimum volumes vary according to the number of lanes on the intersecting streets, the speed of traffic on the main street, and the community size. Two conditions are evaluated for Signal Warrant 1 that compares specific percentages of the traffic volumes. The traffic volume warrants for both conditions A and B are given in Table 4C-I in the MUTCD. Warrant 1 is satisfied if either condition A, or B is satisfied.

Table 4-4 below presents the results for 2004 preliminary signal warrants analysis using Signal Warrant 1. For details on signal warrant analysis refer to Appendix F.

Table 4-4. Signal Warrant Analysis – Warrant 1*

Unsignalized Intersections		Major / Minor Street LOS	Highest V/C	Warrant 1 Met
Major Street	Minor Street			
Diamond Lake Blvd **	Rifle Range Street	B/F	1.34 (Minor St.)	No
Douglas Ave	Jackson Street	C/E	0.90 (Minor St.)	No
Garden Valley Blvd	Melrose	A/F	1.06 (Minor St.)	Yes
Edenbower Blvd	I-5 NB on/off ramps (MP 127)	B/F	1.80 (Minor St.)	Yes
Edenbower Blvd	I-5 SB on/off ramps (MP 127)	B/F	1.37 (Minor St.)	Yes
Pine Street	Mosher Ave	A/F	0.91 (Minor St.)	No
Douglas Ave	Kane Street	A/F	1.05 (Minor St.)	No
Stephens Street	Mosher Ave	A/F	0.92 (Minor St.)	No

*Note: Meeting preliminary traffic warrants does not guarantee that a signal will be installed. A full investigation must be submitted to the State Traffic Engineer for approval before the installation of a signal on the state highway system.
** A traffic signal is being installed by ODOT at Diamond Lake Boulevard / Rifle Range Street as a result of the intersection meeting other signal warrants.

As shown in Table 4-4, three of the unsignalized study intersections in Roseburg meet Signal Warrant 1. For other intersections in the table that did not met Signal Warrant 1, unacceptable v/c ratios, LOS, safety issues, other signal warrants, and/or other factors may warrant traffic signalization.

Previously Identified Deficiencies

This section highlights deficiencies that are noted in the previous Existing Conditions chapter (Chapter 3, page 3-1), as well as deficiencies identified by public comments during neighborhood meetings and recommendations from the Roseburg Trails and Bikeway Committee. Furthermore, relevant Goals and Objectives of the Transportation System Plan are highlighted under each subsection (from Chapter 1, page 1-1).

Bicycle Transportation System

As stated earlier, Oregon's Transportation Planning Rule 660-012-0045 3(B) requires bicycle lanes along arterials and major collectors even if they do not generate significant bicycle traffic. Oregon Revised Statute 366.514 requires expenditure of at least one percent of road improvement funds on bicycle and pedestrian projects. Currently, the City of Roseburg has bicycle lanes on 27 road segments with a functional classification higher than local road. 26 road segments with a functional classification higher than local road have no bicycle facilities. Of all arterials and collectors in Roseburg, the most obvious deficiency is on Stephens Street between NE Garden Valley Road, through downtown, and to SE Rice Avenue. In fact, there are no bicycle lanes on many downtown arterials and collectors, such as parts of SE Washington Avenue and all of SE Pine Street, SE Mosher Avenue, SE Lane Avenue, and SE Main Street.

The Roseburg Trails and Bikeway Committee is recommending improvements in the planning, management, and maintenance of the City of Roseburg recreation trail and bikeway system. Improvements will promote greater use of the system while providing safer access throughout our community.

The Committee identified a number of improvements that could be implemented and would enhance the usability of the system to everyone. Recommendations include implementation of various policies regarding trail-user information, signage, maintenance, volunteer programs, long-term planning, and others listed below. The Committee has also prioritized a list of additional trails and bikeways that should be constructed so they would link to existing trails and bikeways together. The committee's recommendations for actions and priority projects are provided in Chapter 7.

Pedestrian Transportation System

The existing conditions including deficiencies in the pedestrian transportation system are presented in Chapter 3. While downtown has good pedestrian facilities, many of Roseburg's neighborhoods either do not have sidewalks or have only a limited and disconnected sidewalk system. On the arterial and collector street system, the availability of sidewalks is somewhat erratic and often incomplete. On many blocks, the sidewalks may exist on one

side of the street and be absent on the other side of the street, or partial sidewalks may be in place sporadically throughout the block, lacking continuity. These deficiencies should be addressed to provide safe linkage from residential areas to commercial areas and employment sites. Appendix A provides detailed inventory of existing sidewalks for each street segment in Roseburg.

In addition to deficiencies noted, there are many other factors that influence the walkability of a street or neighborhood. Among these factors are speed and proximity of nearby traffic, presence or absence of street trees, perceived safety. The deficiencies in the pedestrian system must therefore include a review of such factors. A walkability survey should be used periodically to gauge the walkability of City streets and help guide improvements and development.

Public Transportation

The existing conditions including deficiencies in the public transportation system are presented in Chapter 3. One issue of concern for transit dependent riders, those who cannot otherwise drive an automobile, is that the fixed-route transit system does not have late evening hours or weekend service which limits their mobility.

The *Oregon Public Transportation Plan* lists numerous service goals in order to provide minimum levels of transit service to communities. Roseburg meets many of these service goals but lacks a guaranteed ride home program to all users of the public transportation system. As seen above, transit service in Roseburg ends at about 7:30 p.m. on weekdays and there is no weekend service. This service deficiency may strand some workers or students who attend night classes at Umpqua Community College and should be addressed.

Therefore, the public transit deficiencies follow:

- The fixed-route transit system does not have late evening hours or weekend service.
- Lack of a guaranteed ride home program.

Chapter 7 provides recommendations for improving the public transportation system.

Freight Infrastructure and Services

The existing conditions including deficiencies in the freight system are presented in Chapter 3. The I-5 State of the Interstate Report (2000) states that travelers will experience significant congestion on I-5 interchanges in the Roseburg *UGB* by 2020 with ODOT's Region 3 (SW Oregon including Roseburg). Many interchanges in this region are expected to have one or more components (i.e., ramp terminal intersection or ramp junction) operating at an unacceptable level of congestion, if no improvements are made. The problems associated with I-5 interchanges and mainline are expected to occur in the more populated portions of the corridor such as Roseburg.

Roseburg currently has one roads officially designated in the Oregon Highway Plan as a freight route, Interstate 5 from Washington to California. The City of Roseburg has no self-designated freight routes.

A summary of the freight deficiencies follows:

- Many interchanges are expected to have one or more components (i.e., ramp terminal intersection or ramp junction) operating at an unacceptable level of congestion, if no improvements are made.
- The City of Roseburg has no self designated freight routes.

Chapter 7 provides a freight plan and proposed freight routes for the City of Roseburg.

Railroad Crossings

The existing conditions including deficiencies in the rail system are presented in Chapter 3. All railroad crossings in Roseburg are at-grade crossings, and the railroad crosses several arterials in Roseburg. This can have a significant impact on automobile traffic. When trains block traffic on arterials, significant queuing of vehicles result and no alternate routes for traffic or emergency vehicles exist. As Roseburg grows, and subsequently the demand on the transportation system grows, this will have serious repercussions. Eventually one or more crossings may need to be modified to a separated-grade crossing.

Occasionally, long delays are encountered by autos, pedestrians, and cyclists in downtown Roseburg because of the current location of the railroad's switching yards, combined with the aforementioned lack of grade-separated crossings. Changes in operating procedures in the past have improved this situation, and may be able to do so in the future, but the potential remains for long interruptions as long as the switching yards remain in the downtown area.

The *Oregon Rail Plan* identifies actions that can be taken by local governments to mitigate conflicts between rail and vehicular traffic, and to improve access to freight facilities. These actions include:

- Avoid or minimize the number of future railroad at-grade crossings when new streets are planned for growing portions of the community.
- Avoid creating intersections of major streets and railroads where possible.
- Locate new parallel streets at least 500 feet from the railroad to allow for industrial development between the tracks and the highway.
- Plan community development (particularly residential uses) with sensitivity to rail noise and other potential conflicts.

A summary of the railroad deficiencies follows:

- All railroad crossing are at-grade.

- Long delays are experienced by vehicles, pedestrians and bicyclists because of the current location of the railroad's switching yards.
- Emergency vehicles are blocked by railroad at-grade crossings.

Passenger Rail

The existing conditions including deficiencies in the passenger rail system are presented in Chapter 3. Passenger rail service is not directly available in Roseburg; rail passengers can access AMTRAK via the AMTRAK Thruway bus service, which is an extension of the rail service and operates between Eugene and Ashland. Intercity passenger rail service is available in Eugene which lies on the major north/south rail line connecting California with destinations in the Willamette Valley destinations to the north. Two north/south passenger rail service routes are operated by Amtrak in the California-Oregon-Washington corridor, the Coast Starlight route and the Cascades route. The Coast Starlight provides service from Los Angeles, California, serves destinations in the Willamette Valley and then proceeds north to Seattle, Washington. The Cascades route runs from Eugene, Oregon, to Vancouver, British Columbia.

Therefore, the main passenger rail deficiency is that there is no passenger rail service directly available in Roseburg.

Pipelines

The existing conditions including deficiencies in the pipelines system are presented in Chapter 3. The demand for transmission lines will continue to grow as Roseburg's population grows. Other services, such as telecommunications and cable television are subject to frequent technological changes, such that current technology may be obsolete by the end of the planning horizon. The City should work with the various service providers to identify service patterns and utility corridors that make the most sense at the time a need is identified. Chapter 7 provides recommendations for pipelines.

Public Input Identifying Additional Deficiencies

In February of 2005, a Ward IV neighborhood meeting identified numerous public works concerns that are of particular importance to transportation issues. Major concerns included the lack of sidewalks and concerns about pedestrian safety and children walking to school, and the poor condition of pavement and sidewalks in some areas. Speeding of motor vehicles was another significant concern, with questions asked about enforcement, traffic calming alternatives and potential signage. Some of the concerns related to transportation deficiencies include:

- Mill Street/Pine Street Area – poor condition of streets and sidewalks
- Kane Street & Hawthorne Drive – request for a 4-way stop at intersection
- Cobb Street, Roberts Avenue, and Waite Avenue – inquires about the plan for sidewalk repairs

- Request for speed humps on Cobb Street
- Potential for widening Cobb Street
- Speeding on Lincoln Street – request for traffic calming and additional enforcement
- Main Street from Booth Avenue to Southgate Market – poor condition of street, lack of drainage sidewalks
- Templin Park – no or poor sidewalks and drainage
- Main Street, Vicinity of Booth Avenue – no existing curb and gutter, runoff is flooding basements
- Mill Street and Pine Street area – access from Spruce Street across ODOT streets – Oak and Washington, when train blocks access to Stephens Street and Pine Street
- Bridge across Deer Creek
- Mill Street and Pine Street area – drainage problem in alley; properties set in low spot, lower than street and alley, results in flooding in yards

In the long-term, the concerns expressed at the meeting confirmed the need in Roseburg for an updated storm drainage master plan, and developing a traffic calming program, 10-year pavement management plan and 10-year sidewalk plan.

During the TSP Kick-Off meeting, residents commented on the following traffic issues and needs in the City of Roseburg. A summary of the issues and needs are provided below:

General Roadway

- Build citywide infrastructure
- North-South arterial connectivity
- Coordinate signals

Specific Roadway Concerns

- Bridge between Diamond Lake Boulevard and Harvard Avenue
- Bridge at Portland Avenue
- Harvard Bridge to Charter Oaks
- Extend Rifle Range Street to connect to Diamond Lake Boulevard
- Coordinate signals along Diamond Lake Boulevard and Harvard Avenue
- Traffic calming: Valley View Avenue, Lincoln Street, and Keasey Street
- Dual left-turn lanes exiting mall

School Safety

- Speed in school zones (Harvard Avenue)
- No passing in school zones
- Red light running near Fir Grove School

- Sidewalks needed to Eastwood Elementary

Transit

- Need service to neighborhoods
- More reliable schedule
- Increased number/improved bus shelters
- Bus pullouts
- Park-and-rides at the edge of town
- Greyhound station in more accessible location

Bicycle and Multi-Use Path

- Practical, interconnected bicycle network
- Wider bicycle lanes and/or bicycle friendly gutters and drainage grates
- More bicycle signage, striping, and marking
- Citywide bicycle network map available for public
- Security/emergency system along bicycle and multi-use path routes
- Bicycle and pedestrian crossings over busy roadways
- Multi-use path connections to waterfront

Rail

- Downtown switching yard causes trains to back-up and block traffic

General

- Install more energy efficient street lighting
- Downtown parking issues, explore incentive/cost management program
- Adopt-a-street program

Street Connectivity

Community Design to Address Aesthetics and Physical Activity[25]

"Changes in the community environment to promote physical activity may offer the most practical approach to prevent obesity or reduce its co-morbidities. Restoration of physical activity as part of a daily routine represents a critical goal."

– Dr. Jeffrey Koplan and Dr. William Dietz, Centers for Disease Control

Many elements of conventional land use planning and design throw up barriers to walking. In many cases it's unpleasant and dangerous to try to walk from work to a restaurant or from home to school. Not only does this force a reliance on the automobile for routine daily travel, it denies residents and workers the important health benefits of regular walking. Roseburg's transportation system must work toward removal of common barriers to walking, and must promote more pedestrian-oriented design and infrastructure which can remove the barriers.

Nearly one in three Americans is obese. Estimated costs of physical inactivity in the United States are $37.2 billion annually. 74% of Americans are not regularly physically active and 28% of those do not get any physical activity at all. Between 1977 and 1995 the number of trips the average American adult took on foot each year dropped 21%. Regular physical activity reduces the risk of developing diabetes, high blood pressure and colon or breast cancer. Regular physical activity lowers blood pressure, helps build and maintain healthy bones, muscles and joints, and promotes psychological well-being. Studies show people are less willing to walk in their neighborhoods when they have to deal with stresses like traffic congestion, noise and the threat of violence. Communities that develop pedestrian and bicycle-friendly infrastructure with links to destinations of interest have more physically active residents. Communities that build bicycling and walking trails, support exercise programs, and provide public areas such as parks and sidewalks can boost the physical activity levels of residents.

Regular physical exercise is a vital part of maintaining health and well being. Yet American's are walking an average of eight miles less per day than our forebearers. Instead, our time is spent behind the wheel. On average, U.S. households make 12 auto trips a day. One-fourth of all trips are less than one mile, yet three-fourths of these trips are made by car. Car dependence is damaging our health. Poor diet and lack of exercise is now second only to cigarette smoking as a leading cause of death in the United States. To the extent that this plan can promote walking or cycling for many trips, the health of Roseburg's citizens will be improved and the need for expensive transportation solutions reduced.

The design of cities, neighborhoods, and transportation systems often discourage walking, bicycling, or other activities that would help more Americans reach the recommended 30 minutes each day of moderately intense physical activity. Health professionals, planners and policy makers want to know how to design neighborhoods and workplaces that make it easier for people to get up and get active.

[25] Text and information provided by the City of Roseburg, May 25, 2006.

This research summary gives a synopsis of the current state of peer-reviewed research into what makes a community "walkable" or "bikeable," so people can get physical activity as part of their daily routine—what is known as active living. Companion research summaries outline findings on the environments that encourage people to be active in their leisure time, and on the environmental influences on childhood obesity.

Planning, community design, and health behavior studies consistently find that the way communities are built influences whether people drive, take transit, walk, or bicycle to get where they are going.

Proximity and connectivity create walkable neighborhoods[26]

Many factors determine whether it is possible to walk or bike to destinations near home. The best researched elements are proximity—having destinations nearby to walk to—and connectivity— safe and direct ways to make the trip. Proximity is usually measured through the mix of homes, shops, schools, and other destinations. Density is an important measure because more compact places support a richer mix of destinations near home. Connectivity is measured by whether the street network provides direct routes and whether facilities provide safe connections for pedestrians and bicyclists. Community audit tools show promise in accurately assessing walkability, and can be useful to policy-makers.

- People are more likely to commute to work on foot or via bicycle if they live in a city center, live close to a non-residential building, live very close to a grocery or drug store, and have good access to public transportation.
- 'Grid' street networks can increase biking and walking by reducing trip distances, offering alternative pathways, and slowing automobile traffic.
- People living in areas where more of the street network is a grid take more trips on foot.

Grid street networks create more direct routes and make walking easier[27]

From Health and Community Design, L.D. Frank

Active people tend to choose walkable neighborhoods, but studies show more is at work. And demand for walkable communities is widespread.

- Regardless of their stated travel preferences, people in higher-density areas with pedestrian-friendly characteristics such as sidewalk continuity and street connectivity took more non-work trips by foot.
- An 11-year study that followed residents in Seattle as they moved found that people shifted some trips to transit, bicycling, and walking as a result of moving into more walkable neighborhoods.

[26] Text and information provided by the City of Roseburg, May 25, 2006.
[27] Text and information provided by the City of Roseburg, May 25, 2006.

- About one-third of residents of low density, single use, low-connectivity environments in the Atlanta region would prefer to live in a more walkable neighborhood.

Walkable neighborhoods mean more trips via foot and bicycle[28]

www.activelivingresearch.org

An analysis of studies in six communities found that on average, residents in highly walkable neighborhoods took twice as many walking trips as people in less walkable neighborhoods. Most of the increase was increased walking for errands or to go to work.

- 56 percent of residents in traditional neighborhoods walked to nearby commercial areas, versus 33 percent of those living in suburban neighborhoods.
- Residents of a walkable neighborhood and a traditional suburban development reported similar levels of physical activity. But the residents in the walkable neighborhood got more of their activity as part of their daily routine, through bicycling and walking when running errands.
- Women over age 70 living in urban neighborhoods with a mix of services and a good pedestrian environment were more likely to walk to local shops than their suburban counterparts.

Walkable communities have a positive impact on health[29]

www.activelivingresearch.org

- People who live in neighborhoods with a mix of shops and businesses within easy walking distance have a 35 percent lower risk of obesity.
- On average, people in highly walkable neighborhoods take one or two more walking trips per week than those living in places with poor walkability. This additional 15 to 30 minutes of walking per week means a 150 pound person expends the energy equivalent of about one extra pound per year.
- A national study of 448 metropolitan counties found that people living in compact, higher-density counties walk more, weigh less and are less likely to be obese or have hypertension than people living in more sprawling counties.
- People in more compact metropolitan areas suffer from significantly fewer chronic medical conditions than their counterparts in more sprawling regions.
- Among middle-aged men, walking or bicycling to work was associated with lower weight and less weight gain, whether or not the men engaged in more vigorous forms of exercise.

Walkable neighborhoods encourage active living[30]

[28] Text and information provided by the City of Roseburg, May 25, 2006.
[29] Text and information provided by the City of Roseburg, May 25, 2006.

The research shows clearly that people walk and bicycle more in neighborhoods that have mixed use, higher density, connected streets, and pedestrian facilities. A January 2005 joint report of the Transportation Research Board and Institute of Medicine also concluded "the available empirical evidence shows a linkage between the built environment and physical activity." Current research is exploring the details of walkable design and the impact on young people, older adults, people with lower incomes, and those with disabilities. While the studies conducted to date have limitations, the consistency of the findings indicates that designing communities for active living is a promising avenue for increasing physical activity.

Pavement Condition

Chapter 3 provides the existing conditions and deficiencies of roadway pavement condition. The road pavement type in Roseburg is almost entirely asphalt and ranges in condition from very good (new streets) to very poor (potholes and major cracking). All sidewalks and curbs are concrete. Pavement conditions were rated using ODOT's pavement condition guidelines, as explained in Chapter 3.
Appendix A provides a detailed tabulation of pavement conditions by road segment.

The streets having one or more segments in very poor condition include:

- Blakeley Avenue
- Blossom Avenue
- Brewer Lane
- Brooklyn Avenue
- Davis Lane
- Erie Street
- Flint Street
- Floed Avenue
- Frontier Lane
- Grandview Drive
- Hall Avenue
- Hamilton Street
- John Street
- Joseph Street
- Malheur Avenue
- Military Avenue
- Neuner Drive
- Ohio Avenue
- Pearce Road
- Scofield Avenue
- Shick Avenue
- Stone Avenue
- Wide Avenue

Bridges

Chapter 3 provides the existing conditions and deficiencies for bridges. As shown in Table 3-15, no City owned bridges fall in the Serious Condition or worse category. However, bridge Number 26T04 (Jackson Street over Deer Creek) has a superstructure rating of Poor and a deck rating of Fair. Other bridges with fair ratings include: Bridge Number 26T01 (NW Stewart Parkway over Newton Creek) for deck rating, Bridge Number 26T03 (Douglas Avenue over Deer Creek) for deck, substructure, and channel ratings, Bridge Number 26T05 (Stewart Park Road over S. Umpqua River) for superstructure rating, and Bridge Number 26TT08A (NW Keasey Street over Newton Creek) for channel rating. These bridges should either be attended to or carefully watched for further deterioration. In addition, Douglas Avenue Bridge over Deer Creek is weight restricted.

[30] Text and information provided by the City of Roseburg, May 25, 2006.

Chapter 5: Future Demand, Deficiencies, and Needs

Forecasting Methodologies for Intersection and Roadway Segment Analysis

The purpose of this section is to describe the future traffic forecast methodology and assumptions used for future forecasting and analysis of intersections and roadway segments for the City of Roseburg Transportation System Plan.

The Transportation System Plan for Roseburg addresses the transportation system deficiencies and additional facilities that will be needed to serve future traffic growth. Working in cooperation with the City of Roseburg, ODOT has developed a travel demand model which will be refined through the TSP planning process. This travel demand model translates assumed land uses into person travel, selects modes and assigns roadway traffic volume projections to the roadway network. These traffic volume projections form the basis for identifying potential roadway deficiencies and for evaluating transportation improvement alternatives. This section describes the forecasting process, including key assumptions and the land use scenario developed. Future changes of the land use development variables will change the future travel forecast. Included in the section is also a discussion of performance measures by various jurisdictions that would be used to assess traffic operations.

Projected Land Uses and Travel Demand Model

Land use is a key component in developing a functional transportation system. Understanding the amount, type, and mix of land use is critical to taking actions to maintain or enhance the transportation system.

Projected land uses were developed for areas within the Roseburg UGB including proposed UGB expansions by the City of Roseburg, ODOT, and the Department of Land Conservation and Development (DLCD). The City of Roseburg, DLCD, and ODOT are examining potential expansions of the UGB as part of the TSP planning process.

For travel forecasting, the land use data is stratified into geographical areas called transportation analysis zones (TAZ's) which represent the sources of vehicle trip generation. The TAZs for Roseburg are shown in Figure 5-1 and the summary of land use by TAZ for the base model year (2000) and future model year (2025) is shown in Table 5-1. The potential expansion of the UGB is likely to occur in TAZ 52 and a few additional TAZ areas as identified by the City of Roseburg. All of the areas for model expansion are expected to occur in areas covered by the City of Roseburg's transportation model developed by the ODOT's Transportation Planning and Analysis Unit. However, analysis of the expanded UGB requires adjustments to the Roseburg transportation model which was modeled by ODOT. This discussion of the future model runs with projected development for UGB expansions is presented later in this chapter under UGB Expansions.

The future travel demand modeling was conducted by ODOT's Transportation Planning Analysis Unit (TPAU). A summary of the future base year 2000 and future year 2025 land uses from the Roseburg travel demand model is provided in Table 5-2.

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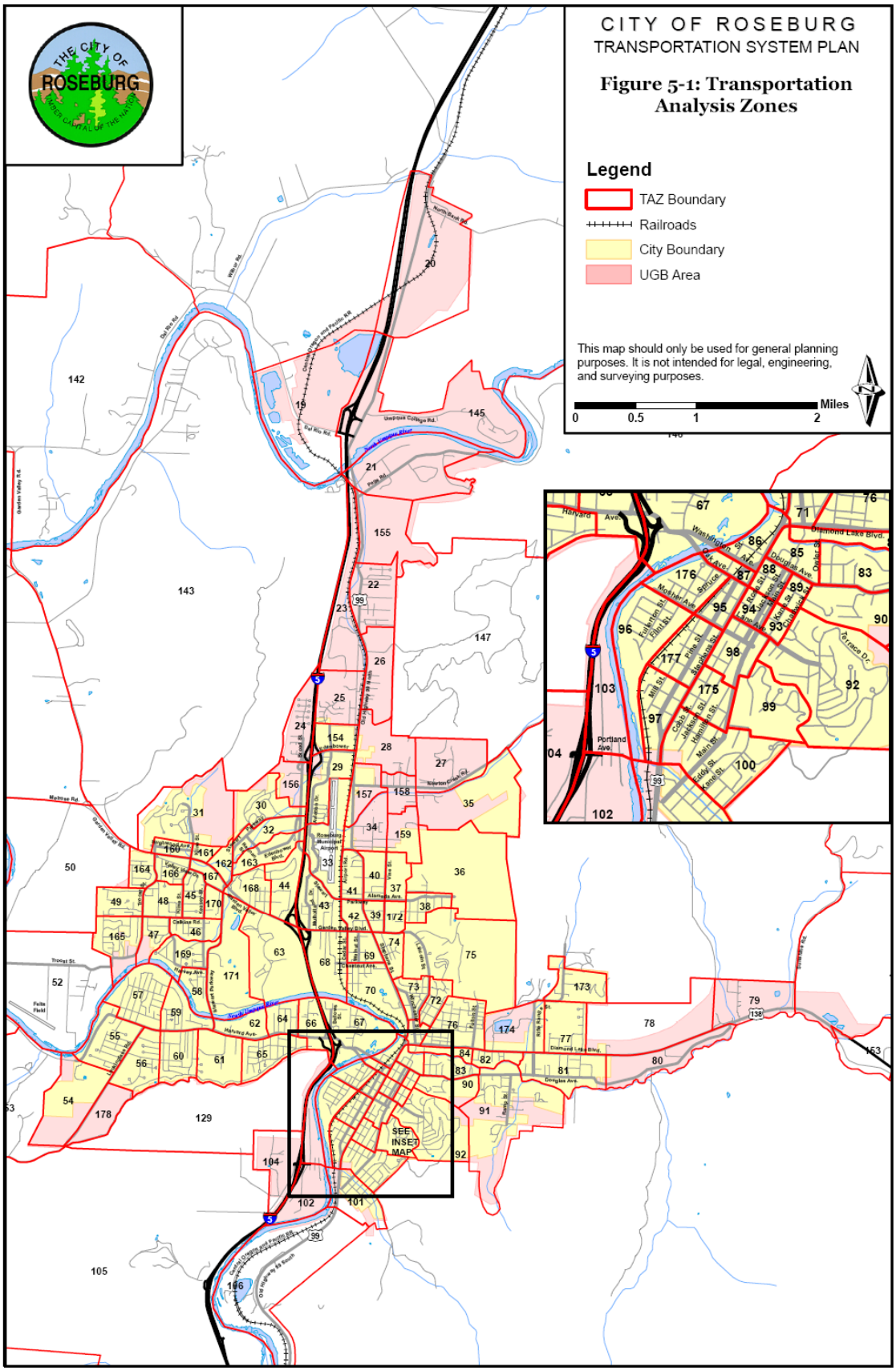
CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 5-1: Transportation Analysis Zones
Legend
TAZ Boundary
Railroads
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
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SEE INSET MAP

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Table 5-1. Summary of Base and Future Year TAZ Land Use[31]

TAZ	2000			2025		
	Household	Population	Employment	Household	Population	Employment
20	3	8	250	3	8	1031
21	395	703	36	493	834	154
22	280	629	22	435	928	148
23	80	114	84	87	118	583
24	232	481	24	297	584	44
25	226	414	22	271	472	34
26	60	147	34	166	387	505
27	120	572	15	242	1098	47
28	75	167	11	271	574	126
29	164	300	11	169	293	276
30	0	0	1085	12	30	1149
31	162	443	10	890	2313	10
32	124	579	415	124	550	868
33	0	0	573	0	0	621
34	414	887	191	434	883	298
35	52	139	0	516	1310	38
36	65	156	6	798	1819	36
37	0	0	86	0	0	86
38	234	548	26	247	549	26
39	105	89	262	107	86	269
40	255	626	220	262	611	285
41	85	140	322	87	137	395
42	0	0	398	0	0	422
43	153	356	430	160	354	458
44	16	35	504	26	55	525
45	138	348	38	141	339	38
46	129	310	1	198	453	1
47	72	193	3	116	295	4
48	95	257	41	95	244	41
49	99	278	9	240	640	63
54	17	41	14	834	1911	142
55	184	409	14	205	433	52
56	360	871	107	518	1191	123
57	385	911	33	412	925	33
58	49	126	12	82	202	12
59	169	330	277	181	335	289
60	249	590	113	250	563	129
61	119	346	606	127	351	722
62	107	3246	54	225	6478	80

[31] TAZ Land Use data provided by Transportation Planning and Analysis Unit, Oregon Department of Transportation.

TAZ	2000			2025		
	Household	Population	Employment	Household	Population	Employment
63	35	1820	1198	35	1730	2792
64	96	217	126	116	248	126
65	218	517	231	233	525	269
66	163	511	342	183	544	366
67	133	312	740	142	317	962
68	66	149	296	102	218	338
69	26	67	446	29	72	519
70	107	276	152	114	279	229
71	59	121	235	64	124	255
72	99	209	3	124	250	19
73	147	317	97	176	360	139
74	32	94	298	68	189	327
75	114	305	0	602	1531	16
76	293	705	106	363	831	303
77	116	310	135	230	585	330
78	1	0	21	13	0	561
79	36	92	255	54	132	428
80	26	67	19	29	72	568
81	262	723	149	283	742	398
82	22	58	172	22	55	267
83	151	345	115	288	626	126
84	15	23	230.6	15	22	248
85	19	269	716.2	19	256	719
86	16	37	68.7	16	35	102
87	0	0	155.5	0	0	170
88	0	0	345.1	0	0	345
89	2	3	342.4	2	3	342
90	50	107	3	123	250	84
91	196	477	86	520	1203	132
92	185	422	2	215	466	3
93	21	36	119	21	34	122
94	27	33	413.9	27	31	417
95	0	0	329.6	0	0	334
96	95	253	14.1	101	255	135
97	90	252	130.3	105	279	146
98	163	333	66.4	165	321	73
99	88	207	0	229	511	0
100	250	628	48.6	322	768	66
101	92	248	70.2	116	298	74
102	0	0	24	0	0	68
103	37	98	0	38	96	26
104	22	62	0	34	90	71

TAZ	2000			2025		
	Household	Population	Employment	Household	Population	Employment
145	10	26	553	251	621	640
149	25	69	95	54	141	475
154	12	22	13	14	25	253
155	285	594	31	383	759	31
156	100	207	81	165	324	101
157	75	167	117	123	261	138
158	250	554	12	270	568	19
159	48	103	0	244	498	0
160	0	0	209	0	0	329
161	0	0	49	0	0	110
162	0	0	552	0	0	613
163	48	105	275	48	100	275
164	198	556	1	233	621	1
165	206	577	5	381	1015	5
166	63	170	64	68	173	118
167	0	0	142	0	0	168
168	97	212	266	194	403	287
169	194	500	19	227	557	22
170	32	77	291	32	73	292
171	0	0	108	0	0	284
172	165	368	52	220	467	52
173	15	40	1	282	713	1
174	8	21	94	8	20	600
175	108	221	109.6	110	215	119
176	100	322	175.9	106	324	213
177	136	381	93.1	151	402	109
178	19	46	0	177	407	0
Total	**11,236**	**31,830**	**18,069**	**18,798**	**51,389**	**28,432**

Table 5-2. Model Land Use Summary in Roseburg UGB

	Base Year 2000	Future Year 2025	Increase	Percent Increase
Households	11,236	18,798	7,562	67 %
Population	31,830	51,389	19,559	61 %
Employment	18,069	28,432	10,363	57 %

Year 2025 PM Peak hour traffic forecasts from the Roseburg transportation model were developed with future proposed UGB expansions. The future base roadway network includes existing roads plus major funded transportation improvement projects impacting the model network.

Future Traffic Volume Forecasts

The future PM peak hour traffic forecast volumes from the Roseburg transportation model was post-processed to estimate future year 2025 traffic volumes. The ODOT model is based on the PM peak hour since this time period contains the highest traffic volumes and represents a “worst case” scenario. The travel forecast volumes were adjusted by using the methodology outlined in the National Cooperative Highway Research Program (NCHRP) Report 255 (National Academy of Sciences). The projected traffic growth between the base model and future model was estimated for each study intersection and roadway using ODOT’s travel demand forecasting mode for Roseburg. The projected traffic growth rate per year was estimated, and a 20-year growth factor per intersection approach was calculated and applied to the existing counts to forecast the future 2025 traffic volumes. These 2025 forecasted traffic volumes were balanced between intersections and the projected growth was compared to the difference in volume between the base and future models.

Operations Analysis Methodology and Performance Indicators

Two primary measures of effectiveness were used to assess the traffic operational performance of the study area intersections: volume-to-capacity (v/c) ratios and level of service (LOS) as described in Chapter 4. For roadway segments, v/c ratios were used to analyze the performance of the roadway segment. Volume-to-capacity is the ratio of peak hour traffic volume to the maximum hourly volume of vehicles that a roadway section can accommodate (capacity). In other words, v/c measures the percentage of capacity of the roadway section that is being used during the peak hour. When the v/c exceeds 1.0, auto demand exceeds the capacity of the facility to serve that demand. Level of service is a grade given to various ranges of delay, with a grade of ‘A’ representing ideal operations with minimal delay, and ‘F’ representing unacceptable conditions with high delay. For at-grade signalized intersections, LOS is measured by average delay which is the average amount of

time a vehicle must wait at an intersection. Chapter 3 provides a summary of the level of service grades and definitions.

A future 2025 traffic analysis model of the study area intersections was developed in Synchro, a traffic analysis software package which utilizes the 2000 *Highway Capacity Manual* methodology and reports v/c ratios, average vehicle delay, LOS, and 95th percentile queue lengths (as described in Chapter 4).[32]

Currently, the City of Roseburg has no current operational mobility standards. ODOT and Douglas County uses volume-to-capacity ratios for their performance standard. The Douglas County performance standards for a given route vary based on the urban or rural nature, speeds, and surrounding land use designations. The County's v/c performance standards by roadway classification are summarized in Table 5-3.

To determine future deficiencies, the mobility standards from the 1999 Oregon Highway Plan (OHP) for state facilities and Douglas County for County facilities were used to assess the future 2025 no-build transportation conditions. ODOT's mobility standard is a v/c ratio for intersections and segments. The OHP standards were used for the No Build and Oregon Highway Design Manual standards were used for build alternatives analyzed in Chapters 6 and 7 for state facilities. In addition, a level of service standard of D was used to identify intersection deficiencies for the Roseburg Transportation System Plan. Applicable v/c ratios are identified for all intersections analyzed.

As described in Chapter 4, the OHP provides mobility standards for state highways based on the Oregon Highway Plan and shown in Table 5-4. City of Roseburg performance standards are shown in Table 5-5.

Table 5-3. Douglas County Performance Standards

Roadway Category	V/C
Principal Highway	0.70
Arterial	0.85
Major Collector	0.90
Minor Collector	0.95
Necessary Local	0.95

[32] *Highway Capacity Manual 2000*, Transportation Research Board, Washington, D.C., 2000.

Table 5-4. ODOT Mobility Standards (v/c ratio) by Type of Facility

Highway Category	Land Use Type/Speed Limits						
	Inside Urban Growth Boundary					Outside Urban Growth Boundary	
	STAs	MPO	Non-MPO outside of STAs where non-freeway posted speed <= 35 mph, or a Designated UBA	Non-MPO outside of STAs where non-freeway speed > 35 mph	Non-MPO where non-freeway speed limit >= 45 mph	Unincorporated Communities	Rural Lands
Interstate Highways	N/A	0.80	N/A	0.70	0.70	0.70	0.70
Statewide Expressways	N/A	0.80	0.70	0.70	0.70	0.70	0.70
Freight Route on a Statewide Highway	0.85	0.80	0.80	0.75	0.70	0.70	0.70
Statewide (not a freight Route)	0.90	0.85	0.85	0.80	0.75	0.75	0.70
Freight Route on a Regional or District Highway	0.90	0.85	0.85	0.80	0.75	0.75	0.70
Expressway on a Regional or District Highway	N/A	0.85	N/A	0.80	0.75	0.75	0.70
Regional Highways	0.95	0.85	0.85	0.80	0.75	0.75	0.70
District / Local Interest Roads	0.95	0.90	0.90	0.85	0.80	0.80	0.75

Table 5-5. City of Roseburg Performance Standards

ROADWAY CATEGORY	V/C/LOS
Arterial	0.85/LOS D or E
Collector	0.85/LOS D or E
Local Street	0.90/LOS D or E
Downtown Arterial	0.95/LOS E
Downtown Collector	0.95/LOS E

Note: LOS D used at signalized intersections. LOS E used at unsignalized intersections.

The transportation system alternatives developed in Chapters 6 and 7 to mitigate transportation system deficiencies utilize the v/c standards included in the Oregon Highway Design Manual and provided in Table 5-6.

Table 5-6. Mobility Standards for Mitigation Alternatives – Oregon Highway Design Manual

Highway Category	Land Use Type/Speed Limits					
-	Inside Urban Growth Boundary				Outside Urban Growth Boundary	
	STA's	MPO	Non-MPO outside of STA's where non-freeway speed limit < 45 mph	Non-MPO where non-freeway speed limit >= 45 mph	Unincorporated Communities	Rural Lands
Interstate Highways and Statewide (NHS) Expressways	N/A	0.75	0.70	0.65	0.60	0.60
Statewide (NHS) Non-Freight Routes and Regional or District Expressways	0.90	0.80	0.75	0.70	0.60	0.60
Regional Highways	0.95	0.85	0.75	0.75	0.70	0.65

Future Intersection Operations

For future intersection operations, the peak hour factors (PHF's) were agreed upon by the City of Roseburg and ODOT (consistent with the *ODOT TSP Guidelines, 2001*) as described in the City of Roseburg TSP scope of work. The PHF of 0.85 was assumed for local and collector streets, 0.90 for minor arterials, and 0.95 for major arterials. Most of the study area intersections used a peak hour factor of either 0.90 or 0.95 for future intersection operations analysis.

The result of the intersection capacity analysis for the 2025 no-build scenario is shown in Table 5-7. As described in Chapter 4 and earlier in this chapter, the traffic analysis was based on the methodology in the *2000 Highway Capacity Manual*. As a comparison, Table 5-3 and Table 5-4 also shows the mobility standards for the appropriate jurisdiction (ODOT or County). Since the City of Roseburg does not currently have mobility standards, the City of Roseburg intersections utilize the County's mobility standards plus a LOS D criteria.

Table 5-7. Future (2025) No-Build Peak Hour Volume-to-Capacity and Level of Service

Unsignalized Intersections		Major/Minor Street LOS	Highest V/C	Highest Delay (seconds/vehicle)	Mobility Standard
Major Street	**Minor Street**				
Diamond Lake Blvd	Douglas Ave	A/D	0.27 (Major St.)	30 (Minor St.)	0.80
Diamond Lake Blvd	**Fulton Street**	**B/F**	**>1.00 (Minor St.)**	**280 (Minor St.)**	**0.80**
Douglas Ave	**Jackson Street**	**A/F**	**>1.00 (Minor St.)**	**400 (Minor St.)**	**0.95 / LOS E**
Douglas Ave	Ramp Street	A/C	0.40 (Minor St.)	20 (Minor St.)	0.90
Douglas Ave	Rifle Range Street	A/B	0.30 (Minor St.)	10 (Minor St.)	0.90
Garden Valley Blvd	**Melrose**	**C/F**	**>1.00 (Minor St.)**	**>500 (Minor St.)**	**0.95**
Harvard Avenue	**Lookingglass Road**	**B/F**	**>1.00 (Minor St.)**	**>500 (Minor St.)**	**0.85 / LOS E**
Edenbower Blvd	**I-5 NB on/off ramps (MP 127)**	**F/F**	**>1.00 (Minor St.)**	**>500 (Minor St.)**	**0.85**
Oak Ave	Jackson Street	B/B	0.47 (Major St.)	10 (Major St.)	0.95 / LOS E
Pine Street	**Mosher Ave**	**A/F**	**>1.00 (Minor St.)**	**>500 (Minor St.)**	**0.95 / LOS E**
Stephens Street	**Chestnut Ave**	**C/F**	**>1.00 (Minor St.)**	**>500 (Minor St.)**	**0.85 / LOS E**
Stephens Street	**Mosher Ave**	**A/F**	**>1.00 (Minor St.)**	**>500 (Minor St.)**	**0.95 / LOS E**
Old Highway 99	**Del Rio Road**	**F/F**	**>1.00 (Minor St.)**	**>500 (Minor St.)**	**0.85**
Troost Street	Calkins Road	B/A	0.42 (Major St.)	20 (Major St.)	0.90 / LOS E
Washington Ave	Jackson Street	B/E	0.94 (Minor St.)	50 (Minor St.)	0.95 / LOS E
Douglas Ave	**Kane Street**	**B/F**	**>1.0 (Minor St.)**	**>500 (Minor St.)**	**0.95 / LOS E**
Signalized Intersections		**LOS**	**V/C**	**Delay (seconds/vehicle)**	**Mobility Standard**
Major Street	**Minor Street**				
Edenbower Blvd *	**I-5 SB on/off ramps (MP 127)**	**D**	**>1.00**	**50**	**0.85**
Edenbower Blvd *	Aviation Drive	B	0.74	20	0.85
Diamond Lake Blvd *	Rifle Range Street	B	0.78	20	0.80
Garden Valley Blvd	**Troost Street**	**C**	**0.92**	**20**	**0.85**
Diamond Lake Blvd	**Jackson Street/Winchester Ave**	**F**	**>1.00**	**110**	**0.80**
Garden Valley Blvd	**Cedar Street/Airport Road**	**F**	**>1.00**	**115**	**0.85 / LOS D**
Garden Valley Blvd	**Kline Street**	**F**	**>1.00**	**185**	**0.85 / LOS D**
Harvard Avenue	**Stewart Parkway**	**F**	**>1.00**	**300**	**0.85 / LOS D**
Garden Valley Blvd/Mulholland Drive	**I-5 NB off-ramp (MP 125)**	**F**	**>1.00**	**250**	**0.85**
Garden Valley Blvd	**I-5 SB off-ramp (MP 125)**	**D**	**>1.00**	**50**	**0.85**
Harvard Avenue	**I-5 NB on/off ramps (MP 124) and School Entr.**	**F**	**>1.00**	**500**	**0.80**
Harvard Avenue	**I-5 SB on/off ramps (MP 124) and Bellows St.**	**F**	**>1.00**	**300**	**0.80**
Pine Street	Oak Ave	B	0.66	20	0.95 / LOS E
Pine Street	**Washington Ave**	**F**	**>1.00**	**100**	**0.95 / LOS E**
Stephens Street	Diamond Lake Blvd	E	> 1.00	61	0.80
Stephens Street	**Douglas Ave**	**C**	**0.88**	**50**	**0.95 / LOS E**
Stephens Street	**Edenbower Blvd**	**D**	**>1.00**	**50**	**0.85 / LOS D**
Stephens Street	**Garden Valley Blvd**	**F**	**>1.00**	**250**	**0.85 / LOS D**
Stephens Street	**Newton Creek Road**	**F**	**>1.00**	**100**	**0.85 / LOS D**
Stephens Street	**Oak Ave**	**C**	**0.91**	**50**	**0.95 / LOS E**
Stephens Street	**Stewart Parkway/Alameda Ave**	**F**	**>1.00**	**100**	**0.85 / LOS D**
Stephens Street	**Washington Ave**	**B**	**0.82**	**20**	**0.95 / LOS E**
Stewart Parkway	**Airport Road**	**F**	**0.98**	**100**	**0.85 / LOS D**
Stewart Parkway	**Aviation Drive/Mulholland Drive**	**F**	**>1.00**	**150**	**0.85 / LOS D**
Stewart Parkway	**Edenbower Blvd**	**F**	**>1.00**	**300**	**0.85 / LOS D**
Stewart Parkway	**Garden Valley Blvd**	**F**	**>1.00**	**200**	**0.85 / LOS D**
Stewart Parkway	**Harvey**	**F**	**>1.00**	**100**	**0.85 / LOS D**
Stewart Parkway	**WalMart Entrance**	**C**	**>1.00**	**50**	**0.85 / LOS D**
Washington Ave	Madrone Street	E	0.80	50	0.80
Harvard Avenue	Stewart Park Drive	B	0.77	15	0.85 / LOS D

* These Projects are funded and under design and are assumed to be built by 2025

Note: Mobility standards for downtown district intersections and unsignalized intersections are presented in Chapter 7.

*Bold represents instances where the mobility standard is not met.

The 2025 no-build operations analysis shows that the following unsignalized and signalized intersections will operate inadequately in the future without roadway network and intersection improvements. This shows that these intersections will have deficient capacity for the future projected growth and will require improvements in the next 20 years.

Study Unsignalized Intersections with Capacity Deficiencies

- Diamond Lake Boulevard and Fulton Street
- Douglas Avenue and Jackson Street
- Garden Valley Boulevard and Melrose
- Harvard Avenue and Lookingglass Road
- Edenbower Blvd. and I-5 NB on- and off- ramps (MP 127)
- Pine Street and Mosher Avenue
- Stephens Street and Chestnut Avenue
- Stephens Street and Mosher Avenue
- Old Highway 99 and Del Rio Road
- Douglas Avenue and Kane Street

Study Signalized Intersections with Capacity Deficiencies

- Edenbower Boulevard and I-5 SB on- and off- ramps (MP 127)
- Diamond Lake Boulevard and Jackson Street/Winchester Street
- Garden Valley Boulevard and Cedar Street/Airport Road
- Garden Valley Boulevard and Kline Street
- Garden Valley Boulevard and Troost Street
- Harvard Avenue and Stewart Parkway
- Garden Valley Boulevard/Mulholland Drive and I-5 NB off-ramp (MP 125)
- Garden Valley Boulevard and I-5 SB off-ramp (MP 125)
- Harvard Avenue and I-5 NB on- and off-ramp (MP 124)/High School Entrance
- Harvard Avenue and I-5 SB on- and off-ramp (MP 124)/Bellows Street
- Pine Street and Washington Avenue
- Stephens Street and Diamond Lake Boulevard
- Stephens Street and Douglas Avenue
- Stephens Street and Edenbower Boulevard
- Stephens Street and Garden Valley Boulevard
- Stephens Street and Newton Creek Road
- Stephens Street and Oak Avenue

- Stephens Street and Stewart Parkway/Alameda Avenue
- Stephens Street and Washington Avenue
- Stewart Parkway and Airport Road
- Stewart Parkway and Airport Rd
- Stewart Parkway and Aviation Drive/Mulholland Drive
- Stewart Parkway and Edenbower Boulevard
- Stewart Parkway and Garden Valley Boulevard
- Stewart Parkway and Harvey Avenue
- Stewart Parkway and Wal-Mart Driveway

Signal Warrants 2025

A Signal Warrant analysis was conducted for the future 2025 traffic forecast volumes for the unsignalized study intersections. Signal Warrant 1, Eight-Hour Vehicular Volume, from 2003 *Manual of Uniform Traffic Control Devices* (MUTCD), Section 4C.02, was conducted for all unsignalized study intersections. The traffic volumes from the eight highest hours (estimated by applying traffic growth from models to the existing counts for eight hours) were used. Signal Warrant 1 is met when all eight hours meet or exceed the minimum vehicles per hour on the major street.[33]

The results of the Signal Warrant Analysis are summarized in Table 5-8.

[33] Manual on Uniform Traffic Control Devices for Streets and Highways, 2003 edition, US Department of Transportation, Federal Highway Administration.

Table 5-8. 2025 Signal Warrant Analysis – Warrant 1*

Intersections (Major/Minor)	Highest V/C Ratio	Warrant 1 Met
	2025	2025
Diamond Lake/Douglas	0.27	NO
Diamond Lake/Fulton	>1.00	YES
Douglas/Jackson	>1.00	YES**
Douglas/Kane	>1.00	YES**
Douglas/Ramp	0.40	NO
Douglas/Rifle Range	0.30	NO
Garden Valley/Melrose	>1.00	YES**
Harvard/Lookingglass	>1.00	YES
Edenbower Blvd/I-5 NB	>1.00	YES**
Oak/Jackson	0.47	NO
Pine/Mosher	>1.00	YES**
Stephens/Chestnut	>1.00	YES
Stephens/Mosher	>1.00	YES**
Old Highway 99 /Del Rio	>1.00	YES
Troost/Calkins	0.42	NO
Washington/Jackson	0.94	NO

* Note 1: Meeting preliminary traffic warrants does not guarantee that a signal will be installed. Signal Warrants must be met, and a full investigation be submitted to the State Traffic Engineer for approval and funding be allocated before the installation of a signal on the state highway system.

** Note 2: Intersection met Signal Warrant 1 in the base year.

Signal Warrant 1 was used to evaluate unsignalized study intersections that did not show a need for signal in the base year using projected 2025 traffic volumes on the existing roadway network. The following unsignalized intersections were determined to meet Signal Warrant 1 by 2025:

- Diamond Lake Boulevard and Fulton Street
- Harvard Avenue and Lookingglass Road
- Stephens Street and Chestnut Avenue
- Old Highway 99 and Del Rio Road

In the existing traffic conditions analysis (Chapter 4), following intersections met Signal Warrant 1 and therefore also meet the warrant in 2025:

- Douglas Avenue and Jackson Street
- Garden Valley Boulevard and Melrose Rd
- Edenbower Boulevard and I-5 NB on- and off- ramps

- Pine Street and Mosher Avenue
- Stephens Street and Mosher Avenue
- Douglas Avenue and Kane Street

UGB Expansions – Charter Oaks Sensitivity Analysis

For the future travel demand modeling, adjustments to employment and population growth were made to the transportation demand model by ODOT that represent future UGB expansion locations and magnitude of growth as provided by the City of Roseburg.

A large new proposed development, Charter Oaks, is located in TAZ's 50 and 52, which are just west of the existing Roseburg UGB. The projected growth generated by the proposed development in the Charter Oaks area will have an impact on the existing transportation network of the city.

Several model runs representing a sensitivity analysis for the Charter Oaks area were conducted by ODOT using different land use scenarios to identify effects of the projected development on the transportation network.

The initial impact on the transportation network from any growth generated by this development would be on the major east-west corridors out of the Charter Oaks area, which are Garden Valley Boulevard and Harvard Avenue.

Once the projected growth for this area reaches between eight and twelve thousand population growth, these two east-west corridors of Garden Valley Boulevard and Harvard Avenue will be at or above operational capacity. In addition, at this population growth level, Troost Street and Stewart Parkway (south of Garden Valley Boulevard) will also exceed their capacity.

As the projected population in this area increases further there is even more of a strain on the transportation system network. As the population growth in this area reaches between sixteen and twenty thousand people, the northern portion of Stewart Parkway also exceeds capacities.

Chapter 6: Transportation System Alternatives Development

This chapter briefly describes the process by which improvement projects were identified and prioritized. Several street and intersection, bicycle, pedestrian, transit, and truck freight improvement projects to meet existing and future travel needs are identified in subsequent chapters.

One of the primary considerations in improving the roadway network in Roseburg was the congested area commonly referred to as the "box." The box is comprised of the following streets: Stewart Parkway, Stephens Street, Harvard Avenue, and Garden Valley Boulevard. Stewart Parkway and Stephens Street are the major north-south roadways in the City, and Garden Valley Boulevard and Harvard Avenue are the major east-west roadways. Currently, most traffic traveling any distance, regardless of the destination, will have to travel through the box due to a lack of alternative arterial and collector roadways and connections. As a result, all of the roads comprising the "box" experience significant congestion. Thus, a major focus of the recommended improvements was to improve the operations of these congested roads, provide alternative routes and connections (e.g., new roads and road upgrades), and enhance bike and pedestrian facilities to make non-auto travel more feasible and attractive. Modal improvements outside of the box were often designed to improve access to key activity centers (e.g., shopping areas, schools, parks) and to improve connectivity throughout the City through a more robust network of routes. Finally, traveler safety was also an important consideration in identifying improvement projects (e.g. new turn lanes to improve traffic flows and reduce head-on collisions).

Project Identification

These plans and projects that are described in the next chapters were developed through an iterative process, and were informed by the following sources:

- A review of the system deficiencies, by mode, described in previous chapters of this TSP
- Recommendations from the TAC, which were solicited during a series of meetings
- Recommendations from the City Council, which were solicited during a working session in July, 2005 when a first draft TSP was reviewed
- Input from residents of the City of Roseburg, which was solicited during three public meetings:
    - In December, 2004 residents identified several key transportation issues and needs at a public TSP "kick-off" workshop
    - In May, 2005 residents provided specific project recommendations and edited draft modal plan maps at a public open house
    - In July, 2005 residents were encouraged to comment during a public working session of the City Council
- Input from local agencies and advocacy groups, such as the Roseburg School District, Roseburg Fire Department, Umpqua Transit, Douglas County Global Warming Coalition, and the Umpqua Velo (Bicycling) Club

- Mitigation required by various policies and regulations
- Professional judgment by City and ODOT staff, and the project consultants

Also incorporated into the project improvements are projects in the "Ten Year Capital Improvement Plan" (CIP) that was adopted by the Roseburg City Council in April, 2004.

Project Selection Process

Recognizing that the full set of identified needs and/or desired projects may outstrip available funding or conflict with other projects, it was important to determine which potential projects or groups of projects should be proposed for adoption and potential funding opportunities, and when the projects should be constructed. Several general issues were considered in making these determinations, and in refining the improvements:

- How critical is the need for the project(s)?
- How urgent is that need?
- Is the City meeting its benchmark commitments (e.g., increasing bicycle and pedestrian facilities on arterial and collector streets)?
- Are the projects supportive of the City's land use and other Comprehensive Plan goals (Chapter 9 of this TSP includes new policy recommendations)?
- Does the project(s) support the City's policies for transportation, and if so, how well?
- Does the range of projects include a reasonable mix of representatives from all travel modes?

To address these larger questions, the goals and policies presented earlier in this TSP were used to develop project evaluation criteria to determine which projects would be advanced, and to group projects for short-range and longer-range implementation. An initial list of criteria was developed by the project consultants, and this list was amended and added to by the TAC. Following are the final criteria that were used for prioritizing improvement projects, along with the relative importance that the TAC assigned to each criterion (each TAC member was given three votes to rank the criteria in order of importance):

- Addresses mobility standards/future needs/accommodates future growth (8)
- Improves circulation/provides alternative routes (6)
- Considers aesthetics/sustainability & livability/design standards (6)
- Promotes a balanced transportation system (bikes, pedestrians, transit, dial-a-ride, multi-use paths) (5)
- Enjoys community support (2)
- Improves safety (2)
- Likelihood of available funding (1)

- Reduced impacts on land use, cultural assets and environment, and potential encroachments (0)
- Includes TSM and TDM tools (e.g., traffic signal coordination, access management) (0)
- Promotes energy efficiency (0)
- Capital and operations costs (0)

These criteria were “applied” to each potential improvement project, typically requiring subjective assessments. As this list shows, the TAC placed the highest priority on projects that can improve current mobility and also serve future population and employment growth. The plans and projects that are described in the next chapters were deemed to be the most consistent with these overall priorities and with the TSP goals and objectives.

As determined using input from the TAC, the decision criteria used to prioritize desired project improvement alternatives is as follows in Table 6-1:

Table 6-1. TAC Decision Criteria

Rank	# Votes	Criteria
1	8	Addresses Mobility Standards/Future needs/ability to accommodate future growth
2	6	Improves Circulation/Provides Alternative Routes
2	6	Aesthetics/Sustainability & Livability/Design Standards
4	5	Balanced Transportation System (Bikes, Pedestrians, Transit, Dial-a-Ride, multi-use paths)
5	2	Improves Safety
5	2	Community Support
7	1	Likelihood of Funding
8	0	Capital and Operations Cost
8	0	Includes TSM and TDM tools (Traffic Signal coordination, access management)
8	0	Energy Efficiency

As shown in Table 6-1, the Roseburg technical advisory committee ranked the most important criteria to use in the evaluation of proposed projects follow:

- Addresses mobility standards/future needs/accommodates future growth
- Improves circulation/provides alternative routes
- Considers aesthetics/sustainability & livability/design standards
- Promotes a balanced transportation system (bikes, pedestrians, transit, Dial-a-Ride, multi-use paths

The proposed improvement projects and other modal improvements were developed and compared to the evaluation criteria and scoring by the TAC. The projects that met the

evaluation criteria receiving the highest ranking by the TAC moved forward to the draft improvement project list.

The draft improvements which identified transportation solutions for each travel mode were summarized in technical memorandum #7. After receiving comments on each transportation alternative from the TAC, the draft improvements were revised by the TAC and presented to the public for their review. These improvements were brought in front of the public at an open house in May 2005. The public documented their comments on feedback forms and the City staff recorder was available to register public comments. The transportation alternatives were modified to address public comment including elimination of proposed projects, new project additions and modifications to proposed projects. In July 2005, residents were encouraged to comment during a public working session of the City Council at which time public comment was received regarding the draft improvements. These draft improvements were refined again and in an iterative process, to become the preferred list of alternatives presented in Chapter 7.

Chapter 7: Preferred Alternative

This chapter describes recommended improvements to the roadway, pedestrian, bicycle, public transportation and freight movement systems. These transportation system improvements have been recommended by the technical advisory committee (TAC) to accommodate the City's future transportation needs. The transportation system improvements address the transportation issues identified from stakeholders in the City of Roseburg and address transportation deficiencies identified earlier in this plan.

Recommendations were presented to the TAC and modified based on the input from the TAC. The plan recommendations were presented to the public at a public work session with City Council. The plan recommendations were revised after receiving comments from the public and City Council. These revised plan recommendations were presented to the Public Works and Planning Commission at which time were discussed and voted upon.

These improvements (and other modal improvements, discussed subsequently) were developed and compared to the evaluation criteria and scoring by the TAC. As described in the previous chapter, these criteria include accommodating future growth and meeting mobility standards, circulation, aesthetics, sustainability, balanced transportation system, safety and community support.

Roadway Plan

This section summarizes the roadway plan element of the TSP and provides roadway improvement projects, functional classification, street design standards, neighborhood connections, access management, traffic calming and mobility standards. This section describes recommended 20-year street improvements, including roadway transportation improvements and new proposed roads that are intended to improve local traffic circulation, mobility and relief to parallel routes.

To the extent that these road improvements also improve bicycle and pedestrian mobility, these benefits are described in other chapters of this plan. **Error! Reference source not found.** shows recommended 20-year street improvements. Brief descriptions of these improvements projects are summarized in this section and follow.

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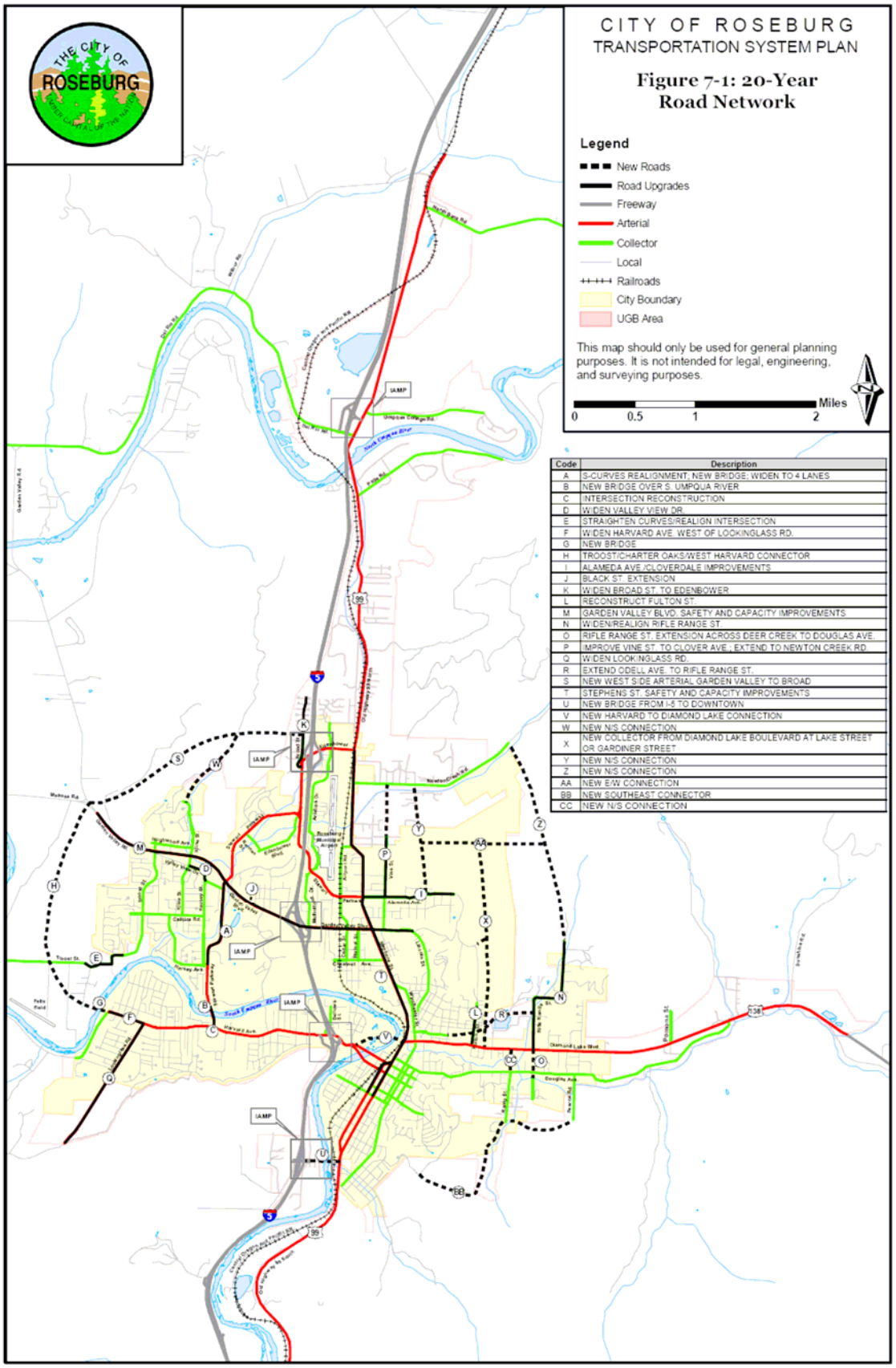

Code	Description
A	S-CURVES REALIGNMENT; NEW BRIDGE; WIDEN TO 4 LANES
B	NEW BRIDGE OVER S. UMPQUA RIVER
C	INTERSECTION RECONSTRUCTION
D	WIDEN VALLEY VIEW DR.
E	STRAIGHTEN CURVES/REALIGN INTERSECTION
F	WIDEN HARVARD AVE. WEST OF LOOKINGLASS RD.
G	NEW BRIDGE
H	TROOST/CHARTER OAKS/WEST HARVARD CONNECTOR
I	ALAMEDA AVE./CLOVERDALE IMPROVEMENTS
J	BLACK ST. EXTENSION
K	WIDEN BROAD ST. TO EDENBOWER
L	RECONSTRUCT FULTON ST.
M	GARDEN VALLEY BLVD. SAFETY AND CAPACITY IMPROVEMENTS
N	WIDEN/REALIGN RIFLE RANGE ST.
O	RIFLE RANGE ST. EXTENSION ACROSS DEER CREEK TO DOUGLAS AVE.
P	IMPROVE VINE ST. TO CLOVER AVE.; EXTEND TO NEWTON CREEK RD.
Q	WIDEN LOOKINGLASS RD.
R	EXTEND ODELL AVE. TO RIFLE RANGE ST.
S	NEW WEST SIDE ARTERIAL GARDEN VALLEY TO BROAD
T	STEPHENS ST. SAFETY AND CAPACITY IMPROVEMENTS
U	NEW BRIDGE FROM I-5 TO DOWNTOWN
V	NEW HARVARD TO DIAMOND LAKE CONNECTION
W	NEW N/S CONNECTION
X	NEW COLLECTOR FROM DIAMOND LAKE BOULEVARD AT LAKE STREET OR GARDINER STREET
Y	NEW N/S CONNECTION
Z	NEW N/S CONNECTION
AA	NEW E/W CONNECTION
BB	NEW SOUTHEAST CONNECTOR
CC	NEW N/S CONNECTION

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Incorporated into the circulation improvements are projects in the "Ten-Year Capital Improvement Plan" (CIP) that is already being implemented by the city, as well as new project improvements. Also, projects and policies in the 123 Interchange Area Management Plan are incorporated by reference into the TSP.
In order to address circulation issues in Roseburg, roadway network improvements were developed to relieve congestion and existing and future transportation deficiencies for the 20-year forecast horizon. A brief project description of the proposed improvement projects are provided below.

A, B, C. Stewart Parkway Improvements: This project includes the proposed improvements (A, B, and C) shown in Figure 7-1 as part of one project. This project is in current design stage and will be built to meet arterial street standards. This project is part of the Roseburg Ten-Year Capital Improvement Plan (CIP).

With anticipated future growth and increased traffic volumes, capacity improvements will be needed for Stewart Parkway. In addition, balancing the transportation system with transportation facilities for other modes including bicycles and pedestrians is key to the transportation system. Without any additional improvements to Stewart Parkway, the roadway with the future growth will not meet mobility standards. In addition, significant safety issues exist at the intersection of Stewart Parkway and Harvard Avenue which collision rate exceed the statewide average of collisions per million vehicle miles. Therefore, safety improvements are needed at this intersection.

This project is proposed to widen Stewart Parkway to four lanes between Harvey Avenue and Garden Valley Parkway, straighten the S-curves, and build a new bridge over the South Umpqua River. In addition, new bike lanes and sidewalk are proposed with this project to promote other modes of transportation. Also, an access management plan is proposed to be included as part of this project.

The safety improvement at the intersection of Harvard Avenue at Stewart Parkway includes adding turn lanes (as recommended in the intersection improvements). By adding turn lanes, the vehicles stopped to make turns are taken out of the through traffic stream to reduce rear-end type crashes (predominant crash type).

D. Valley View Drive- Keasey Street to Kline Street: With anticipated future growth and encouraging other modes, circulation and mobility are needed on Valley View Drive. This project is proposed to widen Valley View Drive to residential collector street standards, including installing sidewalks and storm drain facilities on both sides of the street. This project is part of the Roseburg CIP. Per comments received on the Draft TSP, the Roseburg Commissioners consensus for this project was for the project to stay on the list, but recommended the project be classified as a low priority project.

E. Troost Street: With anticipated future growth in the Charter Oaks area, mobility and safety on collectors is critical to the transportation system. To improve mobility and safety, this project proposes to straighten the two ninety-degree turns on Troost

Street and eliminate the blind corner at the intersection of Charter Oaks Drive. This project is part of the Roseburg CIP.

F, G. Harvard Avenue Bridge and Harvard Avenue, West of Lookingglass: With anticipated future growth in the Charter Oaks area, mobility and access is needed to accommodate the future growth in Charter Oaks. In addition, alternate routes are needed into and out of Charter Oaks area to provide circulation and disperse traffic onto the transportation system. A need for transportation facilities for other modes including transit, bicycles, and pedestrians are critical to the transportation system and promoting use of other transportation system alternatives.

This project proposes a new bridge with pedestrian and bicycle facilities on the west end of Harvard Avenue over the South Umpqua River. In addition, the project proposes to widen Harvard Avenue and meet arterial street standards west of Lookingglass Road to the new bridge. The project includes pedestrian and street lighting facilities. The Harvard Avenue widening is included in the Roseburg CIP.

H. New Arterial from West Harvard Connector to Garden Valley (Troost/Charter Oaks/West Harvard Connector): With anticipated future growth in the Charter Oaks area, mobility and access is needed to accommodate the future growth in Charter Oaks. In addition, alternate routes are needed into and out of Charter Oaks area and new developments in west Roseburg to disperse traffic onto the transportation system. In addition, this connection will provide access to the Charter Oaks area and circulation within the area. A need for transportation facilities for other modes including transit, bicycles, and pedestrians are critical to the transportation system and promoting use of other transportation system alternatives.

This project proposes a new arterial street from the West Harvard Avenue Bridge to Troost Street to Garden Valley. This project includes the bicycle lanes and sidewalks. This project is part of the Roseburg CIP.

I. Alameda Avenue/Cloverdale: To improve access and mobility, this project proposes to reconstruct the street to meet collector street standards (to residential collector standards only). This project includes installing drainage and constructing pedestrian improvements. This project is part of the Roseburg CIP.

J. Black Street Extension: To provide access and circulation, this project proposes to extend Black Street west to Goetz Street, allowing traffic to utilize the existing traffic signal at the intersection of Garden Valley Boulevard and Goetz Street. This project is part of the Roseburg CIP.

K. Broad Street to Edenbower Boulevard: To improve safety and mobility, this project proposes reconstruct Broad Street to collector street design standards, construct drainage facilities, and construct pedestrian facilities. This project is part of the Roseburg CIP.

L. Fulton Street Improvements: This Street serves as a collector north of Diamond Lake Boulevard. The existing condition of the roadway is very poor and improvements to collector street standards are needed. In addition, a traffic signal

is planned at the intersection with Diamond Lake Boulevard and proposed as part of the project. This project proposes reconstruction of the street to collector street standards, traffic signal at Diamond Lake Boulevard, bike lanes and sidewalks. This project is part of the Roseburg CIP.

M. Garden Valley Boulevard Refinement Study to evaluate Safety and Capacity Improvements: With anticipated future growth on the west side of Roseburg, mobility and access is needed to accommodate the future growth. Garden Valley Boulevard is a central east-west arterial carrying a significant amount of Roseburg's traffic. Without additional capacity improvements, Garden Valley Boulevard will not meet mobility standards and result in significant safety concerns. In addition, significant safety problems exist at the intersections of Garden Valley Boulevard at Stewart Parkway and Garden Valley Boulevard and Stephens Street.

The Garden Valley Boulevard Refinement Study will need to evaluate safety and capacity improvements along the corridor (from Kline Street to Stephens Street). In addition, this study will need to include Harvard Avenue since they are both parallel east-west streets. This project needs to consider traffic signal coordination along the corridor, roadway capacity upgrade to three lanes in each direction, intersection turn lanes, and multimodal considerations. As part of the project evaluation, specific intersection safety improvements identified for the high crash rate locations follow:

- ***Garden Valley Boulevard at Stewart Parkway*** – the predominant type of crashes are entering at angle with the cause as failing to yield the right-of-way and rear-end type crashes in the same direction. Signal coordination along Stephens Street and adding turn lanes as recommended in the intersection improvements. The increased capacity along Garden Valley Boulevard will improve congestion and gaps in the traffic stream. By improving traffic flow and increase gaps in the traffic, may encourage drivers to be more patient and wait for appropriate gaps and yield the right-of-way. By adding turn lanes, the vehicles stopped to make turns are taken out of the through traffic stream to reduce rear-end type crashes.
- ***Garden Valley Boulevard at Stephens Street*** (see below – under Stephens Street improvements)

N. Rifle Range Street – North of Diamond Lake Boulevard: To accommodate anticipated future traffic growth, capacity improvements are needed on Rifle Range Street. In addition, safety improvements are needed which include realignment of the roadway. This project proposes to widen the street to collector street standards, realign the street, and add sidewalks and storm drainage.

O. Rifle Range Street Extension across Deer Creek to Douglas Avenue: This project proposes to extend Rifle Range Street across Deer Creek to Douglas Avenue. The new connection will provide connectivity south of Diamond Lake Boulevard and improved access and mobility. This project is currently in the CIP.

P. Vine Street Improvements (North of Alameda) and Extension: With increased future traffic growth, there is a need for alternate parallel route connections to Stephens Street. Vine Street is a collector street that runs parallel to Stephens Street and serves residential areas. A north-south extension of Vine Street to Newton Creek Road would help relieve some traffic congestion on Stephens Street and provide mobility and access opportunities for local traffic to circulate through the transportation system.

This project proposes improvements to Vine Street (north of Alameda) to collector street standards including bike lanes and sidewalks. The project proposes to extend Vine Street north to Newton Creek Road.

Q. Lookingglass Road – South of Harvard Avenue: To improve safety and mobility on Lookingglass Road, improvements are needed to bring this roadway p to arterial street standards. This project proposes to widen the roadway to arterial street design standards and install sidewalks and storm drains. This project is part of the Roseburg CIP.

R. New Collector Connection - Odell Avenue to Rifle Range Street: With anticipated future growth on Diamond Lake Boulevard, parallel route connections are needed to improve mobility and access. In addition, alternate routes will provide circulation for all modes within the area. A need for transportation facilities for other modes including bicycles and pedestrians are critical to the transportation system and promoting use of other transportation system alternatives.

This project proposes to extend Odell Avenue to connect to Fulton Street and to connect east to Rifle Range Street. This project would provide sidewalks and bike lanes on the new collector connection.

S. New West Side Collector – north of Garden Valley Boulevard: With anticipated future growth on the west side of Roseburg, mobility and access is needed to accommodate the future growth. In addition, alternate routes are needed into and out of area of new developments to disperse traffic onto the transportation system and provide circulation within the area. A need for transportation facilities for other modes including bicycles and pedestrians are critical to the transportation system and promoting use of other transportation system alternatives.

The project proposes a new collector street connection from Garden Valley Boulevard to Broad Street including bike lanes and sidewalks. This new street would connect to the Troost Street/Charter Oaks/West Harvard Avenue connector (Project H).

T. Stephens Street Safety and Capacity Improvements: With anticipated future growth in Roseburg, mobility and access is needed to accommodate the future growth. Stephens Street is a central north-south arterial parallel to Interstate 5 carrying a significant amount of Roseburg's traffic. Without additional capacity improvements, Stephens Street will not meet mobility standards and result in

significant safety concerns. In addition, significant safety problems exist along Stephens Street.

As discussed in Chapter 3, collision data collected from ODOT show 1,464 total collisions inside the Roseburg UGB between January 2001 and December 2003. Three intersections as discussed in Chapter 3 exceed the statewide average of collisions per million vehicle miles which follow:

- Oak Avenue at Pine Street
- Garden Valley Boulevard at Stewart Parkway
- Harvard Avenue at Stewart Parkway

In addition, several of the high crash locations occurred on Stephens Street and Garden Valley Boulevard.

The Stephens Street / Pine Street Safety Improvement Project (from Mosher Avenue to Edenbower Blvd) proposes the project to include traffic signal coordination along the corridor (as recommended per roadway improvement projects), intersection turn lanes (as recommended under intersection improvements), and multimodal considerations. As part of the project, specific intersection improvements for high crash locations follow:

- **Pine Street/Oak Avenue –** the predominant type of crash at this location is entering at angle and the cause is disregard for the traffic signal. A signal coordination project is recommended along the Stephens Street/Pine Street corridor to improve signal operations and safety at this location. In addition, improved signage at this intersection is recommended.
- **Garden Valley Boulevard at Stephens Street –** the predominant type of crash is same direction caused by following too close (rear-end type crashes). Signal coordination along Stephens Street and adding turn lanes as recommended in the intersection improvements. Signal coordination will help keep the speeds consistent between intersections. By adding turn lanes, the vehicles stopped to make turns are taken out of the through traffic stream to reduce rear-end type crashes.

U. Portland Avenue Bridge and Interchange Improvements: An Interchange Access Management Plan for this interchange has been completed. The purpose and need for interchange improvements and a new bridge are being studied along with conceptual design plans. This project proposes interchange improvements and a new bridge to connect to the Portland Avenue interchange at Interstate 5 to Old Highway 99. This will create a new connection to the downtown area from the south.

V. Harvard Avenue Interchange Access Management Plan and Diamond Lake Bridge Refinement Study: With anticipated future growth and increased traffic volumes along Harvard Avenue, downtown Roseburg, and Harvard Avenue interchange, capacity improvements and potential new bridge connection will be needed for this

area. In addition, traffic flow in downtown Roseburg is often stopped due to trains traveling on the railroad tracks in downtown Roseburg. A new railroad over-crossing bridge would provide a route for traffic to circulate when trains are using the railroad tracks through downtown Roseburg. In addition, this crossing will provide a route for traffic to circulate without directly entering into the downtown area. Balancing the transportation system with transportation facilities for other modes including bicycles and pedestrians is a key component to the transportation system. Providing bicycle and pedestrians connections in this area is needed.

This project proposes an interchange access management plan for the Harvard Avenue interchange area including the potential new bridge from Harvard Avenue to Diamond Lake Boulevard. The Diamond Lake Bridge Refinement study needs to address a variety of options and alternatives. The alignment of the potential bridge connection would be determined as part of interchange access management plan and assessing the existing residential and environmental conditions. The project includes improvements to existing bicycle and pedestrian facilities and new bike lanes and sidewalks on the potential new bridge connection. Connections to the multi-use path system from the bicycle and pedestrian facilities in this area are proposed. Additional study of bridge connection is needed.

W. New North-South Collector: The new north-south collector would extend and/or connect to Kline Street north to connect to the new connection (Project S) to provide connectivity and access to new developments in the northeast.

X. New Collector from Diamond Lake Boulevard at Lake Street or Gardiner Street: This project proposes a new collector street at Diamond Lake Boulevard at Lake Street or Gardiner Street. A proposed traffic signal at Diamond Lake Drive on the southern end of the connection is proposed. This connection will provide additional connectivity resulting in improved mobility in this area. Future traffic signalization is dependent on ODOT approval.

Y. New North-South Collector between Alameda Avenue and Newton Creek Road: With increased future traffic growth, there is a need for alternate parallel route connections to Stephens Street. New north-south connection would improve connectivity and provide mobility and access opportunities for local traffic to circulate through the transportation system.

This project proposes a new north-south collector street between Alameda Avenue and Newton Creek Road (east of Vine Street). The project includes the installation of bike lanes and sidewalks.

Z. New North-South Collector from Rifle Range Street to Newton Creek Road: With increased future traffic growth, there is a need for alternate parallel route connections to Stephens Street and the “box.” A north-south extension of Rifle Range Street to Newton Creek Road would provide mobility and access opportunities for local traffic to circulate through the transportation system without having to use Stephens Street. This connection will improve north-south connectivity and improve mobility and access to potential new developments.

The project proposes a new north-south collector street connecting Rifle Range Street north to Newton Creek Road. Specific alignment would need to be determined per topographical conditions and conceptual design and to connect new developments in the east side.

AA. New East-West Collector between Rifle Range Street Extension and New North-South Collector (north of Alameda): To provide circulation and connectivity in east Roseburg, this project proposes an new east-west collector between Rifle Range Street Extension (Project Z) and the new north-south collector (Project Y). Significant topography constraints exist in the area; therefore, the specific location of the connection to be determined by a conceptual engineering design study.

BB. New East-West Collector from Summit Drive to Ramp Street to Pearce Road: With anticipated future growth in southeast Roseburg, new collector connections are needed for circulation and to provide alternative routes for mobility and access. In addition, a route that provides an alternate to enter/exit downtown Roseburg and to/from Diamond Lake Boulevard is needed as well. A need for transportation facilities for other modes including bicycles and pedestrians are critical to the transportation system and promoting use of other transportation system alternatives.

This project proposes to add a new east-west collector street from Summit Drive to Ramp Street to Pearce Road. This connection will provide access for new residential development and a route to downtown Roseburg and Diamond Lake Boulevard. Exact roadway alignment to be determined by topographical and environmental conditions.

CC. Edenbower Widening: With increased development around Exit 127, continued growth in the Hucrest area, and development on Stewart Parkway and NE Stephens, Edenbower will need to be widened to 5 lanes between Stewart Parkway and Stephens. Because the predominate traffic movements between Stewart Parkway and Edenbower are east to north and vice versa, consideration should be given to realigning the intersection making that the through movement.

Safety Improvement Projects

This section summarizes recommended safety improvement projects to mitigate areas within the City of Roseburg experiencing high crash rates.

As discussed in Chapter 3, collision data collected from ODOT show 1,464 total collisions inside the Roseburg UGB between January 2001 and December of 2003. Three intersections as discussed in Chapter 3 exceed the statewide average of collisions per million vehicle miles which follow:

- Oak Avenue at Pine Street
- Garden Valley Boulevard at Stewart Parkway
- Harvard Avenue at Stewart Parkway

In addition, several of the high crash locations occurred on Stephens Street and Garden Valley Boulevard.

The following are recommended projects to improve safety:

1. Stephens Street / Pine Street Safety Improvement Project (from Mosher Avenue to Edenbower Blvd)

The needs of this project include traffic signal coordination along the corridor (as recommended per roadway improvement projects), intersection turn lanes (as recommended under intersection improvements), and multimodal considerations. As part of the project, specific intersection improvements for high crash locations follow:

- Pine Street/Oak Avenue – the predominant type of crash at this location is entering at angle and the cause is disregard for the traffic signal. A signal coordination project is recommended along the Stephens Street/Pine Street corridor to improve signal operations and safety at this location. In addition, improved signage at this intersection is recommended.
- Garden Valley Boulevard at Stephens Street – the predominant type of crash is same direction caused by following too close (rear-end type crashes). Proposed improvements are signal coordination along Stephens Street and adding turn lanes as recommended in the intersection improvements. Signal coordination will help keep the speeds consistent between intersections. By adding turn lanes, the vehicles stopped to make turns are taken out of the through traffic stream to reduce rear-end type crashes.

2. Garden Valley Safety Improvement Project (from Kline Street to Stephens Street)

This project needs include traffic signal coordination along the corridor (as recommended per roadway improvement projects), roadway capacity upgrade to three lanes in each direction, intersection turn lanes (as recommended under intersection improvements), and multimodal considerations. As part of the project, specific intersection improvements for the high crash rate locations follow:

- Garden Valley Boulevard at Stewart Parkway – the predominant type of crashes are entering at angle caused by failing to yield the right-of-way and rear-end type crashes in the same direction. Proposed improvements are signal coordination along Stephens Street and adding turn lanes as recommended in the intersection improvements. The increased capacity along Garden Valley Boulevard will improve congestion and gaps in the traffic stream. By improving traffic flow and increase gaps in the traffic, may encourage drivers to be more patient and wait for appropriate gaps and yield the right-of-way. By adding turn lanes, the vehicles stopped to make turns are taken out of the through traffic stream to reduce rear-end type crashes.
- Garden Valley Boulevard at Stephens Street (see above)

3. Harvard Avenue at Stewart Parkway

The predominant type of crash is same direction with cause of following too close (rear-end type crashes). This project includes adding turn lanes for this intersection as recommended in the intersection improvements. By adding turn lanes, the vehicles stopped to make turns are taken out of the through traffic stream to reduce rear-end type crashes.

Roadway Improvements – Draft Purpose and Need Statements

Draft Purpose and Need statements have been developed for only the proposed roadway improvement projects described in this chapter which may trigger an Environmental Assessment or Environmental Impact Statement under the National Environmental Policy Act (NEPA). In order to trigger an Environmental Impact Statement under NEPA, the following criterion applies:

- Projects must be federally-funded and subject to NEPA, and
- Projects must have an impact on the natural and built environment.

Therefore, the only roadway projects that are assumed to meet this criterion are:

- The Portland Avenue Bridge Project from I-5 to downtown connection
- Harvard Avenue Interchange Improvements and Diamond Lake Bridge Project

The Portland Avenue Bridge project may require access changes on I-5 and has already been studied through the Interchange Access Management Plan completed for this interchange. Therefore, the project has been through a detailed evaluation, and purpose and need of the project already established.

The draft purpose and need statement for the Harvard Avenue Interchange Improvements and Diamond Lake Bridge Project follows and is not intended to replace NEPA Purpose and Need.

Harvard Avenue Interchange Improvements and Diamond Lake Bridge Project – Draft Purpose and Need

Need: A significant amount of traffic congestion exists and is projected in the future for Harvard Avenue Interchange, downtown and Diamond Lake Boulevard. The existing v/c ratios for Harvard Avenue interchange ramps are at 0.95 and 0.79 which exceed *or* are close to exceeding the mobility standard of 0.80 v/c ratio. The existing v/c ratio at the intersection of Stephens Street at Diamond Lake Boulevard is 0.76 which is near to exceeding mobility v/c standards. With anticipated future growth and increased traffic volumes along Harvard Avenue, downtown Roseburg, and Harvard Avenue interchange, the v/c ratios for the Harvard Avenue interchange ramps and at the intersection of Stephens Street at Diamond Lake Boulevard degrade to v/c greater than 1.0, far exceeding mobility standards. In addition, traffic through downtown degrades to unacceptable v/c levels as well.

Currently, there are no grade-separated railroad crossings in Roseburg. A need for mobility of vehicles and freight movement is needed over/under the railroads. Grade-separated railroad crossing is needed for efficient emergency vehicle access. In addition, freight mobility through Roseburg must travel through downtown from the Harvard Avenue interchange to reach Diamond Lake Boulevard. A direct connection for freight movement to Diamond Lake Boulevard is needed.

Improved and direct pedestrian and bicycle connections are needed from Harvard Avenue to Diamond Lake Boulevard with grade-separation of railroad tracks. Balancing the transportation system with transportation facilities for other modes including bicycles and pedestrians is a key component to the transportation system. Providing bicycle and pedestrians connections in this area is needed.

Purpose: This project would maintain the mobility standards for this area and improve traffic circulation in downtown Roseburg. Efficient capacity and operations in the area would result from the project.

A direct connection from the Harvard Avenue Interchange to Diamond Lake Boulevard would provide a direct route for all transportation modes including vehicles, emergency vehicles, freight, pedestrians and bicyclists freight to access Diamond Lake Boulevard without circulating through the downtown area. Also, the project would provide a grade-separated connection over railroad tracks to improve mobility for all transportation modes.

The project would evaluate all reasonable and prudent alternatives.

Roadway Improvements – Priority Ranking

Priorities were set according to the transportation deficiencies anticipated to occur within each time frame and at the joint Planning and Public Works Commission meeting.

According to the priorities and ranking criteria developed by the Public Works Commission, the proposed roadway improvements have been prioritized by importance and listed below in Table 7-1. The projects have been broken down into 5 year increments indicating the estimated year of need according to their priority: 0-5 years, 6-10 years, 11-15 years, and 16-20 years. These project priorities can be modified over time and may move up or down the list based upon actual development growth and timing of that growth that occurs in the City of Roseburg.

Table 7-1. Prioritized Project List

Map Code	Project List	Project Prioritization
A, B, C	Stewart Parkway Improvements	0 – 5 Years
D	Widen Valley View Drive – Keasey Street to Kline Street	16 – 20 Years
E	Troost Street: Straighten Curves/Realign Intersection	0 – 5 Years
F, G	Harvard Avenue Bridge and Harvard Avenue, west of Lookingglass Road	0 – 5 Years
H	New Arterial from West Harvard Connector to Garden Valley (Troost/Charter Oaks/West Harvard Connector)	6 – 10 Years
I	Alameda Avenue/Cloverdale	6 – 10 Years
J	Black Street Extension	16 – 20 Years
K	Broad Street reconstruction to Edenbower Boulevard	16 – 20 Years
L	Fulton Street Improvements	6 – 10 Years
M	Garden Valley Boulevard Refinement Study to Evaluate Safety and Capacity Improvements	0 – 5 Years
N	Rifle Range Street - North of Diamond Lake Boulevard	11 – 15 Years
O	Rifle Range Street Extension across Deer Creek to Douglas Avenue	11 – 15 Years
P	Vine Street Improvements (north of Alameda) and Extension	11 – 15 Years
Q	Lookingglass Road – South of Harvard Avenue	6 – 10 Years
R	New Collector Connection - Odell Avenue to Rifle Range Street	6 – 10 Years
S	New West Side Collector – north of Garden Valley Boulevard	16 – 20 Years
T	Stephens Street Safety and Capacity Improvements	0 – 5 Years
U	Portland Avenue Bridge and Interchange Improvements	11 – 15 Years
V*	Harvard Avenue Interchange Access Management Plan and Diamond Lake Bridge Refinement Study	0 – 5 Years
V*	Harvard Avenue Interchange Improvements and Diamond Lake Bridge	6 – 10 Years
W	New N/S Collector	16 – 20 Years
X	New Collector from Diamond Lake Boulevard at Lake Street or Gardiner Street	6 – 10 Years
Y	New North-South Collector between Alameda Avenue and Newton Creek Road	16 – 20 Years
Z	New North-South Connection from Rifle Range Street to Newton Creek Road	16 – 20 Years

Map Code	Project List	Project Prioritization
AA	New East-West Collector between Rifle Range Street Extension and New North-South Collector	16 – 20 Years
BB	New East-West Collector from Summit Drive to Ramp Street to Pearce Road	11 – 15 Years
CC	Ramp Street Extension	11 – 15 Years

*Project V is one project broken into study and design and construction.

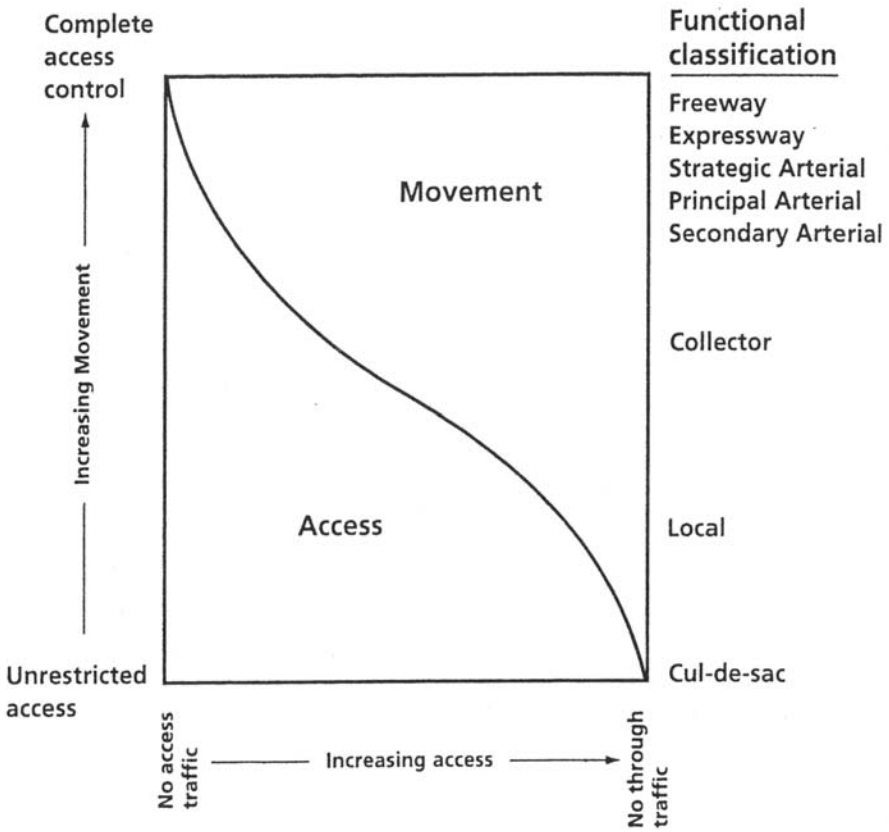
Roadway Functional Class

Roadways have two functions, to provide mobility and to provide access. From a design perspective, these functions can be incompatible since high or continuous speeds are desirable for mobility, while low speeds are more desirable for land access. Figure 7-1 illustrates this tradeoff. Generally speaking, arterials emphasize a high level of mobility for through movement; local facilities emphasize the land access function, and collectors offer a balance of both functions.

Functional classification has commonly been mistaken as a determinate for traffic volume, road size, land use, and other features that collectively comprise the elements of a roadway. For example, the traffic on a roadway can be directly related to specific land uses, and the fact that the road carries a lot or a little traffic does not determine its function. The traffic volume, design (including access standards) and size of the roadway are outcomes of function, but do not define function.

Function can best be defined by connectivity. Without connectivity, neither mobility nor access can be served. Roadways that provide the greatest reach of connectivity are the highest level facilities. Arterials are defined by regional level connectivity. The movement of persons, goods, and services depends on an efficient arterial system. Collectors can be defined by citywide or district wide connectivity. These routes span large areas of the city but typically do not extend significantly into adjacent jurisdictions. They are important to city circulation. All other routes are then typically defined as local streets, which provide the highest level of access to adjoining land uses, but do not connect at any significant level.

Figure 7-1. Relationship of Mobility and Access



Source: NCHPR Report 348, "Access Management Policies and Guidelines for Activity Centers." Metro Transportation Group. Transportation Research Board, Washington, DC 1993.

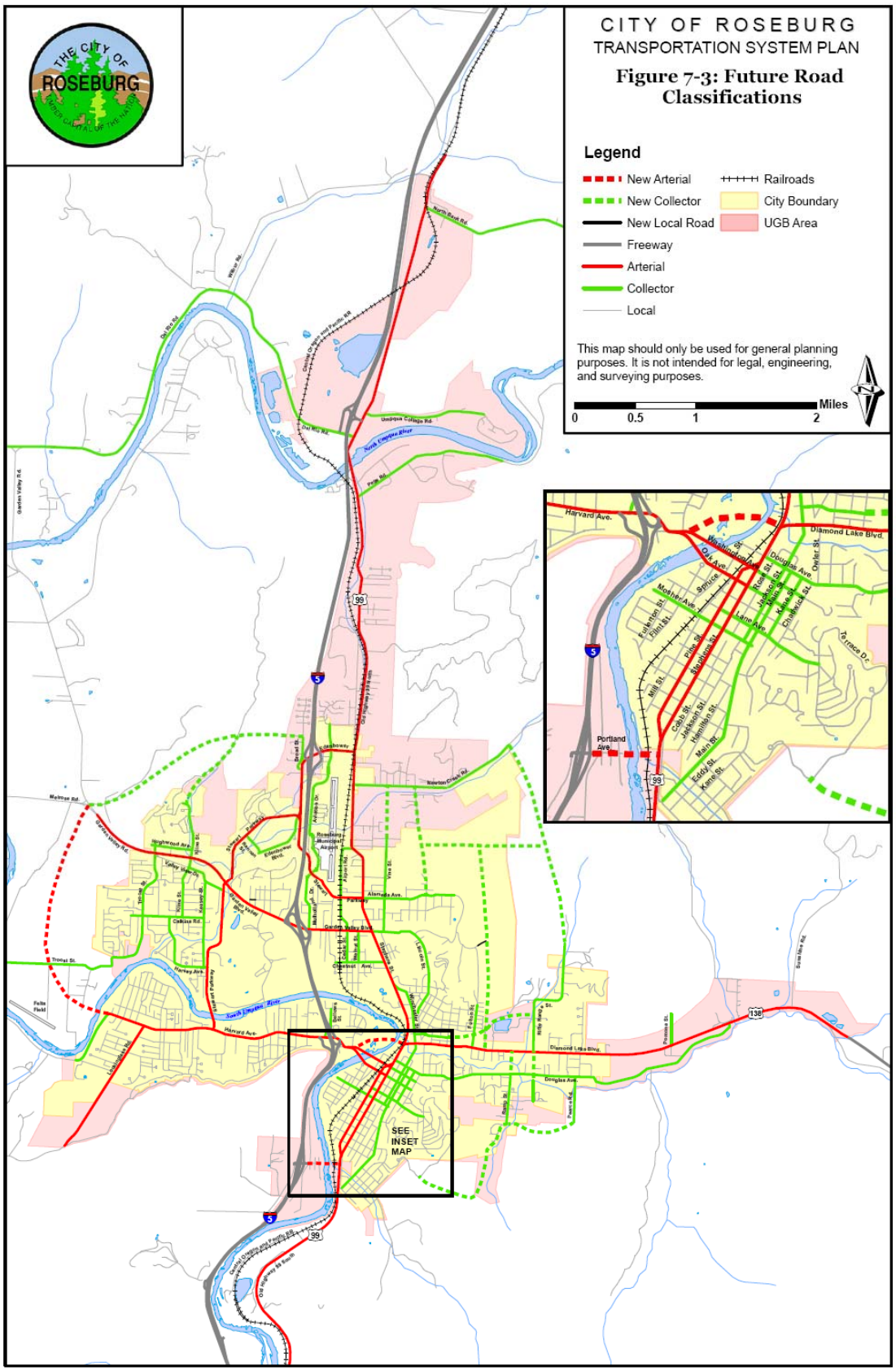
Table 7-2 lists the existing roads in Roseburg that have proposed changes to their functional classification. The proposed changes are based on the need for connectivity and greater mobility within the City as well as input from the City and technical advisory committees. Lake Street or Gardiner Street is proposed as a collector with the proposed north/south connection as shown in Figure 7-1.

Table 7-2. Functional Class Changes to Existing Roads

Street Name	From	To	Current Class	New Class
Ramp Street	Douglas Ave	Lois Drive	Local	Collector
Lake Street or Gardiner Street*	Rocky Ridge Drive	Diamond Lake Boulevard	Minor Collector	Collector
Kane Street	Lane Avenue	Douglas Avenue	Local	Collector
Pearce Street	Douglas Avenue	End	Local	Collector

* New alignment identification to be determined. Selected alignment to Fulton Street or Lake Street will change the functional classification to a collector street.

Figure 7-3 provides the proposed future road classification for the City of Roseburg. Any street not designated as a freeway, arterial, or collector is considered a local street.


CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 7-3: Future Road Classifications
Legend
New Arterial
New Collector
New Local Road
Freeway
Arterial
Collector
Local
Railroads
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
Miles
0
0.5
1
2
SEE INSET MAP

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Typical Street Cross-Sections

The City of Roseburg provided the City's existing typical sections for a standard local street section and for a standard commercial collector street. These typical sections provide standards for street pavement width. New design characteristics of streets in Roseburg were developed to meet the function and demand for each facility type. Because the final design of the roadway can vary from segment to segment due to adjacent land uses and demands, the objective was to develop typical sections that allow standardization of key characteristics to provide consistency while providing criteria for flexibility.

Figure 7-2 provides typical street cross-sections for arterials, collectors, and local streets. Key notes that correspond to the typical street cross sections follow:

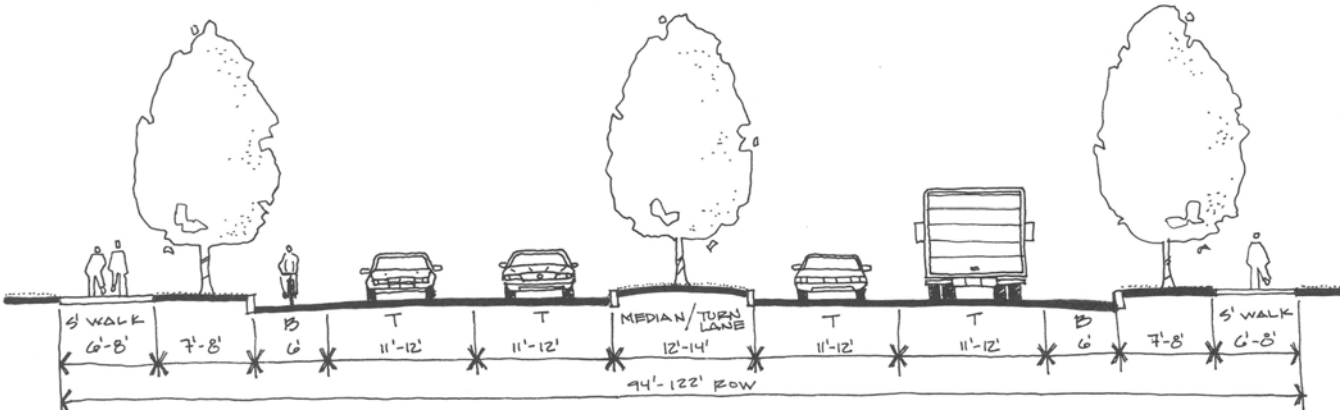
- Selection of placement of sidewalk and landscaping strip are specific to each location. Cross sections show choices for reference.
- Width of six-inch curb is included in sidewalk or planter strip when adjacent to street.
- Cross sections show the desirable applications given the number of lanes plus minimum standards that can be applied case-by-case.
- Actual width of street, sidewalk, and landscape area can be adjusted within the right-of-way based on modal priorities and adjacent land use.
- Encourage use of curb extensions along arterials and collectors at intersections in commercial areas and on any pedestrian routes to minimize pedestrian exposure.
- Bus stop pullouts on arterial and collector streets (not shown on cross-sections) should be considered at bus stop locations.

The following abbreviations are used to identify the lane types in the cross sections:

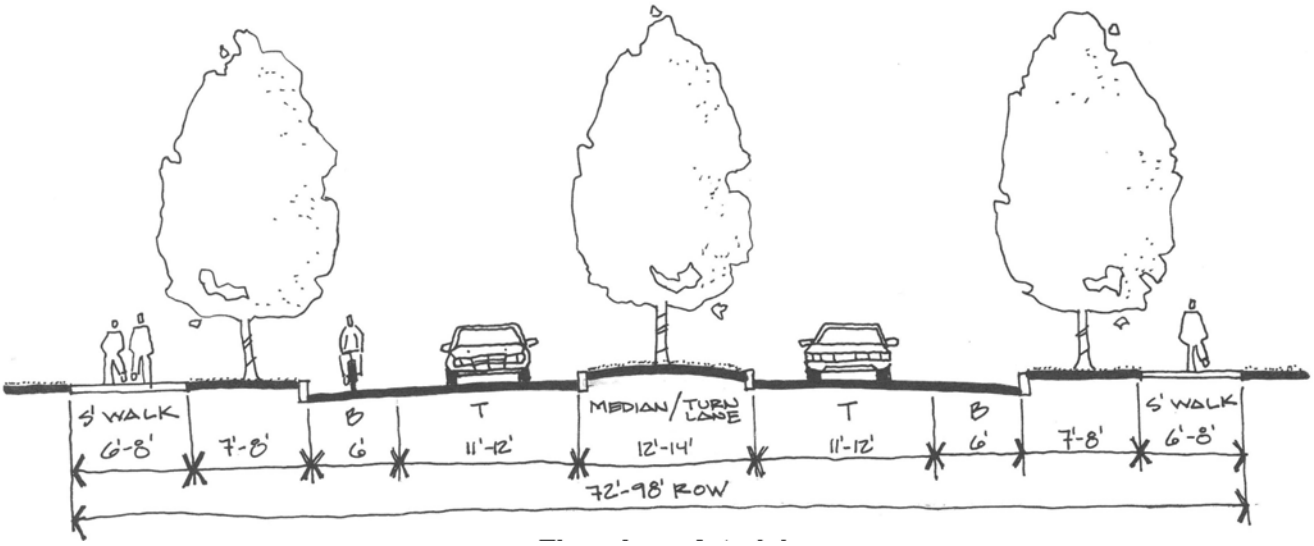
- T = travel lane
- P = parking
- B = bike lane
- S'Walk = sidewalk

Figure 7-2. Typical Cross Section Alternatives for Arterials, Collectors, and Local Streets

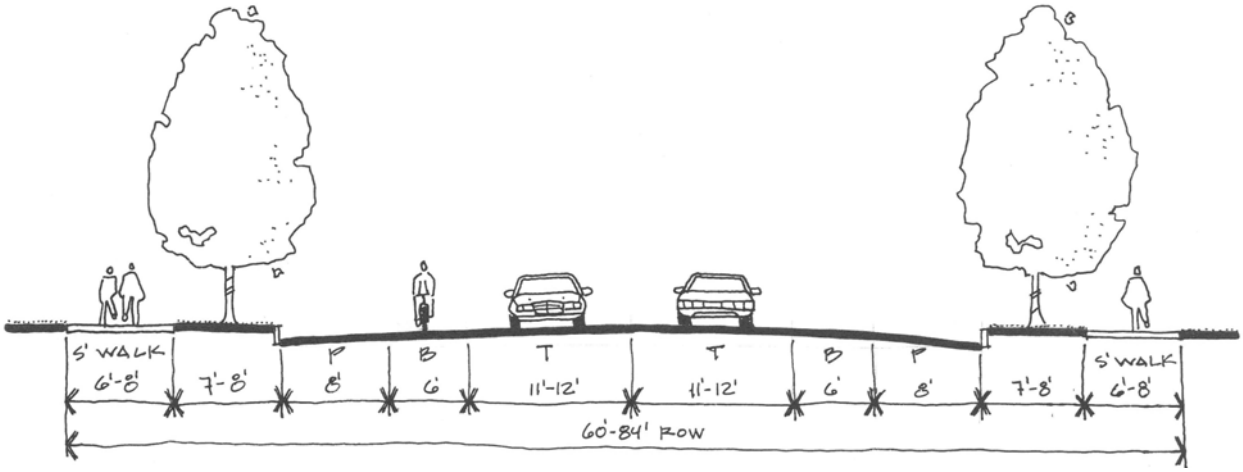
Five-Lane Arterial



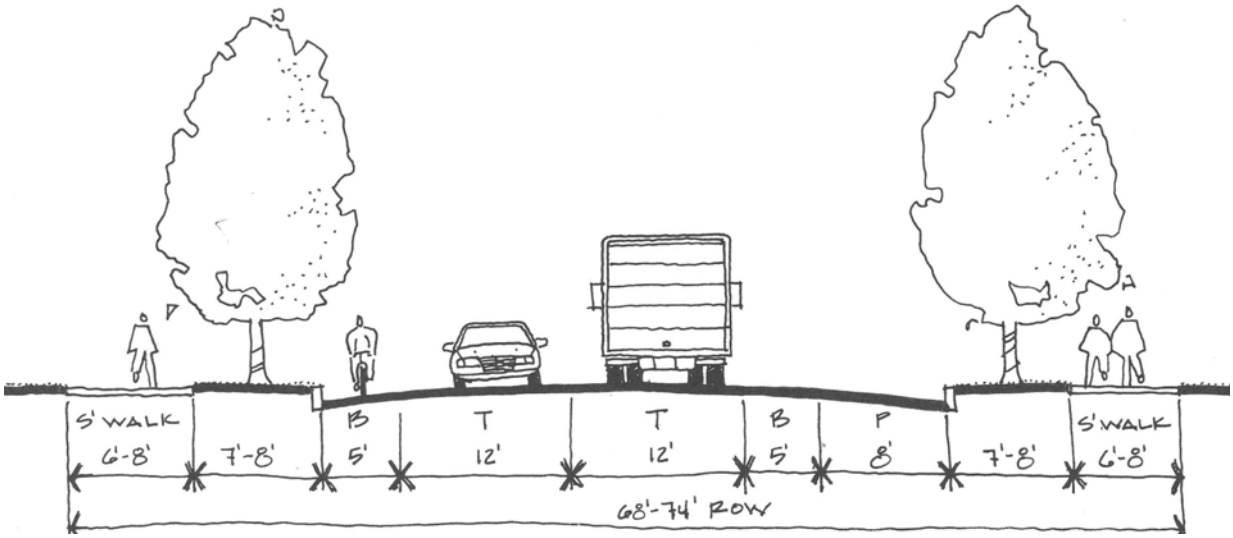
Three-Lane Arterial



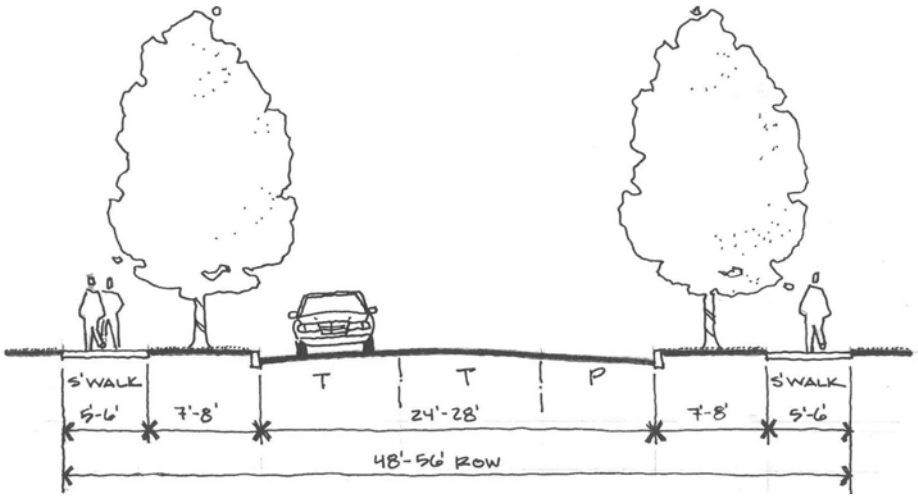
Two-Lane Collector – Parking Both Sides



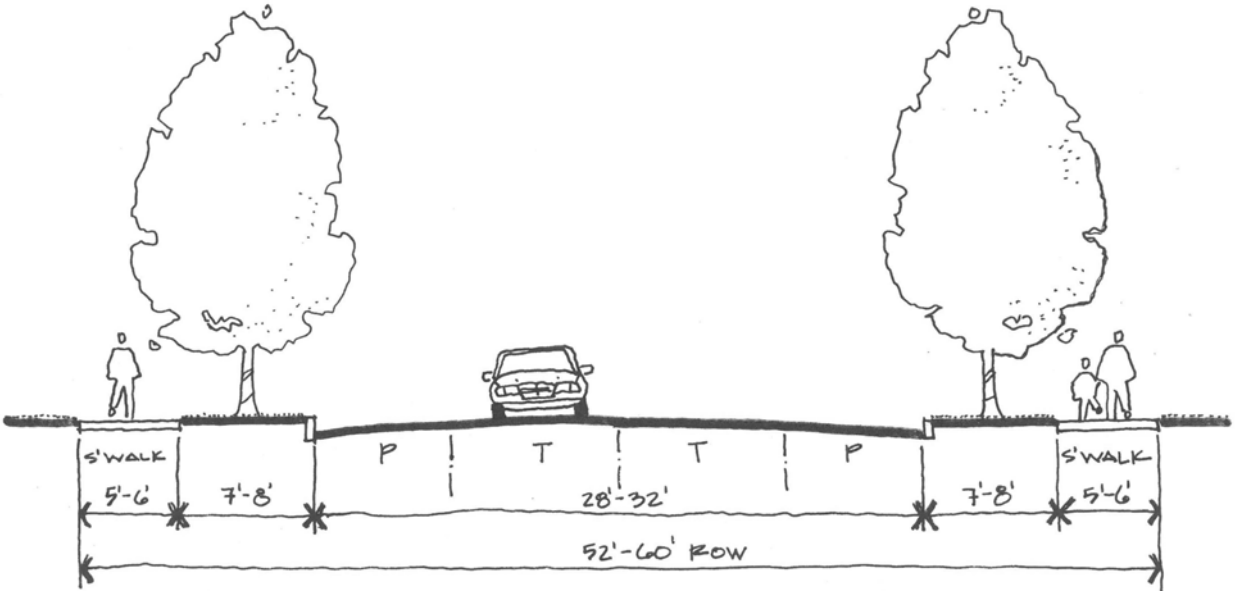
Two-Lane Collector – Parking One Side (Commercial / Industrial)



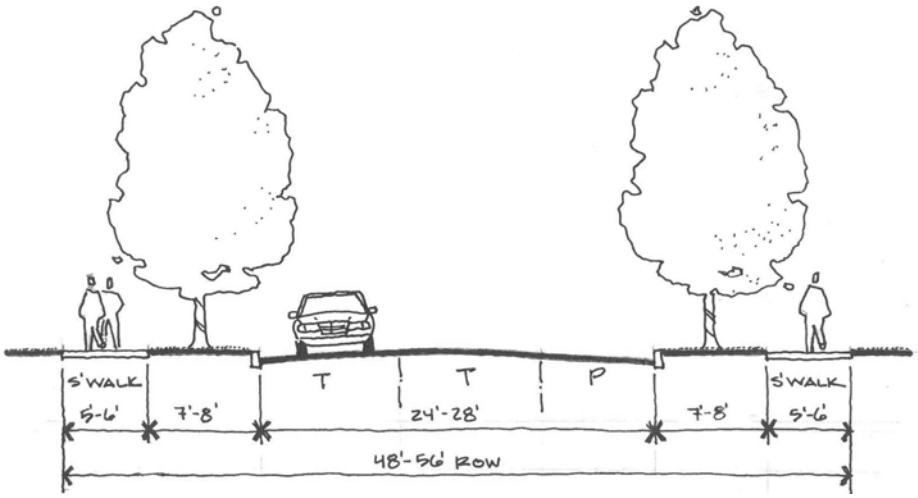
Local Street – Parking One Side



Local Street– Parking Both Sides



Hillside Street



Note: Option for sidewalks on one or both sides of street conditional upon City approval. Right-of-way and slope easement will vary by situation.

Table 7-3 provides a summary of key street characteristics, design criteria, and applications that can be applied on a case-by-case basis. They are intended to provide the best match for the specific needs of Roseburg.

The requirements in the latest edition of the Oregon Highway Design Manual need to be used for standards on state highways.

Table 7-3. Proposed Street Characteristics and Design Criteria

Vehicle Lane Widths: (minimum widths)	Freight route = 12 feet Bus Route = 11 feet Arterial = 11-12 feet Collector = 11-12 feet Local = 9-10 feet Turn Lane = 12-14 feet (14 feet for arterials and freight routes) Shared Lane = 14 feet (shared lane by vehicles and bicycles)
On-Street Parking:	Residential = 8 feet Commercial/Industrial = 8 feet
Bicycle Lanes: (minimum widths)	Arterials = 6 feet Collectors = 5 feet
Sidewalks:	Arterials = 6-10 feet Commercial/Industrial Collectors = 6-10 feet Residential Collector = 5-6 feet Local = 5-6 feet
Curb Extensions for Pedestrians	Consider on any Pedestrian Plan Route
Landscape Strips:	Arterial/Collector = Preferred/Desirable Local = Optional
Medians:	5 Lanes = Required 3 Lanes = Optional
Neighborhood Traffic Management/Traffic Calming:	Arterials = Only Under Special Conditions Commercial/Industrial Collectors = Under Special Conditions Residential Collectors = Should Consider Local = Under Special Conditions
Turn Lanes:	When warranted
Access Control:	TSP Goal 1, Objective H

Access Management

Access management is important, particularly on high volume roadways, for maintaining traffic flows and mobility. Whereas local and neighborhood streets primarily function to provide access, collector, and arterial streets typically serve greater traffic volumes. Numerous driveways or street intersections increase the number of conflicts and potential for accidents, and decrease mobility and traffic flow. Roseburg needs a balance of streets that provide access and streets that provide mobility.

The following are several access management strategies to ensure that access and mobility are both considered and maintained:

- Prohibit new single-family access to arterials and collectors
- Establish new city access management standards for all routes in new development using maximums and minimums
- Work with land use development applications to consolidate driveways
- Use medians on arterial routes to limit access
- Provide right-in/right-out driveways on arterials or collectors where appropriate
- Provide pedestrian refuge islands on arterials and collectors
- Consolidate access points within 1,320 feet (1/4 mile) of freeway interchanges, as possible
- Allow no new access within 1,320 feet (1/4 mile) of freeway interchange ramps
- Develop minimum traffic signal spacing on arterials and collectors in coordination with Douglas County and ODOT

Access management plans should be completed and implemented for all arterial roadways within the City of Roseburg. It is recommended that corridor studies and access management plans be conducted for the following roadways:

- Stephens Street
- Edenbower Boulevard
- Stewart Parkway
- Garden Valley Boulevard
- Harvard Avenue
- New west-side arterial
- Washington Avenue
- Oak Avenue
- Pine Street

- Diamond Lake Boulevard (An access management plan for Diamond Lake Boulevard has been completed and adopted)
- Portland Avenue (An access management plan has been completed for Portland Avenue as part of the Interchange 123 Management Plan)

Access spacing standards for state highways and freeways are specified in the Oregon Highway Plan and Oregon Administrative Rules (Chapter 734, Division 51). State highways are further classified as statewide, regional or district highways. Oregon Highway 138 is classified as a regional highway. Table 7-4 below shows ODOT's access management standards for regional and district highways.

Table 7-4. Access Management Spacing Standards for Regional Highways (Feet*)

Posted	Rural		Urban			
Speed	Expressway**	Other	Expressway**	Other	UBA	STA
≥55	5280	990	2640	990		
50	5280	830	2640	830		
40 & 45	5280	750	2640	750		
30 & 35		600		600	425	Note 1
≤25		450		450	350	Note 1

* Measurement of the approach road spacing is from center to center on the same side of the roadway.

** Spacing for at-grade intersections only.

Note 1: Minimum spacing is either existing city block spacing, or city block spacing in local comprehensive plan.

Source: Oregon Highway Plan, 1999.

It is recommended that access spacing standards be set for the City of Roseburg. The recommended access spacing standards are summarized in Table 7-5. These were developed by the technical advisory committee.

Table 7-5. Proposed Roseburg Access Management – Minimum Spacing Standards

Functional Classification	Minimum Spacing (Feet)
Arterial	500
Collector	200

Neighborhood Traffic Management/Traffic Calming

Neighborhood traffic management is used to describe traffic control devices typically used in residential neighborhoods to slow and "calm" traffic.

The following are examples of neighborhood traffic management/traffic calming measures:

- Speed humps

- Chokers
- Pavement texturing
- Chicanes (see photograph)
- Curb extensions (see photographs)
- Traffic circles
- Medians
- Landscaping
- Narrow streets
- Photo radar
- On-street parking
- Enhanced enforcement
- Neighborhood watch
- Speed wagon

Figure 7-3 shows two examples of curb extensions, and Figure 7-4 shows an example of a chicane used as a traffic calming measure.

Figure 7-3. Example of Curb Extensions

Figure 7-4. Example of a Chicane

Neighborhood traffic management should be considered broadly to avoid impact shifting between areas and should only be applied where a majority of neighborhood residents agree that it should be done. Traffic calming seeks to reduce speeds on neighborhood routes, thus improving livability. Research of traffic calming measures demonstrates their effectiveness in reducing vehicle speeds.

It is recommended that the City of Roseburg consider developing a neighborhood traffic management program. This program can be used to prioritize implementation and address issues on a systematic basis. Criteria may be established for the appropriate applications of traffic calming in the city.

Neighborhood Connections – Local Streets

There are a number of locations in Roseburg where, due to the lack of connection points, a majority of neighborhood traffic is loaded onto one street. This type of street network results in out-of-direction travel for motorists and an imbalance of traffic volumes that impacts residential frontage. By providing connectivity between neighborhoods, out-of-direction travel and vehicle miles traveled (VMT) can be reduced, accessibility between transportation modes enhanced, and traffic levels can be dispersed and balanced out between streets.

Several neighborhood connections will be needed within neighborhood areas to reduce out-of-direction travel for vehicles, pedestrians, and bicyclists. In order to improve neighborhood circulation within Roseburg, it is recommended that local neighborhood connections be made to the local street network. As developments are in the planning stages and through the City's approval process, neighborhood connections should be encouraged.

To protect existing neighborhoods from potential traffic impacts of extending stub end streets, connector roadways should incorporate neighborhood traffic management into their design and construction. Neighborhood traffic management/traffic calming is described in the previous section.

Transportation Systems Management (TSM)

TSM focuses on low cost strategies to enhance operational performance of the transportation system. Measures that can optimize performance include signal improvements, intersection channelization, access management (as noted in prior section), rapid incident response, and programs that smooth transit operations. The tool that typically delivers the largest benefits is traffic signal coordination. Traffic signal improvements can potentially reduce the number of stops by 35 percent, and delay by 20 to 30 percent. This can be done without the major cost of roadway widening.

Several TSM strategies are elements of Intelligent Transportation System (ITS). ITS focuses on a coordinated, systematic approach toward managing the region's transportation multimodal infrastructure. ITS is the application of new technologies with proven management techniques to reduce congestion, increase safety, reduce fuel consumption and improve air quality. One element of ITS is improved traffic signal systems.

All traffic signals on Garden Valley Boulevard, Harvard Avenue, Diamond Lake Boulevard, Stewart Parkway, and Highway 99/Stephens Street should be coordinated to improve the flow of traffic and efficiency along these roadways. This will require traffic signal interconnect technologies between the traffic signals, new signal timing, and possibly upgraded signal timing equipment. Overall this coordination will reduce the traffic congestion along these roadways and help to reduce the delay at the intersections. The following corridors are recommended for traffic signal coordination projects and enhance traffic signal systems:

- Garden Valley Boulevard
- Harvard Avenue
- Diamond Lake Boulevard
- Stewart Parkway
- Highway 99/Stephens Street

Maintenance

Preservation, maintenance, and operation are essential to protect the City investment in transportation. With increasing road inventory and the need for greater maintenance of older facilities, protecting and expanding funds for maintenance is critical.

A pavement management program is a systematic method of organizing and analyzing information about pavement conditions to develop the most cost-effective maintenance treatments and strategies. A pavement management program can be a major factor in improving performance in an environment of limited revenues. As a management tool, it enables Public Works to determine the most cost-effective maintenance program. The concept behind a pavement management system is to identify the optimal rehabilitation time and to pinpoint the type of repair that makes the most sense.

A critical concept is that pavements deteriorate 40 percent in quality in the first 75 percent of their life. However, there is rapid acceleration of this deterioration later in the pavement cycle resulting in a 40 percent drop in quality in the next 12 percent of the pavement life. A pavement management system can identify pavements before this rapid deterioration

begins and applies preventative maintenance. For this reason, support of gradual increases to the revenue stream to support maintenance is critical.

In addition, roadway maintenance is important for bicyclists as well as vehicles. For example, frequent street sweeping on all streets is a major factor in street ride-ability for cyclists.

Intersection Improvements

This section provides a summary of the 2025 operations analysis with the proposed transportation improvements, proposed traffic signals, and brief descriptions of the proposed 20-year forecast intersection improvements.

The same methodology used to evaluate the 2025 no-build condition as described in Chapters 4 and 5 was used to evaluate the impacts of the aforementioned street and traffic signal improvements (i.e., the Build Road Network Alternative).

For the 2025 Build Alternative, traffic from both the existing and future land use was distributed/assigned to the new roadway network alternative based on location, access and trip distribution. This trip re-assignment alleviated some of the estimated future traffic congestion along Stephens Street, Stewart Parkway, Diamond Lake Boulevard, Harvard Ave, and Garden Valley Boulevard, although improvements are still needed.

Traffic Signals

As described in Chapters 4 and 5, the signal warrant analysis conducted for year 2025 traffic conditions revealed that traffic signal warrant 1 is met at the following locations:

- Diamond Lake Boulevard and Fulton Street or Lake Street
- Harvard Avenue and Lookingglass Road
- Stephens Street and Chestnut Avenue
- Old Highway 99 and Del Rio Road

The intersection improvement at Diamond Lake Boulevard and Fulton Street or Lake Street is under review. It is reasonable to locate a future signal at either Fulton Street or Lake Street which may serve as a local collector for a mix of commercial, industrial, and residential uses. Final intersection improvement of Fulton Street or Lake Street is pending local review and final selection is anticipated in the near future. Both location designation and traffic signal designation is to be made in the future without requiring an amendment to the final Adopted TSP.

In the existing traffic conditions analysis (Chapter 4), following intersections met Signal Warrant 1 and therefore also met the warrant in 2025:

- Douglas Avenue and Jackson Street
- Garden Valley Boulevard and Melrose Rd

- Edenbower Boulevard and I-5 NB on- and off- ramps
- Pine Street and Mosher Avenue
- Stephens Street and Mosher Avenue
- Douglas Avenue and Kane Street

Signalizing the above mentioned intersections was found to reduce delay and improve the LOS at these intersections to meet the Oregon Highway Design Manual Standards for regional highways, district highways and local roads.

Traffic signalization is recommended at the intersections listed above by year 2025 when signal warrants are met. The locations are shown in **Error! Reference source not found.**.

Alternatives to traffic signalization are recommended to be evaluated as signal warrants are met. For example, non-conventional intersection treatments such as roundabouts or channelization can be alternatives to signalized intersections. A potential location for a roundabout is at the intersection of Garden Valley Boulevard at Melrose Road. In addition, a potential location for a channelization alternative is the intersection of Harvard Avenue at Lookingglass Road. Per comments from the draft TSP, the City of Roseburg supports alternatives to traffic signalization including roundabouts and channelization.

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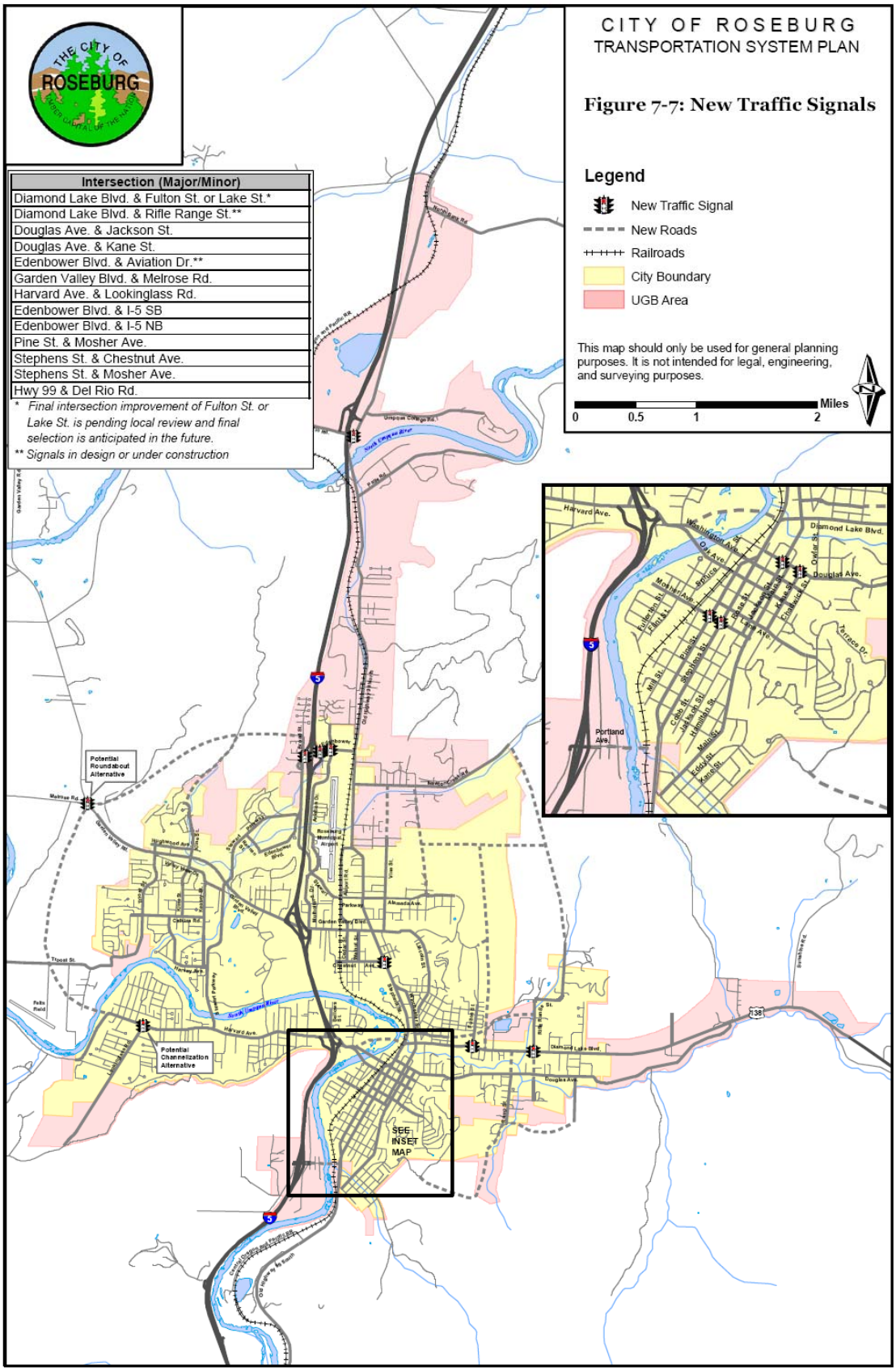
CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 7-7: New Traffic Signals
Legend
New Traffic Signal
New Roads
Railroads
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
Miles
0
0.5
1
2
Intersection (Major/Minor)
Diamond Lake Blvd. & Fulton St. or Lake St.*
Diamond Lake Blvd. & Rifle Range St.**
Douglas Ave. & Jackson St.
Douglas Ave. & Kane St.
Edenbower Blvd. & Aviation Dr.**
Garden Valley Blvd. & Melrose Rd.
Harvard Ave. & Lookinglass Rd.
Edenbower Blvd. & I-5 SB
Edenbower Blvd. & I-5 NB
Pine St. & Mosher Ave.
Stephens St. & Chestnut Ave.
Stephens St. & Mosher Ave.
Hwy 99 & Del Rio Rd.
* Final intersection improvement of Fulton St. or Lake St. is pending local review and final selection is anticipated in the future.
** Signals in design or under construction
Potential Roundabout Alternative
Potential Channelization Alternative
SEE INSET MAP
Harvard Ave.
Diamond Lake Blvd.
Douglas Ave.
Portland Ave.

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2025 Intersection Improvements - Recommendations

The signalized intersection analysis for the future 2025 condition showed that the following intersection required additional improvements to meet the mobility standards in the Oregon Highway Design Manual standards and for the City of Roseburg. The following are the recommended intersection improvements to meet mobility standards:

1. Jackson Street at Douglas Avenue: add one southbound travel lane and re-striped to a through-left shared lane and a right-through shared lane (from a right-through-left southbound lane).
2. Edenbower Boulevard between the I-5 ramps: add two through lanes in each direction through the I-5 ramp terminal intersections.
3. Edenbower Boulevard and I-5 northbound off-ramp: widen off-ramp to two lanes and add northbound double lefts and a channelized westbound right-turn lane. A new northbound on-ramp in partial cloverleaf configuration is recommended as identified in the Environmental Impact Statement (EIS). Edenbower Boulevard and I-5 southbound off-ramp: widen off-ramp to two lanes.
4. Douglas Avenue at Kane Street: add left-turn lanes on the westbound and northbound approaches (separating through and left-turn movements). Improve the pedestrian crossings and facilities by installing pedestrian signal heads and push buttons.
5. Winchester Street at Diamond Lake Boulevard: add exclusive left-turn lanes in the northbound and southbound direction along Winchester Street.
6. Garden Valley Boulevard at Stewart Parkway: add eastbound double left-turn lanes, add eastbound exclusive right-turn lane, add westbound exclusive right-turn lane, and add northbound exclusive right-turn lane.
7. Cedar Street at Garden Valley Boulevard: add double northbound left-turn lanes, and add exclusive southbound right-turn lane.
8. Garden Valley Boulevard at Mulholland Drive/I-5 northbound off-ramp: add a westbound right-turn lane, northbound double left-turn lanes from the off-ramp, and add a channelized southbound right-turn lane on Mulholland Drive. Further interchange analysis is recommended.
9. Garden Valley Boulevard at Stephens Street: add an exclusive southbound right-turn lane and add northbound double left-turn lanes.
10. Stephens Street at Diamond Lake Boulevard: add southbound double left turn lanes and northbound right turn improvements.
11. Stewart Parkway at the Wal-Mart Driveway: an eastbound approach is being added from the Mall per draft TSP comments.
12. Stephens Street at Edenbower Boulevard: add northbound double left-turn lanes and an eastbound right-turn lane.
13. Garden Valley Boulevard at Kline Street: add an exclusive westbound right-turn lane and southbound double left turn lanes.

14. Stewart Parkway at Edenbower Boulevard: add eastbound double left-turn lanes, westbound double left-turn lanes, add an exclusive northbound right-turn lane, and add two exclusive southbound right-turn lanes.
15. Stewart Parkway at Harvard Avenue: add a westbound right-turn only lane and add southbound double left-turn lanes.
16. Harvard Avenue at the High School: add an eastbound left-turn lane.
17. Newton Creek Road at Stephens Street: add an exclusive westbound left-turn lane.
18. Stephens Street at Stewart Parkway: add northbound double left-turn lanes, an exclusive southbound right-turn lane, an eastbound right-turn lane, and a westbound right-turn lane.
19. Mulholland Drive at Stewart Parkway: add an eastbound and one westbound through lane on Mulholland Drive.
20. Harvard Avenue at Bellows Street: an Interchange Access Management Plan (IAMP) to accommodate year 2025 traffic and meet the Oregon Highway Design Standards is recommended. The long-term solution for this intersection would be a full interchange rebuilding at I-5 and Harvard Avenue ramps to attain acceptable volume to capacity ratios and level of service.

    An interim solution includes: add westbound double left-turn lanes, add a westbound right-turn lane, add eastbound right-turn lane, add northbound double left-turn lanes on the ramp, and add an exclusive southbound left-turn lane.
21. Stewart Parkway at Harvey: add additional southbound and northbound lanes (two through lanes in the northbound and southbound direction).
22. Stewart Parkway at Cedar Street/Airport Road: add an exclusive eastbound left-turn lane.
23. Stephens Street at Oak Avenue: add an exclusive northbound right-turn lane.
24. Douglas Avenue at Stephens Street: add an exclusive westbound right-turn lane.
25. Stephens Street at Chestnut Avenue: add an exclusive eastbound right-turn lane on Chestnut Avenue.
26. Old Highway 99 at Del Rio Road/Winchester Avenue: add an exclusive southbound right-turn lane (channelized).

2025 Operations Analysis

Using the two primary measures of effectiveness; level of service (LOS) and volume-to-capacity (v/c) ratio as discussed under Chapters 4 and 5, future intersection operations for the recommended roadway network alternative were analyzed. Table 7-6 shows the intersection operations results based on the proposed improvements.

Table 7-6. Future (2025) Operations Results for Roadway Network

Alternative No.	Intersections		Major/Minor Street LOS	Highest V/C	Highest Delay (seconds/vehicle)	HD Mobility Standard	Mobility Standard
	Major Street	Minor Street					
1	Diamond Lake Blvd	Douglas Ave	A/D	0.27 (Major St.)	30 (Minor St.)	0.75	0.80
2	Douglas Ave	Ramp Street	A/D	0.70 (Minor St.)	30 (Minor St.)	0.80	0.90
3	Douglas Ave	Rifle Range Street	A/B	0.30 (Minor St.)	10 (Minor St.)	0.80	0.90
4	Oak Ave	Jackson Street	B/B	0.47 (Major St.)	10 (Major St.)	0.80	0.95/LOS E
5	Troost Street	Calkins Road	B/B	0.45 (Major St.)	15 (Major St.)	0.80	0.90/LOS E
6	Washington Ave	Jackson Street	B/D	0.94 (Minor St.)	35 (Minor St.)	0.80	0.95/LOS E
7**	Garden Valley Blvd	Melrose	-		-	0.80	0.95
	Signalized Intersections		**LOS**	**V/C**	**Delay (seconds/vehicle)**	**HD Mobility Standard**	**Mobility Standard**
	Major Street	**Minor Street**					
8	Douglas Ave	Kane Street	B	0.66	15	0.80	0.95/LOS E
9	Pine Street	Mosher Ave	B	0.69	20	0.75	0.95/LOS E
10	Stephens Street	Chestnut Ave	C	0.87****	25	0.75	0.85/LOS D
11	Stephens Street	Mosher Ave	B	0.66	15	0.75	0.95/LOS E
12	Old Highway 99	Del Rio Road/Winchester Ave	A	0.69	10	0.75	0.85
13	Garden Valley Blvd	Troost Street	C	0.68	30	0.80	0.85
14	Harvard Avenue	Lookingglass Road	C	0.78	20	0.80	0.85/LOS D
15	Edenbower Blvd	I-5 NB on/off ramps (MP 127)	B	0.43	12	0.75	0.85
16	Diamond Lake Blvd	Fulton Street	B	0.73	10	0.75	0.80

Alternative No.	Intersections		Major/Minor Street LOS	Highest V/C	Highest Delay (seconds/vehicle)	HD Mobility Standard	Mobility Standard
	Major Street	Minor Street					
17	Douglas Ave	Jackson Street	C	0.80	25	0.80	0.95/LOS E
18*	Edenbower Blvd	I-5 SB on/off ramps (MP 127)	B	0.70	15	0.75	0.85
19*	Edenbower Blvd	Aviation Drive	B	0.74	20	0.80	0.85/LOS D
20*	Diamond Lake Blvd	Rifle Range Street	B	0.80	20	0.75	0.80
21	Diamond Lake Blvd	Jackson Street/Winchester Ave	C	0.74	25	0.75	0.80
22	Garden Valley Blvd	Cedar Street/Airport Road	C	0.73	25	0.80	0.85/LOS D
23	Garden Valley Blvd	Kline Street	D	0.83	36	0.80	0.85/LOS D
25	Harvard Avenue	Stewart Parkway	C	0.79	30	0.80	0.85/LOS D
26	Garden Valley Blvd/Mulholland Drive	I-5 NB off-ramp (MP 125)	B	0.73	20	0.75	0.85
27	Garden Valley Blvd	I-5 SB off-ramp (MP 125)	B	0.72	10	0.75	0.85
28	Harvard Avenue	I-5 NB on/off ramps (MP 124) and School Entr.	C	0.86****	30	0.75	0.80
29	Harvard Avenue	I-5 SB on/off ramps (MP 124) and Bellows St.	C	0.90***	30	0.75	0.80
30	Pine Street	Oak Ave	B	0.66	20	0.75	0.95/LOS E
31	Pine Street	Washington Ave	C	0.75	30	0.75	0.95/LOS E
32	Stephens Street	Diamond Lake Blvd	C	0.67	30	0.75	0.80
33	Stephens Street	Douglas Ave	C	0.73	20	0.75	0.95/LOS E
34	Stephens Street	Edenbower Blvd	C	0.71	30	0.75	0.85/LOS D
35	Stephens Street	Garden Valley Blvd	D	0.80****	40	0.75	0.85/LOS D

Alternative No.	Intersections		Major/Minor Street LOS	Highest V/C	Highest Delay (seconds/vehicle)	HD Mobility Standard	Mobility Standard
	Major Street	Minor Street					
36	Stephens Street	Newton Creek Road	C	0.73	20	0.75	0.85/LOS D
37	Stephens Street	Oak Ave	C	0.75	30	0.75	0.95/LOS E
38	Stephens Street	Stewart Parkway/Alameda Ave	C	0.74	30	0.75	0.85/LOS D
39	Stephens Street	Washington Ave	B	0.71	20	0.75	0.95/LOS E
40	Stewart Parkway	Airport Road	C	0.72	25	0.80	0.85/LOS D
41	Stewart Parkway	Aviation Drive/Mulholland Drive	C	0.77	30	0.80	0.85/LOS D
42	Stewart Parkway	Edenbower Blvd	C	0.78	35	0.80	0.85/LOS D
43	Stewart Parkway	Garden Valley Blvd	D	0.79	35	0.80	0.85/LOS D
44	Stewart Parkway	Harvey	C	0.74	25	0.80	0.85/LOS D
45	Stewart Parkway	WalMart Entrance	C	0.85	30	0.80	0.85/LOS D
46	Washington Ave	Madrone Street	E	0.80	50	0.80	0.80
47	Harvard Avenue	Stewart Park Drive	B	0.77	15	0.80	0.85/LOS D
* These Projects are funded and under design and are assumed to be built by 2025							
**Roundabout Analysis							
*** IAMP study required. With current configuration and expected volumes by 2025, v/c will be greater than 0.80							
****Oregon Highway Design Standard was not met due to high economic impacts of additional improvements							

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Mobility Standards

At present, the City of Roseburg has no current operational mobility standards. ODOT and Douglas County use volume-to-capacity (v/c) ratios for their performance standard.

Volume-to-capacity is the ratio of peak hour traffic volume to the maximum hourly volume of vehicles that that roadway section can accommodate (capacity). In other words, v/c measures the percentage of capacity of the roadway section that is being used during the peak hour. When the v/c exceeds 1.0, auto demand exceeds the capacity of the facility to serve that demand.

Level of service is a grade given to various ranges of delay, with a grade of 'A' representing ideal operations with minimal delay, and 'F' representing unacceptable conditions with high delay. For at-grade signalized intersections, LOS is measured by average delay which is the average amount of time a vehicle must wait at an intersection. A description of level of service by grade is provided in Chapter 4.

To determine roadway and intersection deficiencies, the mobility standards from the 1999 Oregon Highway Plan (OHP) for state facilities and Douglas County Plan for County facilities are used to assess the no-build transportation conditions. The Oregon Highway Design Manual standards are used for build alternatives and evaluating mitigation measures.

> *The OHP states that the maximum acceptable v/c ratio for Regional Highways outside the Portland metro area (non-MPO) and not identified as a Special Transportation Area (STA) is 0.80 where non-freeway speed limit is less-than 45 mph, and is 0.75 when non-freeway speed limit is greater-than 45 mph. For District/Local Interest roads, the acceptable ratio is 0.85 non-freeway speed limit is less-than 45 mph, and is 0.80 when non-freeway speed limit is greater-than 45 mph.*
>
> *The Douglas County performance standards for a given route vary based on the urban or rural nature, speeds, and surrounding land use designations. The County's v/c performance standards by roadway classification follows: Principal Highway, v/c = 0.70; Arterial, v/c = 0.85; Major Collector, v/c = 0.90; Minor Collector, v/c = 0.95; Necessary Local, v/c = 0.95.*

When transportation system alternatives are developed to mitigate transportation system deficiencies, the v/c standards included in the Oregon Highway Design Manual were used to assess these improvement alternatives.

For the City of Roseburg, a dual transportation performance measure standard with a volume-to-capacity ratio standard and level of service standard will be implemented for City streets. The draft mobility standards were developed by the technical advisory committee and presented to the public at a public working session of the City Council. The proposed mobility standards were refined to address comments received presented to the Public Works and Planning Commissions and approved by both Commissions.

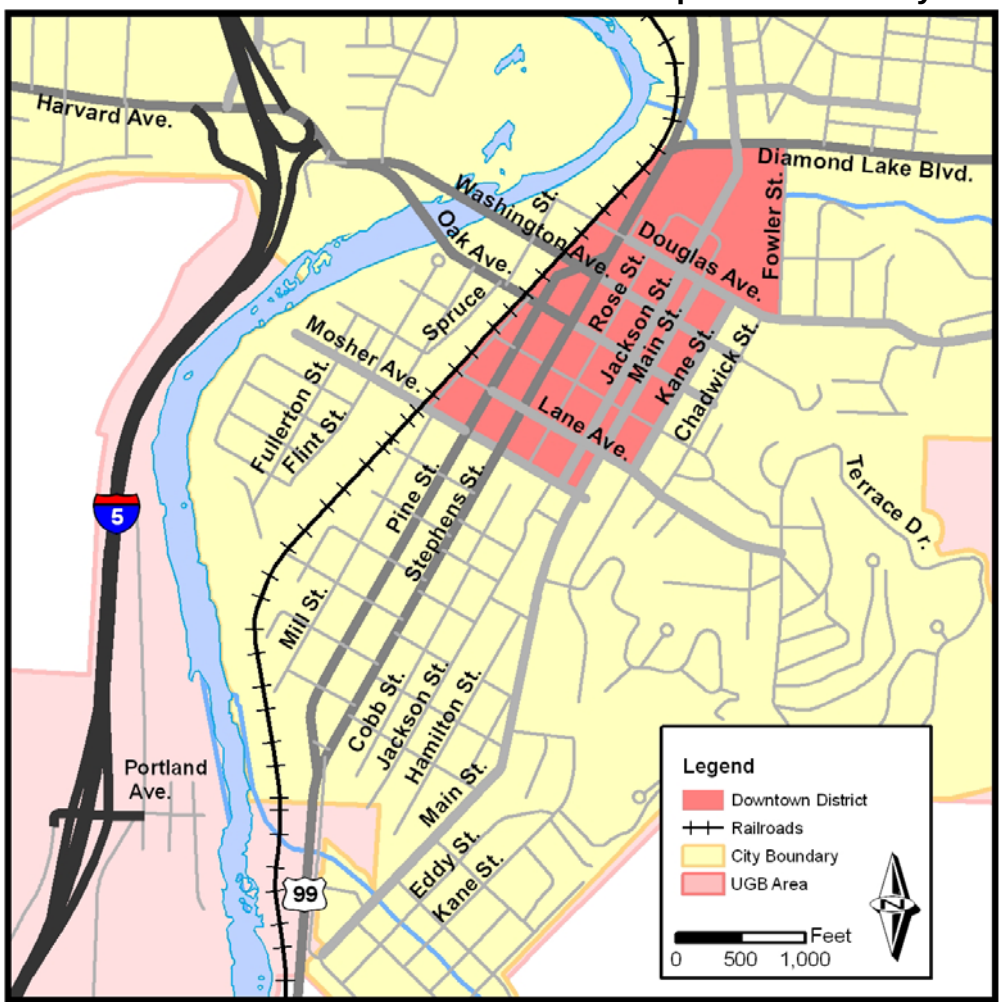
The following is the proposed performance measure standard for the City of Roseburg:

- Volume-to-capacity ratios and level of service (LOS):
  Arterial = 0.85/D or E
  Collector = 0.85/D or E
  Local = 0.90/D or E
- *Signalized intersections = D*
  Unsignalized intersections = E

In addition, it is recommended that the City of Roseburg consider designating the downtown district of Roseburg as shown in Figure 7-5 with its own performance measure standards. The proposed transportation performance measures for all streets in the Roseburg downtown district follow:

- Proposed volume-to-capacity ratio = 0.95/E
- Proposed level of service E for all intersections

Figure 7-5. Downtown District Boundaries for Transportation Mobility Standard



Multi-Use Path Network

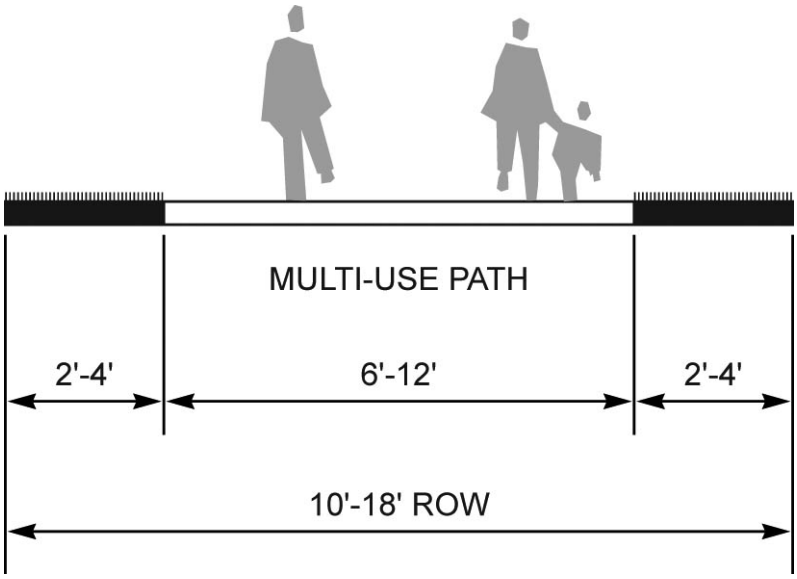
Currently, the City of Roseburg has a multi-use path network located in the center of the City. The backbone of the existing network is along the north side of the South Umpqua River beginning at Stewart Parkway and ending at Douglas Avenue. Extensions off of this main path are up to Highland Street, across the river along the east side of Interstate 5, running along the west side of the South Umpqua River to Kendall Street, and to Harvey Avenue. There is also an additional main path along the west side of Interstate 5 north of the South Umpqua River to Garden Valley Boulevard. The plan recommends additional multi-use paths to create a more complete network that is integrated with the bicycle and pedestrian networks.

In particular it is important to link the existing multi-use path network to the bicycle network, the downtown, waterfront area, and the high use area along Stewart Park Drive. In order to enhance the existing network and meet the needs of residents, the following locations for future multi-use paths are recommended, as shown in **Error! Reference source not found.**:

- Adjacent to Harvard Avenue between Lookingglass Road and east side of Interstate 5
- Adjacent to Interstate 5 between Edenbower Boulevard and Garden Valley Boulevard
- Along the west side of the South Umpqua River from Kendall Street to fairgrounds
- Along the east side of the South Umpqua River from Douglas Avenue to Portland Avenue (new crossing)
- Along the South Umpqua River connecting the fairgrounds to the Shady Bridge
- Adjacent to Umpqua College Road from Old Highway 99 to college and North Umpqua River
- Along Deer Creek connecting parks
- From I-5 to Duck Pond south of Fred Meyer and the BLM office
- South of Harvey Avenue from Stewart Parkway to the west to new north-south connector
- Adjacent to Stewart Parkway from Fir Grove School to South Umpqua River

The typical cross section developed for a multi-use path is shown in Figure 7-6. The minimum width for a multi-use path is 8 feet and a standard width of 10 feet is required to be compliant with State standards.

Figure 7-6. Multi-Use Path Typical Section



Bicycle Transportation System

This section summarizes the existing and future facility needs for bicycles in the City of Roseburg. The needs and strategies for developing a bicycle plan were identified in working with the City of Roseburg and with the TSP technical advisory committee including comments from the Umpqua Velo Club.

Bicycle facilities can generally be categorized as bicycle lanes, shared facilities including widened shoulders, and bicycle paths (also known as multi-use paths). Bicycle lanes are defined as that portion of a street that is designated by striping and pavement markings for the preferential or exclusive use of bicyclists. Shared facilities include locations where the bicyclist and the motorist must share a travel lane, as well as roadway shoulders contiguous to a travel lane where space is shared by bicyclists, pedestrians, emergency use by vehicles and for lateral support of the roadway pavement section. Bicycle paths are physically separated from the vehicle travel lane by an open space or barrier. A bicycle path may be located within the roadway right-of-way or on a separate right-of-way. Bicycle paths are also known as multi-use paths as they can be used by bicyclists, as well as pedestrians, joggers, skaters, and other non-motorized travelers.

Oregon's Transportation Planning Rule 660-012-0045 3(B) requires bicycle lanes along arterials and major collectors even if they do not generate significant bicycle traffic. Oregon Revised Statute 366.514 requires that when an agency receives state highway funds and constructs, reconstructs or relocates highways, roads, or streets, it must expend a reasonable amount of those funds, as necessary, on bicycle and pedestrian facilities. The statute also requires the agency to spend no less than one percent per fiscal year on such facilities, unless relieved of that obligation by an acceptable exception. The law requires a reasonable amount of State Highway Funds be expended by the Department of Transportation, counties, and cities to provide walkways and bikeways. Also required is that walkways and bikeways are provided on all new roadway construction, reconstruction, or

relocation projects. The funding source or amount are not the determining factors; what is important is that pedestrian and bicycle facilities be provided as part of road improvements.

Currently, the City of Roseburg has limited roadway bicycle facilities. The bicycle routes are not continuous across the City in both the north-south and east-west directions. There are few facilities connecting residential neighborhoods to commercial areas and schools for local travel. As a result, those who do choose to ride their bicycle often ride on the sidewalks (where they exist) rather than travel on roadways without a designated bike lane. This, in turn, creates problems for pedestrians, commercial customers, and merchants.

The current and expected residential growth on the east, west, and north sides of the City provides a good opportunity to add bicycle connections to all new roadways. For example, a special “bicycle-pedestrian corridor overlay” along Harvard Avenue into the downtown area would create a bicycle friendly area by increasing safety and accessibility for bicyclists and lowering vehicular traffic speeds.

In the future, bike facilities should be provided on major north-south and east-west streets to facilitate local and regional bicycle travel.

In the future, the bicycle facilities should provide an interconnected network throughout the City of Roseburg facilitating local and regional bicycle travel. Successful bicycle and pedestrian connectors provide connections between dead-end streets or cul-de-sacs, between loop streets, between long blocks, or through open spaces that shorten bicycle and pedestrian trips over the route options available via the street network. Sometimes the cul-de-sac street can be connected to allow bicycle and foot access to reach adjacent streets, paths, trails, or property. A neighborhood connector is designed as a 10-foot-wide paved path that links adjacent areas for bicycle and pedestrian travel only (Figure 7-7).

Figure 7-7. Cul-de-Sac Connect

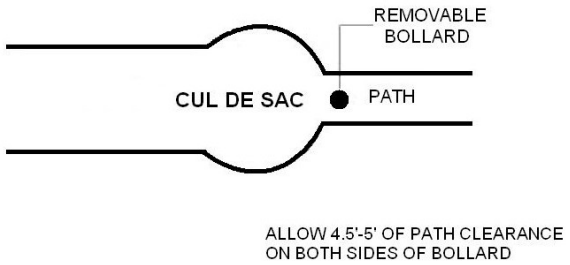
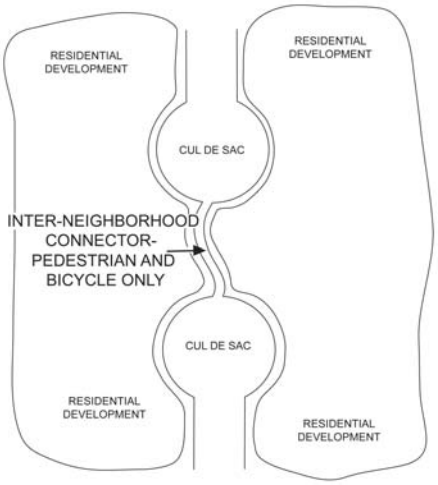
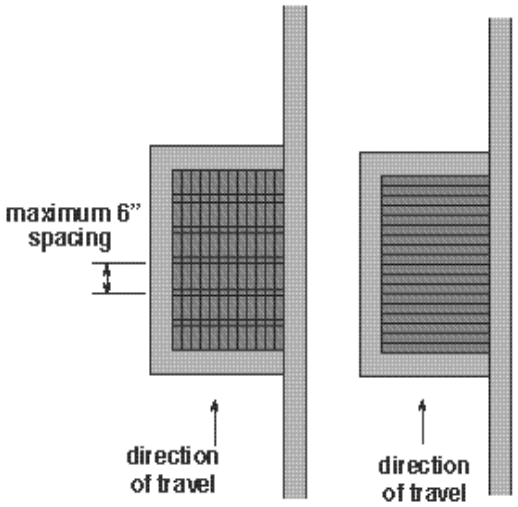


Figure 7-8. Cul-de-Sac Connection Design



In most cases, it is necessary to install bollards at spaced intervals at both ends of a neighborhood connector, to prevent unauthorized vehicles from using the path as a cut-through (Figure 7-8). There are situations however, where it is not possible to construct a path 10 feet in width, in which case less width is acceptable with the provision that cyclists dismount and walk along the path.

Figure 7-9. Bicycle-Friendly Drainage Grates



Care must be taken to make sure that drainage grates are bicycle-safe. If not, a bicycle wheel may fall into the slots of the grate causing the cyclist to fall. Replacing existing grates (preferred method) or welding thin metal straps across the grate perpendicular to the direction of travel (alternate method) is required when retrofitting drainage grates as shown in Figure 7-9. Metal straps should be checked periodically to ensure that they remain in place.

Inlets should be raised after a pavement overlay, to be within 1/4" of the new surface. If this is not possible or practical, the pavement must taper into drainage inlets so they do not cause an abrupt edge at the inlet. Another option is to recess the curb line in the area of the grate, removing the grate from the cyclist's travel path.

The Roseburg Trails and Bikeway Committee is recommending improvements in the planning, management, and maintenance of the City of Roseburg recreation trail and bikeway system. Improvements will promote greater use of the system while providing safer access throughout our community. The Committee is recommending to City Council that the following actions and policies be implemented:

1. Place appropriate signage along all sections of the trail system
2. Formally identify and name sections of the bike path for easy reference
3. Produce a trail map and brochure to be made available to the public
4. City acquire access rights, or purchase property, as it becomes available along Deer Creek from the South Umpqua River to Douglas Street

5. Allow flexibility, where possible or appropriate, for changes and or improvements to existing trails
6. Adopt a formal trail-maintenance standards program
7. Provide a mechanism for funding the maintenance of bikeways and trails
8. Recommend City Council approve a method in which the public can communicate problem areas of the trail to the City
9. Promote a volunteer Bike Trail/Bikeway program
10. Provide trailheads, which include parking and signage, at the library, duck pond, Fir Grove Park, Charlie Gardner Park, Micelli Park, Visitor Center, and Sunshine Park
11. Encourage staff to seek trail funds by applying to agencies granting funds for bike trails and bikeways
12. Update the Bikeway Master Plan
13. Form a Recreation Trail Committee under the auspices of the Park Commission, in coordination with Public Works, that would meet on a regular basis

Specific recommended bicycle projects (in addition to the multi-use path connections) are listed below and are shown in **Error! Reference source not found.**:

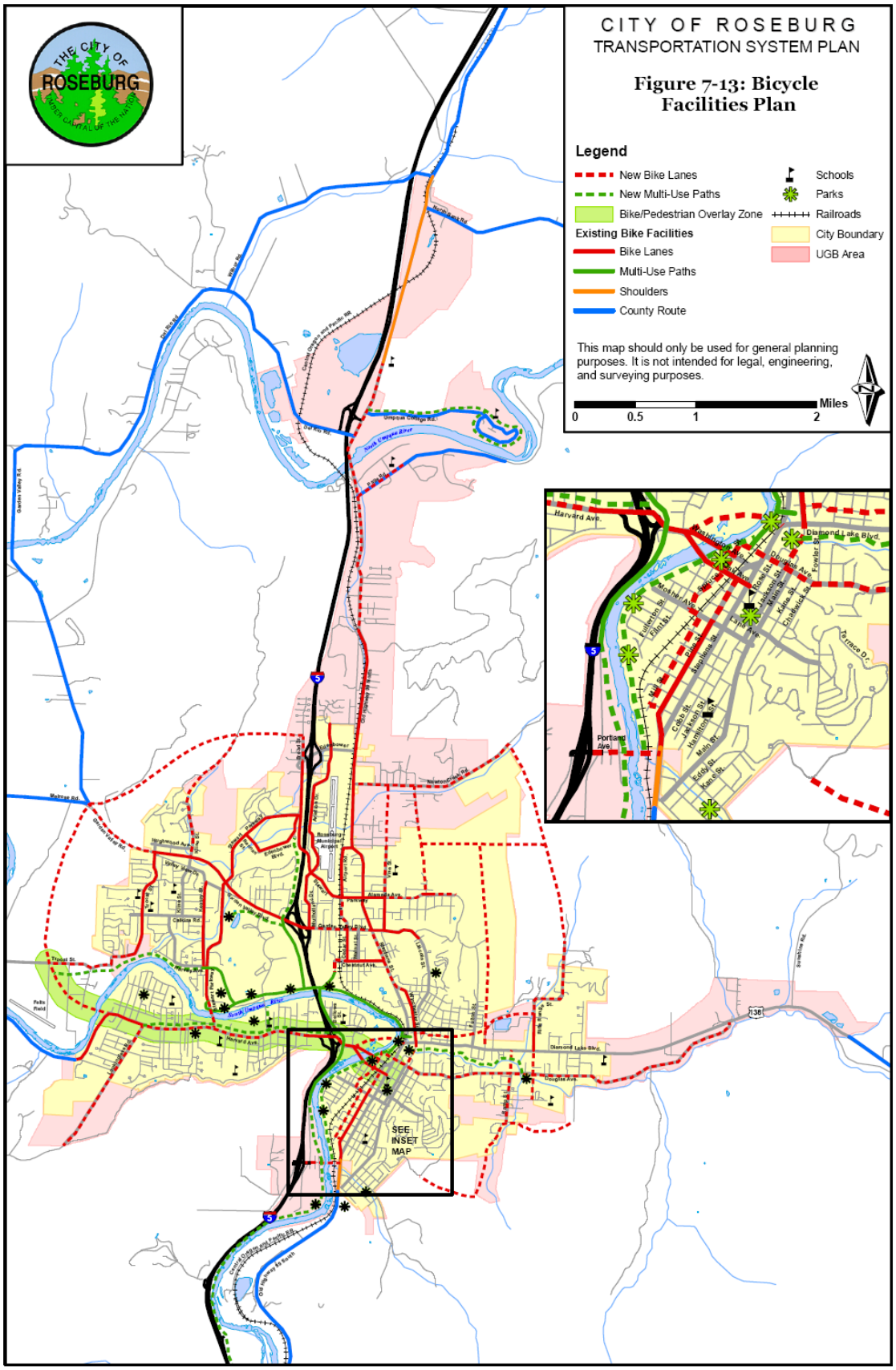
1. Harvard Avenue from Bellows Street to Lookingglass Road
2. Troost Street from end of existing bike lanes to the west end connecting to new street connection
3. Garden Valley between Melrose Road and Troost Street
4. Broad Street from the Edenbower Blvd interchange to the new road
5. Old Highway 99 from Keller Road to Umpqua College Road
6. Newton Creek Road from Old Highway 99 to new Rifle Range Street connection
7. Alameda from Vine Street to east end
8. Douglas Avenue between Diamond Lake Boulevard and Spruce Street
9. Stephens Street between Garden Valley Boulevard and Winchester Street
10. Winchester/Jackson between Diamond Lake Boulevard and Douglas Avenue
11. Ramp Street between Douglas Avenue and Terrace Drive
12. Portland Avenue between Interstate 5 and Pine Street
13. Spruce Street between Douglas Avenue and Mosher Avenue
14. Mosher Avenue from Spruce Street to Mill Street
15. Mill Street from Mosher Avenue to Rice Avenue
16. Rice Avenue from Mill Street to Pine Street
17. Airport Road between Stewart Parkway and Garden Valley Boulevard
18. Chestnut Avenue between Cedar Street and Highland Street
19. Highland Street between Chestnut Avenue and existing multi-use path
20. Pine Street from Mosher Avenue to Oak Avenue
21. Garden Valley Boulevard from Stephens Street to Mulholland Drive
22. All new collector and arterial street connections

The effectiveness of the bicycle network can be enhanced via complementing land development actions. The Transportation Planning Rule (TPR) also requires that bicycle parking facilities be provided as part of new residential developments of four units or more,

and new retail, office and institutional developments.[34] And as new development occurs, it is important that connections or accessways be provided to link the development to existing and planned bicycle and pedestrian facilities as directly as possible.

In addition, roadway maintenance is important for bicyclists as well as vehicles. For example, frequent street sweeping on all streets is a major factor in street ride-ability for cyclists.

[34] Bike parking is also required at transit transfer stations and park-and-ride lots.


CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 7-13: Bicycle Facilities Plan
Legend
New Bike Lanes
New Multi-Use Paths
Bike/Pedestrian Overlay Zone
Existing Bike Facilities
Bike Lanes
Multi-Use Paths
Shoulders
County Route
Schools
Parks
Railroads
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
Miles
0
0.5
1
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SEE INSET MAP

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Bicycle and Multi-Use Path Improvements Priority Ranking

According to the priorities developed by the TAC and citizen comments, the proposed bicycle and multi-use path improvements have been ranked by importance, as shown in Table 7-7. They have been ranked either high, medium, or low, with these rankings corresponding with the time frame the improvement should be made. The projects ranked 'high' are addressing immediate needs and projects ranked 'low' are long-term projects that address needs in the future. The highest priority was to complete the existing network by filling in gaps between existing facilities, as well as connect destination centers, such as parks and schools. Bike lanes on new proposed street connections are included in the roadway project priority list.

Table 7-7. Bicycle and Multi-Use Path Improvement Priority Ranking

Importance	Name
High	Bike lanes on Douglas Avenue between Diamond Lake Boulevard and Spruce Street
High	Bike lanes on Harvard Avenue from Bellows Street to Lookingglass Road
High	Multi-use path connection along Deer Creek
High	Bike lanes on Stephens Street from Garden Valley Boulevard to Winchester Street
High	Bike lanes on Old Highway 99 north from Keller Road to Umpqua College Road
High	Bike lanes on Airport Road between Stewart Parkway and Garden Valley Boulevard
High	Bike lanes on Troost Street from end of existing bike lanes to the west end connecting to new street connection
High	Multi-use path along the west side of the South Umpqua River from Kendall Street to fairgrounds
High	Multi-use path along the east side of the South Umpqua River from Douglas Avenue to Portland Avenue (new crossing)
High	Bike lanes on Garden Valley Boulevard from Stephens Street to Mulholland Drive
High	Bike lanes on Pine Street from Moser Avenue to Rice Avenue
High	Bike lanes on Winchester Street between Diamond Lake Boulevard and Douglas Avenue
High	Bike lanes on Portland Avenue between Interstate 5 and Pine Street
High	Bike lanes on Spruce Street between Douglas Avenue and Mosher Avenue
High	Bike lanes on Mosher Avenue from Spruce Street to Mill Street
High	Bike lanes on Mill Street from Mosher Avenue to Rice Avenue
High	Bike lanes on Rice Avenue from Mill Street to Pine Street

Importance	Name
High	Bike lanes on Chestnut Avenue between Cedar Street and Highland Street
High	Bike lanes on Highland Street between Chestnut Avenue and existing multi-use path
High	Multi-use path adjacent to Harvard Avenue between Lookingglass Road and Interstate 5
High	Multi-use path from I-5 to Duck Pond
High	Multi-use path adjacent to Umpqua College Road from Old Highway 99 to college and North Umpqua River
Medium	Multi-use path south of Harvey Avenue from Stewart Parkway to the west to new north-south connector
Medium	Bike lanes on Newton Creek Road from Old Highway 99 to new Rifle Range Street connection
Medium	Bike lanes on Ramp Street between Douglas Avenue and Terrace Drive
Medium	Multi-use path adjacent to Interstate 5 between Edenbower Boulevard and Garden Valley Boulevard
Medium	Bike lanes along Alameda from Vine Street to east end
Low	Multi-use path adjacent to Stewart Parkway from Fir Grove School to South Umpqua River
Low	Multi-use path along the South Umpqua River connecting the fairgrounds to the Shady Bridge
Low	Bike lanes on Garden Valley between Melrose Road and Troost Street
Low	Bike lanes on Broad Street from the Edenbower interchange to the new road connection

Pedestrian Transportation System

The City of Roseburg's sidewalk system varies widely from neighborhood to neighborhood. Sidewalks exist in most of the downtown area and provide access to such pedestrian attractors as commercial areas, employment sites, and schools. However, many of Roseburg's neighborhoods either do not have sidewalks or have only a limited and disconnected sidewalk system, as shown in Figure 3-5. On the arterial and collector street system, the availability of sidewalks is generally erratic and incomplete. On many blocks, the sidewalks may exist on one side of the street and be absent on the other side of the street, or partial sidewalks may be in place sporadically throughout the block, lacking continuity. These deficiencies should be addressed to provide safe linkage from residential areas to commercial areas and employment sites.

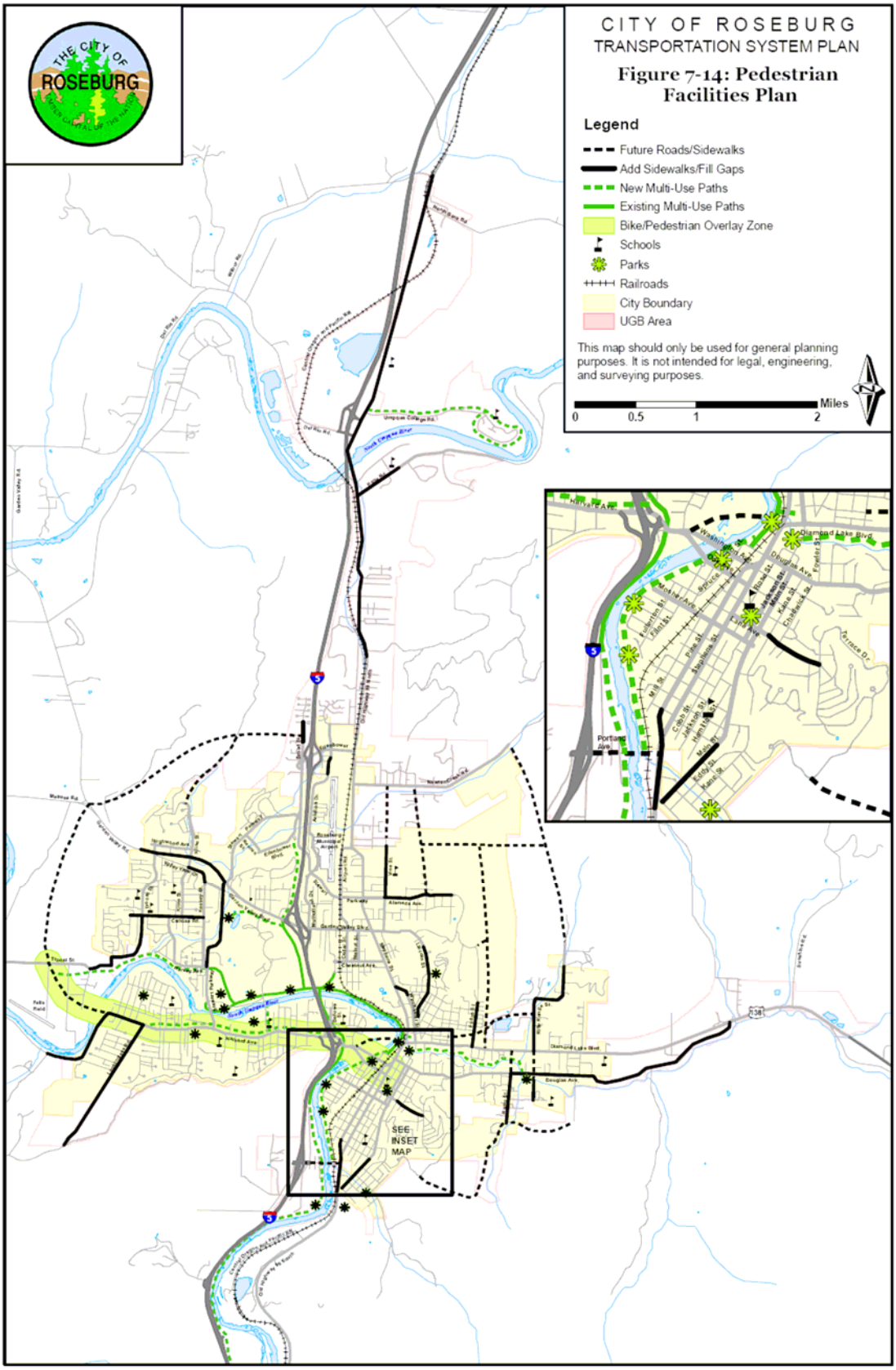
Oregon's Transportation Planning Rule 660-012-0045 3(B) requires sidewalks along arterials, collectors, and most local roads. Oregon Revised Statute 366.514 requires construction of pedestrian facilities as part of all roadway construction, reconstruction, or relocation projects on arterials and major collectors where conditions permit, and will require

expenditure of at least one percent of road improvement funds on bicycle and pedestrian projects.

In general, new sidewalks will be constructed as part of the roadway improvement projects described in Chapter 7, although in some cases, sidewalks should be retrofitted onto existing arterial and collector streets. Recommended pedestrian projects are listed below and are shown in **Error! Reference source not found.** (in addition to sidewalks on proposed new arterials and collectors):

1. Add new sidewalks along Highway 99 beginning at the UGB Area Limit just north of North Bank Road, continuing just south of Davis Creek
2. Fill in a sidewalk gap on Aviation Drive just south of Edenbower Boulevard
3. Add new sidewalk at the northern portion of Broad Street
4. Add sidewalk on Stewart Parkway north of Harvey Avenue and continuing west along Garden Valley Boulevard
5. Add sidewalks along length of Calkins Road
6. Add sidewalks along Troost Street south of Calkins Road to Charter Oaks Drive
7. Add sidewalks along length of Lookingglass Road
8. Add sidewalks along Harvard Avenue from Lookingglass Road to the west
9. Add sidewalks along Old Melrose Road from Harvard Avenue to Long Melrose Lane
10. Add sidewalks along Vine Street north of Alameda Avenue to north end
11. Add sidewalks along Alameda Avenue from Vine Street east to end
12. Add sidewalks along Lincoln Street south of Garden Valley Boulevard and north of Diamond Lake Boulevard
13. Add sidewalks along Fulton Street from Diamond Lake Boulevard north to end
14. Add sidewalks along Rifle Range Street from Diamond Lake Boulevard north to end
15. Add sidewalks along Shambrook Avenue between Stephens Street and Winchester Street
16. Add sidewalks along Douglas Avenue between Diamond Lake Boulevard and Ramp Street
17. Add sidewalks along the length of Ramp Street
18. Add sidewalks along Lane Avenue from Kane Street to Terrace Drive
19. Add sidewalks along Pine Street from Rice Avenue south to existing sidewalk
20. Add sidewalks along Main Street from Rice Avenue south to end

Because the proposed sidewalks projects listed in this section fill in the existing gaps in the pedestrian network, all of the proposed sidewalk projects have been prioritized as high priority projects.


CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 7-14: Pedestrian Facilities Plan
Legend
Future Roads/Sidewalks
Add Sidewalks/Fill Gaps
New Multi-Use Paths
Existing Multi-Use Paths
Bike/Pedestrian Overlay Zone
Schools
Parks
Railroads
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
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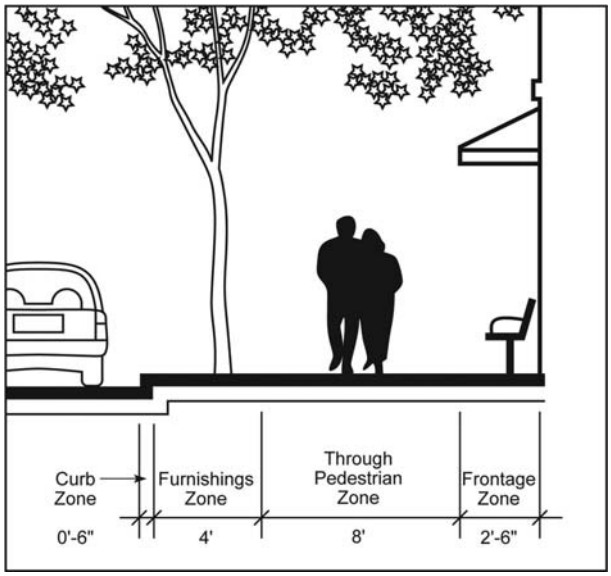
Sidewalks provide pedestrian access to virtually every activity and provide critical connections between other modes of travel, including the automobile, public transit, and bicycles. The sidewalk corridor is typically located within the public right-of-way between the curb or roadway edge and the property line. The downtown area is considered a high pedestrian-use area, and should have different characteristics than other neighborhoods within Roseburg. Within the downtown the sidewalks should follow “sidewalk corridor” design guidelines to create a comfortable space for the community to utilize the sidewalks for both walking and socializing. This “sidewalk corridor” contains four distinct zones: the Curb Zone, the Furnishings Zone, the Through Pedestrian Zone, and the Frontage Zone, as shown in Figure 7-10.

Figure 7-10. Pedestrian Zone



Pedestrian activities are concentrated at street corners. These are the places where ways converge, where walkers wait for crossing opportunities, and where people are most likely to stop and converse with others.

Street corners are important in the larger scheme of street systems. They are the logical location for hardware such as street name signs and traffic control signs or traffic signal bases. The design of the corner affects the speed with which turning traffic can maneuver through an intersection. Visibility at the corner is an issue for all users of the street system.

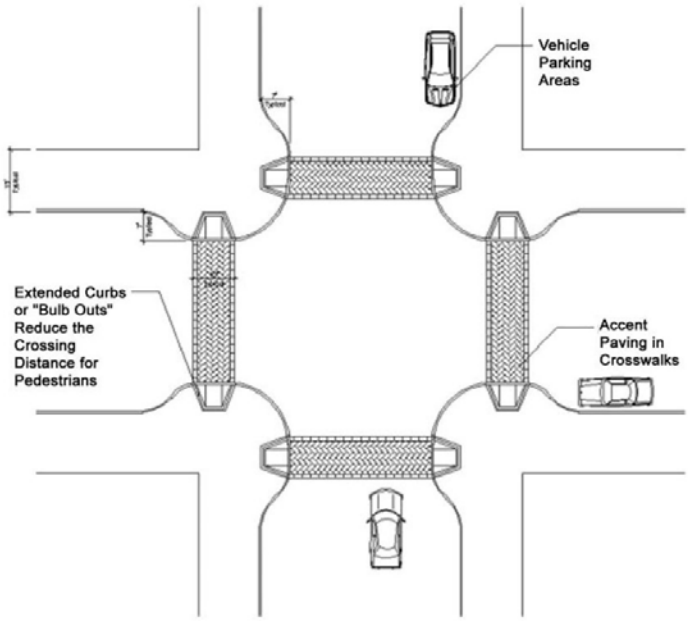
Since the corner area must accommodate a concentration of pedestrian activities, and since sight lines need to be maintained for all street users, it is important to maintain an area that is free of obstructions. The obstruction-free area of a street corner is the space between the curb and the lines created by extending the property line (or the line of a public walkway easement) to the curb face. Signal poles, street lights, telephone poles, hydrants, trees, benches, signs, controller boxes, private uses, and other vertical elements should not be located within this area.

Keeping these elements out of the Obstruction-Free Area should not result in placing them in other locations where they are an obstruction to pedestrians, such as the Through Pedestrian Zone in the Sidewalk Corridor. Exceptions to the obstruction-free guideline include bollards to separate pedestrians from traffic, and low posts for pedestrian call buttons at actuated signal controls.

Pedestrian signal call buttons are used in cases where there are actuated signals for the signal controller to detect the presence of pedestrians. In high pedestrian areas the use of a countdown indicator is an option.

Curb extensions, as shown in Figure 7-11, (sometimes called curb bulbs or bulbouts) have many benefits for pedestrians. They shorten the crossing distance and pedestrian signal phase, provide additional space at the corner (simplifying the placement of elements like curb ramps), and allow pedestrians to see and be seen before entering the crosswalk.

Figure 7-11. Sidewalk Bulbouts



Curb extensions may be used at any corner location, or at any mid-block location where there is a marked crosswalk, provided there is a parking lane into which the curb may be extended. Curb extensions are not generally used where there is no parking lane because of the potential hazard to bicycle travel.

In high pedestrian use areas, such as downtown Roseburg, curb extensions are a preferred element for corner reconstruction except where there are extenuating design considerations such as the turning radius of the design vehicle, or transit and on-street parking factors.

Crosswalks are a critical element of the pedestrian network. It is of little use to have a complete sidewalk system if pedestrians cannot safely and conveniently cross-intervening streets. Safe crosswalks support other transportation modes as well. Transit riders, motorists, and bicyclists all may need to cross the street as pedestrians at some point in their trip.

Public Transportation Services

Roseburg is a regional destination and it is necessary to maintain intercity transit service; however, the existing fixed-route system is not efficient and should be restructured. Following are several recommendations for future service and facilities improvements, consistent with proposed changes described in the *Douglas County Coordinated Transportation Plan*:

- Shorter, More Direct Local Routes already implemented by Umpqua Transit.
- Flexible Routing: In smaller cities, it is often possible to integrate features of on-demand service with fixed-route service to make transit service more flexible and therefore more useful. Fixed-route service characteristics that should be considered include: on-demand route deviations, time point service, and/or service zones.
- More Frequent Service: Route headways should be reduced to 30 minutes or less to encourage utilization.

- Service Hours and Days: As additional funding becomes available, service should be expanded later into the evening (e.g., 9 pm) and Saturday service added.
- Passenger Tracking: To better understand who is riding the system, for what purposes, and to/from which locations, on-board passenger surveys should be conducted periodically. Local and regional ridership patterns should be assessed, and bus stop locations should be refined based on boardings data.
- Passenger Amenities: Bus stop improvements are necessary for the comfort and convenience of passengers. Stops are used to disseminate route and schedule information, provide safe and secure passenger seating, and shelter for disabled and mobility impaired passengers. Bus stop improvements should be prioritized through boardings surveys, and the top ten stops should be identified for capital improvements (e.g., bus shelters). Twenty-two new bus shelters are in process for permits.
- The aforementioned system improvements should be implemented as revenue growth allows, and an overriding goal should be to index revenue service hours to population growth.

Freight, Air, Water, and Pipeline Infrastructure and Services

The movement of goods and commodities into, out of, and through the Roseburg UGB is heavily dependent on the highway system, although freight movement also occurs via rail. Freight transportation is a major transportation issue in Roseburg. As key roadways in the city show traffic volume increases and capacity constraints, the impact of congestion on freight mobility needs to be addressed. Freight movement is a key to economic development. When traffic conditions degrade on key corridors through the City, the City of Roseburg would benefit from a regional freight movement planning study. It would need to assess current conditions, determine potential deficiencies in moving freight, and identify projects to enhance freight movement within and through Roseburg.

Within the Roseburg UGB, the only designated freight route is Interstate 5, which is the most important freight link in the region. Not only does it serve freight heading to destinations within the Roseburg UGB, but also serves a significant number of trucks passing through the region to destinations along the West Coast. Currently, the combined volume of freight transported over highway and rail modes in the I-5 corridor through the Sutherlin/Roseburg region is estimated at 25 million tons annually, with the majority of this freight carried on the highway system. Most of the freight shippers and receivers in Roseburg are located within two miles of I-5. Consequently, access to I-5 is critical for freight shippers in Roseburg.

The other major corridors for truck travel through Roseburg are Diamond Lake Boulevard (State Route 138) and Stephens Street/Old Highway 99, although neither are designated as an official freight route. Diamond Lake Boulevard serves as the major East-West corridor, providing access to Eastern Oregon from the I-5 corridor. Consequently, Diamond Lake Boulevard should be designated as an official freight route. With the proposed new connection of Diamond Lake Boulevard across the river to Interstate 5, this will help diminish the community impact of freight transport. There are many freight centers located

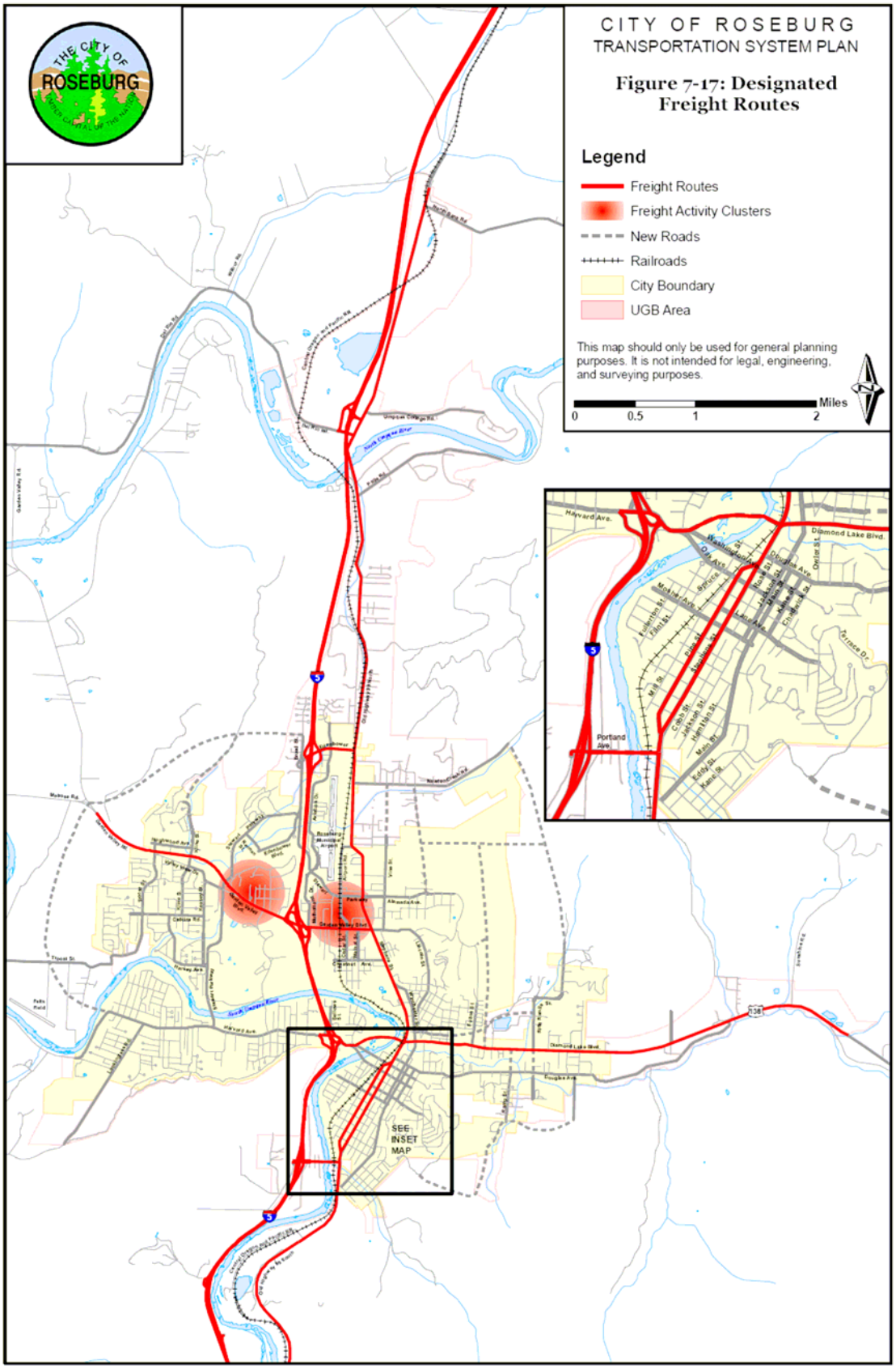
near the Roseburg Municipal Airport between Interstate 5 and Stephens Street/Old Highway 99 in the north and the railroad in the south. To provide access to these facilities in the north, freight routes around the airport are proposed. Edenbower Boulevard in the north to connect Old Highway 99 and Interstate 5, Stephens Street/Old Highway 99 between Edenbower Boulevard and Diamond Lake Boulevard to provide access for freight originating near the airport with destinations to the east, and provide an alternate North-South route to I-5, and Old Highway 99 from the proposed bridge in the south at Interstate 5 south to the UBG limit. Also, in order to provide for freight traveling to the west, in particular to the retail area within Roseburg, Garden Valley Road from Stephens Street west to the UGB limit is proposed as a freight route.

These proposed additions to the freight system provide freight access to the major shipping centers while trying to avoid the downtown Roseburg UGB and trying to minimize the impact of the freight movement on the city street system. The suggested improvements as well as the major freight origin-destination centers are shown in **Error! Reference source not found.**. Many major freight centers are located just south of the airport near Interstate 5. The main large-retail area is along Garden Valley Boulevard near Stewart Parkway. The freight route along Garden Valley Boulevard ensures that freight deliveries to this area are direct.

The South Umpqua River winds through the City of Roseburg, providing for many recreational activities. It is not a navigable waterway and is not used for freight movement.

The existing airport in Roseburg has one runway and currently provides only freight service. It has provided commercial air service in the past. Future air service through the use of business-class aircraft will be considered according to the *Roseburg Regional Airport-Master Plan Update 1995-2014*. The airport plans on building new hangars to accommodate the increase in forecasted demand of local aircraft. A significant increase in freight service is also predicted. In order to accommodate forecasted growth as well as the potential commercial use, a runway extension and additional taxiway are recommended based on the Airport Master Plan.

The Williams' Northwest Bidirectional Pipeline consists of over 4,000 miles of pipeline providing the Pacific Northwest and Intermountain Region with natural gas. There is no generation of gas in Roseburg; however, gas from the Williams' Pipeline is distributed to Roseburg by Vista through the Roseburg Gas Line. Annually, approximately 81,611,000 therms (1 therm = 100 cubic feet of gas) are distributed in this local gas line.


CITY OF ROSEBURG
TRANSPORTATION SYSTEM PLAN
Figure 7-17: Designated Freight Routes
Legend
Freight Routes
Freight Activity Clusters
New Roads
Railroads
City Boundary
UGB Area
This map should only be used for general planning purposes. It is not intended for legal, engineering, and surveying purposes.
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Chapter 8: Finance Plan

Introduction

This chapter describes various funding sources that could be used to meet the needs of the transportation system in the City of Roseburg. Costs for individual elements of the transportation system plan are outlined and compared to potential revenue sources. Subsequently, options for balancing plan costs and revenues are discussed.

Capital Improvements List

Order-of-magnitude cost estimates were developed for the projects identified in the bicycle, intersection, pedestrian, roadway and transit elements of this plan. Project costs were estimated using typical unit costs for transportation improvements in 2006 US dollars, and do not reflect unique project costs such as significant environmental mitigation, possible relocation. Development of more detailed project costs (and additional financial analysis) should be prepared in the future as these projects are further studied and refined. Since many of the projects address multiple transportation modes (e.g., autos and bikes), project costs were developed by project and include all elements of each relevant mode.

Tables 8-1 and 8-2 show the cost estimate for each proposed transportation improvement project.

Inclusion of a project in the TSP does not represent a commitment by the City of Roseburg or ODOT to fund, allow, or construct the project. Projects in the TSP are not considered "planned" projects until they are programmed in the adopted CIP or STIP, or a letter from the affected transportation provider is received that states the project is reasonably likely to be constructed within the next 20 years. Projects that are programmed to be constructed may have to be altered or cancelled at a later time to meet changing budgets or unanticipated conditions such as environmental constraints.

Table 8-1. Cost Estimates for Roadway Projects

Roadway Project	Map Code	Project Prioritization	Cost Estimate in FY2006 Dollars *(Design, ROW, Construction)*
YEARS 0-5			
Stewart Parkway Improvements	A, B, C	0 – 5 Years	$22,330,000
Troost Street: Straighten Curves/Realign Intersection	E	0 – 5 Years	$2,420,000
Harvard Avenue Bridge and Harvard Avenue, west of Lookingglass Road	F, G	0 – 5 Years	$9,310,000
Garden Valley Boulevard Refinement Study to Evaluate Safety and Capacity Improvements; Phase 1 Construction	M	0 – 5 Years	$8,110,000
Stephens Street Safety and Capacity Improvements	T	0 – 5 Years	$17,310,000
Harvard Avenue Interchange Access Management Plan and study a connection from Harvard Avenue to Diamond Lake Boulevard	V	0 – 5 Years (IAMP)	$1,000,000
Edenbower Boulevard: New northbound ramp, widening both off-ramps and signalization of southbound ramp		0-5 Years	$3,200,000
Subtotal Years 0-5:			**$63,680,000**
YEARS 6-10			
Harvard Avenue Interchange Improvements and construct improvements between from Harvard Avenue and Diamond Lake Boulevard	V	6 – 10 Years	$12,680,000
New Arterial from West Harvard Connector to Garden Valley (Troost/Charter Oaks/West Harvard Connector)	H	6 – 10 Years	$11,510,000
Alameda Avenue/Cloverdale	I	6 - 10 Years	$1,730,000
Fulton Street Improvements	L	6 – 10 Years	$2,230,000
Lookingglass Road – South of Harvard Avenue	Q	6 – 10 Years	$4,740,000

Roadway Project	Map Code	Project Prioritization	Cost Estimate in FY2006 Dollars *(Design, ROW, Construction)*
New Collector from Diamond Lake Boulevard at Lake Street or Gardiner Street	X	6 – 10 Years	$4,030,000
New Collector Connection - Odell Avenue to Rifle Range Street	R	6 – 10 Years	$3,450,000
Subtotal Years 6-10:			**$40,370,000**
YEARS 11-15			
Rifle Range Street - North of Diamond Lake Boulevard	N	11 – 15 Years	$7,570,000
Rifle Range Street Extension across Deer Creek to Douglas Avenue	O	11 – 15 Years	$2,000,000
Vine Street Improvements (north of Alameda) and Extension	P	11 – 15 Years	$4,370,000
New East-West Collector from Summit Drive to Ramp Street to Pearce Road	BB	11 – 15 Years	$16,360,000
Widen Edenbower Boulevard	CC	11-15 Years	$8,500,000
Portland Avenue Bridge and Interchange Improvements	U	11 – 15 Years	$10,300,000
Subtotal Years 11-15:			**$49,910,000**
YEARS 16-20			
New N/S Collector	W	16 – 20 Years	$3,970,000
New North-South Collector between Alameda Avenue and Newton Creek Road	Y	16 – 20 Years	$8,330,000
New North-South Connection from Rifle Range Street to Newton Creek Road	Z	16 – 20 Years	$12,820,000
New East-West Collector between Rifle Range Street Extension and New North-South Collector	AA	16 – 20 Years	$9,610,000
Black Street Extension	J	16 – 20 Years	$580,000
Broad Street reconstruction to Edenbower Boulevard	K	16 – 20 Years	$3,460,000

Roadway Project	Map Code	Project Prioritization	Cost Estimate in FY2006 Dollars *(Design, ROW, Construction)*
New West Side Collector – north of Garden Valley Boulevard	S	16 – 20 Years	$15,020,000
Widen Valley View Drive – Keasey Street to Kline Street	D	16 – 20 Years	$1,380,000
Subtotal Years 16-20:			**$55,170,000**
ROADWAY PROJECTS TOTAL		**20 YEARS**	**$209,130,000**

Table 8-2. Cost Estimates for Other Projects

Project Type	Descriptions	Project Prioritization*	Cost Estimate in FY2006 Dollars *(Design, ROW, Construction)*
Sidewalk	Fill in gaps in sidewalk connectivity on existing roadway	High	$30,120,000
Sidewalks Total			**$30,120,000**
Multi-use	Multi-use path along Deer Creek	High	$801,600
Multi-use	Multi-use path from I-5 to Duck Pond	High	$348,500
Multi-use	Adjacent to Harvard Avenue between Lookingglass Road and east side of Interstate 5	High	$1,143,000
Multi-use	Adjacent to Interstate 5 between Edenbower Boulevard and Garden Valley Boulevard	Medium	$494,800
Multi-use	Along the west side of the South Umpqua River from Kendall Street to fairgrounds	High	$585,400

Project Type	Descriptions	Project Prioritization*	Cost Estimate in FY2006 Dollars *(Design, ROW, Construction)*
Multi-use	Along the east side of the South Umpqua River from Douglas Avenue to Portland Avenue (new crossing)	High	$885,100
Multi-use	Along the South Umpqua River connecting fairgrounds to Shady Bridge	Low	$1,554,300
Multi-use	Adjacent to Umpqua College Road from Old Highway 99 to college and North Umpqua River	High	$1,421,800
Multi-use	South of Harvey Avenue from Stewart Parkway to the west to new north-south connector	Medium	$927,000
Multi-use	Adjacent to Stewart Parkway from Fir Grove School to South Umpqua River	Low	$125,400
Multi-use Paths Total			**$8,286,900**
Bike	Bike lanes on Harvard Avenue from Bellows Street to Lookingglass Road	High	$251,200
Bike	Bike lanes along Troost Street from end of existing bike lanes to the west end connecting to new street connection	High	$129,200
Bike	Bike lanes on Garden Valley between Melrose Road and Troost Street	Low	$129,200
Bike	Bike lanes on Broad Street from the Edenbower interchange to the new road	Low	$36,400
Bike	Bike lanes on Old Highway 99 from Keller Road to Umpqua College Road	High	$311,200

Project Type	Descriptions	Project Prioritization*	Cost Estimate in FY2006 Dollars *(Design, ROW, Construction)*
Bike	Bike lanes on Newton Creek Road from Old Highway 99 to new Rifle Range Road connection	Medium	$720,700
Bike	Bike lanes on Alameda from Vine Street to east end	Medium	$107,400
Bike	Bike lanes on Douglas Avenue between Diamond Lake Boulevard and Spruce Street	High	$567,800
Bike	Bike lanes on Stephens Street between Garden Valley Boulevard and Winchester Street	High	$105,600
Bike	Bike lanes on Winchester/Jackson between Diamond Lake Boulevard and Douglas Avenue	High	$36,400
Bike	Bike lanes on Ramp Street between Douglas Avenue and Terrace Drive	Medium	$71,000
Bike	Bike lanes on Portland Avenue between Interstate 5 and Pine Street	High	$52,800
Bike	Bike lanes on Spruce Street between Douglas Avenue and Mosher Avenue	High	$67,300
Bike	Bike lanes on Mosher Avenue from Spruce Street to Mill Street	High	$10,900
Bike	Bike lanes on Mill Street from Mosher Avenue to Rice Avenue	High	$80,100
Bike	Bike lanes on Rice Avenue from Mill Street to Pine Street	High	$10,900
Bike	Bike lanes on Airport Road between Stewart Parkway and Garden Valley Boulevard	High	$49,100

Project Type	Descriptions	Project Prioritization*	Cost Estimate in FY2006 Dollars *(Design, ROW, Construction)*
Bike	Bike lanes on Chestnut Avenue between Cedar Street and Highland Street	High	$18,200
Bike	Bike lanes on Highland Street between Chestnut Avenue and existing multi-use path	High	$18,200
Bike	Bike lanes on Pine Street from Mosher Avenue to Oak Avenue	High	$40,000
Bike	Bike lanes on Garden Valley from Stephens Street to Mulholland Drive	High	$91,000
Bikes Total			**$2,904,600**
Transit	1-2 Bus Pullouts/Year	High	$175,000
Transit	100 new bus shelters/year	High	$500,000
Transit Total			**$675,000**
Intersection	Traffic signal at Diamond Lake Boulevard at Lake Street or Fulton Street	Medium	$200,000
Intersection	Traffic signal at Douglas/Jackson	High	$200,000
Intersection	Traffic signal at Douglas/Kane	High	$200,000
Intersection	Traffic signal or roundabout at Garden Valley/Melrose	Medium	$500,000
Intersection	Traffic signal or channelization at Harvard/Lookinglass	Medium	$200,000
Intersection	Traffic signal at Edenbower/I-5 NB	High	$200,000
Intersection	Traffic signal at Edenbower/I-5 SB	High	$200,000
Intersection	Traffic signal at Pine/Mosher	High	$200,000
Intersection	Traffic signal at Stephens Street/Chestnut	Medium	$200,000

Project Type	Descriptions	Project Prioritization*	Cost Estimate in FY2006 Dollars *(Design, ROW, Construction)*
Intersection	Traffic signal at Stephens Street/Mosher	High	$200,000
Intersection	Traffic signal at Old Hwy 99/Del Rio Road	Medium	$200,000
Intersection	Jackson/Douglas Avenue	Low	$50,000
Intersection	Edenbower/I-5 (does not include new on-ramp and on-ramp widening)	High	$100,000
Intersection	Douglas/Kane	High	$20,000
Intersection	Winchester Street/Diamond Lake Boulevard	Medium	$17,000
Intersection	Garden Valley/Stewart Parkway	High	$40,000
Intersection	Cedar Street/Garden Valley Boulevard	Medium	$25,000
Intersection	Garden Valley/Mulholland Drive/I-5 NB off-ramp	Medium	$30,000
Intersection	Garden Valley Boulevard/Stephens Street	High	$25,000
Intersection	Stephens Street at Diamond Lake Boulevard	High	$20,000
Intersection	Stewart Parkway/Wal-Mart Driveway (signal modifications)	High	$50,400
Intersection	Stephens Street/Edenbower	Medium	$25,000
Intersection	Garden Valley / Kline	Medium	$17,000
Intersection	Stewart Parkway/Edenbower	High	$50,000
Intersection	Stewart Parkway/Harvard Avenue	High	$25,000
Intersection	Harvard Avenue/High School	Low	$10,000
Intersection	Newton Creek Road/Stephens Street	Low	$10,000
Intersection	Stephens Street/Stewart Parkway	Medium	$40,000

Project Type	Descriptions	Project Prioritization*	Cost Estimate in FY2006 Dollars *(Design, ROW, Construction)*
Intersection	Mulholland Drive/Stewart Parkway	Medium	$100,000
Intersection	Harvard Avenue at Bellows Street (Interim solution)	Medium	$40,000
Intersection	Stewart Parkway/Harvey	Medium	$75,000
Intersection	Stewart Parkway/Cedar Street/Airport Road	Low	$10,000
Intersection	Stephens/Oak Avenue	Low	$10,000
Intersection	Douglas/Stephens	Low	$10,000
Intersection	Stephens/Chestnut	Medium	$10,000
Intersection	Old Hwy 99/Del Rio/Winchester	Medium	$10,000
Intersection Total			**$3,319,400**
Signal Coordination	Garden Valley Boulevard corridor	High	$200,000
Signal Coordination	Diamond Lake Boulevard corridor	Medium	$200,000
Signal Coordination	Harvard Avenue corridor	Medium	$200,000
Signal Coordination	Stephens Street corridor	High	$200,000
Signal Coordination	Stewart Parkway corridor	Medium	$200,000
Signal Coordination Total			**$1,000,000**

* High Priority is 0-7 years, Medium Priority is 8-15 years, and Low Priority is 16-20 Years.

Table 8-3 is a summary of total capital cost by type of project and by possible funding source. The last category is to be determined by City of Roseburg. In general the State of Oregon DOT would be responsible for roadways, bicycle facilities, and pedestrian facilities associated with the I-5 Freeway interchanges. The total estimated cost for all projects is about $245.6 million in 2006 dollars. The City's share of these projects is divided between its urban renewal district and other city funding sources.

Table 8-3. Summary of Capital Improvements List by Funding Sources

	State	County	Urban Renewal	Other	Total Cost
Bike	364,000	36,400	-	2,504,200	2,904,600
Intersections	425,000	-	250,000	2,644,400	3,319,400
Multi	3,861,200	-	-	4,425,700	8,286,900
Roadways	12,800,000	3,460,000	27,330,000	165,540,000	209,130,000
Sidewalks	-	-	-	30,120,000	30,120,000
Signals	200,000	-	-	800,000	1,000,000
Transit	-	-	-	675,000	675,000
Total	17,650,200	3,496,400	27,580,000	206,709,300	261,649,900

The amounts shown in Table 8-3 do not represent firm funding commitments and some of the projects may be jointly funded among the state, the county, and the city. Also, the total amount shown for the urban renewal district likely exceeds its total funding capabilities. It will have to share the costs with other agencies.

To fund these projects the City likely will require additional revenue sources. A review of the City's current funding ability shows why new sources are needed.

Table 8-4. City of Roseburg Transportation Budget 2006-07

Revenues	
ISTEA/STIP 2006 Funds	$180,000
State Shared Motor Fuel Tax	965,000
Aid to Cities (County Timber Receipts)	400,000
SDC Revenues	325,000
Miscellaneous	20,000
Total Revenue	*$1,890,000*
Expenditures	
Materials and Services	$1,350,000
Capital Expenditures	540,000
Total Expenditures	*$1,890,000*

The City's budget shows only $540,000 available for capital improvements. In the future this may increase as a result of system development charges.

In addition to the revenues shown in Table 8-4, the City adopted a transportation system development charge in May 2004. The amount is $253 per daily single trip end. A single-family house produces 9.57 trip ends per day; therefore, the SDC per new single-family

house is $2,421. Developments that produce more trip ends (e.g., restaurants, apartments, etc.) pay according to the number of trip ends. The revenues are expected to produce approximately $12 million over the next 10 years for projects identified in the SDC resolution (No. 2004-35). The SDC is based on the expected costs and benefits of future transportation projects. The SDC may be increased as a result of the projects and costs listed in the TSP.

The City has an urban renewal district that may be used to fund some of the transportation improvements that lie within the district's taxing boundaries. It does not have sufficient cash flows beyond already committed projects to fund all of the transportation improvements that are within the district. The existing urban renewal district or others may be modified or formed with the intent of funding all or parts of the planned improvements. Modifying and forming renewal districts is a complex task and must meet criteria relevant to urban blight as well as other criteria. They are not formed solely to address transportation needs.

The City in fiscal year 2002-04 spent $1,214,609 in general fund revenues to cover all of the operating and maintenance costs of the transportation system. It carries a cash balance in its capital improvements fund of approximately $2.5 million for emergency repairs and major maintenance.

Additional Funding Sources

Street User Fee

The City can enact a street user fee to generate new revenues from existing development. The fee would work in the same way that sewer and water rates are charged. The usage factor would be trips per day and would vary by type and size of development. Several cities and counties in Oregon have adopted street user fees, but most of the revenues are used for street maintenance and cleaning, and less for capital expenditures.

Local-Option Motor Fuel Tax

The City could adopt a local option fuel tax that would be in addition to the federal and state motor fuel taxes. This type of tax is charged by a minority of cities and counties in Oregon, though they collect a significant amount of money for roadway improvements as shown in a 1997 survey summarized in Table 8.5.

Table 8-5. Local-Option Gas Tax Revenues

		Tax Rate $/gallon	Revenue	Gallons (Est.)
Cities				
	The Dalles	$0.03	$323,253	10,775,100
	Tillamook	$0.02	$115,000	7,666,667
	Woodburn	$0.01	$105,360	10,536,000
	Roseburg	$0.01	$193,030	19,303,037
Counties				
	Multnomah	$0.03	$7,857,000	261,900,000
	Washington	$0.01	$1,684,000	168,400,000

Without knowing the amount of motor fuel pumped by service stations in City of Roseburg, one cannot accurately predict the amount of revenue it would generate at various tax rates. Using population to extrapolate the tax revenues realized in other counties, a rough estimate shows that a $0.01 per gallon tax would produce about $193,000 annually from service stations in City of Roseburg.

Bond Issues

City of Roseburg could issue tax-based bonds to construct projects on the capital improvement list. Voters would need to approve a general obligation bond at a general election. In odd numbered years, a double majority is required to approve a tax measure such as a bond. That is, a majority of voters would have to cast ballots, and a majority of those would have to approve the bond. In even numbered years only a majority of cast ballots is needed to approve a bond measure. Revenues from a general obligation bond could be used only for capital improvements including major repairs to roadways.

The City's 2004 assessed value is $1,028,002,210 as shown in Table 8-6. It has been growing about 4.5 % per year since 2002. A general obligation bond of $1,000,000 repaid over a 20-year period at 5.5 % interest would require a tax of $0.081 per $1,000 of assessed value to pay annual debt service. A property (house) with an assessed value of $150,000 would pay annual taxes of $12.15 to pay debt service. The tax rate would decrease as assessed value increases. Growth in population and employment would distribute the fixed annual taxes over a broader base of tax payers, thus lessening the burden for all tax payers.

Table 8-6. Assessed Value

Tax year	Assessed Value	Growth
2001	900,088,851	NA
2002	930,443,094	3.4%
2003	972,593,825	4.5%
2004	1,028,002,210	5.7%
Avg. Annual % change		4.5%

Source: Douglas County Assessor's Office.

The City could ask voters to approve general obligation bonds periodically for a specific project or group of projects on the capital improvements list.

Another form of bonding is a serial levy in which voters approve a specific annual amount of taxes to be raised to fund construction of a particular project or set of projects. Each levy has a specific life, lasting up to 5 years. The drawback to this finance method is that projects can be funded only up to the amount of cash the City has in hand. Thus the City may need to levy the tax for 2 or 3 years before obtaining sufficient revenue to build a project. This source of bonding has most frequently been associated with operating expenses or major maintenance or repair projects. It also is considered to be part of the Constitutional property tax limit of $10 per $1,000 of assessed value. Depending upon the tax year and tax amounts by all taxing authorities on a particular property, the tax revenues may be compressed to less than the desired amount.

Local Improvement Districts

Property owners who would benefit substantially from a capital improvement may petition the City to form a local improvement district (LID) to finance the improvement. These projects are usually characterized by their localized benefits, because only owners of land directly benefiting from the project are taxed to pay for it. Once a petition is received by the City, it can form an LID of benefiting property owners and develop a financing plan that determines the scope of the public improvement(s) to be constructed, the total cost of the project (including construction, administration, bond costs, interest expenses), and a cost allocation plan that allocates the total cost to each parcel of land within the LID (based on property size, zoning, roadway frontage, etc.). Property owners then have a specified period of time to pay the assessment outright or to finance it. The City then collects all of the money and requests for financing, and may issue a special type of (Bancroft) bonds. The LID members who elected to finance their assessments effectively guarantee repayment of the debt with their property as collateral. The City would then collect the amount needed each year to pay principal and interest on the bonds through semiannual property tax assessments.

This method of financing is appropriate for those projects with localized benefits. Most the project identified in Table 8-1 provides system-wide benefits and are not likely to be funded significantly by only those properties that directly abut the proposed improvements.

Summary

The TSP capital improvements list identified $79.5 million in projects of which $55.3 million of projects will require City or other funding. It does not have the cash reserves to fund a significant portion of these improvement costs. The newly adopted SDC will pay for up to $12 million of these improvements, but it lacks sufficient cash flow for nearly $30 million of improvement costs. The City may want to adopt new funding sources such as a local-option motor fuel tax, general obligation bonds or serial bonds, a street user fee, or some combination of these sources.

Chapter 9: Implementation Policies and Ordinances

Full implementation of the TSP will require selected amendments to the Roseburg Urban Area Comprehensive Plan and Land Use and Development Ordinance. The amendments are also intended to be consistent with the Oregon Transportation Planning Rule (TPR). The City's Comprehensive Plan and Land Use and Development Ordinance must be supportive of the TSP and TPR particularly by:

1. Protecting street operations including implementing access controls and conditions on new development;

2. Land use densities and intensities that are consistent with the functions, capacities and levels of service for the facilities identified in the TSP;

3. Allowing mixed land uses to reduce the number and length of automobile trips and to encourage walking, bicycling, and transit;

4. Safe and convenient pedestrian and bicycle circulation; and

5. Reduced parking requirements where possible.

The Roseburg Urban Area Comprehensive Plan, 1982, and the Land Use and Development Ordinance, revised May 2004, were reviewed for consistency with the TPR. The plan and ordinance generally support the TPR, however, a number of amendments are recommended because they are either required by the TPR or they are recommended to enhance the performance of the transportation system for Roseburg. No new policies are recommended to be added to the Roseburg Urban Area Comprehensive Plan.

The recommended amendments to existing policies should be considered for adoption in addition to the TSP. The majority of the TPR provisions that relate to the plan and ordinance amendments can be found in Section 660-12-0045 of the Rule. Amendments to the Roseburg Urban Area Comprehensive Plan reference the Transportation System Plan specifically and call out specific alternative modes of transportation (i.e., walking, bicycling, and transit).

Amendments to the Land Use and Development Ordinance address the following:

- circulation and parking plans as part of land use applications
- dwellings above commercial structures
- bicycle parking standards
- pedestrian circulation
- cul-de-sacs
- circulation analysis for development
- block length
- allowable modifications to development standards

Proposed Amendments – Roseburg Urban Area Comprehensive Plan

It is recommended that the "Transportation Element" of the Roseburg Urban Area Comprehensive Plan be replaced by the Roseburg TSP when the TSP is adopted. A full update of the Roseburg Comprehensive plan is needed. Recommended amendments are described below. Deleted text is shown with a ~~strike through~~ and new text is shown in **bold**.

Transportation Element (pp. 185-224)	This section of the plan provides a considerable amount of background, which is now over 20 years old. In addition, the information provided in the TSP will update or supersede this portion of the plan. It should be deleted and replaced by a reference to the TSP.
Policy 1 (p. 227)	The City shall develop a transportation ~~master~~ **system** plan **(TSP)**, which will serve as the basis for guiding surface transportation improvements in the Roseburg urban area. The ~~master plan~~ **TSP** shall be coordinated with the transportation planning activities of Douglas County.
Policy 3 (p. 227)	This refers to a 1977 study as the basis for traffic circulation and parking. This study is too old and should be deleted and replaced by a reference to the TSP.
Policy 4 (p. 227)	The City will encourage ~~the development of alternate traffic routes which will~~ **walking, bicycling, transit, and other travel modes to** reduce traffic volumes.
Policy 10 (p. 228)	New developments shall include ~~consideration of~~ **necessary** improvements, which would accommodate **and promote walking, bicycling, and** public transit ~~and other modes~~.
Energy Conservation Element Policy 2 (pp. 286-287)	The City shall incorporate into its land use ordinance provisions which encourage new development to utilize density and location, in balance with the requirements of other planning policies, in order to reduce the need to travel, increase access to transit, **encourage walking and bicycling,** and permit building configurations which increase the efficiency of space heating in residences.

Proposed Amendments – Land Use and Development Ordinance

The recommended amendments are described below. Deleted text is shown with a ~~strike through~~ and new text is shown in **bold**.

Coordination of Development Approval 2.030 (p. 24)	(1) The Director shall be responsible for the coordination of a development application and decision-making procedures, and shall approve or recommend that the approving authority approve developments when proper application is made and the proposed development is in compliance with the provisions of this Ordinance and the Roseburg Urban Area Comprehensive Plan. Before approving or recommending approval of any development, the

	Director shall be provided with information by the applicant sufficient to establish full compliance with the requirements of this Ordinance and the Plan. **Before approving any development, the Director shall consider comments received from other public agencies during the comment and public hearing period.** *Comment: This provides a process for coordinated review of land use decisions affecting transportation facilities, but does not allow the other public agencies to hold up the process.*
General Provisions Regarding Notice 2.070 (p. 26)	**3. Public agencies providing transportation facilities and services shall be notified of:** **a. Land use applications that require a public hearing;** **b. Subdivision and partition applications;** **c. Applications that involve private access to public streets and roads, and** **d. Applications within the Airport Impact Overlay (Section 3.35.600), which affect airport operations.** **4. The timing of notice to public agencies in Section 2.070 3. shall be provided according to the application type as required in this title.** *Comment: This amendment is recommended to ensure that ODOT and other transportation/transit agencies are aware of any relevant land use action that occurs.*
Site Plan Review 2.3.075 12. b. (p. 56)	**(10) Circulation and parking: Plan showing all proposed driveways and walkways along with their relationship to corresponding public and private facilities adjoining the site. Proposed vehicle and bicycle parking areas shall also be shown.** *Comment: This amendment is recommended to ensure that sufficient information is provided to determine if safe and convenient pedestrian circulation is proposed.*
Site Plan Review 2.3.075 12. b. (p. 56)	**(11) Traffic Impact Study (TIS): TIS shall be required when the additional traffic caused by the development during the p.m. peak hour will be greater than 5% of the current traffic volume. When required, the TIS shall:** **(a) Consider cumulative impacts of existing and proposed development in the study area.** **(b) Include long-term impact (20-year) of the development in the context of the projected traffic environment.** **(c) Consider circulation and safety needs for pedestrians, bicyclists, and transit in addition to motor vehicles.** **(d) Extend the analysis coverage of the street system until the p.m. peak traffic impact becomes less than 5%.** *Comment: This amendment is recommended to ensure that sufficient information is provided to determine if safe and convenient pedestrian circulation is proposed.*
Central Business District (CBD) 3.13.100 8. (p. 127)	**Dwellings above commercial structures should be moved from the "conditionally permitted" section and into 3.13.050 Permitted Uses.** *Comment: Residential above commercial is typically a basic element*

	of mixed use developments and therefore, residences of this type should be permitted outright.
General Commercial (C-3) 3.18.100 1. (p. 147)	**Dwellings above commercial structures should be moved from the "conditionally permitted" section and into 3.18.050 Permitted Uses.** *Comment: Residential above commercial is typically a basic element of mixed use developments and therefore, residences of this type should be permitted outright.*
Mixed Use (MU) 3.24.100 2. (p. 165)	**Dwellings above commercial structures should be moved from the "conditionally permitted" section and into 3.24.050 Permitted Uses.** *Comment: Residential above commercial is typically a basic element of mixed use developments and therefore, residences of this type should be permitted outright.*
CBD, C-3 and MU – Residences Over Commercial	*Comment: In addition to classifying residential above commercial as a permitted use, the Land Use and Development ordinance should be amended to:* • *Establish a clear and consistent set of development standards for residences over commercial. Currently, the CBD, C-3, and MU zones refer to: (1)18 du/ac maximum (CBD); (2) MR-18 development standards (C-3); and (3) Property Development Standards in §3.24.150 (MU).* • *Delete the minimum 18-unit density requirement in §3.24.150 1.b. to encourage mixed use that is consistent with market realities. The minimum could act to discourage mixed use altogether.* • *Allow horizontal mixed use with commercial and residential in the same development, but not necessarily vertical. If this is done, the city should consider a minimum commercial component based on plan policies.*
Off-Street Parking 3.35.100 (pp. 202-209)	A number of the vehicle parking space minimums are too high and should be considered for reduction. The uses that should be evaluated include: • 1, 2, and 3 family dwellings – 2 (consider 1). • College – 1/classroom seat (consider 1 per 2 seats and/or a reduction when alternative transportation, such as walking, bicycling, or transit is available). • Bowling alley – 5 per lane (consider 2 or 3 per lane). • Swimming pool – 1 per 100 sq. ft. (consider 1 per 200-300 sq. ft.). • Outdoor recreation facility – 1 per 500 sq. ft. of field area (by this formula, the city would require about 120 spaces for 1 soccer field). • Grocery/retail stores – 1 per 150 sq. ft. (consider 1 per 300 sq.

	ft.). • Furniture/appliance – 1 per 500 sq. ft. (consider 1 per 1,000 sq. ft.). • Bank/professional office – 1 per 300 sq. ft. (consider 1 per 400 sq. ft.). • Medical office – 1 per 200 sq. ft. (consider 1 per 300 sq. ft.). • Repair garages – 4 per service stall (consider 1 or 2 per stall). *Comment: The city should use its judgment based upon local experience, but some of the standards are clearly too high as minimums.*
Transit Service Facilities 3.35.270 (p. 228)	Transit Service **and Carpool** Facilities: In order to encourage and facilitate the use of public transit **or car/vanpooling**, a maximum of fifteen percent (15%) of the required number of off-street parking spaces may be eliminated…. *Comment: This provision should be expanded to allow benefits for legitimate car or vanpooling programs.*
Nonconforming Uses Conditions of Approval 3.37.550 (p. 249-250)	In order to assure compatibility of the proposed development with the surrounding area, conditions may be imposed as conditions of approval of alteration or repair of a nonconforming use. Such conditions may include, but are not limited to, the following… **(12) Transportation improvements to mitigate the impact of increased transportation and to protect transportation facilities.** *Comment: This amendment responds to comments by ODOT by calling out transportation improvements in the list of possible conditions.*
Criteria for zone change 3.38.100 (p. 251)	**3. The rezone is consistent with the function and designated capacity of the transportation system.** *Comment: This amendment ensures that changes in land use and density can be supported by the existing and proposed transportation system in the area.*
Land Division requirements and standards for design and development for preliminary plats 4.100.4 (p. 279-280)	A subdivision or partition shall provide for the continuation of major and secondary streets existing in adjoining subdivisions or partitions, or for their proper projection when adjoining property is not subdivided or partitioned, and such streets shall be of a width not less than the minimum requirements for streets set forth in these regulations. **The adjoining street network shall have additional capacity to support the proposed land uses. If the transportation system does not have the necessary capacity, but it can be improved, transportation improvements will be required.** Where the approving authority finds that topographic conditions make such continuation of conformity impractical, appropriate exceptions to this requirement shall be made. *Comment: This amendment ensures that changes in land use and density can be supported by the existing and proposed transportation*

	system in the area.
Conditional Use Conditions of Approval 3.39.050 (p. 255-256)	In addition the requirements of site plan review detailed in Article 3, the approval authority may designate conditions in granting a Conditional Use Permit as it deems necessary to secure the purpose of this Article and may require guarantees and evidence that such conditions shall be met. Such conditions may include:… **(14) Transportation improvements to mitigate the impact of increased transportation and to protect transportation facilities.** *Comment: This amendment responds to comments by ODOT by calling out transportation improvements in the list of possible conditions.*
Temporary Use Conditions of Approval 3.41.300.1 (p. 260-261)	Reasonable conditions may be imposed pursuant to Section 3.39.050 by the approving authority in connection with the temporary permit to minimize the potential impact of the proposed use to other uses in the vicinity. Guarantees and evidence may be required that such conditions will be or are being complied with. Such conditions may include, but are not limited to, the following… **(i) Transportation improvements to mitigate the impact of increased transportation and to protect transportation facilities.** *Comment: This amendment responds to comments by ODOT by calling out transportation improvements in the list of possible conditions.*
Bicycle Parking 3.35.110 (new section)	The following bicycle parking standards are recommended: **1. Bicycle Parking Standards** **a. 1 space per multiple family residence for project over 4 units;** **b. 1 space per classroom for primary and secondary schools; and** **c. 1 space per 10 required vehicle spaces for all other uses with a 2-space minimum.** **2. Parking Facility Design** **a. Bicycle parking facilities shall either be lockable enclosures in which the bicycle is stored, or secure stationary rack which support the frame so the bicycle cannot easily be pushed or fall to one side. Racks that require a user-supplied lock shall accommodate locking the frame and both wheels using either a cable or U-shaped lock.** **b. Bicycle parking spaces shall be at least 6 feet long and 2.5 feet wide, and overhead clearance in covered spaces shall be a minimum of 7 feet.** **c. A 5-foot aisle for bicycle maneuvering shall be provided and maintained beside or between each row of bicycle parking.** **d. Bicycle racks or lockers shall be securely anchored.** **e. Required bicycle parking shall be located in a well lighted, secure, and visible location.** **f. Bicycle parking shall not obstruct walkways. A minimum 5-foot wide aisle shall remain clear.**

3. Locational Standards for Bicycle Parking

a. All required bicycle parking shall be located on the site within 50 feet of main building entrances and not farther from the entrance than the closest motor vehicle parking space. Bicycle parking shall have direct access to both the public right-of-way and to the main entrance of the principal use.

b. For buildings or development with multiple entrances, required bicycle parking shall be distributed proportionally at the various public entrances. Public parking shall be distributed at the various public entrances, while employee parking shall be located at the employee entrance, if appropriate.

c. Bicycle parking may be located in the public right-of-way with the approval of the Public Works Director.

d. Bicycle parking may be provided within a building, but the location must be easily accessible for bicyclists.

Comment: Bicycle parking is required by the TPR. These standards focus on providing a modest number of well-designed and located facilities. Bike parking can be provided easily and economically in compliance with the above recommendations.

Parking Area and Driveway Design 3.35.210 (pp. 211-213)

Add a new subsection:

11. <u>Pedestrian Circulation.</u> Walkways, crosswalks and other pedestrian facilities shall be provided to allow safe and convenient pedestrian access throughout the site, with special attention paid to main building entrances and routes to adjacent pedestrian destinations, including uses on adjoining properties, public sidewalks, and transit.

Comment: The TPR requires local government to provide "safe and convenient" pedestrian circulation.

Platting and Mapping Standards – Streets and Roads 4.150 7. (p. 281-285)

The "Master Transportation Plan" is referred to in 1. c. This text is out-of-date. Subsection 2. and Table A need to be revised per the TSP.

<u>7. Cul-de-sacs.</u> **Cul-de-sacs and permanent dead-end streets shall be prohibited except where construction of a through street is found to be impractical according to the provisions of Section 4.260. Consistent with Section 3.35.210 11. (see above), a walkway shall be provided between the cul-de-sac and other walkways, streets, or pedestrian destinations unless also found to be impractical according to Section 4.260. If a cul-de-sac is found to be necessary, it shall not serve** ~~There shall be no cul-de-sacs serving~~ more than twenty (20) single-family dwelling, or multi-family or commercial uses generating more than two hundred (200) vehicles per weekday.

Comment: Cul-de-sacs should be used as a method of last resort. This modification would place the burden of proof on the developer to

demonstrate why one must be provided. Note that a formal variance process is not proposed, and the new Section 4.260 (below) allows the approving authority to permit a cul-de-sac subject to meeting several criteria.

Platting and Mapping Standards – streets and Roads 4.150 11. (new section)

11. <u>Circulation Analysis</u>. The applicant shall provide a circulation analysis that includes the following information:

a. For all development on a site of 2 acres or less, the applicant shall submit a circulation analysis, which shows the proposed location of streets and accessways on the property as well as the location of streets, accessways, property lines, and development within 600 feet of the proposed development site.

b. For all development on a site, which exceeds 2 acres, the applicant shall submit a circulation analysis, which at a minimum includes the subject site and the entirety of all property within 600 feet of the proposed development site. This analysis shall incorporate the following features both on-site and off-site:

(1) Existing and proposed topography for slopes of 10 percent of greater, with contour intervals not more than 10 feet;

(2) Drainage hazard areas, flood plains, and significant natural resources areas;

(3) The name, location, right-of-way, pattern, and grades of all existing and approved major and local streets, bikeways, pedestrian ways, and accessways;

(4) Proposed streets and off-street bike or pedestrian ways identified in the Roseburg Transportation System Plan or relevant adopted plans;

(5) All permanent structures;

(6) Property lines;

(7) Pedestrian-oriented uses within 1,000 feet of the site;

(8) Transit streets and facilities; and

(9) All streets and accessways proposed by the applicant.

Comment: It is important for each new land division to include an evaluation of future access and how the subject property should provide a desirable circulation system for the property and surrounding area. This is not intended as an adopted plan, but rather it is a method to show at least one reasonable way the area may be developed with good street connectivity.

Platting and Mapping Standards – Blocks 4.250 2. (p. 288)	2. Size. No blocks shall be more than **500** ~~one thousand (1,000)~~ feet in length between street corner lines unless it is adjacent to an arterial street, or unless the topography or the location of adjoining streets justifies an exception. The recommended minimum length of blocks along and arterial street is one thousand eight hundred (1,800) feet. The recommended minimum length of blocks along arterial streets needs to be consistent with access management spacing standards. *Comment: The block lengths noted here are very long and tend to inhibit "safe and convenient" pedestrian access as required by the TPR. This provision could be modified by the approving authority as noted above and described below.*
Modification of Standards 4.260 (new section)	**The approving authority may approve a modification to the standards of Sections 4.150, 4.200, 4.220, and 4.250 through a review based upon the relevant approval criteria in this section.** **1. The modification is the minimum necessary to address the constraint;** **2. A circulation analysis demonstrates that the proposed street and accessway system for the subject property and surrounding area will perform as well as or better than a system, which meets the standards in Sections 4.150, 4.200, 4.220, or 4.250; and** **3. The application of the standard is impractical due to one or more of the following circumstances:** **a. Physical or topographic conditions make it impractical to satisfy the street or walkway connection requirements of this chapter. These conditions include, but are not limited to, controlled access streets, steep slopes, wetlands, flood plains, or water bodies where a connection could not reasonably be provided. Grades that are too steep for a street may not be too steep for an accessway.** **b. Buildings or other existing development on adjacent lands physically preclude a street or accessway connection now or in the future considering the potential for redevelopment.** **c. Where streets or accessways would violate provisions of leases, easements, agency access standards, or similar restrictions that are demonstrated to be legally beyond the control of the applicant, developer, or property owner.** **d. Abutting undeveloped or underdeveloped property is within the 100-year flood plain.** **e. Arterial or collector street access restrictions.** *Comment: As noted above, this new section would allow modification of certain design standards without the additional procedural burden of variance approval.*
Land Partitioning	(5) Existing or proposed private streets or roads **and walkways** and all restrictions or reservations relating to such private streets**,** ~~or~~

Approval 4.700	roads**, and walkways.**
1. b. (5) (p. 312)	*Comment: Pedestrian circulation should be part of the discussion during a land partition review.*