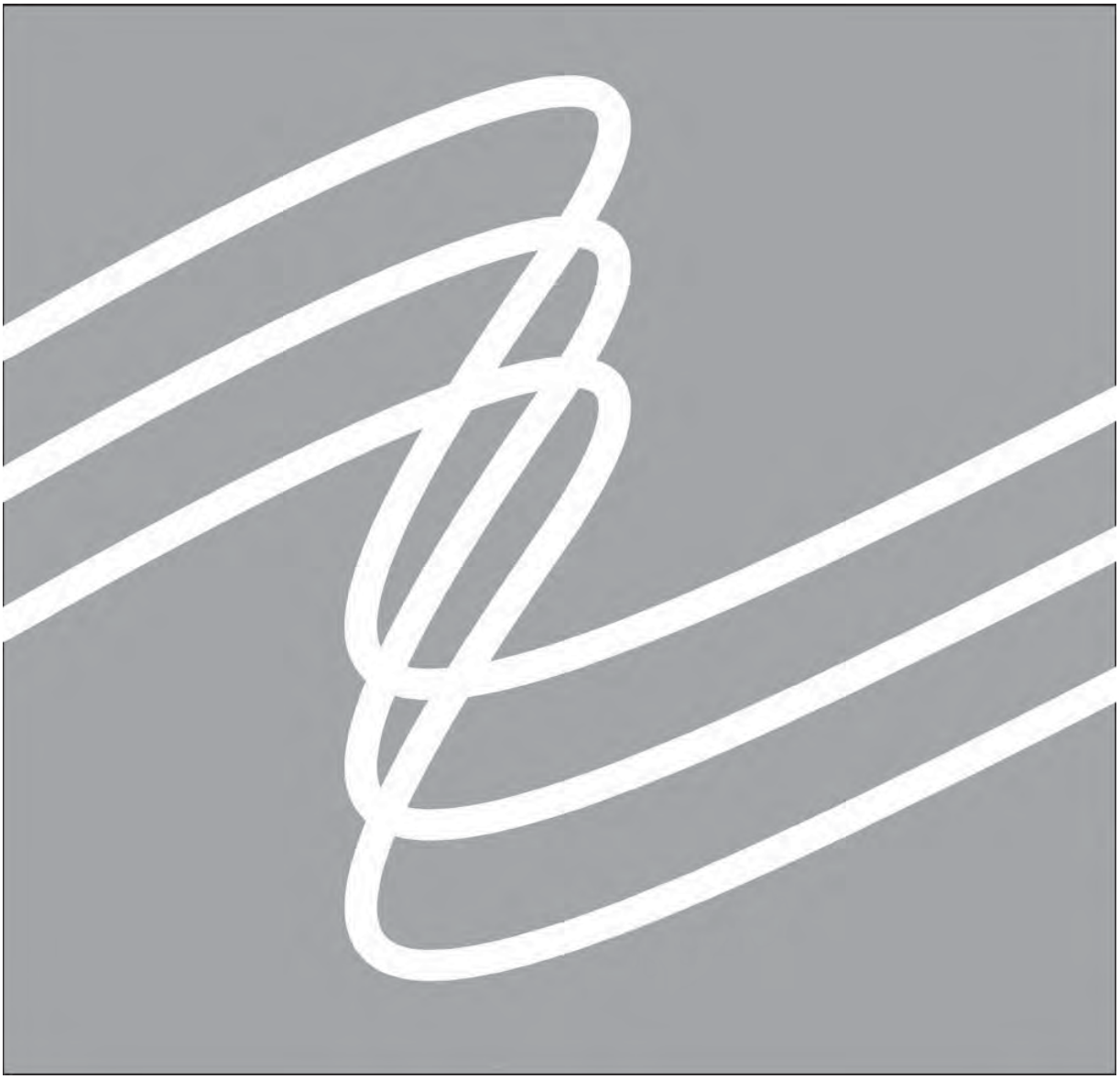
1999
OREGON HIGHWAY PLAN

Including amendments November 1999 through May 2015



An Element of the Oregon Transportation Plan

THE OREGON DEPARTMENT OF TRANSPORTATION

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A copy of this plan and amendments as the Oregon Transportation Commission adopted them are on file at the Oregon Department of Transportation and online at: http://www.oregon.gov/odot/td/tp/pages/ohp.aspx. Editorial changes for consistency have been made in this document.

Amendments Incorporated into May 2015 version of 1999 OHP

99-01:	Highway Reclassification (9 November 1999)
00-02:	Expressway Classification (11 May 2000)
00-03:	Expressway Classifications and Technical Corrections (7 June 2000)
00-04:	Alternate Mobility Standards; RVMPO and Metro (13 December 2000)
01-05:	Expressway Classifications (11 April 2001)
01-06:	Conditional Designation of STAs and Designation of UBAs (9 August 2001)
02-07:	Jurisdictional Transfers (November 2002)
03-08:	Bypass Policy (16 April 2003)
03-09:	Amendment of Appendix E: NHS Intermodal Connectors (18 June 2003)
04-10:	Amended Policy 1B (14 January 2004)
04-11:	Highway Segment Designations (14 January 2004)
04-11:	Highway Segment Designation Maps (14 January 2004)
04-12:	Technical Corrections to the Oregon Highway Plan (2 July 2004)
04-13:	Technical Corrections to the Oregon Highway Plan (20 December 2004)
05-14:	Designation of Special Transportation Areas (10 January 2005)
05-16:	Amendment of Policies 1B, 1C, 1F, 4A and Appendices C and D; Highway Segments, Freight Routes, Mobility Standards, Access Spacing and designating Florence UBA and STA and extending Grants Pass Expressway (17 August 2005)
05-17:	Designation of Highway Segments (16 November 2005)
06-18:	Inter-jurisdictional Relations and Infrastructure Cost Sharing (18 January 2006)
11-19:	Mobility Standards Revisions (21 December 2011)
12-20:	Access Management Revisions (21 March 2012)
12-21:	Tolling and Pricing Policy Amendment (6 July 2012)
13-22:	Expressway Classifications Revisions (17 April 2013)
13-23:	State Highway Freight System Policy Revisions and Adoption of Rule on Reduction of Vehicle-Carrying Capacity (21 August 2013)

Oregon Department of Transportation
Transportation Development Division
Planning Section
555 13th St. NE, Suite 2
Salem, OR 97301-4178

Contacts:	Michael Rock	Nancy Murphy
Telephone:	(503) 986-3179	(503) 986-4128
Email:	Michael.D.Rock@odot.state.or.us	Nancy.E.Murphy@odot.state.or.us

Oregon

TRANSPORTATION
COMMISSION

May 1999

Governor Kitzhaber and Citizens of Oregon

FILE CODE:

The Oregon Transportation Commission presents the 1999 Oregon Highway Plan, an innovative plan that will guide how the state highways are developed and managed over the next 20 years. The Plan reflects the work and ideas of hundreds of people including state legislators, representatives of cities, counties, state agencies, user groups and environmental organizations, and citizens.

The challenge facing Oregon is to develop and use the highway system successfully in the face of major population growth and limited resources. The Plan responds to the challenge by emphasizing:

- investments consistent with state and local community priorities;
- efficient management of the system to increase safety and extend its capacity;
- partnerships with other agencies and local governments;
- closer links between land use and transportation;
- closer links with other transportation modes; and
- use of new techniques to improve road safety and capacity.

The investment policy places the highest priority on safety and managing and preserving the physical infrastructure. With improved funding, the state would improve bridge and pavement conditions and decrease traffic congestion.

The Plan affects plans, programs and projects of the Oregon Department of Transportation and regional and local governments. The Transportation Planning Rule requires regional and local transportation system plans to be consistent with the Highway Plan. Highway mobility standards and access management standards became effective upon adoption of the Plan on March 18, 1999. Local transportation system plans adopted after January 1, 2000, must be consistent with the new standards.

The Transportation Commission thanks the members of the advisory committees who developed the goals and policies and all those who attended meetings on the Highway Plan or shared their comments in writing. The result is a major step toward meeting the challenges facing the state highway system.

Henry H. Hewitt
Chair
Oregon Transportation Commission

900 SW 5th Avenue
Portland, OR 97204

Other Elements of the State Transportation Plan

- Oregon Transportation Plan .....Adopted 1992
- Aviation System Plan .....Adopted 2000
- Bicycle/Pedestrian Plan .....Adopted 1995
- Corridor Plans .....Incremental
- Public Transportation Plan .....Adopted 1997
- Rail Plan .....Adopted 2001
- Transportation Safety Action Plan .....Adopted 2004
- Willamette Valley Transportation Strategy .....Adopted 1995

1999 Oregon Highway Plan

AN ELEMENT OF THE OREGON TRANSPORTATION PLAN

Adopted by the Oregon Transportation Commission

Originally Adopted March 18, 1999 Including Amendments through May 2015

Oregon Department of Transportation

Transportation Development Division

Planning Section

Plan produced by:

Transportation Development Division

Craig Greenleaf, *Deputy Director*

Planning Section

Ron Schaadt, *Manager*

Barbara Fraser, *Interim Planning Group Manager*

Carolyn Gassaway, *Highway Plan Manager*

Del Huntington, *Access Management Program Manager*

Linda Apple, *Access Management Planner*

Richard Arnold, *Highway Needs Coordinator*

Brian Gregor, *Senior Transportation Analyst*

Kimberly Jordan, *Administrative Assistant*

Robert Royer, *Plan Advisor*

John Williams, *Transportation Planner*

Cambridge Systematics

Steve Pickrell, *Project Manager*

Arlee Reno, *Principal Responsible*

With David Evans and Associates, Inc.
HDR Engineering, Inc.
Pacific Rim Resources, Inc.

This project was funded in part by the Federal Highway Administration, U.S. Department of Transportation.

Graphic Design provided by Mark Falby, ODOT Reprographic and Design Services

Table of Contents
1999 OREGON HIGHWAY PLAN

Preface i
Executive Summary 1

The Vision 12
- **Vision Statement** 15
- **Transportation Forecasts** 16
- **Future Technologies** 19
- **Policy and Legal Context** 21
- **The Planning Process** 29
- **Description of the Highway System** 30

Policy Element 34
- **Goal 1: System Definition** 35
  - Policy 1A: State Highway Classification System 37
  - Policy 1B – Land Use and Transportation 50
  - Policy 1C: State Highway Freight System 62
  - Policy 1D: Scenic Byways 66
  - Policy 1E: Lifeline Routes 68
  - Policy 1F: Highway Mobility Policy 74
  - Policy 1G: Major Improvements 86
  - Policy 1H: Bypasses 92
- **Goal 2: System Management** 100
  - Policy 2A: Partnerships 102
  - Policy 2B: Off-System Improvements 104
  - Policy 2C: Interjurisdictional Transfers 105
  - Policy 2D: Public Involvement 107
  - Policy 2E: Intelligent Transportation Systems 108
  - Policy 2F: Traffic Safety 112
  - Policy 2G: Rail and Highway Compatibility 115
- **Goal 3: Access Management** 116
  - Policy 3A: Classification and Spacing Standards 119
  - Policy 3B: Medians 127

Policy 3C: Interchange Access Management Areas 129
Policy 3D: Deviations 131
Policy 3E: Appeals 133

Goal 4: Travel Alternatives 134

Policy 4A: Efficiency of Freight Movement 136
Policy 4B: Alternative Passenger Modes 138
Policy 4C: High-Occupancy Vehicle (HOV) Facilities 141
Policy 4D: Transportation Demand Management 144
Policy 4E: Park-and-Ride Facilities 144

Goal 5: Environmental and Scenic Resources 146

Policy 5A: Environmental Resources 147
Policy 5B: Scenic Resources 151

Goal 6: Tolling and Congestion Pricing 153

Policy 6.A: New Toll Facilities 154
Policy 6.B: Pricing Existing Capacity 156
Policy 6.C: Consistent and Supportive Policy Objectives 157
Policy 6.D: Toll Revenues 158
Policy 6.E: Tolling Technology and Systems 159

System Element 161

State Highway Needs Analysis 162

Investment Policies and Scenarios 172

Implementation Strategies 189

Performance Measures 190

Appendices 194

Appendix A: Glossary 195

Appendix B: Highway Program Definitions 204

Appendix C: Access Management Standards 207

Appendix D: Highway Classification by Milepoint 217

Appendix E: Intermodal Connectors on the National Highway System 255

Appendix F: Environmental Laws and Regulations 259

Appendix G: Members of Steering and Policy Advisory Committees 265

Appendix H: Oregon Highway Plan Findings of Compliance 268

Index 278

Highway Classification Maps 279

List of Tables

Table 1: US and Oregon Population and Employment, 1980-2020 17
Table 2: Potential location of highway segment designations 56
Table 3: Highway segment designation and designating process 56
Table 4: Elements of strategies to meet the objectives of the Land Use and Transportation Policy 58
Table 6: Volume to Capacity Ratio Targets for Peak Hour Operating Conditions 84
Table 7: Volume to Capacity Ratio Targets within Portland Metropolitan Region 85
Table 8: Summary of feasible needs 170
Table 9: Implications of scenarios for transportation system 184
Table 10: Projected state and federal highway revenues, 1998-2017 186
Table 11: Examples of tax increases needed to match projected revenues with needs. 188
Table 12: Interchange Spacing[(1)] 207
Table 13: Access Management Spacing Standards for Statewide Highways with Annual Average Daily Traffic (AADT) of 5,000 Vehicles or Less 208
Table 14: Access Management Spacing Standards for Statewide Highways with Annual Average Daily Traffic (AADT) of More Than 5,000 Vehicles 209
Table 15: Access Management Spacing Standards for Regional Highways with Annual Average Daily Traffic (AADT) of More Than 5,000 Vehicles 210
Table 16: Access Management Spacing Standards for District Highways with Annual Average Daily Traffic (AADT) of More Than 5,000 Vehicles 211
Table 17: Minimum Spacing Standards Applicable To Freeway Interchanges with Two-Lane Crossroads 213
Table 18: Minimum Spacing Standards Applicable to Freeway Interchanges with Multi-Lane Crossroads 214
Table 19: Minimum Spacing Standards Applicable to Non-Freeway Interchanges with Two-Lane Crossroads 215
Table 20: Minimum Spacing Standards Applicable to Non-Freeway Interchanges with Multi-Lane Crossroads 216

List of Figures

Figure 1: Oregon population trends 16
Figure 2: Age distribution in Oregon, 1995 and 2020 17
Figure 3: Integrated Transportation Planning 24
Figure 4: Public road jurisdiction in Oregon, 1997 30
Figure 5: Trends in VMT and lane miles in Oregon (all jurisdictions) 31
Figure 6: Average daily traffic on Oregon's urban roadways (all jurisdictions) 31
Figure 7: Means of transportation to work in Oregon 32
Figure 8: Major multimodal commodity flow corridors in Oregon 33
Figure 9: Location of highway segment designations 57
Figure 10: Designated freight routes 63
Figure 11: Designated Scenic Byways 67
Figure 12: Overall state highway pavement condition, 1997 162
Figure 13: History of state highway pavement conditions 162
Figure 14: Original construction year of ODOT bridges 163
Figure 15: Typical pavement deterioration pattern 164
Figure 16: Summary of investment scenarios 183
Figure 17: Projection of 20-year highway needs and revenues (assumes 3.3% inflation) 187
Figure 18: Measurement of Spacing Standards for Table 17 213
Figure 19: Measurement of Spacing Standards for Table 18 214
Figure 20: Measurement of Spacing Standards for Table 19 215
Figure 21: Measurement of Spacing Standards for Table 20 216

Preface

The 1999 Oregon Highway Plan defines policies and investment strategies for Oregon's state highway system 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:

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

- 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.

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

Creation of the Highway Plan's vision, policies, and investment strategies was guided by four policy advisory committees and a Steering Committee. The 66 committee members represented cities, counties, federal and state agencies, a tribal government, user groups, environmental and industry groups, and Oregon Department of Transportation regions and technical services.

Public review of the plan included two series of statewide meetings. The public review of the Policy Element in spring 1998 included 12 public meetings, 6 regional workshops for local government officials, and over 30 presentations to government bodies and business and civic organizations. The review of the System Element in September-October 1998 involved 22 public meetings throughout the state.

The Transportation Commission conducted a public hearing on the draft plan on Wednesday, January 20, 1999 and adopted the plan at their Commission meeting on March 18, 1999.

The Highway Plan gives policy and investment direction to the corridor plans and transportation system plans that are being prepared around the state, but it leaves the responsibility for identifying specific projects and modal alternatives to those plans.

Executive Summary

Oregon's state highways are a critical component of the state's transportation network. Oregonians rely on highways to go between the state's widespread cities, towns, parks, forests, and businesses. Oregon's industries, including agriculture, timber, tourism, and technology, all depend on highways.

The Oregon Department of Transportation owns, operates, and maintains 7,483 miles (12,040 kilometers) of roads in every corner of Oregon. The state highway system is as diverse as Oregon itself–ranging from six-lane, limited access freeways with metered ramp entrances in the Portland area to the gravel road from Prineville to Brothers.

The challenge facing Oregon is to efficiently and effectively guide this diverse highway system into the next millennium. Oregon will continue to grow. Forecasts predict that the state will have 1.2 million new residents by 2020. About 72 percent of these new Oregonians will live in the Willamette Valley, placing additional stress on already overloaded highways, streets, and bridges. Oregon's population will get older as well, requiring creative solutions to ensure mobility for the older population. With limited funding, intelligent investment strategies must be devised to help Oregon meet its long-term goals.

The 1992 Oregon Transportation Plan created policies and investment strategies for Oregon's multimodal transportation system. The statewide plan called for a transportation system marked by modal balance, efficiency, accessibility, environmental responsibility, connectivity among places, connectivity among modes and carriers, safety, and financial stability.

The 1999 Oregon Highway Plan applies these general directives to the state highway system. The plan emphasizes:

- Efficient management of the system to increase safety, preserve the system and extend its capacity;
- Increased partnerships, particularly with regional and local governments;
- Links between land use and transportation;
- Access management;
- Links with other transportation modes; and
- Environmental and scenic resources.

The plan has three main elements: the Vision, the Policy Element, and the System Element.

The Vision

The Vision presents a vision of the state highway system in the future, summarizes the impacts of economic and demographic forecasts and technologies on highway transportation, and defines the policy and legal context. Oregon's population will grow during the next 20 years, and the total number of vehicle miles traveled will increase with population; however, the rise in vehicle miles traveled per capita which occurred in the 1980s has been moderating as employment growth has moderated and automobile ownership approaches saturation.

As more vehicles crowd the roads, new technologies will change how the transportation system operates. These technologies involve increased fuel efficiency, alternative fuels, "smart cars," and automated highways.

The Highway Plan operates in the context of the federal Transportation Equity Act for the 21st Century, the statewide land use planning goals, the Transportation Planning Rule and the State Agency Coordination Program. Its policies and investments support the Oregon Benchmarks and the Governor's Quality Development Objectives. The Highway Plan carries out the Oregon Transportation Plan and its policies and will be reflected in transportation corridor plans. Under the Transportation Planning Rule, regional and local transportation system plans must be consistent with the state transportation system plan, including the Highway Plan.

Policy Element

The Policy Element contains policies and actions under goals for System Definition, System Management, Access Management, Travel Alternatives, and Environmental and Scenic Resources.

- **Goal 1. System Definition: To maintain and improve the safe and efficient movement of people and goods, and contribute to the health of Oregon's local, regional, and statewide economies and livability of its communities.**

  The System Definition policies define a classification system for the state highways to guide management and investment decisions. The state highway classification system divides state highways into five categories based on function: Interstate, Statewide, Regional, District, and Local Interest Roads. Expressways are a subset of these. Supplementing this base are four special purpose classifications that address land use, the movement of trucks, the Scenic Byway designation, and significance as a lifeline or emergency response route.

Specifically, the Land Use and Transportation Policy addresses the relationship between the highway and patterns of development both on and off the highway. It emphasizes development patterns that maintain state highways for regional and intercity mobility outside communities and compact development patterns in communities. It recognizes that state highways are the main streets of many communities and strives to maintain a balance between serving these main streets and the through traveler. The policy enables ODOT and local governments to treat main streets, community centers and commercial centers with special highway standards.

The Highway Mobility Standards Policy sets standards for mobility based on volume to capacity ratios that vary according to highway classification and urban and rural land use types. The Major Improvements Policy calls for improving system efficiency and management before adding capacity through new lanes, new highways or bypasses.

- **Goal 2. System Management: To work with local jurisdictions and federal agencies to create an increasingly seamless transportation system with respect to the development, operation, and maintenance of the highway and road system that:**
  - **Safeguards the state highway system by maintaining functionality and integrity;**
  - **Ensures that local mobility and accessibility needs are met; and**
  - **Enhances system efficiency and safety.**

  The focus of the System Management policies is on making the highway system operate more efficiently and safely through public and private partnerships, intelligent transportation systems, better traffic safety, and rail-highway compatibility. The policies recognize that state and local partnerships can save resources; that the most cost-effective way to achieve improvements to the state highway system may be by assisting with off-system improvements; and that state and local governments should make interjurisdictional transfers to reflect the appropriate functional classification of a particular roadway. The Traffic Safety Policy calls for the state to continually improve safety for all users of the highway system and to address safety problems with treatments involving engineering, education, enforcement, and emergency medical services.

- **Goal 3. Access Management: To employ access management strategies to ensure safe and efficient highways consistent with their determined function, ensure the statewide movement of goods and services, enhance community livability and support planned development patterns, while recognizing the needs of motor vehicles, transit, pedestrians and bicyclists.**

  Access management balances access to developed land with ensuring movement of traffic in a safe and efficient manner. Implementation of access management is

essential if the safety, efficiency and investment of existing and planned state highways are to be protected. Implementation of access management techniques produces a more constant traffic flow, which helps to reduce congestion, fuel consumption and air pollution. The Highway Plan policies manage access through freeway interchange placement and design, driveway and road spacing and design, traffic signal location, median design and spacing of openings, connectivity and the use of turn lanes. The Access Management Policies set standards for these elements and outline a process for deviations and appeals.

- **Goal 4. Travel Alternatives: To optimize the overall efficiency and utility of the state highway system through the use of alternative modes and travel demand management strategies.**

  Maintaining and improving the performance of the highway system requires that it function as part of a well-coordinated and integrated multimodal system. Intermodal connections for people and goods must be efficient, and appropriate alternative mode choices must be available to allow users to take advantage of the efficiencies inherent in each mode.

  Alternative passenger modes, transportation demand management, and other programs can help reduce the single-occupant vehicle demand on the highway system, thus maintaining performance while increasing the person-carrying capacity of the system. Alternative freight modes and related strategies that strive for more efficient commercial vehicle operation will help the overall reliability and performance of the goods movement networks.

  The Travel Alternatives Policies focus on reducing barriers to efficient freight movement, using alternative modes and High Occupancy Vehicle facilities to reduce congestion and expand capacity, and reducing demand through transportation demand management, including park-and-ride facilities.

- **Goal 5. Environmental and Scenic Resources: To protect and enhance the natural and built environment throughout the process of constructing, operating, and maintaining the state highway system.**

  The Oregon Transportation Plan mandated "a transportation system that is environmentally responsible and encourages conservation of natural resources" (Policy 1D). The Environmental and Scenic Resources Policies recognize ODOT's responsibilities for maintaining and enhancing environmental and scenic resources in highway planning, construction, operation, and maintenance.

- **Goal 6. Tolling and Congestion Pricing[1]**

[1] The Oregon Transportation Commission adopted Oregon Highway Plan Amendment 12-21: Tolling and Pricing Policy in July 2012, which added Goal 6: Tolling and Congestion Pricing and policies 6.A – 6.E to the Plan.

System Element

The System Element begins with an analysis of 20-year state highway needs. It lays out investment strategies for taking care of highway needs and describes an implementation plan for the Highway Plan's goals, policies and actions.

Needs Analysis

Oregon's ability to implement highway programs in the future is grounded on the current condition of state highways, projected use of the system and projected transportation revenues.

Pavements and bridges form the basic infrastructure of the highway system. ODOT's goal is to maintain the infrastructure in good condition. To maintain the 7,483 miles (12,040 kilometers) of highways most cost-effectively, ODOT's goal is to have 90 percent of the highway pavements in "fair or better" condition. There are 2,551 bridges on the state highway system, with most built in the 1950s and 1960s. Over the 20-year planning period of the Highway Plan, the state must perform 1,553 major bridge replacement and rehabilitation projects to keep state-owned bridges at current conditions.

During the next 20 years, traffic volumes will increase with population increases, and more state highways will reach capacity during all or part of the day, affecting safety, livability and economic activity. Based on projected traffic volumes, ODOT has identified highway segments that need added lanes, new alignments, bypasses, and other major improvements. These capacity needs as well as needs for pavement preservation, bridges, operations, maintenance and other highway-related programs form the basis for the estimates of "feasible" needs. Feasible needs do not include improvements that are not possible for environmental, topographical, or financial reasons. Table A on page 6 summarizes the 20-year feasible needs analysis.

Revenue Projections

Although future revenues are difficult to project accurately, the Highway Plan makes general estimates so that investment strategies can be discussed. State highway funding comes from both state and federal taxes and fees.

State road user revenues provide approximately 65 percent of state transportation revenues. Oregon's State Highway Fund, which is constitutionally dedicated to highways, derives most of its revenue from three highway user taxes: vehicle registration fees, motor vehicle fuel taxes, and motor carrier fees (the weight-mile tax). If there are no rate increases, state highway revenues from these sources are expected to average approximately $424 million annually over the next 20 years, for a total of $8.1 billion.

Oregon also receives highway revenues from the federal highway program financed with proceeds from the federal fuel tax and other transportation-related user taxes and fees.

SUMMARY OF FEASIBLE NEEDS ANALYSIS				
PROGRAM	**Average annual investment assuming no inflation (millions)**	**20-year total investment assuming no inflation (millions)**	**Average annual investment assuming 3.3% inflation (millions)**	**20-year total investment assuming 3.3% inflation (millions)**
Modernization	$339	$6,785	$471	$9,428
Preservation	$172	$3,436	$239	$4,774
Maintenance	$159	$3,180	$221	$4,419
Bridge	$133	$2,664	$185	$3,702
Safety	$35	$694	$48	$964
Operations	$29	$576	$40	$801
Special Programs	$29	$58 1	$40	$807
Construction Support	$67	$1,339	$93	$1,861
Planning	$30	$590	$41	$820
Administration	$8	$160	$11	$222
Central Services Assessment	$48	$950	$66	$1,321
TOTAL	$1,048	$20,955	$1,456	$29,119

Table A: Summary of feasible needs analysis

The Transportation Equity Act for the 21st Century (1998) will provide over $246 million annually for Oregon state highways for fiscal years 1998-2003. After this point, the revenue analysis assumes a gradual rise in federal highway funds that reflects an upper limit of what may be achievable under fixed tax rates. Using this assumption, federal highway funds for Oregon are estimated at a total of $5.8 billion over the next 20 years. If revenues remain at current rates, there will be a shortfall of at least $15.2 billion over the 20-year planning period of the 1999 Highway Plan (Figure A). This means that all state highway needs will not be met unless highway funding rises.

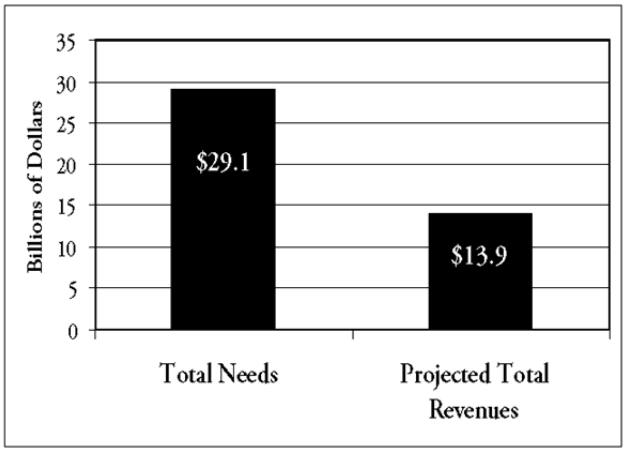


Figure A: Projection of 20-year highway needs and revenues

Investment Policies and Scenarios

ODOT has developed policies and scenarios to use in planning and prioritizing programs at a range of potential funding levels–from no increases in current state fees supporting the highway system up to a level of funding that can support those highway needs which are feasible to implement.

At the lowest funding levels, the emphasis is on doing as much as possible to operate the highway system safely and efficiently and to preserve what already is in place, although conditions are likely to continue to deteriorate under such a strategy. With higher than minimum funding, infrastructure conditions could be stabilized or improved, and attention and resources could begin to be devoted to a wider range of goals. All analyses have shown that conditions and system performance improve rapidly as more resources above the current levels are added for any of the program categories.

To operate the highway system as efficiently as possible with limited abilities to expand the infrastructure, the Plan's investment policies emphasize capacity-adding programs that are not as costly as traditional modernization projects. These include interconnected traffic signal systems and other operational changes, Intelligent Transportation System technologies, access management, off-system improvements, and HOV lanes.

Safety is an element in all the major programs. For example, new extended freeway ramps in the modernization program ensure that traffic does not extend from an off-ramp of an interchange onto the freeway. The preservation program overlays rutted pavement that may cause drivers to lose control. The operations program installs traffic signals at dangerous intersections. The maintenance program fills potholes and replaces signs and illumination devices. The safety program addresses problems in priority hazardous locations and corridors.

The Highway Plan recognizes that it is critical to maintain alternate modes in order to limit or reduce demand on the highway system in congested areas. At the lowest funding levels, if highway conditions can only be maintained at status quo, it is in the State's interest to maintain at least status quo conditions for alternate modes.

Investment Policy and Priorities

It is the policy of the State of Oregon to place the highest priority for making investments in the state highway system on safety and managing and preserving the physical infrastructure.

ODOT's funding priorities will change according to changes in available revenues. The following scenarios establish funding priorities for highway-related plans and programs at four general funding levels; the first applies at the 1998 funding level. With increases in funding, ODOT will progress toward the fourth funding scenario.

1. With funding that does not increase with inflation and subject to statutory requirements and regional equity, address critical safety issues and manage and preserve existing infrastructure at 77 percent fair or better before adding capacity, as explained below:

    - Focus safety expenditures where the greatest number of people are being killed or seriously injured.

    - Fund modernization only to meet statutory requirements.

    - Preserve pavement conditions at 77 percent fair or better on all roads except for certain Regional and District Highways.

    - Do critical bridge rehabilitation and replace bridges only when rehabilitation is not feasible.

    - Fund operations to maintain existing facilities and services and extend the capacity of the system.

2. Invest to improve infrastructure conditions and to add new facilities or capacity to address critical safety problems, critical levels of congestion, and/or desirable economic development.

    - Address the highest priority modernization projects.

    - Move toward pavement conditions of an average 78 percent fair or better on all state highways.

    - Maintain Bridge Value Index (percentage of total replacement value) at 86 percent.

3. When critical infrastructure preservation, safety and congestion needs are met, pursue a balanced program of additional high priority modernization projects and preservation of infrastructure.

    - Move toward modernization funding to meet 55 percent of feasible needs.

    - Bring pavement conditions up to an average 84 percent fair or better level on all state highways.

    - Maintain bridge conditions at 87 percent of total replacement value and address the critical 1/3 of seismic retrofit needs.

4. With significant funding increases, develop feasible modernization projects, address long-term bridge needs and upgrade pavements to a more cost-effective condition.

    - Move toward modernization funding to meet 100 percent of feasible needs.

- Bring pavement conditions up to an average 90 percent fair or better level on all state highways.
- Begin to replace 850 aging bridges and increase the Bridge Value Index (percentage of total replacement value) to 91 percent.

Funding for specific programs will follow these priorities:

Modernization

- Give priority to modernization projects that improve livability and/or address critical safety problems and high levels of congestion.

Preservation

- Give priority to Interstate pavement condition.
- Maintain Statewide Highways at a higher condition than Regional and District Highways, and invest in thicker pavement on designated freight routes.
- Preserve other highways at lower pavement conditions according to their classification. Preserve District Highways at 60 percent fair or better or higher.
- With no increase in state funding, consider the option of a maintain-only policy for certain Regional/District Highways.
- With increased funding, increase pavement condition level toward an optimal level.
- With significantly increased funding, maintain pavement conditions to an optimal level of fair or better (90 percent fair or better).

Bridge

- At declining funding due to inflation, do critical bridge rehabilitation and replace critical bridges when rehabilitation is not feasible. Do seismic retrofit projects only to maintain the functionality of major river crossings on Interstate 5 and Interstate 84.
- At increased funding, preserve bridge value at the present state, but ignore most seismic retrofit needs.
- With more funding, maintain the Bridge Value Index (percentage of total replacement value) and address the most critical one-third of the seismic retrofit needs.
- With significant funding increases, address the long-term problems of replacing the 850 bridges built in the 1950s and 1960s.

Safety

- Focus expenditures where the greatest number of people are being killed or seriously injured.[2]
- Allow for a reduced number of safety upgrades in preservation projects on highway segments with little or no crash history to increase dollars available for highway preservation.
- Make safety investments based on benefit/cost analysis. The first priority is on preservation projects with a high risk segment. The second priority is stand-alone projects on priority safety segments or spot locations.

Operations

- Maintain the existing facilities and services.
- Increase funding for Intelligent Transportation Systems and other operations to increase safety, increase travel time reliability, and relieve congestion, especially in congested metropolitan areas.
- With increased funding, take advantage of technological devices to increase safety, decrease travel time, and relieve congestion throughout the state.

Maintenance

- With existing funding, focus on maintenance of features critical to keeping roads open and safe for travel.
- With increased funding, begin to move toward desired levels of service for those features critical to keeping roads open and safe for travel.
- With significantly increased funding, invest in high initial cost solutions that improve service to travelers and minimize long-term spending. Examples range from upgrading substandard guardrails to major culvert and ditch upgrades and include improvements such as durable pavement marking.

Special Programs

- **Scenic Byways:** Position the state and local entities to be able to fund national and state Scenic Byway improvements and facilities mainly through federal funding.
- **Salmon Recovery:** Implement the Oregon Plan for Salmon and Watersheds as

[2] These priorities are reflected in the Safety Investment Program used to select safety projects for the Statewide Transportation Improvement Program. The Program identifies where the most people are being killed and seriously injured on the state highway system and applies the most cost-effective measures to reduce the number of crashes.

directed under the Governor's Executive Order. Fund at appropriate levels.

- **Transportation/Growth Management:** Fund transportation plans and projects in local jurisdictions to support livability and economic opportunity.

- **Bicycle/Pedestrian Program:** Focus the program on identifying simple, low- cost projects on urban highways to improve pedestrian and bicyclist access.

- **Immediate Opportunity Fund:** Fund street, road or other transportation-related improvements needed to respond quickly to economic development opportunities and/or revitalize commercial and industrial centers.

Planning

- Maintain basic planning program needs, including region and central work on Transportation Planning Rule implementation, periodic reviews, plan amendments, development review, access management, corridor plans, and transportation system plan assistance. Adhere to funding priorities when developing corridor plans, facility plans and local transportation system plans.

- Maintain basic ODOT long-range planning to comply with statutory requirements for the Oregon Transportation Plan and related modal plans.

- Continue to assist in funding local transportation system planning.

- If not able to maintain the basic planning program, decrease or eliminate ODOT funding assistance for local planning.

Implementation Strategies

The Highway Plan's implementation strategies include:

- Developing an Action Plan to define implementation responsibilities and actions;

- Conducting a process for examining highway classifications, classifying Expressways and Special Transportation Areas;

- Developing a freight study;

- Developing an administrative rule for access management procedures; and

- Working with regional and local governments to carry out the Highway Plan policies.

The 1999 Highway Plan goes into effect upon adoption (See page 30). The 1999 Oregon Highway Plan replaces the 1991 Plan.

1999 Oregon Highway Plan

The Vision

The Vision

Introduction

Transportation has played a key role in Oregon's development. In the early territorial years, Oregon was separated from other American population centers by vast distances and connected only by a few trails and rivers. This forced the state to be relatively self-sufficient economically. As transportation improved, Oregon became increasingly interconnected with other parts of the country and eventually the world.

Since 1917, when the Legislature designated 4,317 miles (6,946 kilometers) of mostly unpaved county roads as the state highway system, Oregon's state highways have been a critical part of our transportation network, linking Oregon's widespread towns and cities with each other and with other states.

Today, the state highway system is made up of 7,483 miles (12,040 kilometers) of roads; 99.6 percent of these are paved. Although state highways make up less than 10 percent of Oregon's road mileage, they handle over 60 percent of the daily traffic. Oregonians and visitors drove more than 51 million miles (82 million kilometers) on the state highway system every day in 1996.

The 20th century has been the era of the highway in America. Access to the automobile and the freedom it provides has changed the way Americans live and the way the country looks. Highways have enabled people to work, shop, and recreate long distances from where they live. However, Oregonians are moving into a new era. With few exceptions, it is unlikely that many new roads will be constructed. Rather, the focus will be on maintaining the existing highway system and increasing its efficiency.

The highway system serves many different users–short and long distance trucks, intercity buses, transit, bicycles, pedestrians, as well as private vehicles–and often these uses appear to be incompatible. One of the major challenges for the future is deciding how to balance the needs of different users and modes of transportation. Another is the fact that there has been no increase in the gas tax for six years, so highway spending is not keeping up with inflation. The Oregon Department of Transportation (ODOT) will not be able to maintain highways at their current condition unless maintenance and preservation funding increases in the future. Finally, congestion in metropolitan areas continues to be a major problem and peak periods of traffic are getting longer.

The plan responds to these challenges in the context of the following:

- A vision for the future of Oregon's highway system;
- Population, employment, and economic forecasts for the next 20 years in Oregon and their impact on the highway system;
- Future transportation technologies; and
- Policy and legal documents.

Vision Statement

As the 21st century approaches, Oregon is preparing for the future. The 1992 Oregon Transportation Plan (OTP) took a lead role in this effort, asking, "How can transportation contribute to the kind of future we want as a state?" The OTP's vision and innovative policies will lead to a more diverse, multimodal system in the future.

The 1999 Oregon Highway Plan carries the OTP's mandate forward to the state highway system. The following vision for the highway system reflects the OTP's direction and sets out strategies for the future:

The Oregon Highway Plan envisions a state highway system that is safe, attractive, efficient, and dependable for Oregonians and visitors. State highways provide transportation for people, goods, services, and modes of travel. The highway system supports state and local goals for economic opportunity, livability and a sustainable environment.

The highway system strikes a balance between local accessibility and through movement of people and goods in urban and rural communities. It respects local and regional differences, as it is developed and operated in partnership with local communities.

Keeping the highway system safe, attractive, and well-maintained benefits the state and all highway users. A stable funding system protects the state's investment in its highways, enhances reliability, and provides an efficient use of resources. Long-term funding continues to be based on an equitable user-based system of cost responsibility.

Transportation Forecasts

To successfully achieve the Highway Plan's vision, the plan must consider the demographic, economic, social, and land use factors affecting transportation demand. Among the more important factors are the following:

1. **Population growth.** From 1940 to 1995 Oregon's population growth rate was double that of the nation as a whole.[3] While this gap is expected to narrow over time, forecasts suggest that Oregon will be growing 29 percent faster than the nation as a whole in the year 2020. Oregon is expected to grow by some 1.2 million people by 2020, at an annual growth rate of approximately 1.3 percent (Figure 1). Twenty-seven percent of the state's growth will be due to natural population increase, while 73 percent will be from in-migration.

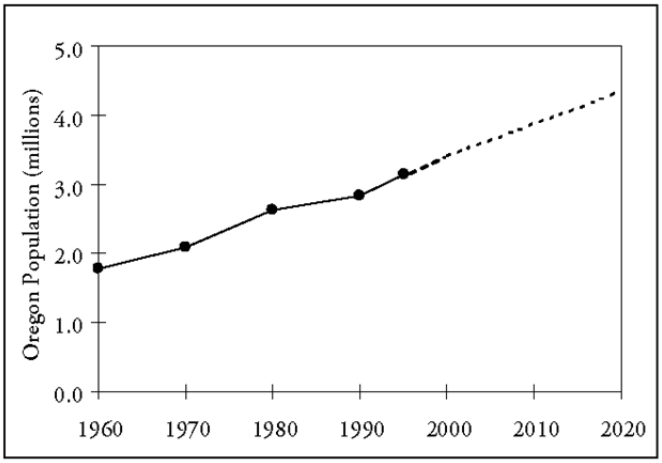


Figure 1: Oregon population trends

   Impacts: Population growth means more drivers, more vehicles, and more total vehicle miles of travel (VMT). Since 1970, the number of registered vehicles in Oregon has risen from about 1.5 million to almost 2.8 million, and total VMT rose from 12.5 billion miles (21.7 billion kilometers) in 1970 to over 30 billion miles (48.3 billion kilometers) in 1995. If each person drove about the same amount as today, population growth alone would drive total VMT to almost 42 billion miles (67.6 billion kilometers) by 2020.

2. **The economy.** The economy plays a major role in transportation demand. When employment is high, for example, work-related trips increase. People can also afford to buy automobiles and travel for recreation.

   Impacts: VMT per capita in Oregon dropped almost 600 miles (965 kilometers) per person from 1978 to 1982 when Oregon was gripped by a major recession. As the recession ended in the mid-1980s, travel increased dramatically because people went back to work and their incomes increased. It is difficult to predict the economy over a 20-year stretch of the future, so forecasts in this plan are made assuming a steady-state economy. Based on population forecasts, the size of Oregon's workforce is expected to increase to over 2.16 million by 2020 (see Table 1, page

[3] Statistical data in this section are taken from "Long-Term Population and Employment Forecasts for Oregon," issued by the state's Office of Economic Analysis in January 1997.

17). This growth will contribute to higher total VMT and will mean more traffic on the roads at peak commute hours.

US AND OREGON POPULATION AND EMPLOYMENT, 1980 - 2020					
	1980	**1990**	**2000**	**2010**	**2020**
Oregon Population	2,633,105	2,860,396	3,406,000	3,857,000	4,326,000
US Population	226,545,805	248,709,873	274,634,000	297,716,000	322,742,000
OR Pop. as a % of US	1.16%	1.15%	1.24%	1.29%	1.34%
Oregon Employment	978,500	1,410,178	1,797,663	2,027,124	2,166,520
US Employment	90,420,000	109,800,000	129,300,000	147,100,000	167,400,000

Table 1: US and Oregon Population and Employment, 1980-2020

3. **Changes in the workforce.** In the 1970s and early 1980s, the baby boom generation, and women in particular, entered the workforce in large numbers. The baby boomers are heading towards retirement now, and there has been no appreciable change in the percentage of women in the workforce since the mid-1980s. This means that long-term employment figures will be driven by population changes, assuming a steady-state economy.

   Impacts: As baby boomers and women entered the workforce, they contributed to an increase in VMT and peak hour congestion. Now that the baby boom generation is beginning to retire and women are fully integrated into the workforce, VMT per capita is stabilizing.

4. **Aging population.** As life expectancy increases and the baby boomer generation ages, Oregon's population will age. The median age in Oregon is expected to rise from 30.3 years in 1980 to 39.9 years in 2020. People 65 and older will make up 19 percent of the population in 2020, compared to 13 percent in 1995 (Figure 2).

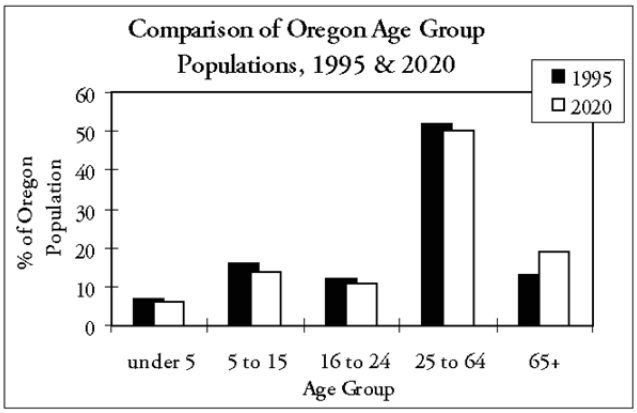


Figure 2: Age distribution in Oregon, 1995 and 2020

   Impacts: People over the age of 65 tend to drive fewer vehicle miles and drive less at peak hours than younger people do. As the older population increases, these characteristics may help moderate the overall rise in total VMT and peak hour congestion. The growth of the elderly population will also increase demand for accessible travel alternatives as well as elderly friendly roadway designs.

5. **Growth in the Willamette Valley.** About 72 percent of Oregon's projected growth will be in the Willamette Valley. This means 858,000 new people are projected to be living in the Valley by 2020—the equivalent of almost seven new cities the size of Salem.

   Impacts: Increased transportation demand in the Willamette Valley will rely on essentially the same highway system since available funding will build few new state highways in the foreseeable future. Even if more transportation alternatives are utilized, congestion will probably continue to increase.

6. **Growth in the suburbs.** Oregon's four metropolitan areas (Portland, Salem, Eugene, and Medford) will absorb almost 70 percent of the state's population increase in the next 20 years. Much of this growth will take place in suburban communities, which have had lower densities than the downtown cores.

   Impacts: The rapid growth of the suburbs since the 1950s has created many more vehicle trips because most suburbs were designed for automobile travel. People who live in the suburbs drive more than their urban neighbors do, which is one reason that Oregon's land use laws are attempting to limit suburban sprawl. Even if pedestrian, bicycle, and transit facilities keep improving, it is likely that suburban communities will continue to rely on the automobile in the near future. This will contribute to maintenance of current VMT per capita levels.

7. **Growth in rural areas.** Twenty-eight percent of the projected growth is expected to occur outside the Willamette Valley. However, this growth is not evenly distributed through the rural areas: while areas such as Bend and Redmond are among the fastest growing in the state, other areas are losing population.

   Impacts: Many of the Oregon's smaller cities and communities in the rural areas rely more heavily on state highways than do the metropolitan areas. With fewer choices, maintenance and safe travel on state highways are critical to ensure connectivity between places and the movement of goods and products to markets and to intermodal transfer points. In addition, alternative modes of travel are less feasible and more restricted than in urban areas, given distances and development densities. Finally, with fewer roadways, state highways are the only major through routes for goods movements, both east to west and north to south, over the entire width and length of the state. At the same time, these state highways also serve as the main streets for many small cities and rural communities.

If these trends continue, it appears that VMT per capita will remain stable over the next 20 years, but total VMT will continue to rise, driven by population gains. That is, each Oregonian will drive about the same amount per year, but there will be many more people, so the total miles driven on Oregon's highways will rise.

Future Technologies

While automobiles will probably be the dominant mode of transportation throughout the next 20 years, there are a number of developing technologies which will affect how the transportation system operates. These changes appear likely in the near future:

1. **Increased fuel efficiency.** Advances in engine technology and vehicle design will make traditional gas and diesel engines more efficient and less polluting. Several major auto manufacturers have recently unveiled lightweight, high-efficiency prototype automobiles which can achieve over 80 miles per gallon (28 kilometers to the liter).

   Impacts: Reduced fuel consumption would mean lower costs to many users of the transportation system. For example, commuters would save directly at the gas pump, and consumers would save indirectly through reduced trucking costs. There would also be less pollution. However, there could be some negative impacts as well. Lower direct costs could encourage people to drive more, resulting in increased congestion and pollution. In addition, lower fuel costs could cause some shift away from travel alternatives for both passenger and freight movements, so the benefits and costs of increased efficiency could balance out. At the same time, reduced fuel use would also reduce funding for transportation programs funded through fuel taxes.

New Technologies to cut air pollution are producing vehicles powered by alternative fuels, such as this solar powered car.

2. **Alternative fuels.** Another approach to improving engine efficiency and reducing pollution is alternative fuels. Electric, natural gas, and hydrogen fuel cells are among the most promising of the new energy sources. Although current models tend to be expensive, relatively slow, and limited in range, the technologies are improving very rapidly. Prototype vehicles today offer 95 percent emission reduction and doubled fuel efficiency over typical gasoline-powered vehicles.

   Impacts: Alternative fuels have the potential to greatly improve vehicle safety and efficiency while reducing air and noise pollution and may be in common use within

ten years. However, fuel taxes currently provide a large percentage of transportation revenues in Oregon. Reduced use of gasoline could necessitate alternative transportation revenue sources.

3. **"Smart cars."** Human error leads to the majority of highway fatalities. "Smart cars" use in-vehicle technologies to reduce or even eliminate the most common types of driver error. Systems currently being developed include lane-departure and blind spot warnings, obstacle detection and avoidance, automated lateral control and lane changing, intelligent cruise control, and positioning/mapping systems. These systems could eventually become standard on new vehicles. Onboard vehicle technologies are being developed mainly by private companies.

   Impacts: In addition to increasing safety, "smart cars" could allow vehicles to drive closer together at higher speeds, thus increasing highway capacity and efficiency.

4. **Automated highways.** An automated highway is a specially equipped roadway on which vehicles can be operated automatically. A driver who chooses to use the automated highway would steer the specially-equipped vehicle onto certain designated highway lanes, then release control of the vehicle to the system. Command of the vehicle's throttle and brakes would ensure a safe distance from the vehicle in front, and operation of the vehicle's steering would ensure that the vehicle remains safely in its lane. When the vehicle reaches the exit selected by the driver, it would be steered into a transition area where the driver would resume manual driving.

   Currently, these systems are being developed in Europe, the United States, and Asia, typically in public-private partnerships. For example, the U.S. Department of Transportation has been funding research by a consortium of private companies since 1991.

   Impacts: A U.S. Department of Transportation study found that in some places automated highways have the potential to improve highway capacity by 300 percent, reduce accidents up to 75 percent, and cut travel times in half. Automated highways would require very significant initial investments in highway infrastructure. Furthermore, the increased efficiency would probably be limited to larger highways, and smaller roads and downtown areas would have to absorb the increased flow of traffic. Given the needs of the existing system and limited funds, the use of automated highways is not likely to occur in the next 20 years in Oregon.

All of these technologies are likely to assume greater importance in the next 20 years. ODOT and other transportation providers will have to remain flexible enough to take advantage of these and other future developments, while addressing their potential downside. Significant investments in infrastructure will be necessary to reap long-term rewards. Partnerships to develop and implement new technologies will be critical because most of the new technologies will be developed by the private sector.

Policy and Legal Context

The Highway Plan exists in the context of federal, state, and local laws, policies, and plans concerning transportation. Figure 3 illustrates relationships among transportation planning efforts in Oregon.

Intermodal Surface Transportation Efficiency Act and the Transportation Equity Act for the 21st Century

The Intermodal Surface Transportation Efficiency Act (ISTEA), adopted by Congress in 1991, established federal transportation policy, funding levels, and guidelines for state and metropolitan planning organization transportation planning. Each state was required to prepare a long-range, statewide, multimodal transportation plan and produce a statewide transportation improvement program that is consistent with the plan. Oregon designated the Oregon Transportation Plan and the adopted modal, topic (Aviation, Bicycle/Pedestrian, Highway, Public Transportation, Rail Freight, Rail Passenger, Transportation Safety, and Willamette Valley Strategy) and corridor plans as the Statewide Transportation Plan. Thus, the Oregon Transportation Plan and each of the modal, topic and corridor plans have legal authority.

ISTEA also required states to develop and implement six management systems to assist in project prioritization and selection. These management systems are for pavement, bridges, safety, congestion, public transportation, and intermodal facilities. The management systems provide inventories and other technical information about highway needs. While subsequent federal legislation made implementation of these systems voluntary, ODOT is continuing the programs. Data from these management systems form the basis of the Highway Plan needs analysis.

In 1998, Congress adopted the Transportation Equity Act for the 21st Century (TEA-21) to replace ISTEA. The new law establishes an increased level of federal funding for surface transportation and continues most of the planning requirements and programs established by ISTEA.

Statewide Planning Goals and the Transportation Planning Rule

Oregon's statewide planning goals, adopted in 1974, established state policies in 19 different areas including transportation (Goal 12). In 1991, the Land Conservation and Development Commission, with the support of ODOT, adopted the Transportation Planning Rule (TPR) to guide local and state implementation of Statewide Planning Goal 12. The Transportation Planning Rule requires ODOT to prepare a state transportation system plan (TSP) and identify a system of transportation facilities and services adequate to meet identified state transportation needs. The Oregon Transportation Plan and the adopted modal/topic and facility plans are the State's Transportation System Plan.

The Transportation Planning Rule directs counties and metropolitan planning organizations to prepare regional TSPs that are consistent with the state TSP. In turn, counties and cities must prepare local TSPs which are consistent with the regional plans. Therefore, all regional and local TSPs must be consistent with the OTP and the adopted modal and facility plans. The Transportation Planning Rule as amended in 1998 also directs Metro in the Portland area to reduce vehicle miles traveled per capita by 10 percent in 20 years, and other metropolitan planning organizations to reduce VMT per capita by 5 percent in 20 years.

State Agency Coordination Program

Oregon's 1973 land use planning act requires state agencies to coordinate their activities in two main ways: first, through the preparation, acknowledgement and periodic review of local comprehensive plans, and second, by the preparation and certification of state agency coordination programs. Under the 1990 State Agency Coordination Program on Transportation, ODOT must carry out its programs affecting land use in compliance with Oregon's planning goals and in a manner compatible with acknowledged local comprehensive plans.

Oregon Benchmarks

The Oregon Benchmarks are part of the state's strategic plan, Oregon Shines, originally developed in 1989 and revised in 1997. In 1993, the state legislature directed all state agencies to develop performance measures with ties to appropriate Oregon Benchmarks. The 1997 revision left six benchmarks relating to transportation and three "developmental" benchmarks, which may be established if reliable data can be obtained.

OREGON BENCHMARKS AFFECTING TRANSPORTATION (1997)

BENCHMARK	1997 STATUS	2010 STATUS
Number of United States, Canadian, and Mexican metropolitan areas of over one million population served by non-stop flights to and from any Oregon commercial airport	3	6
Percentage of miles of limited-access highways in Oregon urban areas that are heavily congested during peak hours	60% (1994)	60%
Percentage of Oregonians who commute to and from work during peak hours by means other than a single occupancy vehicle	29% (1998)	38%
Vehicle miles traveled per capita in Oregon metropolitan areas (per year)	8,085	7,938
Percentage of Oregonians living where the air meets government ambient air quality standards	100%	100%
Carbon dioxide emissions as a percentage of 1990 emissions	122% (1994)	100%

Developmental Benchmarks
(May be added to Benchmarks if reliable data can be obtained)

- Backlog of city, county, and state roads and bridges in need of repair and preservation
- Total annual road and bridge operations and maintenance costs per lane-mile
- Total annual road and bridge operations and maintenance costs per daily vehicle miles of travel

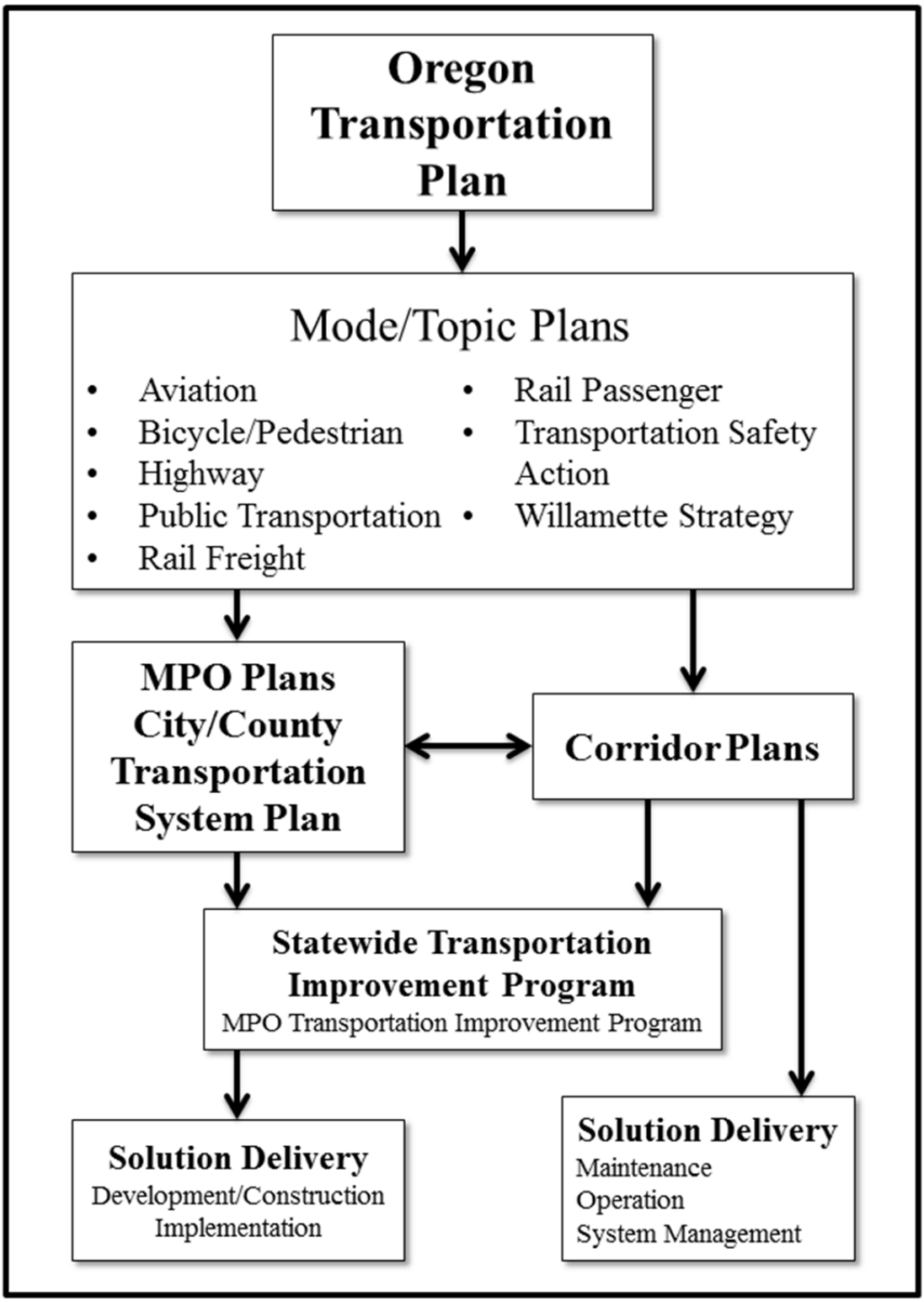


Figure 3: Integrated Transportation Planning

Oregon Transportation Plan and the Modal/Topic Plans

The Oregon Transportation Commission adopted the Oregon Transportation Plan (OTP), an innovative, multimodal approach to transportation planning, in 1992. It met the requirements of the Intermodal Surface Transportation Efficiency Act and state law (ORS 184.618); it is broad in scope, allowing mode and topic plans to refine its policies. The OTP carries further legal authority through the Transportation Planning Rule.

According to the OTP, the Highway Plan and the other modal/topic plans must:

- Be consistent with the OTP and its revisions;
- Identify opportunities to utilize other modes and to integrate recommended modal programs with those of other modes;
- Evaluate the complementary actions among and tradeoffs between investments in the modal plan, program, or project and other transportation investment strategies;
- Evaluate the consistency of the modal plan with the OTP, the Transportation Planning Rule, the Oregon Benchmarks, the State Implementation Plan under the Clean Air Act amendments, the Intermodal Surface Transportation Efficiency Act, and regional metropolitan planning organization plans;
- Recommend financing mechanisms to address any unmet needs; and
- Identify a process to produce a capital improvement program.

Furthermore, to identify the tradeoffs between modes, modal plans shall:

- Identify future transportation needs. This includes an analysis of needs of particular travel movements in sufficient detail to evaluate alternative modes;
- Determine whether anticipated needs require a major improvement or increase in capacity over the next 20 to 30 years;
- Where major improvements are needed, determine whether there are feasible alternative ways of meeting these travel needs; and
- Evaluate alternatives using criteria in the OTP and the Transportation Planning Rule.

Eight modal and topic plans (listed in Figure 3) set goals and policies for specific topics and modes of transportation. The Highway Plan is considered a topic plan because it sets policies and goals for the state highway system, which is used by several modes of transportation. Goals, policies, and actions in the Highway Plan complement those in previously adopted modal plans.

Corridor Plans

As directed in the OTP and the 1991 Highway Plan, ODOT is developing long-range programs for managing and improving transportation facilities and services within 31 statewide corridors. Policies developed in the OTP, the Highway Plan, and the other modal/topic plans will be implemented in the corridor plans.

Statewide Transportation Improvement Program

The Statewide Transportation Improvement Program (STIP) is a construction and project programming document produced by ODOT. The STIP, which operates on a four-year cycle, is developed through planning processes involving local and regional governments, transportation agencies, and the public. The STIP implements the OTP, the modal/topic plans, and corridor plans through projects and programs.

Oregon Transportation Initiative and the Quality Development Objectives

In 1996, at the request of Governor John Kitzhaber, business and civic leaders from more than 40 Oregon communities conducted an intensive, region-by-region assessment of transportation needs in the state, culminating in a series of action recommendations. The major recommendations include improving efficiency, reorganizing decision making, and managing funds in new ways. The Oregon Transportation Initiatives recommendations led to Governor Kitzhaber's Executive Order on Quality Communities (December 16, 1997) which directs the use of state resources to encourage the development of quality communities. These objectives are intended to guide all state agency actions related to community development.

QUALITY DEVELOPMENT OBJECTIVES

1. Promote compact development within urban growth boundaries to minimize the costs of providing public services and infrastructure and to protect resource land outside urban growth boundaries.

2. Give priority to a quality mix of development that addresses the economic and community goals of a community and region.

3. Encourage mixed-use, energy-efficient development designed to encourage walking, biking and transit use (where transit is available).

4. Support development that is compatible with a community's ability to provide adequate public facilities and services.

5. Facilitate development that is compatible with community and regional environmental concerns and available natural resources (e.g., available water, air quality, etc.)

6. 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 costs as well as the public and societal costs of expanding the transportation infrastructure.

Local Comprehensive Plans and Transportation System Plans

Transportation planning is carried out at the local level by cities, counties, and metropolitan planning organizations. The regional and local transportation system plans adopted by regional and local governments must be consistent with the State Transportation System Plan, including the 1999 Oregon Highway Plan.

Applicability of this Plan

The policies embodied in this Highway Plan direct the manner that the Oregon Department of Transportation plans, manages and funds state highway facilities. Local and regional jurisdictions must be consistent with Policies 1A, State Highway Classification System; 1B, Land Use and Transportation; 1C, State Highway Freight System; 1D, Scenic Byways; 1F, Highway Mobility Standards; 1G, Major Improvements; 2G, Rail and Highway Compatibility; 3A-E, Access Management; 4A, Efficiency of Freight Movement; 4D Transportation and Demand Management; and the Investment Policy in their local and regional plans when planning for state highway facilities within their jurisdiction. These policies shall be effective January 1, 2000 except as described below.

The OTC has determined that Policy 1F, Highway Mobility Standards, will be effective immediately.

- The standards provided in Policy 1F shall identify the state highway mobility performance expectations to be used in the development of transportation system plans and highway corridor plans that are adopted after March 18, 1999. Alternative performance standards that meet or exceed these highway mobility performance standards may be substituted.

- The standards provided in Policy 1F shall guide state highway operation decisions initiated after March 18, 1999.

- Applications for amendments to functional plans, acknowledged comprehensive plans and land use regulations subject to the Transportation Planning Rule, OAR 660-012-060, initiated after March 18, 1999 shall be consistent with the standards in Policy 1F.

The 1991 Highway Plan policies, except for the Operating Level of Service Standards found at Appendix A-3, shall remain effective for those transportation system plans that are adopted before January 1, 2000 for purposes of the Transportation Planning Rule (OAR 660-12-015) consistency requirements. Local governments that have acknowledged transportation system plans that are not consistent with the 1999 Highway Plan shall amend their acknowledged transportation system plans to be consistent with the 1999 Highway Plan at their next periodic review or transportation plan update.

ODOT will continue to work with metropolitan planning organizations and local jurisdictions to ensure continuing consistency among regional, local and statewide plans. In cases where the conclusions of these coordinated planning efforts are inconsistent with the Oregon Highway Plan, ODOT or the affected local jurisdiction or regional planning jurisdiction may petition the Oregon Transportation Commission for an amendment to the Highway Plan.

The Planning Process

Policy Element

The first step in the 1999 Highway Plan planning process was meeting with stakeholder groups, local and regional governments, and ODOT staff to determine how the 1991 Highway Plan was working, what needed to be fixed, and what issues should be addressed in the new plan. The Highway Plan Manager conducted 57 of these meetings between October 1996 and May 1997.

In May 1997, four policy advisory committees and a Steering Committee began a series of meetings to guide Highway Plan policy development. The 66 committee members represented cities, counties, federal and state agencies, a tribal government, user groups, environmental and industry groups, and ODOT regions and technical services. Appendix G lists the members of each committee.

The policy advisory committees developed the overall vision for the state highway system as well as goals, policies, and actions in five policy areas. The Steering Committee reviewed and made changes to the draft materials produced by the policy advisory committees.

At the same time, ODOT staff conducted a detailed needs analysis of the state highway system based on existing and new data sources. They used this needs analysis to create the investment policies and strategies.

After several discussions in the fall of 1997, the Oregon Transportation Commission sent the Policy Element out for public review and comment. From February through April, 1998, ODOT staff gathered comment on the plan policies and highway needs analysis at more than 50 meetings across the state with agency groups, regional and local governments, civic organizations, and the general public. In the spring, the policy committees met again to review the public comment and revise the policy recommendations.

System Element

The Steering Committee led the investment strategy analysis based on the draft goals and policies and the needs analysis. The investment policies and strategies define investment and management priorities for alternative funding scenarios.

The Oregon Transportation Commission reviewed the investment strategies at meetings in May, July, and August 1998. In the fall of 1998, the public had the opportunity to discuss the investment strategies at a series of 22 meetings statewide. The Commission held a public hearing on the draft plan on January 20, 1999 in Salem, made changes in January and February, and adopted the plan on March 18, 1999.

Description of the Highway System

Introduction

Oregon has over 83,600 miles (134,500 kilometers) of public roads. These roads are owned by the federal government, the State of Oregon, counties, and cities (Figure 4). The 1999 Oregon Highway Plan sets policy for the state highway system: 7,483 miles (12,040 kilometers) of roads owned and operated by the State of Oregon through the Oregon Department of Transportation (ODOT). Although the State of Oregon owns a total of 11,201 miles (18,022 kilometer) of roads, about 3,718 miles (5,982 kilometers) of these are in state parks, forests, college and other campuses, or other state institutions and are not managed by ODOT. The state highway system is depicted on the map in the back of this plan. (In addition, a list of highways is provided in Appendix D.)

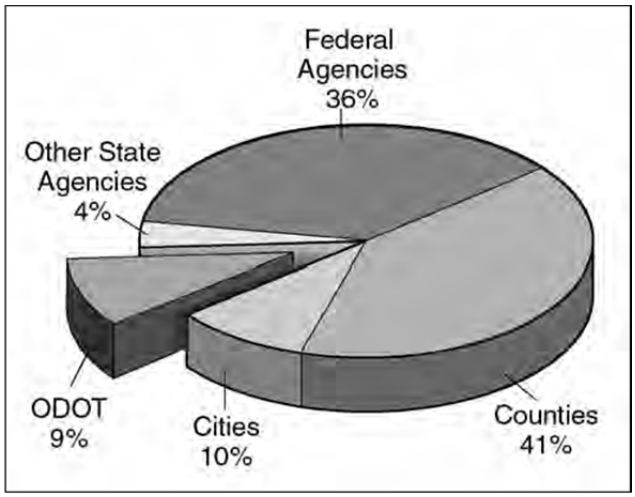


Figure 4: Public road jurisdiction in Oregon, 1997

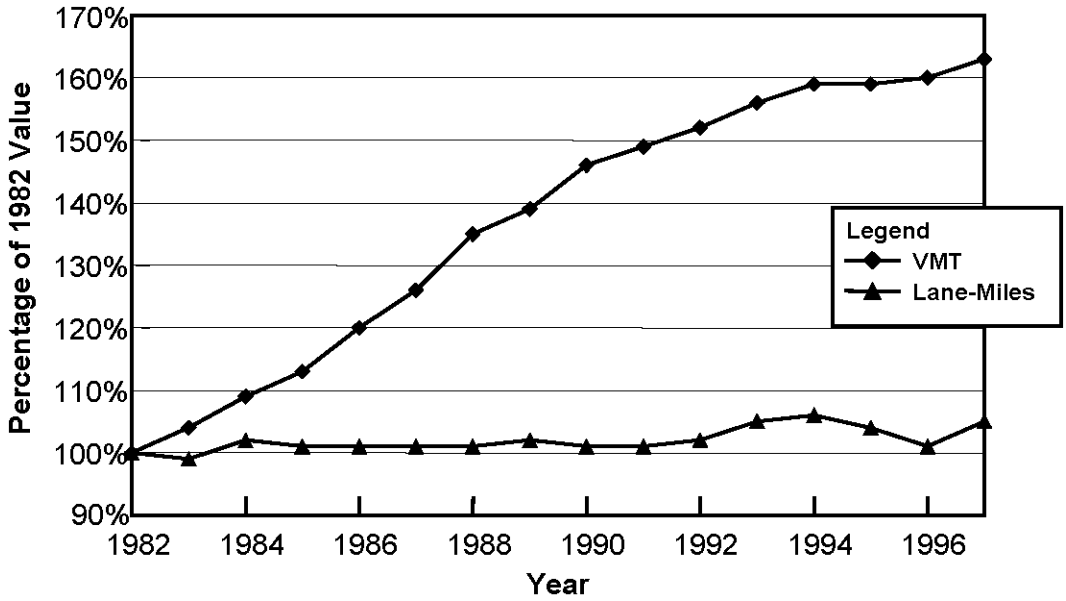
The state highway system ranges from eight-lane freeways to two-lane gravel roads. More than 99.6 percent of state highway mileage is paved. The system also includes 4,800 major structures including bridges and viaducts.

Highway Usage

The state highway system handles over 60 percent of Oregon's traffic volume although it makes up less than 10 percent of Oregon's roadway distance. Vehicles travel more than 51 million vehicle miles (82 million kilometers) on Oregon's state highways every day. This is a 60 percent increase over 1982 levels.

Highway travel has increased much faster than highway capacity over the past 15 years (Figure 5, page 35). This means that there are many more cars on the same amount of roadway, a trend most noticeable on freeways in urban areas (Figure 6, page 35).

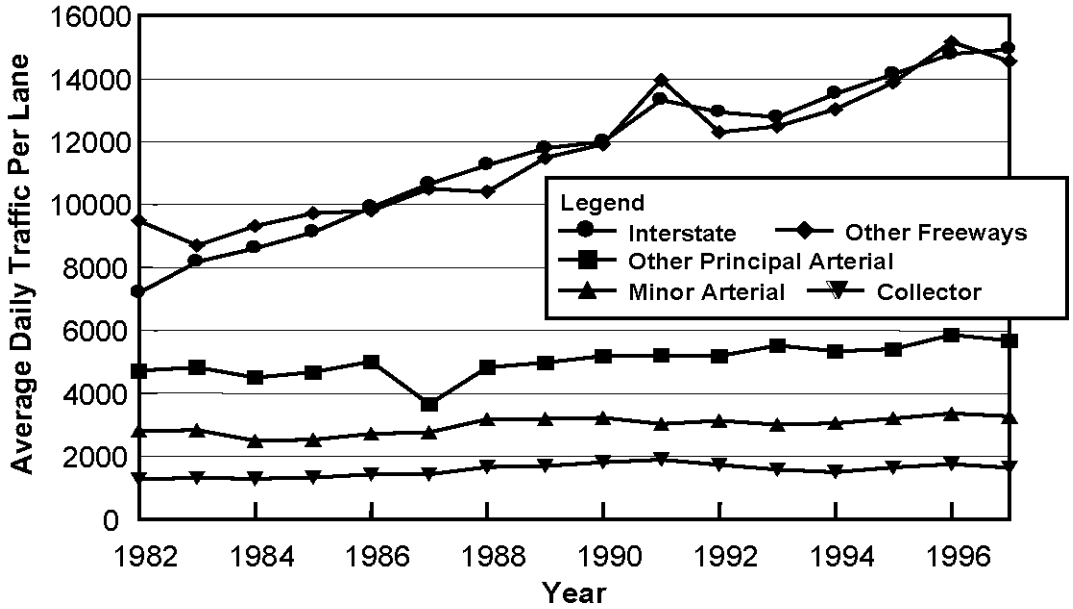
Oregonians are very aware of the increased congestion on their roads, and surveys completed in 1994 and 1995 show that people in central and southern Oregon were as concerned about congestion as people in the Portland Metro area.



Source: ODOT Transportation Planning and Data Sections

Figure 5: Trends in VMT and lane miles in Oregon (all jurisdictions)

In the past 15 years, the vehicle miles traveled on Oregon's main roads have increased over 60 percent while miles of road lanes have increased no more than 5 percent. Both VMT and lane miles are chartered as a percentage of 1982 levels.



Source: ODOT Transportation Planning and Data Sections

Figure 6: Average daily traffic on Oregon's urban roadways (all jurisdictions)

In the past 15 years, urban freeways have become much more congested. The chart shows the average amount of traffic in each road lane for each class of road.

Commuting

There were approximately 1,450,000 workers in Oregon in 1998, and approximately 71 percent of them drove alone to work, while the remaining 29 percent used some sort of alternative (Figure 7). These figures include all jurisdictions of roads in Oregon; data is not available for state highways alone.

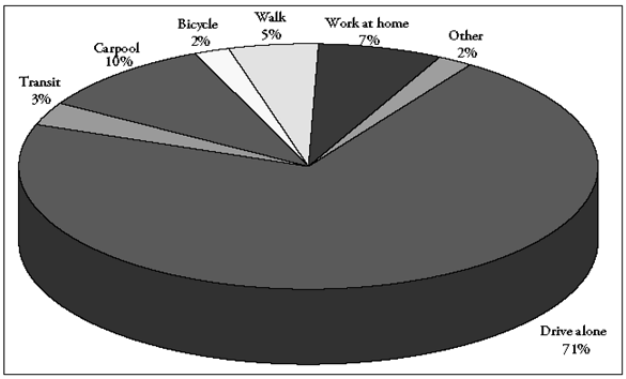


Figure 7: Means of transportation to work in Oregon

Freight Movements

A primary function of state highways, and in particular the National Highway System, is to support economic development by linking producers, shippers, markets, and transportation facilities. Oregon's National Highway System routes total 470 miles (756 kilometers) of urban roads and 3,264 miles (5,252 kilometers) of rural roads. These roads provide access to airports with freight service, deep draft ports, shallow draft cargo handling ports, and numerous other types of intermodal facilities.

Freight moves via many modes of transportation including truck, rail, marine, air and pipeline, but trucks handle the bulk of freight movements in Oregon. According to the 1993 Commodity Flow Survey conducted by the U.S. Bureau of Transportation Statistics, for-hire and private trucks account for at least 64 percent of the value and 76 percent of the weight of freight shipments originating in Oregon with destinations in the United States.

In general, trucks are most commonly used to haul commodities over distances up to 500 miles (800 kilometers), while rail and marine modes generally account for longer distance goods movement. Air is typically used for small, high-value commodities. Pipelines move bulk materials in liquid form.

Figure 8, page 36, illustrates Oregon's major multimodal commodity flow corridors. It shows that truck traffic tends to dominate north-south movements, especially north of Eugene, while rail plays a more important role in east-west traffic. On an average weekday, approximately 19,000 trucks enter Oregon carrying 250,000 tons of goods worth $161 million. Most of the trucks entering the state originate in Washington (38 percent) and California (25 percent). Western Washington accounts for 51 percent of all outbound truck trips. Eastern Washington, California, Colorado, Montana, and Utah also account for significant shares of outbound truck freight.

Intrastate transportation is also very important to Oregon's economy. About 42 percent of the value and 80 percent of the weight of shipments originating in Oregon are destined for other places within Oregon.

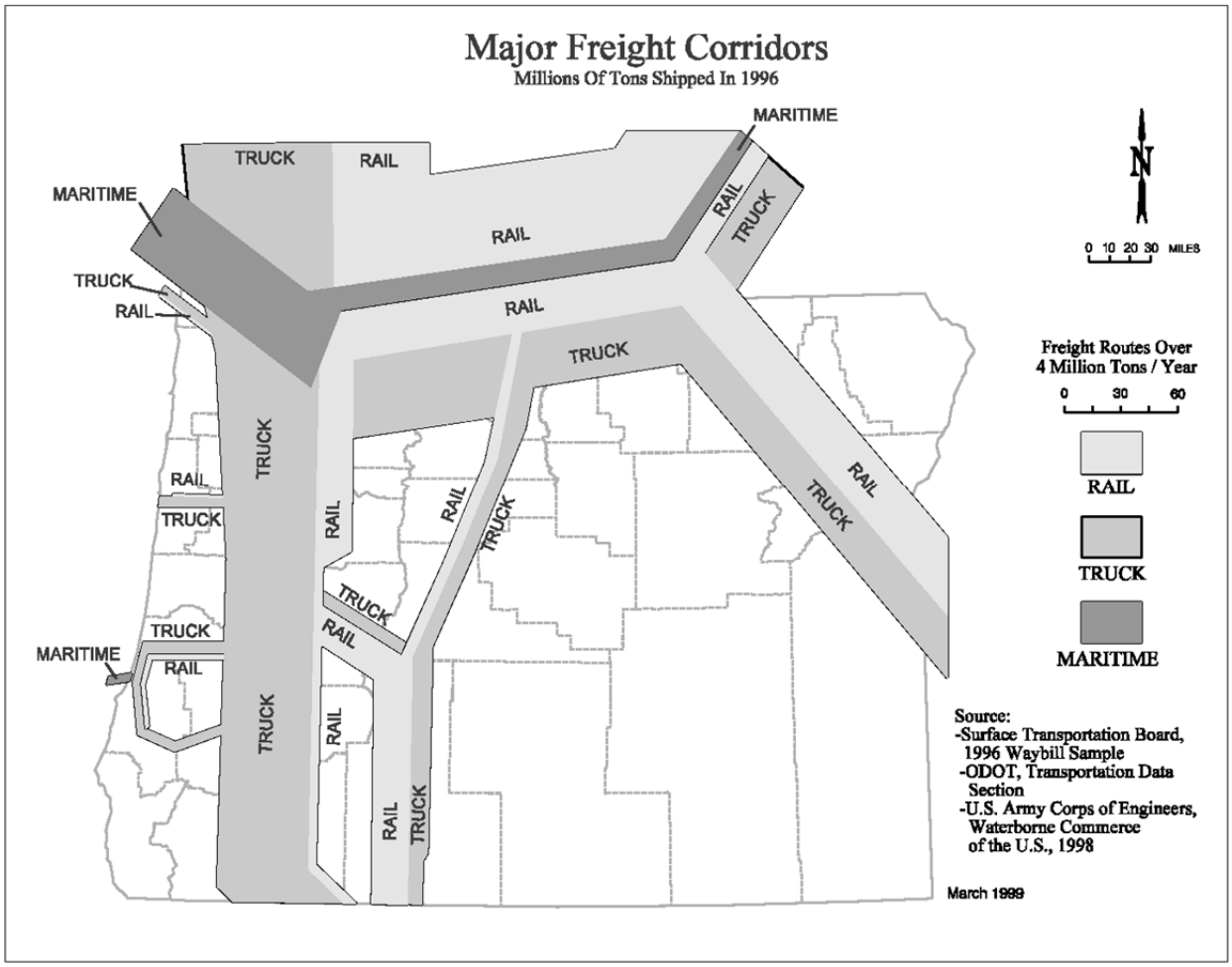


Figure 8: Major multimodal commodity flow corridors in Oregon

Alternative Mode Facilities

Of the approximately 6,150 miles (9,895 kilometers) of non-Interstate rural state highways, 78 percent are considered to be generally suitable for bicycling (i.e., roads with shoulders at least four feet wide or with traffic volumes lower than 1,000 vehicles per day). Of the 632 miles (1,017 kilometers) of urban state highways, 32 percent have bikeways on both sides of the road, 30 percent have sidewalks on both sides of the road, and 6 percent have bikeways and sidewalks on both sides of the road.

Other alternative modes served by the state highway system include intercity bus, transit, carpools, and vanpools. Many state highways, particularly in urban areas, have supportive facilities for these modes, including transit stops, bus pullouts, shelters, and park-and-ride lots.

1999 Oregon Highway Plan

Policy Element

Policy Element

Goal 1: System Definition

To maintain and improve the safe and efficient movement of people and goods and contribute to the health of Oregon's local, regional, and statewide economies and livability of its communities.

Overview

The state highway classification system divides state highways into five categories based on function: Interstate, Statewide, Regional, District, and Local Interest Roads. Supplementing this base are four special purpose classifications: land use, statewide freight routes, scenic byways, and lifeline routes. These address the special expectations and demands placed on portions of the highway system by land uses, the movement of trucks, the Scenic Byway designation, and significance as a lifeline or emergency response route. Information contained in these special designations supplement the highway classification system and will be used to guide management, needs analysis, and investment decisions on the highway system.

The System Definition section also includes policies on highway mobility standards and major improvements, which further define state highway management goals and objectives.

STATE HIGHWAY CLASSIFICATION SYSTEM

Background

The 1991 Highway Plan's Level of Importance Policy classified the state highway system into four levels of importance (Interstate, Statewide, Regional and District) to provide direction for managing the system and a basis for developing funding strategies for improvements. Realizing that limited funding would not allow all the statewide highways to be upgraded, the 1991 Highway Plan also designated some of the statewide highways as the Access Oregon Highway system to focus needed improvements. The goal of the Access Oregon Highway system was to provide an efficient and effective system of highways to link major economic and geographic centers.

Congress adopted the highway routes in the National Highway System (NHS) as part of the National Highway System Designation Act of 1995. In Oregon, the National Highway System highways include all the Interstate and Statewide Highways and Access Oregon Highways except for Oregon Highway 82. To reduce the redundancy between Level of Importance, Access Oregon Highways and the National Highway System and to define a highway classification system that is consistent with the National Highway System, this Highway Plan has adopted the National Highway System as the primary classification and retained the Regional and District categories from the Level of Importance system. Oregon Highway 82 in Wallowa and Union Counties will remain a Statewide Highway. This ensures that every county in Oregon has a link to the rest of the state through the Statewide Highway network.

Congress also designated major intermodal connectors as part of the National Highway System. These roads, some owned by the state and some by local jurisdictions, are located in Astoria, Boardman, Coos Bay-North Bend, Eugene, Medford and Portland. (These roads are listed in Appendix E.) They link airports, ports, rail terminals, and other passenger and freight facilities to Interstate and Statewide Highways, and are of particular importance to Oregon's economy. State-owned intermodal connectors are either Regional or District Highways and are managed according to their state highway classification.

The classification system also recognizes that certain roads which are currently state highways function primarily as local roads. In cooperation with local governments, ODOT will develop a process to identify these roads which may be transferred to local jurisdictions in accordance with Policy 2C of this plan. The process will also consider the transfer of local highways and roads that serve primarily state interests to state jurisdiction.

ODOT will use the state highway classification system to guide management and investment decisions regarding state highway facilities. The system will be used in the development of corridor plans, transportation system plans, major investment studies, review of local plan and zoning amendments, periodic review of local comprehensive plans, highway project selection, design and development, and facility management decisions including road approach permits.

The broad classifications defined in Action 1A.1 will be complemented by specific subcategories and designations defined in other policies within this plan (see Policies 1B, 1C, 1D, 1E, 1F, and 3A). These subcategories and designations are policy-specific; the overall state highway classification defined in Policy 1A forms the basis for the classification system. The classification map in this plan and Appendix D detail the application of the state highway classification system to specific highways.

The categories recognize that different highway types have importance for certain areas and users. The categories are not the same as the federal government's functional classification system. It is the responsibility of the Oregon Transportation Commission to establish and modify the classification systems and the routes in them.

Policy 1A: State Highway Classification System

It is the policy of the State of Oregon to develop and apply the state highway classification system to guide ODOT priorities for system investment and management.

Action 1A.1

Use the following categories of state highways, and the list in Appendix D, to guide planning, management, and investment decisions regarding state highway facilities:

- **Interstate Highways** (NHS) provide connections to major cities, regions of the state, and other states. A secondary function in urban areas is to provide connections for regional trips within the metropolitan area. The Interstate Highways are major freight routes and their objective is to provide mobility. The management objective is to provide for safe and efficient high-speed continuous-flow operation in urban and rural areas.

- **Statewide Highways** (NHS) typically provide inter-urban and inter-regional mobility and provide connections to larger urban areas, ports, and major recreation areas that are not directly served by Interstate Highways. A secondary function is to provide connections for intra-urban and intra-regional trips. The management objective is to provide safe and efficient, high-speed, continuous-flow operation. In constrained and urban areas, interruptions to flow should be minimal. Inside Special Transportation Areas (STAs), local access may also be a priority.

- **Regional Highways** typically provide connections and links to regional centers, Statewide or interstate Highways, or economic or activity centers of regional significance. The management objective is to provide safe and efficient, high-speed, continuous-flow operation in rural areas and moderate to high-speed operations in urban and urbanizing areas. A secondary function is to serve land uses in the vicinity of these highways. Inside STAs, local access is also a priority. Inside Urban Business Areas, mobility is balanced with local access.

- **District Highways** are facilities of county-wide significance and function largely as county and city arterials or collectors. They provide connections and links between small urbanized areas, rural centers and urban hubs, and also serve local access and traffic. The management objective is to provide for safe and efficient, moderate to high-speed continuous-flow operation in rural areas reflecting the surrounding environment and moderate to low-speed operation in urban and urbanizing areas for traffic flow and for pedestrian and bicycle movements. Inside STAs, local access is a priority. Inside Urban Business Areas, mobility is balanced with local access.

- **Local Interest Roads** function as local streets or arterials and serve little or no purpose for through traffic mobility. Some are frontage roads; some are not eligible for federal funding. Currently, these roads are District Highways or

unclassified and will be identified through a process delineated according to Policy 2C. The management objective is to provide for safe and efficient, low to moderate speed traffic flow and for pedestrian and bicycle movements. Inside STAs, local access is a priority. ODOT will seek opportunities to transfer these roads to local jurisdictions.

Expressways provide for high speed and high volume traffic with minimal interruption on highways like the Salem Parkway.

Action 1A.2

By action of the Oregon Transportation Commission upon consultation with affected local governments, classify and/or develop Expressways as a subset of Statewide, Regional and District Highways.

a. Definition. Expressways are complete routes or segments of existing two-lane and multi-lane highways and planned multi-lane highways that provide for safe and efficient high speed and high volume traffic movements. Their primary function is to provide for interurban travel and connections to ports and major recreation areas with minimal interruptions. A secondary function is to provide for long distance intra-urban travel in metropolitan areas. In urban areas, speeds are moderate to high. In rural areas, speeds are high. Usually there are no pedestrian facilities, and bikeways may be separated from the roadway.

In this classification, “expressway” refers to the kind and number of accesses allowed on a highway segment. It does not refer to the ownership of access rights. Other characteristics include the following:

- Private access is discouraged;
  - There is a long-range plan to eliminate, as possible, existing approach roads as opportunities occur or alternate access becomes available.
  - Access rights will be purchased and a local road network may be developed consistent with the function of the roadway.
- Public road connections are highly controlled
- Traffic signals are discouraged in rural areas;
- Nontraversible medians may be considered for safety and operations purposes; and
- Parking is prohibited.

b. Classification. Initiation of the process to classify Expressways will occur as a result of a corridor planning process, ODOT special study or action of the Transportation Commission.

Because of the importance of maintaining system mobility, the Transportation Commission will classify new Expressways as a subset of National Highway System (Interstate and Statewide) highways in consultation with local governments.

The Transportation Commission will classify new Expressways as a subset of Regional and District Highways with the agreement of directly affected local governments.

Highways that are already limited access will be automatically classified as Expressways by the Transportation Commission. These are highways where ODOT owns the access rights and direct access is not allowed and where users enter or exit the roadway only at interchanges.

c. Criteria. Highways proposed to be Expressways will be classified on the basis of the following criteria:

- Importance as an NHS route with high volumes of traffic;
- Designation as a part of the State Highway Freight System;
- Designation as a safety corridor; or
- Function as an urban bypass.

The process of classifying segments as Expressways will first focus on highway segments where posted speeds are 50 miles per hour or greater.

Action 1A.3

Conduct a study of highway classifications statewide at least every six years to ensure that the classifications of highways are appropriate to their function. Consider changing the classification of a state highway if the function of the highway has changed significantly since its original classification or the function does not fit the classification description. The classification change will be effective when the Oregon Transportation Commission adopts the change as part of a corridor plan or other planning process.

LAND USE AND TRANSPORTATION[4]

Background and Intent

The federal Intermodal Surface Transportation Efficiency Act of 1991 requires the establishment of a National Highway System "to provide an interconnected system of principal arterial routes which will serve "interstate and inter-regional travel." ODOT has an obligation to ensure that the National Highway System (the routes designated Interstates and most Statewide Highways and intermodal connectors) adequately performs this function of serving a larger geographic area. Historically, however, communities have grown up along the early trails and roads that have become statewide travel routes. This means that in addition to providing mobility for people, goods and services between communities, regions and states, the state highway system often also provides access to homes, businesses, industry and other destinations within communities.

The Land Use and Transportation Policy addresses the relationship between the highway and patterns of development both on and off the highway. It emphasizes development patterns that maintain state highways for regional and intercity mobility and supports compact development patterns that are less dependent on state highways than linear development for access and local circulation. The state highway classification system in Policy 1A is the framework used to address the relationship between mobility and accessibility. Interstates and Expressways are where mobility is emphasized. District and Regional Highways are where accessibility is more easily accommodated. Statewide highways are where accessibility and mobility are balanced.

Policy 1B recognizes that state highways serve as the main streets of many communities, and the policy strives to maintain a balance between serving those main streets and the through traveler. It emphasizes management of the transportation system for safety and efficient use of resources. The highway system's ability to address both mobility and accessibility depends in large part on community land use patterns and the ways that land uses are served by the transportation system. Development with numerous or poorly designed accesses along highways and incomplete street networks often focuses local traffic on state highways. Such patterns reduce the ability of state

[4] The Land Use and Transportation Background and Policy were replaced in August 2005, OHP Amendment 05-16.

highways to move through traffic and provide connections between communities. Communities with compact urban design that incorporate well-designed access and transportation networks of arterials and collectors reduce traffic impacts on state highways and make communities safer for pedestrians.

Policy 1B applies to all state highways. It provides guidance to ODOT regarding system management planning and implementation activities. It is designed to clarify how ODOT will work with local governments and others to link land use and transportation in transportation plans, facility and corridor plans, plan amendments, access permitting and project development. The role of ODOT and local governments in designating highway segments is to work together so that planned community development patterns are individually tailored yet also meet statewide highway needs for safety and mobility. Under most circumstances, the elements of Policy 1B are advisory and recommendations are provided to give local jurisdictions guidance to aid in transportation and land use planning along corridors. The intent of Policy 1B is that all urban commercial areas situated along state highways should aspire to the objectives and standards of this policy.

Policy 1B implements the Oregon Transportation Plan's Urban Accessibility Policy to "assure balanced, multi-modal accessibility to existing and new development within urban areas to achieve the state goal of compact, highly livable urban areas." The Highway Plan's policies on Bypasses, Major Improvements, Highway Mobility Standards, Partnerships, Off-System Improvements, and Travel Alternatives complement the Land Use and Transportation Policy. The policy also supports and is consistent with the Land Conservation and Development Commission Transportation Planning Rule.

The overall goal and focus of the Land Use and Transportation Policy is to connect land use and transportation in a way that achieves long-term objectives for the state highway and the local community. In applying the policy, ODOT will recognize the regional and topographical differences of communities throughout Oregon.

Focusing growth in more compact development patterns can have the following transportation benefits:

- Reduction of local trips and travel on state highways;
- Shorter vehicle trips;
- More opportunity to walk, bicycle, or use available transit services;
- Increased opportunities to develop transit;
- Reduction of the number of vehicle trips to shop and do business; and
- Potential air quality enhancement and energy conservation.

ODOT acknowledges that the best way to implement the policy is to establish cooperative working relationships with local governments. This includes a commitment on ODOT's part to:

- Participate actively, early, and continuously in the development, review and amendment of comprehensive plans, transportation system plans, facility plans, downtown plans and periodic review;
- Look for creative and innovative transportation and land use solutions to transportation problems;
- Work within the context of acknowledged land use plans and zoning; and
- Support planning and implementation of improvements within centers and highway segments, as well as off-system improvements that benefit operation of the state highway system.

The policy recognizes that:

- Local governments are responsible for planning and zoning land uses within their jurisdictions and for developing and managing the local transportation system;
- ODOT is responsible for developing and managing the state highway system;
- ODOT and local and regional governments must work together to achieve accessibility and mobility goals for a balanced transportation system.

To reflect ODOT's interest in focusing growth in more compact development patterns, Policy 1B adopts the highway segment designations of Special Transportation Areas (STAs), Urban Business Areas (UBAs), and Commercial Centers. These highway segments are tools to implement more compact community development patterns.

In implementing Policy 1B, particularly highway segment designations, ODOT recognizes that the policy will be applied under different conditions and may result in some instances where ODOT action may precede local planning implementation:

- Existing conditions that meet the policy objectives;
- Existing conditions which do not meet the policy objectives. In these circumstances, the policy will be used to gain closer levels of compliance with the objectives and/or actions. In cases where existing conditions are generally static, the policy will be used to ensure that development patterns do not continue in a manner contrary to this policy and will seek out ways to move in the direction of the policy.
- A mixture of existing non-compliant conditions and new proposals, projects or developments where higher levels of compliance with the objectives and/ or actions would be desirable. In these circumstances, ODOT, the affected local government and affected parties need to work out a way to best achieve compliance with the

objectives and/or actions.

- New conditions or development where there is the ability to fully comply with the policy objectives and/or actions.

General Process and Implementation Resources

The process for designating highway segments begins with the identification of an area in a local transportation system plan, facility plan, downtown plan or other adopted plan. Through communication and cooperation, the local jurisdiction and ODOT reach agreement on the specifics of the designation. ODOT will not proceed without written support for the designation. Once the parties have reached agreement, the Oregon Transportation Commission will formally designate the segment whereupon the Oregon Highway Plan map will be amended to reflect the designation. The overall process is designed to reflect the planning efforts of local governments while still giving certainty to both ODOT and local governments regarding community development and transportation planning and project development.

Policy 1B provides the framework for supporting rules, standards, policies and guidance information. Reference to this supporting material is necessary for implementation of Policy 1B and is available electronically on the ODOT website[5].

Planning for and Managing Highway Segment Designations

Highway segment designations may generally be located within urban growth boundaries and urban unincorporated communities on District, Regional or Statewide Highways that are not on Interstate Highways or Expressways. All designations require clearly defined boundaries identified by milepoint and nearest cross street. Location of an STA or Commercial Center on a Statewide Highway that is also a designated OHP Freight Route requires development of a management plan approved by both ODOT and the local government. UBAs, which may be designated in commercial areas with posted speeds greater than 35 miles per hour, also require management plans.

As State Highway Freight Routes are reviewed and updated, it will become necessary for local governments to develop management plans for previously designated highway segments on newly designated Freight Routes on Statewide Highways when updating their transportation system plans or other legislatively mandated planning effort. Where management plans are not required, the elements are recommended planning and project development considerations, as applicable. Where management plans are

[5] Oregon Highway Plan and amendments: http://www.oregon.gov/ODOT/TD/TP/Pages/ohp.aspx
OAR Chapter 734, Division 52: http://arcweb.sos.state.or.us/pages/rules/oars_700/oar_734/734_051.html
ODOT Highway Design Manual: http://www.oregon.gov/odot/hwy/engservices/Pages/hwy_manuals.aspx
ODOT Statewide Transportation Improvement Program (STIP): http://www.oregon.gov/ODOT/TD/STIP/
ODOT Area Commissions on Transportation: http://www.oregon.gov/odot/comm/pages/act_main.aspx
ODOT Development Review Guidelines: http://www.oregon.gov/ODOT/TD/TP/Plans/ch1%20-%20reformat.pdf
ODOT Transportation System Plan Guidelines: http://www.oregon.gov/ODOT/TD/TP/Plans/Guidelines.pdf

required, the following elements are required, as applicable:

- Goals and objectives;
- Provisions for transition areas bordering highway segments to introduce the motorist to different highway functions and speeds;
- Design standards to improve local access and community functions, as applicable.
- These may include highway mobility standards, street spacing standards, signal spacing standards and street treatments.
- Strategies for addressing freight and through traffic including traffic speed, possible signalization, parallel or other routes and actions in other parts of the corridor which address through traffic needs;
- Parking strategies which address the design characteristics of the STA, UBA, or Commercial Center designation;
- Provision for a network of local traffic, transit, pedestrian and bicycle circulation;
- An analysis of the regional and local traffic and safety impacts of the designation;
- Identification of needed improvements within the segments or improvements that will support access to the segment and designation of the party responsible for implementation, likely funding sources and anticipated time frame;
- Identification of maintenance and operational strategies to be employed.

Special Transportation Areas (STAs)

A Special Transportation Area (STA) is a designated district of compact development located on a state highway within an urban growth boundary in which the need for appropriate local access outweighs the considerations of highway mobility except on designated OHP Freight Routes where through highway mobility has greater importance.

While traffic moves through an STA and automobiles may play an important role in accessing an STA, convenience of movement within an STA is focused upon pedestrian, bicycle and transit modes. STAs look like traditional “Main Streets” and are generally located on both sides of a state highway. The primary objective of an STA is to provide access to and circulation amongst community activities, businesses and residences and to accommodate pedestrian, bicycle and transit movement along and across the highway. Direct street connections and shared on-street parking are encouraged. Local auto, pedestrian, bicycle and transit movements to the area are generally as important as the through movement of traffic. Traffic speeds are slow, generally 25 miles per hour or lower.

STAs can be located within urban growth boundaries on District, Regional and Statewide Highways, but not on Interstates or Expressways. An existing central business or commercial district in an unincorporated community as defined by OAR 660-022-0010(10) that meets the definition of an STA may also be classified as an STA. Larger communities may have more than one STA. While STAs may include some properties that are currently developed for auto dependent uses (e.g. drive-through restaurants, gas stations, car washes), areas where the predominant land use pattern is auto-dependent uses are generally not appropriate for STA designation. STAs that include properties developed for auto-dependent uses should include planning and zoning that provide for redevelopment of the properties over time to uses consistent with STA implementation.

Planning and Development Guidance for STAs. STAs should be planned and developed to reflect the following kinds of characteristics:

- Buildings are spaced close together and located adjacent to the street with little or no setback;
- Sidewalks with ample width are located adjacent to the highway and the buildings;
- People who arrive by car or transit find it convenient to walk from place to place within the area;
- On-street parking, structured parking, or shared, general purpose parking lots are located behind or to the side of buildings;
- Streets are designed with a pedestrian orientation for the ease of crossing by pedestrians;
- Public road connections correspond to the existing city block pattern; private driveways directly accessing the highway are discouraged;
- Adjacent land uses provide for compact, mixed-use development with buildings oriented to the street;
- A well-developed parallel and interconnected street network facilitates local automobile, bicycle, transit and pedestrian circulation except where topography severely constrains the potential for street connections;
- Speeds typically do not exceed 25 miles per hour;
- Plans and provisions are made for infill and redevelopment;
- Provisions are made for well-developed transit stops including van/bus stops, bicycle and pedestrian facilities, and including street amenities that support these modes.

Pedestrian facilities, on-street parking and landscaping are features of Special Transportation Areas like this downtown area on the La Grande-Baker Highway in La Grande

Urban Business Areas (UBAs)

Traditional auto-oriented patterns of development include facilities with visible access from the highway directly to parking and drive-through facilities. These patterns of development reflect conventional patterns of zoning, financing and property ownership. The OHP seeks to encourage redevelopment and reinvestment in urban areas and to shift land use patterns from auto-oriented properties with individual driveways to patterns of development served by common accesses, nodal development and more compatibility with pedestrians and bicycles.

An Urban Business Area is a highway segment designation that may be applied to existing areas of commercial activity or future nodes or various types of centers of commercial activity within urban growth boundaries or urban unincorporated community boundaries on District, Regional or Statewide Highways where vehicular accessibility is important to continued economic viability. Highways that have posted speeds of 35 miles per hour or less are permitted access spacing standards that reflect the dual objectives of providing local access to meet the needs of abutting properties while maintaining existing speeds to move through traffic. For highways posted greater than 35 miles per hour, the UBA designation is available as recognition that vehicular accessibility and circulation are often as important as pedestrian, bicycle and transit accessibility, but a management plan is required to ensure that these objectives are balanced. Safe and regular street connections are encouraged. Transit turnouts, sidewalks and bicycle lanes are accommodated.

Policy 1B makes a distinction among the various types of commercial development along highways and determines that UBA designation may be applied to commercial areas with posted speeds greater than 35 mph. Commercial areas with posted speeds less than or equal to 35 mph do not need such a designation.

- **Existing areas of commercial development.** It is recognized that existing linear business development patterns will most likely remain until such time as local zoning regulations and financing opportunities change to support redevelopment. This policy encourages incremental steps to move in the direction of meeting UBA objectives for all urban commercial areas situated linearly along a highway, outside of STAs or Commercial Centers. However, it is not necessary to adopt a highway segment designation for segments with posted speeds of 35 miles per hour or less. OHP standards for these areas will facilitate access to businesses without unreasonably delaying the movement of people and goods on the state highway system. Recommended steps for all established or planned commercial areas along state highways may include but are not limited to removal of impediments to inter-parcel circulation, design of intersections to address the needs of pedestrians and bicyclists, and development of provisions for good traffic progression and local transit opportunities. ODOT projects in existing areas of commercial development should not result in improvements contrary to this policy.

- **Redeveloping commercial areas**. In the redevelopment process ODOT recognizes that because of existing patterns of property ownership, implementing nodal development patterns may not be fully attainable. However, moving in the direction of implementing nodal development is encouraged, and implementation of remaining UBA characteristics is strongly encouraged.

- **New commercial development.** New development within designated UBAs offers planning and development opportunities in more compact, nodal patterns that meet the objectives of UBA development.

Location. Urban Business Areas can be located in areas with posted speeds greater than 35 miles per hour within urban growth boundaries or urban unincorporated communities on District, Regional or Statewide Highways, but not on Interstates or Expressways. Mobility and access interests need to be balanced through a management plan completed in conjunction with the UBA designation.

Planning and Development Guidance for Urban Business Areas. UBAs should be planned to reflect the following kinds of characteristics:

- Consolidated access as ODOT projects take place for new development and where possible as redevelopment occurs;

- Removal of impediments to inter-parcel circulation (e.g. remove barriers between abutting businesses);

- Businesses and buildings set back from the highway and separated by parking lots;

- Visible access from the highway directly to parking and drive-through facilities;
- Limited or no on-street parking;
- Bicycle lanes, sidewalks, crosswalks, or other bicycle/pedestrian accommodations to address safe and accessible pedestrian movement along, across and within the commercial areas;
- Stop signs, traffic signals, medians and intersections designed to serve as pedestrian refuges;
- Provision for good traffic progression;
- Auto accessibility important to economic vitality of the area;
- Vehicular accessibility as important as pedestrian, bicycle and transit accessibility;
- Efficient parallel local street system where arterials and collectors connect to the state highway;
- Speeds that are generally 35 mph or less;
- Businesses and buildings clustered in centers or nodes for new development and potential redevelopment.

Commercial Centers

Commercial Centers are large, regional centers or nodes with limited access to the state highway. Commercial Centers are encouraged to locate in a community that is the population center for the region and where the majority of the average daily trips to the center originate. Generally these centers have 400,000 square feet of gross leasable area or public buildings. These centers 17 are intended for commercial or mixed commercial, retail and office activities. They may include public uses. The buildings are clustered with consolidated access to the state highway rather than developed along the highway with multiple accesses. Multi-family residential uses may be located within or adjacent to a center. Major metropolitan areas may have multiple Commercial Centers.

The primary objective of the state highway adjacent to a Commercial Center is to maintain through traffic mobility in accordance with its function. Commercial Centers include a high level of regional accessibility and connections to the local road network. The Commercial Center accommodates pedestrian and bicycle access and circulation and, where appropriate, transit movements.

Location. Commercial Centers are adjacent to the highway and are linked to the highway by a public road. They are located within urban growth boundaries on Statewide, Regional or District Highways or on Expressways where mobility can be

maintained as shown through a management plan.

Planning and Development Guidance for Commercial Centers. Commercial Centers should be planned and developed to reflect the following kinds of characteristics:

- Convenient circulation within the center, including pedestrian and bicycle access and circulation;
- Provisions for transit access in urban areas planned for fixed-route transit service;
- Shared parking and a reduction in parking to accommodate multimodal elements where alternate modes are available;
- A high level of regional accessibility;
- Accessibility by a variety of routes and modes and a local road network so that most of the traffic circulation may occur off of the state highway; and
- Compact development patterns.

In return for having the above characteristics and adhering strictly to access management spacing standards as provided in OAR Chapter 734, Division 51, the Transportation Commission will consider allowing the highway mobility standard to be the same as that for Special Transportation Areas at the point of access to the state highway. The highway mobility of any affected freeway interchange may not decline below the highway mobility standard for the interchange designated by Policy 1F (OHP Tables 6 and 7).

Non-Designated Urban Highways

Non-Designated Urban highways (Urban Highways) are those Statewide, Regional or District Highways within urban growth boundaries with posted speed greater than 35 mph that are not otherwise designated or classified as Interstate Highways, Expressways, STAs, UBAs or Commercial Centers. The Urban designation applies automatically to highway segments not otherwise designated.

The objective of a non-designated Urban highway segment is to efficiently move through traffic while also meeting the access needs of nearby properties. Access can be provided to and from individual properties abutting an Urban segment consistent with the highway access permitting criteria set forth in OAR 734-051. Transit turnouts, sidewalks, and bicycle lanes are accommodated. OAR Chapter 734, Division 51, establishes spacing standards for Urban highway segments consistent with the OHP objective for Urban highways.

Non-designated Urban highways traverse many different types of land use areas, from urban fringe and suburban areas to developed areas and traditional downtowns or

central business districts. The ODOT Highway Design Manual establishes design standards for these different development patterns along urban highways, as well as design standards for Expressways, STAs, UBAs, and Commercial Centers.

Policy 1B – Land Use and Transportation

This policy recognizes the role of both State and local governments related to the state highway system:

- *State and local government must work together to provide safe and efficient roads for livability and economic viability for all citizens.*
- *State and local government must share responsibility for the road system.*
- *State and local government must work collaboratively in planning and decision-making relating to transportation system management.*

It is the policy of the State of Oregon to coordinate land use and transportation decisions to efficiently use public infrastructure investments to:

- *Maintain the mobility and safety of the highway system;*
- *Foster compact development patterns in communities;*
- *Encourage the availability and use of transportation alternatives;*
- *Enhance livability and economic competitiveness; and*
- *Support acknowledged regional, city and county transportation system plans that are consistent with this Highway Plan*

Action 1B.1

Actively pursue the objectives and designations in the Background, Intent and Actions in Policy 1B, as appropriate, through:

- Access management planning and permitting;
- Facility and transportation system plans;
- Metropolitan planning organization and local transportation system plans;
- Periodic review of local comprehensive plans;
- Local planning and zoning amendments;
- Review of major development proposals that have a significant impact on a

state highway;

- Review of site acquisition and construction of proposed public facilities;
- Review of urban growth boundary amendments; and
- Highway facility design and project development.

Action 1B.2

Use the rules, standards, policies and guidance developed by ODOT to implement Policy 1B. These include but are not limited to Oregon Administrative Rule Chapter 734, Division 51 on Access Management, the ODOT Highway Design Manual, ODOT Transportation System Plan Guidelines and ODOT Development Review Guidelines, LCDC Goal 12 on Transportation and the Transportation Planning Rule.

Action 1B.3

Use the following categories to designate highway segments when the concept is identified in a local transportation system plan, downtown plan, facility plan or other adopted plan and is supported by both the local government and ODOT. The categories, in part, define whether or not a management plan is required. Written management plans are required for STAs and Commercial Centers on designated Freight Routes on Statewide Highways. Management plans are required for UBAs on any state highway where the posted speed is greater than 35 mph and a UBA designation is needed. As State Highway Freight Routes are reviewed and updated, local governments will need to develop management plans for previously designated highway segments when updating their transportation system plan or other legislatively mandated planning effort. Management plans are also required for Commercial Center on Expressways. Management plans are encouraged where not required. Written approval for any designation is required to be provided by the local government prior to designation by the Oregon Transportation Commission.

a. Special Transportation Areas

Category 1 Special Transportation Areas are those segments located on Statewide, Regional or District Highways that are not on Interstate Highways, Expressways or designated OHP Freight Routes. Category 1 STAs may be designated upon the agreement of ODOT and the local government. Once the Transportation Commission approves the STA designation and the Highway Plan map is amended, ODOT standards, as applicable, will be applied to the segment. Proposed design treatments not meeting ODOT standards will require an exception.

Category 2 Special Transportation Areas are those segments that are located on Statewide Highways that are also designated OHP Freight Routes. Category 2 STAs require a written management plan jointly agreed to by ODOT and the local

government in conjunction with designation by the Transportation Commission. Once the Transportation Commission approves the designation and the Highway Plan map is updated, the ODOT standards, as applicable, will be applied.

b. Urban Business Areas

Urban Business Areas may be designated on Statewide, Regional or District Highways that are not Interstate Highways or Expressways, and that have posted speeds greater than 35 miles per hour. UBAs require a written management plan jointly agreed to by ODOT and the local government in conjunction with designation by the Transportation Commission. Once the Transportation Commission approves the UBA and the Highway Plan map is amended, ODOT standards, as applicable, will be applied.

A UBA highway segment designation is not necessary in areas where posted speeds are 35 miles per hour or less, and consequently management plans are not required. However, it is the intent of Policy 1B that when local jurisdictions update their transportation system plans or undertake other legislatively mandated planning efforts, that the objectives and suggested elements of a management plan for these segments be considered. The Highway Design Manual standards for UBAs will be used in areas with posted speeds less than or equal to 35 mph except where an STA has been designated.

c. Commercial Centers

Category 1 Commercial Centers are those segments located on Statewide, Regional or District Highways that are not on Interstate Highways, designated OHP Freight Routes or Expressways. Category 1 Commercial Centers may be designated upon the agreement of ODOT and the local government. Once the Transportation Commission approves the Commercial Center designation and the Highway Plan map is amended, ODOT standards, as applicable, will be applied to the segment.

Category 2 Commercial Centers are those segments that may be located on designated OHP Freight Routes or Expressways. Category 2 Commercial Centers require a written management plan jointly agreed to by ODOT and the local government in conjunction with the designation by the Transportation Commission. Once the Transportation Commission approves the designation and the Highway Plan map is amended, ODOT standards, as applicable, will be applied.

d. Non-Designated Urban Highways

Non-designated Urban highway segments are the default designation for all state highways within urban growth boundaries with speeds greater than 35 mph except Interstates unless otherwise designated as an Expressway, STA, UBA or Commercial Center. There are no separate categories of non-designated Urban highways. The policy objective to efficiently move through traffic while also

meeting the access needs of nearby properties will be applied.

Action 1B.4

Work with local governments to obtain plans and zoning regulations that are consistent with the Transportation Planning Rule and this policy. Where plans and regulations are not yet in place, ODOT may take action regarding designation of highway segments in the following circumstances:

- Where a local jurisdiction identifies an objective to develop land use plans and regulations reflective of OHP Policy 1B and provides written approval for a highway segment designation, ODOT may designate the highway segment prior to adoption of the land use and zoning changes.

- Where a gap exists between local plans and highway segment designation, local government planning and legislative activity should move in the direction of meeting the objectives of Policy 1B.

- Where ODOT has designated a highway segment in reliance on the support of a local government and where the planning and community development patterns remain inconsistent with or contrary to the highway segment designation, ODOT will work with the local government to gain closer compliance with the policy or may modify or withdraw the designation.

Action 1B.5

Develop and implement plans that support compact development, including but not limited to highway segment designations. Support plans, strategies and local ordinances that include:

- Parallel and interconnected local roadway networks to encourage local automobile trips off the state highway;

- Transit, bicycle and pedestrian facilities, including street amenities that support these modes;

- Design and orientation of buildings and amenities that accommodate pedestrian and bicycle use as well as automobiles use;

- Provision of public and shared parking;

- Infill and redevelopment;

- Expansion of intensive urban development guided away from state highways rather that along state highways; and

- Other supporting public investments that encourage compact development and development within centers.

Action 1B.6

Help protect the state highway function by working with local jurisdictions in developing land use and subdivision ordinances, specifically:

- A process for coordinated review of future land use decisions affecting transportation facilities, corridors or sites;
- A process to apply conditions to development proposals in order to minimize impacts and protect transportation facilities, corridors or sites;
- Regulations assuring that amendments to land use designations, densities and design standards are consistent with the functions, capacities and highway mobility standards of facilities identified in transportation system plans including the Oregon Highway Plan and adopted highway corridor plans;
- Refinement of zoning and permitted and conditional uses to reflect the effects of various uses on traffic generation;
- Standards to protect future operation of state highways and other roads; and
- Access control measures, for example, driveway and public road spacing, median control and signal spacing standards which are consistent with the functional classification of roads and consistent with limiting development on rural lands to rural uses and densities.

Action 1B.7

To assist in implementing state access management standards and policies, work with local governments to develop access management strategies, plans or access management components in comprehensive plans, facility plans and/or transportation system plans involving the state and local system.

Action 1B.8

Work with local governments to maintain the highway mobility standards on state highways by creating effective development practices through the following means:

- Develop an adequate local network of arterials, collectors and local streets to limit the use of the state highway or interchanges for local trips;
- Reduce access to the state highway by use of shared accesses, access from side or back roads and frontage roads, and by development of local street networks as redevelopment along state highways occurs;
- Cluster development in compact development patterns off of state highways;
- Develop comprehensive plan, zoning and site plan review provisions that

address highway mobility standards; and

- Avoid the expansion of urban growth boundaries along Interstate and Statewide Highways and around interchanges unless ODOT and the appropriate local governments agree to an interchange management plan to protect interchange operation or an access management plan for segments along non-freeway highways.

Action 1B.9

Develop facility and transportation system plans that protect existing limited access interchanges according to the following functional priorities:

- At existing limited access highway interchanges, provide safe egress from freeways and Expressways as the first priority.

- When an interchange connects a freeway or an Expressway to an Interstate, Statewide or Regional Highway, provide regional access to freeways and Expressways as the second priority.

Action 1B.10

Continue to develop and implement design guidelines for highways that describe a range of automobile, pedestrian, bicycle or transit travel alternatives. The guidelines should include appropriate design features such as lighted, safe and accessible bus stops, on-street parking, ample sidewalks, pedestrian crossings, pedestrian scale lighting, street trees and related features.

Action 1B.11

Work to accommodate alternative modes on state highways according to the various types of land uses and highways. Work toward development of alternative mode facilities in Special Transportation Areas, Commercial Centers and Urban Business Areas according to the other actions in this policy.

Actions 1B.12, 1B.13 and 1B.14[6]

[6] Omitted when Policy 1B was replaced in August 2005; Amendment 05-16.

Buildings in a Commercial Center like this one on 82nd Avenue in Portland are clustered and have limited direct access to the state highway

Table 2: Potential location of highway segment designations[7]

Table 3: Highway segment designation and designating process[8]

[7] Table was omitted when Policy 1B was replaced in August 2005; Amendment 05-16
[8] Table was omitted when Policy 1B was replaced in August 2005; Amendment 05-16.

The buildings in a new Urban Business Area are clustered in a center like this one on Powell Boulevard in Gresham.

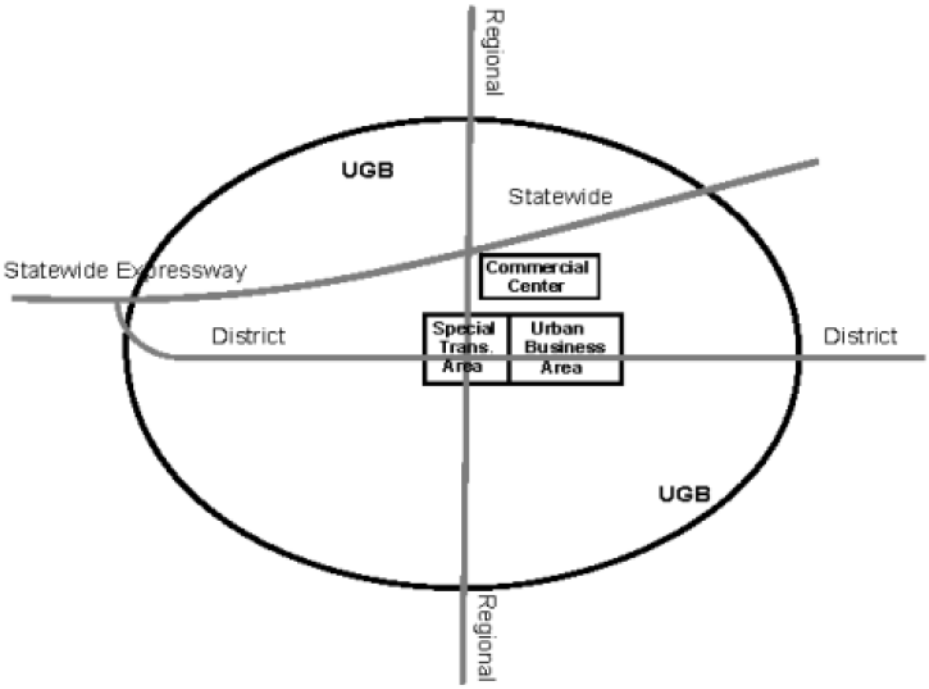


Figure 9: Location of highway segment designations

ELEMENTS OF STRATEGIES TO MEET THE OBJECTIVES OF THE LAND USE AND TRANSPORTATION POLICY				
Highway Segment	**Elements of Strategy**			
	Land Use	**Alternative Modes**	**Traffic Management**	**Access Management**
Special Transportation Area	• Adjacent land uses that provide for compact, mixed-use development. "Compact" means that buildings are spaced closely together, parking is shared and sidewalks bind the street to the building. Mixed-use development includes a mixture of community places and uses. • Infill and redevelopment. • Design and orientation of buildings that accommodate pedestrian and bicycle circulation, as well as automobile use. • An adopted management plan as part of the comprehensive plan that shows the area as a compact district with development requirements that address local auto trips, street connectivity, shared parking, and design and layout of buildings, parking and sidewalks that encourage a pedestrian-oriented environment.	• Well-developed transit, bicycle and pedestrian facilities, including street amenities that support these modes.	• A well-developed parallel and interconnected local roadway network. • A parking strategy that favors shared general purpose parking preferable on-street parking and shared parking lots. • Streets designed for ease of crossing by pedestrians.	• Public road connections that correspond to the existing city block. • Private driveways discouraged.
Commercial Center	• Clustered development with shared parking.	• Facilities for bicycle and pedestrian access and circulation. • Provisions for transit movements.	• Connections to network of local streets.	• Joint access to state highways.

Table 4: Elements of strategies to meet the objectives of the Land Use and Transportation Policy

ELEMENTS OF STRATEGIES TO MEET THE OBJECTIVES OF THE LAND USE AND TRANSPORTATION POLICY				
Highway Segment	**Elements of Strategy**			
	Land Use	**Alternative Modes**	**Traffic Management**	**Access Management**
Urban Business Areas	• Businesses and buildings clustered in centers or notes.	• Bicycle lanes and sidewalks and other pedestrian accommodations, especially in commercial centers and community use areas. • Convenient and safe pedestrian crossings, especially at transit stops and other high-use generators. • Intersections designed to address the needs of pedestrians and bicyclists. • Measures for addressing pedestrian crossing safety. These may include stop signs, traffic signals and medians designed to serve as pedestrian refuges.	• Development of a strategy for good traffic progression. • An efficient parallel local street system where arterials and collectors connect to the state highway. • Improved traffic management strategies such as Advanced Traffic Management Systems.	• Local ordinances that support shared driveway approaches and inter-parcel circulation.

Table 4: continued[9]

[9] Amended for consistency with amendments adopted in August 2005, Amendment 05-16.

STATE HIGHWAY FREIGHT SYSTEM[10]

Background

According to the 2002 Federal Highway Administration's Analysis Framework, trucks carried nearly 76 percent of the total freight tonnage and 82 percent of the total freight value for the year. To ensure that freight is able to move efficiently on the state's major trucking routes, this plan designates a State Highway Freight System. The key criteria of freight volume, tonnage, connectivity, and linkages to National Highway System intermodal facilities were augmented in the 2005 Freight Route designation update. Other factors that were considered included connectivity to regional freight routes and freight routes in other states, percent of trucks on state highways to reflect urban/rural characteristics, freight generating sites and the implications of highway segment designations.

The primary purpose of the State Highway Freight System is to facilitate efficient and reliable interstate, intrastate, and regional truck movement through a designated freight system. This freight system, made up of the Interstate Highways and certain Statewide, Regional and District Highways, the majority of which are on the National Highway System, includes routes that carry significant tonnage of freight by truck and serve as the primary interstate and intrastate highway freight connection to ports, intermodal terminals, and urban areas. It supersedes and replaces the designation of primary freight corridors in the Oregon Transportation Plan. Freight routes designated on Regional or District Highways will be managed according to their highway classification.

Freight depends upon timely and dependable movement of goods over the system; some industries structure their facilities and processes on just-in-time deliveries. Highway efficiency for goods movement in an expanding economy will require public and private investments in infrastructure as well as changes in road operations to reduce congestion on freight routes. Designating a network of freight routes of primary importance to the state will help ensure that these investments are coordinated in a way that reinforces the unique needs of the freight system.

Improving and maintaining the efficiency of highway operations requires balancing the needs of freight movement with the needs of other users of the highway system. Some state highways that are important goods movement corridors also serve as communities' main streets and may be designated as Special Transportation Areas. It may be the objective of local officials to reduce or slow traffic passing through the town, with potentially adverse impacts on long distance freight transportation. Therefore, a management plan will be developed that combines local land use planning needs while recognizing the special significance of the freight route designation. See Policy 1B which requires that STAs on Statewide Highways that are OHP Freight Routes include the development of a management plan approved by both ODOT and the local government. Improvements associated with designated freight routes will

[10] The State Highway Freight System Background was replaced in August 2005, OHP Amendment 05-16.

impact highway design elements such as roadway section widths, median barriers and intersection design. Statewide Freight Routes in general have higher mobility standards than other highways of the same classification. Regional and local jurisdictions may designate their own freight route systems, but these designations should be compatible with or complementary to the designation of routes in the State Highway Freight System.

The State Highway Freight System designation does not guarantee additional state investment in these routes. However, three special management strategies are available:

- Highways included in this designation have higher highway mobility standards than other Statewide Highways (see Policy 1F).
- The highway's function as a freight route should be balanced with local accessibility in Special Transportation Areas.
- Freight system routes may be treated as Expressways outside of urban growth boundaries and unincorporated communities. (See Action 1C.3 and the definition of Expressways in Action 1A.2.)

Additional Background:

The 2003 legislature adopted changes to Oregon Revised Statutes (ORS) 366.215. This statute identifies the Oregon Transportation Commission's authority to build and modify state highways. The statute states that the Commission may not permanently reduce the "vehicle-carrying capacity" of an identified freight route unless safety or access considerations require the reduction or a local government requests the reduction. In the context of this statute, "vehicle-carrying capacity" references the vertical and horizontal clearance for larger vehicles. Depending on the size and weight of a truck, oversized vehicles are issued permits on an annual or trip specific basis.

The need to protect existing vertical and horizontal clearance is different from the mobility function of the State Highway Freight System. The designated Reduction Review Routes identify where the Department will apply the OAR 731-012-0010 review of vertical and horizontal clearance.[11]

[11] In 2013 the state adopted Administrative Rules (OAR 731-012-0010) to implement ORS 366.215. The rule details the review of potential reductions of vertical and horizontal clearance and includes requirements for input from affected stakeholders and local governments.

Policy 1C: State Highway Freight System

It is the policy of the State of Oregon to balance the need for movement of goods with other uses of the highway system, and to recognize the importance of maintaining efficient through movement on major truck freight routes.

Action 1C.1

Apply performance standards appropriate to the movement of freight on freight routes.

Action 1C.2

Prepare a statewide freight study to address the role of trucks and other freight modes in Oregon's economy, freight mobility and accessibility issues, current, near-term and long-term needs, and other topics.

Action 1C.3

In the development of corridor plans, work with local governments to examine options to:

- Treat designated freight routes as Expressways where the routes are outside of urban growth boundaries and unincorporated communities. Continue to treat freight routes as Expressways within urban growth boundaries where existing facilities are limited access or where corridor or transportation system plans indicate limited access; and

- Recognize and balance freight needs with needs for local circulation, safety and access in Special Transportation Areas.

Action 1C.4

Consider the importance of timeliness in freight movements in developing and implementing plans and projects on freight routes. [12]

Action 1C.5

Apply the review process prescribed[13] in OAR 731-012-0010 to the Reduction Review Routes.

[12] Table 5 was omitted when Policy 1C was amended in August 2005; Amendment 05-16. Freight Route designations are now listed in the system inventory table in Appendix D: Highway Classification by Milepoint.
[13] Policy 1C was amended again in August 2013; Amendment 13-23, which mistakenly included the term "proscribed" in Action 1C.5. Since the intent of the amendment is to apply the review process prescribed in OAR 731-012-0010 to the Reduction Review Routes, Action 1C.5 has been updated to reflect the amendment's intent.

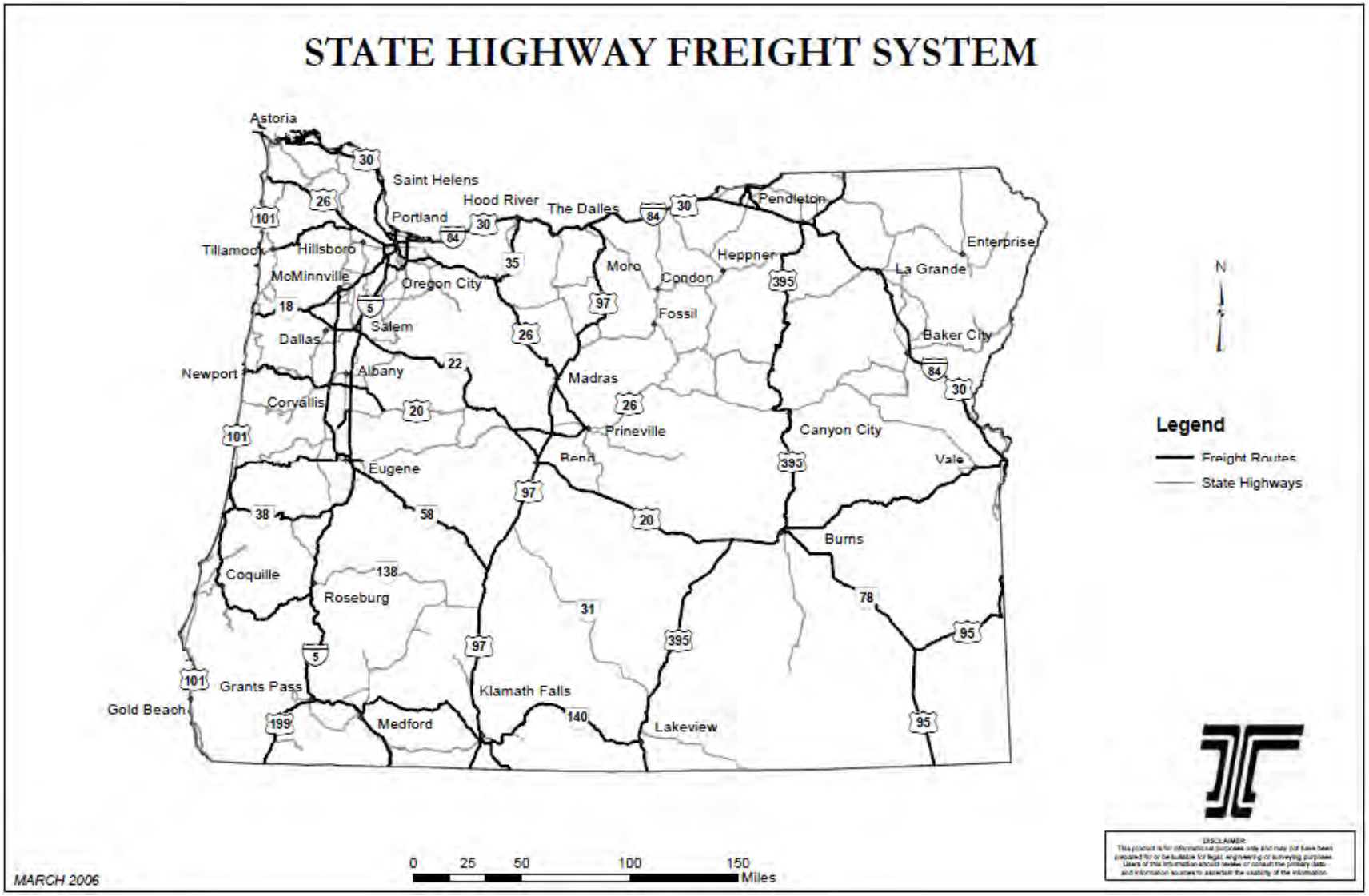


Figure 10: Designated freight routes[14]

[14] The Freight Route maps were updated pursuant to Amendment 05-16.

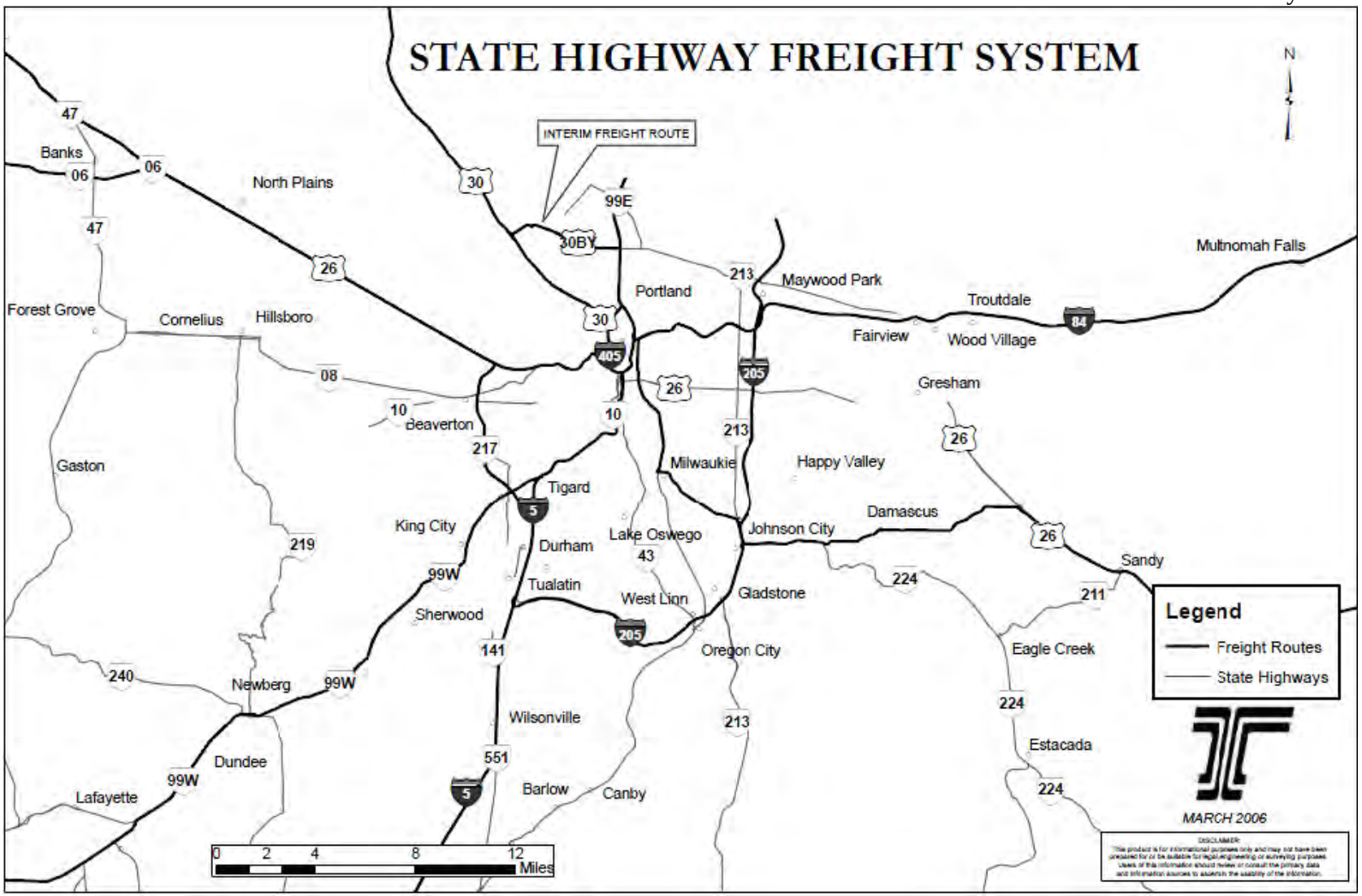


Figure 10b: Designated freight routes (inset)[15]

[15] The Freight Route maps were updated pursuant to Amendment 05-16. The Freight Route designation on Lombard Street (US 30) is temporary until the necessary improvements are made to connect the St. John's Bridge to Columbia Boulevard for use by freight including accommodation of over height vehicles and other clearance needs.

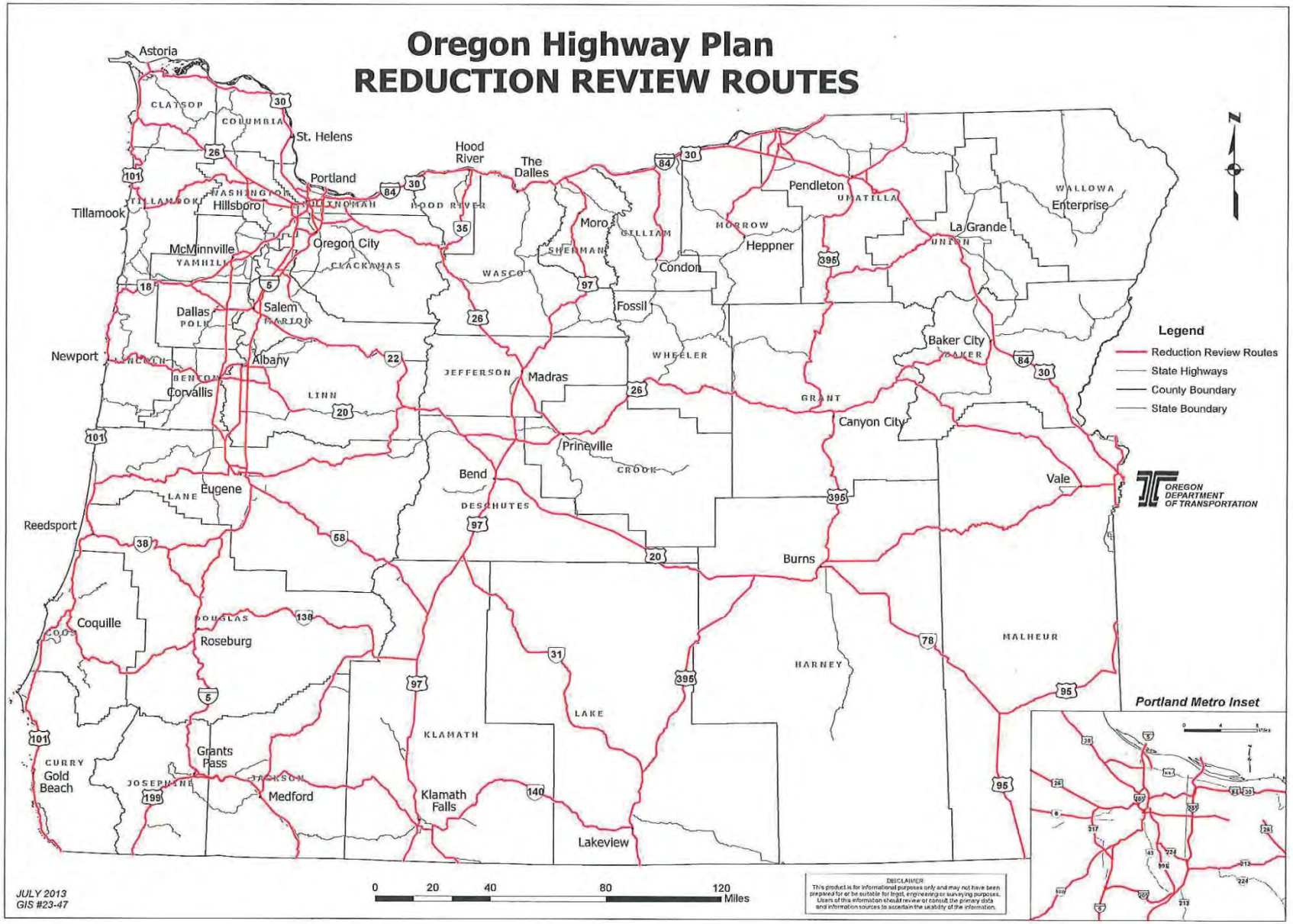


Figure 10c: Reduction Review Routes

SCENIC BYWAYS

Background

While every state highway has certain scenic attributes (see Policy 5B), the Oregon Transportation Commission has designated Scenic Byways throughout the state on federal, state, and local roads which have exceptional scenic value (see map, Figure 11). In 1998, the federal government designated two of these routes as All- American Roads and four as National Scenic Byways. The Oregon Transportation Commission may designate additional state byways. To protect the scenic assets of its Scenic Byways, ODOT will develop guidelines for aesthetic and design elements within the public right-of-way that are appropriate to Scenic Byways. The Scenic Byways Policy recognizes that safety and performance issues may cause the need for physical improvements to Scenic Byways, and seeks to balance these needs with the preservation of scenic values.

Policy 1D: Scenic Byways

It is the policy of the State of Oregon to preserve and enhance designated Scenic Byways, and to consider aesthetic and design elements along with safety and performance considerations on designated Byways.

Action 1D.1

Develop and apply guidelines for appropriate aesthetic and design elements within the public right-of-way on Scenic Byways. The purpose of these guidelines is to preserve and enhance the scenic value while accommodating critical safety and performance needs. The elements should include guidelines for turnouts, overlooks, signage, and visual treatment of the highway infrastructure.

The Historic Columbia River Highway is both a State Scenic Byway and an All American Road

Action 1D.2

With guidelines in place, develop management priorities for Scenic Byways in management plans and corridor plans.

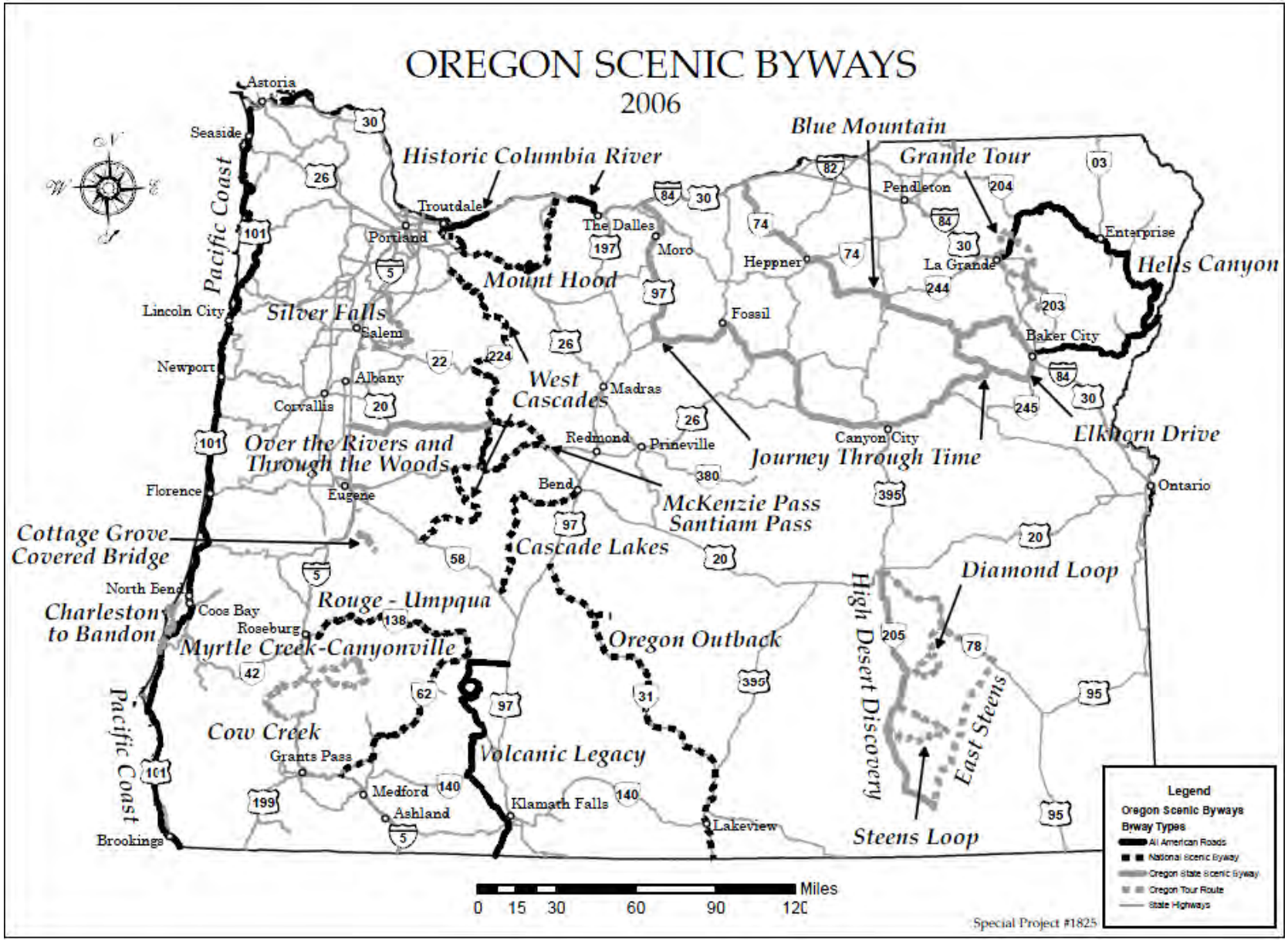


Figure 11: Designated Scenic Byways

Action 1D.3

Consider impacts to the scenic qualities of Scenic Byways when designing plans and projects.

Action 1D.4

Develop resource management plans and maps that describe ODOT's maintenance actions for roads which are designated Oregon Scenic Byways, including restricted activity zones, property to be used for disposal of slide debris and other material, and unsold state properties to be considered for ODOT retention. Identify scenic resources and existing vista opportunity locations on the maps. Include guidelines for maintenance activities where scenic resources are a factor. Ensure that ODOT highway maintenance activities are compatible with Scenic Byway management plans.

LIFELINE ROUTES

Background

Earthquakes, flooding, landslides, wild fires, and other natural and man-made disasters may destroy or block key access routes to emergency facilities and create episodic demand for highway routes into and out of a stricken area. ODOT's investment strategy should recognize the critical role that some highway facilities, particularly bridges, play in emergency response and evacuation. In some cases, the most cost-effective solution to maintaining security in these lifeline routes involves investment in roads or bridges owned by local jurisdictions. To the extent feasible, investments should be made without regard to roadway jurisdiction in order to provide the greatest degree of lifeline security for the available resources. ODOT will work with local governments to further define and map a network of lifeline routes. The lifeline network will focus on serving those communities which are particularly susceptible to isolation by virtue of their limited highway access.

Policy 1E: Lifeline Routes

It is the policy of the State of Oregon to provide a secure lifeline network of streets, highways, and bridges to facilitate emergency services response and to support rapid economic recovery after a disaster.

Action 1E.1

Define the criteria for lifeline routes to respond to short and long-term needs and, working with local jurisdictions, agencies, and emergency service providers, designate the lifeline network for the State of Oregon.

Action 1E.2

Provide funds or establish state/local partnerships to make improvements to state and local roads and bridges on the lifeline network where supportive of the Lifeline Routes Policy and cost-effective relative to alternative strategies.

Action 1E.3

Consider the presence of designated lifeline routes in system investment and management decisions and in coordination efforts with local land use and transportation planning activities.

Action 1E.4

In planning for lifeline routes, focus on susceptibility of the route and improvements on it (bridges and other structures) to disasters such as earthquakes, landslides, and flooding. In corridor plans and transportation system plans, emphasize improvements and other measures which maintain a highway connection between regions or areas of the state in the event of major disasters. Consider a combination of measures to address identified hazards and elements such as appropriate advance maintenance, structural reinforcement, flood-proofing, emergency response planning, and development of emergency alternative routes.

HIGHWAY MOBILITY STANDARDS

Background

The Highway Mobility Policy establishes state highway mobility targets that implement the objectives of the Oregon Transportation Plan (OTP) and other OHP policies. The policy does not rely on a single approach to determine transportation needs necessary to maintain acceptable and reliable levels of mobility on the state highway system. It offers the flexibility to consider and develop methodologies to measure mobility that are reflective of current and anticipated land use, transportation and economic conditions of the state and in a community.

While ODOT measures vehicular highway mobility performance through volume to capacity (v/c) ratios (see Tables 6 and 7) when making initial determinations of facility needs necessary to maintain acceptable and reliable levels of mobility on the state highway system, achieving v/c targets will not necessarily be the determinant of the transportation solution(s). Policy 1F recognizes and emphasizes opportunities for developing alternative mobility targets (including measures that are not v/c-based) that provide a more effective tool to identify transportation needs and solutions and better balance state and local community needs and objectives. Through this policy, the state acknowledges that achieving important community goals may impact mobility performance and that higher levels of congestion may result in certain areas.

Several policies in the Highway Plan establish general mobility objectives and approaches for maintaining mobility.

- Policy 1A (State Highway Classification System) describes in general the functions and objectives for several categories of state highways. Greater mobility is expected on Interstate and Statewide Highways than on Regional and District Highways.

- Policy 1B (Land Use and Transportation) has an objective of coordinating land use and transportation decisions to maintain the mobility of the highway system. The policy identifies several land use types and describes in general the levels of mobility objectives appropriate for each.

- Policy 1C (State Highway Freight System) has an objective of maintaining efficient through movement on major truck Freight Routes. The policy identifies the highways that are Freight Routes.

- Policy 1G (Major Improvements) has the purpose of maintaining highway performance and improving highway safety by improving system efficiency and management before adding capacity.

Although each of these policies addresses mobility, none provide measures by which to describe and understand levels of mobility and evaluate what levels are acceptable for the various classifications of state highway facilities.

The Highway Mobility Policy identifies how the state measures mobility and establishes targets that are reasonable and consistent with the direction of the OTP and OHP policies. This policy carries out Policies 1A and 1C by establishing mobility targets for Interstate Highways, Freight Routes and other Statewide Highways that reflect the expectation that these facilities maintain a level of mobility to safely and efficiently support statewide economic development while balancing available financial resources. It carries out Policy 1B by acknowledging that lower vehicular mobility in Special Transportation Areas (STAs) and highly developed urban areas is the expectation and assigns a mobility target that accepts a higher level of congestion in these situations. The targets set for Regional and District Highways in STAs and highly urbanized areas allow for lower vehicular mobility to better balance other objectives, including achieving a multimodal system. In these areas, traffic congestion will regularly reach levels where peak hour traffic flow is highly unstable and greater traffic congestion will occur. In order to better support state and local economic activity, targets for Freight Routes are set to provide for less congestion than would be acceptable for other state highways. Interstate Highways and Expressways are incompatible with slower traffic and higher level of vehicular congestion and therefore, STA designations will not be applied to these highway classifications. For Interstate and Expressway facilities it will be important to manage congestion to support regional and state economic development goals.

The mobility targets are contained in Tables 6 and 7 and in Action 1F.1. Tables 6 and 7 refer only to vehicle mobility on the state highway system. At the same time, it is

recognized that other transportation modes and regional and local planning objectives need to be considered and balanced when evaluating performance, operation and improvements to the state highway system. Implementation of the Highway Mobility Policy will require state, regional and local agencies to assess mobility targets and balance actions within the context of multiple technical and policy objectives. While the mobility targets are important tools for assessing the transportation condition of the system, mobility is only one of a number of objectives that will be considered when planning transportation solutions.

The highway mobility targets are used in three distinct ways:

- Transportation System Planning: Mobility targets identify state highway mobility performance expectations and provide a measure by which the existing and future performance of the highway system can be evaluated. Plan development may necessitate adopting methodologies and targets that deviate from adopted mobility targets in order to balance regional and local performance expectations. For purposes of compliance with OAR 660-012, the Transportation Planning Rule, mobility targets are considered performance standards.

- Plan Amendments and Development Review: Mobility targets are used to review amendments to comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (TPR) to assess if the proposed changes are consistent with the planned function, capacity and performance standards of state highway facilities. Unless the Oregon Transportation Commission has adopted an alternative mobility target for the impacted facility, the mobility targets in Tables 6 and 7 are considered standards for purposes of determining compliance with OAR 660-012-0060.

- Operations: Mobility targets assist in making traffic operations decisions such as managing access and traffic control systems to maintain acceptable highway performance.

The Highway Mobility Policy applies primarily to transportation and land use planning decisions. By defining targeted levels of highway system mobility, the policy provides direction for identifying (vehicular) highway system deficiencies. The policy does not, however, determine what actions should be taken to address the deficiencies.

Mobility in the policy is measured using a volume to capacity ratio or v/c. This policy also provides opportunities to seek Oregon Transportation Commission approval for alternative mobility targets that are not v/c-based.

It is also important to note that regardless of the performance measure, v/c or other, the Highway Mobility Policy recognizes the importance of considering the performance of other modes of travel. While the policy does not prescribe mobility targets for other modes of travel, it does allow and encourage ODOT and local jurisdictions to consider mobility broadly – through multimodal measures or within the context of regional or local land use objectives. Providing for better multimodal operations is a legitimate

justification for developing alternatives to established OHP mobility targets.

The Highway Mobility Policy will affect land use decisions through the requirements of the TPR. The TPR requires that regional and local transportation system plans be consistent with plans adopted by the Oregon Transportation Commission. The TPR also requires that local governments ensure that comprehensive plan amendments, zone changes and amendments to land use regulations that significantly affect a transportation facility are consistent with the identified function, capacity and performance of the affected state facility. The Highway Mobility Policy establishes ODOT's mobility targets for state highways as the standards for system performance in compliance with the TPR (OAR 660-012) and are to be used to determine significant affect specifically related to Section -0060 of the TPR.

Policy 1F does not apply to highway design. Separate design mobility standards are contained in ODOT's Highway Design Manual (HDM). While HDM design standards and OHP mobility targets in Policy 1F may not be the same, ODOT's intention is to continue to balance statewide mobility and economic development objectives with community mobility, livability and economic development objectives through enhanced coordination between planning and design. Where the Oregon Transportation Commission adopts alternative mobility targets in accordance with this policy, they are establishing an agreement with the local jurisdiction to manage and develop the state system to the expected and planned levels of performance, consistent with the jurisdiction's underlying planning objectives (as set out in local comprehensive plan policy and land use regulations). However, coordination on exceptions to design mobility standards may still be required.

ODOT's intention is that the mobility targets be used to identify system mobility deficiencies over the course of a reasonable planning horizon. The planning horizon shall be:

- At least 20 years for the development of state, regional and local transportation plans, including ODOT's corridor plans; and

- The greater of 15 years or the planning horizon of the applicable local and regional transportation system plans for amendments to transportation plans, comprehensive plans or land use regulations.

ODOT measures vehicular highway mobility performance through v/c ratios. The v/c ratio was selected after an extensive analysis of highway performance measures prior to adoption of the 1999 Oregon Highway Plan. The review included the effectiveness of the measure to achieve other policies (particularly OHP Policy 1B, Land Use and Transportation), implications for growth patterns, how specifically ODOT should integrate transportation policy with land use, flexibility for modifying targets, and the effects of Portland metro area targets on the major state highways in the region. ODOT uses v/c-based measures for reasons of application consistency and flexibility, manageable data requirements, forecasting accuracy, and the ability to aggregate into area-wide targets that are fairly easy to understand and specify. In addition, since v/c is

responsive to changes in demand as well as in capacity, it reflects the results of demand management, land use and multimodal policies. However, it is recognized that there are limitations in applying v/c, especially in highly congested conditions and in a multimodal environment. OHP policies allow options for other measures, or combinations of measures, to be considered.

Mobility targets are a measure by which the state assesses the functionality of a facility and are used, along with consideration of other policy objectives, to plan for system improvements. These mobility targets are shown in Table 6 and vary, depending on the category of highway, the location of the facility – within a STA, MPO, UGB, unincorporated community or rural lands – and the posted speed of the facility. Table 6 also reflects Policy 1B (Land Use and Transportation) and the state's commitment to support increased density and development activities in urban areas. Through higher v/c ratios and allowing consideration of alternative mobility targets, the state acknowledges that it is appropriate and anticipated that certain areas will have more traffic congestion because of the land use pattern that a region or local jurisdiction has committed to through adopted local policy.

Separate mobility targets for the Portland metropolitan area have been included in the policy (Table 7). These targets have been adopted with an understanding of the unique context and policy choices that have been made by local governments in that area including:

- A regional plan that links land use and transportation decisions and investments to support land uses in urban centers and corridors and supports multi-modal transportation options;

- Implementation of Transportation System Management and Operations (TSMO) strategies, including freeway ramp meters, real time traffic monitoring and incident response to maintain adequate traffic flow; and

- An air quality attainment/maintenance plan that relies heavily on reducing auto trips through land use changes and increases in transit service.

The Portland Metro targets have been adopted specifically for the Portland metropolitan area with a mutual understanding that these mobility targets better reflect the congestion that already exists within the constraints of the metro area's transportation system and which will not be alleviated by state highway improvements. The targets contained in Table 7 are meant for interim use only. The Oregon Transportation Commission expects the Portland Metro area to work with ODOT and stakeholders to explore a variety of measures to assess mobility and to develop alternative targets that best reflect the multiple transportation, land use and economic objectives of the region.

The mobility targets included in the Highway Mobility Policy must be used for the initial deficiency analysis of state highways. However, where it can be shown that it is infeasible or impractical to meet the targets, local governments may work with ODOT and stakeholders to consider and evaluate alternatives to the mobility targets in Tables 6

and 7. Any variance from the targets in Tables 6 and 7 will require Oregon Transportation Commission adoption. Increasingly, urban and urbanizing areas are facing traffic and land use pressures due to population growth, aging infrastructure, and reduced revenues for roadway and related infrastructure projects. In response to state funding constraints and the need to balance multiple objectives, system management solutions and enhancement of alternative modes of travel, rather than major highway improvements, are increasingly relied upon to address congestion issues. Developing mobility targets that are tailored to specific facility needs, consistent with local expectations, values and land use context will need to be part of the solution for some highway locations. Furthermore, certain urban areas may need area-specific targets to better balance state and local policies pertaining to land use and economic development. Examples where conditions may not match state mobility targets include metropolitan areas, STAs, areas with high seasonal traffic, and areas constrained by the existing built or natural environment.

Alternatives to the mobility targets and methodologies in the tables must be adopted through an amendment to the OHP. The Oregon Transportation Commission must adopt the new targets supported by findings that explain and justify the supporting methodology.

Policy 1F is not the only transportation policy that influences how the state assesses the adequacy of a highway facility and vehicle mobility is not the only objective. Facilitating state, regional and local economic development, enhancing livability for Oregon's communities, and encouraging multiple modes are also important policy areas that guide state transportation investment and planning. Policy 1B recognizes that the state will coordinate land use and transportation decisions to efficiently use public infrastructure investments to enhance economic competitiveness, livability and other objectives. Economic viability considerations help define when to make major transportation investments (Policy 1G). Goal 4, Travel Alternatives, articulates the state's goal to maintain a well-coordinated and integrated multimodal system that accommodates efficient inter-modal connections for people and freight and promotes appropriate multimodal choices. Making decisions about the appropriate level of mobility for any given part of the statewide highway system must be balanced by these, and other relevant OTP and OHP policies.

Policy 1F: Highway Mobility Policy

It is the policy of the State of Oregon to maintain acceptable and reliable levels of mobility on the state highway system, consistent with the expectations for each facility type, location and functional objectives. Highway mobility targets will be the initial tool to identify deficiencies and consider solutions for vehicular mobility on the state system. Specifically, mobility targets shall be used for:

- *Identifying state highway mobility performance expectations for planning and plan implementation;*

- *Evaluating the impacts on state highways of amendments to transportation plans, acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-060); and*

- *Guiding operations decisions such as managing access and traffic control systems to maintain acceptable highway performance.*

Mobility targets for state highways, as established in this policy or as otherwise adopted by the Oregon Transportation Commission as alternative mobility targets, are considered the highway system performance standards in compliance with the TPR (OAR 660-012), including applicability for actions that fall under Section -0060 of the TPR.

Where it is infeasible or impractical to meet the mobility targets, acceptable and reliable levels of mobility for a specific facility, corridor or area will be determined through an efficient, collaborative planning process between ODOT and the local jurisdiction(s) with land use authority. The resulting mobility targets will reflect the balance between relevant objectives related to land use, economic development, social equity, and mobility and safety for all modes of transportation. Alternative mobility targets for the specific facility shall be adopted by the Oregon Transportation Commission as part of the OHP.

Oregon Transportation Commission adoption of alternative mobility targets through system and facility plans should be accompanied by acknowledgement in local policy that state highway improvements to further reduce congestion and improve traffic mobility conditions in the subject area are not expected.

Traffic mobility exemptions in compliance with the TPR do not obligate state highway improvements that further reduce congestion and improve traffic mobility conditions in the subject area.

Action 1F.1

Mobility targets are the measure by which the state assesses the existing or forecasted operational conditions of a facility and, as such, are a key component ODOT uses to determine the need for or feasibility of providing highway or other transportation system improvements. These mobility targets are shown in Table 6 and Table 7. For purposes of assessing state highway performance:

- Use the mobility targets below and in Table 6 when initially assessing all state highway sections located outside of the Portland metropolitan area urban growth boundary.

- Use the mobility targets below and in Table 7 when initially assessing all state highway sections located within the Portland metropolitan area urban growth boundary.

- For highways segments where there are no intersections, achieving the volume to capacity ratios in Tables 6 and 7 for either direction of travel on the highway demonstrates that state mobility targets are being met.

- For unsignalized intersections, achieving the volume to capacity ratios in Tables 6 and 7 for the state highway approaches indicates that state mobility targets are being met. In order to maintain safe operation of the intersection, non-state highway approaches are expected to meet or not to exceed the volume to capacity ratios for District/Local Interest Roads in Table 6, except within the Portland metropolitan area UGB where non-state highway approaches are expected to meet or not to exceed a v/c of 0.99.

- At signalized intersections other than interchange ramp terminals (see below), the overall intersection v/c ratio is expected to meet or not to exceed the volume to capacity ratios in Tables 6 and 7. Where Tables 6 and 7 v/c ratios differ by legs of the intersection, the more restrictive of the volume to capacity ratios in the tables shall apply. Where a state highway intersects with a local road or street, the volume to capacity ratio for the state highway shall apply.

- Although an interchange serves both the mainline and the crossroad to which it connects, it is important that the interchange be managed to maintain safe and efficient operation of the mainline through the interchange area. The main objective is to avoid the formation of traffic queues on off-ramps which back up into the portions of the ramps needed for safe deceleration from mainline speeds or onto the mainline itself. This is a significant traffic safety concern. The primary cause of traffic queuing at off-ramps is inadequate capacity at the intersections of the ramps with the crossroad. These intersections are referred to as ramp terminals. In many instances where ramp terminals connect with another state highway, the mobility target for the connecting highway will generally signify that traffic backups onto the mainline can be avoided. However, in some instances where the crossroad is another state highway or a local road, the mobility target will not be a good indicator of possible future queuing problems. Therefore, the better indication is a maximum volume to capacity ratio for the ramp terminals of interchange ramps that is the more restrictive volume to capacity ratio for the crossroad, or 0.85.

- At an interchange within an urban area the mobility target used may be increased to as much as 0.90 v/c, but no higher than the target for the crossroad, if:

    1. It can be determined, with a probability equal to or greater than 95 percent, that vehicle queues would not extend onto the mainline or into the portion of the ramp needed to safely accommodate deceleration; and

    2. An adopted Interchange Area Management Plan (IAMP) is present, or through an IAMP adoption process, which must be approved by the Oregon Transportation Commission.

- Because the ramps serve as an area where vehicles accelerate or decelerate to or from mainline speeds, the mobility target for the interchange ramps exclusive of the crossroad terminals is the same as that for the mainline. Metered on-ramps, where entering traffic is managed to maintain efficient operation of the mainline through the interchange area, may allow for greater volume to capacity ratios.

Action 1F.2

- Apply mobility targets over at least a 20-year planning horizon when developing state, regional or local transportation system plans, including ODOT's corridor plans.

- When evaluating highway mobility for amendments to transportation system plans, acknowledged comprehensive plans and land use regulations, use the planning horizons in adopted local and regional transportation system plans or a planning horizon of 15 years from the proposed date of amendment adoption, whichever is greater. To determine the effect that an amendment to an acknowledged comprehensive plan or land use regulation has on a state facility, the capacity analysis shall include the forecasted growth of traffic on the state highway due to regional and intercity travel and consistent with levels of planned development according to the applicable acknowledged comprehensive plan over the planning period. Planned development, for the purposes of this policy, means the amount of population and employment growth and associated travel anticipated by the community's acknowledged comprehensive plan over the planning period. The Oregon Transportation Commission encourages communities to consider and adopt land use plan amendments that would reallocate expected population and employment growth to designated community centers as a means to help create conditions that increase the use of transit and bicycles, encourage pedestrian activity, reduce reliance on single occupant vehicle travel and minimize local traffic on state highways.

Action 1F.3

In the development of transportation system plans or ODOT facility plans, where it is infeasible or impractical to meet the mobility targets in Table 6 or Table 7, or those otherwise approved by the Oregon Transportation Commission, ODOT and local jurisdictions may explore different target levels, methodologies and measures for assessing mobility and consider adopting alternative mobility targets for the facility. While v/c remains the initial methodology to measure system performance, measures other than those based on v/c may be developed through a multi-modal transportation system planning process that seeks to balance overall transportation system efficiency with multiple objectives of the area being addressed.

Examples of where state mobility targets may not match local expectations for a specific facility or may not reflect the surrounding land use, environmental or financial conditions include:

- Metropolitan areas or portions thereof where mobility expectations cannot be achieved and where they are in conflict with an adopted integrated land use and transportation plan for promoting compact development, reducing the use of automobiles and increasing the use of other modes of transportation, promoting efficient use of transportation infrastructure, improving air quality, and supporting greenhouse gas reduction objectives;

- When financial considerations or limitations preclude the opportunity to provide a planned system improvement within the planning horizon;

- When other locally adopted policies must be balanced with vehicular mobility and it can be shown that these policies are consistent with the broader goals and objectives of OTP and OHP policy;

- Facilities with high seasonal traffic;

- Special Transportation Areas; and

- Areas where severe environmental or land use constraints[16] make infeasible or impractical the transportation improvements necessary to accommodate planned land uses or to accommodate comprehensive plan changes that carry out the Land Use and Transportation Policy (1B).

Any proposed mobility target that deviates from the mobility targets in Table 6 or Table 7, or those otherwise approved by the Commission, shall be clear and objective and shall provide standardized procedures to ensure consistent application of the selected measure. The alternative mobility target(s) shall be adopted by the Oregon Transportation Commission as an amendment to the OHP. Consideration of alternative mobility targets shall be coordinated with other local jurisdictions in the affected corridor, consistent with OTC Policy 11- Public Involvement.

The Transportation Commission has sole authority to adopt mobility targets for state highways. It will be necessary for affected local jurisdictions to agree to the alternative mobility target for the state highway facility as part of a local transportation system plan and regional plan (MPO) as applicable. Findings shall demonstrate why the particular mobility target is necessary, including the finding that it is infeasible or impractical to meet the mobility targets in Table 6 or Table 7, or those otherwise approved by the Commission.

If alternative targets are needed but cannot be established through the system planning process prior to adoption of a new or updated transportation system plan, they should be identified as necessary and committed to as a future refinement plan work item with an associated timeframe for completion and adoption. In this case, the mobility targets in Table 6 or Table 7, or those otherwise approved by the Commission, shall continue to apply until the alternative mobility targets are

[16] Examples of severe environmental and land use constraints include, but are not limited to, endangered species, sensitive wetlands, areas with severe or unstable slopes, river or bay crossings, and historic districts.

formally adopted by the Oregon Transportation Commission.

Modifications to the mobility targets could include changing the hour measured from the 30th highest hour, using multiple hour measures, or considering weekday or seasonal adjustments. Development of corridor or area mobility targets is also allowed. ODOT's policy is to utilize a v/c based target and methodology as the initial measure, as this will standardize and simplify implementation issues throughout the state. Where v/c-based approaches may not meet all needs and objectives, developing alternative mobility targets using non v-c-based measures, may also be pursued.

In support of establishing the alternative mobility target, the plan shall include feasible actions for:

- Providing a network of local streets, collectors and arterials to relieve traffic demand on state highways and to provide convenient pedestrian and bicycle ways;
- Managing access and traffic operations to minimize traffic accidents, avoid traffic backups on ramps, accommodate freight vehicles and make the most efficient use of existing and planned highway capacity;
- Managing traffic demand and incorporating transportation system management tools and information, where feasible, to manage peak hour traffic loads on state highways;
- Providing and enhancing multiple modes of transportation; and
- Managing land use to limit vehicular demand on state highways consistent with Policy 1B (Land Use and Transportation Policy).

The plan shall include a financially feasible implementation program and shall demonstrate that the proposed mobility target(s) are consistent with and support locally adopted land use, economic development, and multimodal transportation policy and objectives. In addition, the plan shall demonstrate strong local commitment, through adopted policy and implementation strategies, to carry out the identified improvements and other actions.

ODOT understands that in certain areas of the state, achieving the established mobility targets will be difficult and that regional and local policies must be balanced with transportation system performance. ODOT is committed to work with MPOs and local jurisdictions on system-level analysis of alternative mobility targets and to participate in public policy-level discussions where balancing mobility and other regional and community objectives can be adequately addressed.

In developing and applying alternative mobility targets and methodologies for facilities throughout the state, ODOT will consider tools and methods that have

been successfully used previously for a particular facility and/or within a specific metropolitan area or region. Specific mobility targets may vary from one community or area to another depending on local circumstances. It is the objective of this policy to maintain consistency in the selection and application of analysis and implementation methodologies over time as they are applied to a specific facility or to a system of related facilities within a defined community or region.

ODOT will provide guidance documents and will work with local jurisdictions and others to apply best practices that streamline development of alternative mobility targets.

Action 1F.4

Alternative mobility targets may also be developed for facilities where an investment has been, or is planned to be, made that provide significantly more capacity than is needed to serve the forecasted traffic demand based on the existing adopted local comprehensive plan. In these situations, it is possible to preserve that excess capacity for traffic growth beyond the established planning horizon or traffic growth resulting from local legislative plan amendments or plan amendments associated with OAR 731-017.

Action 1F.5

For purposes of evaluating amendments to transportation system plans, acknowledged comprehensive plans and land use regulations subject to OAR 660-12-0060, in situations where the volume to capacity ratio or alternative mobility target for a highway segment, intersection or interchange is currently above the mobility targets in Table 6 or Table 7 or those otherwise approved by the Oregon Transportation Commission, or is projected to be above the mobility targets at the planning horizon, and transportation improvements are not planned within the planning horizon to bring performance to the established target, the mobility target is to avoid further degradation. If an amendment subject to OAR 660-012-0060 increases the volume to capacity ratio further, or degrades the performance of a facility so that it does not meet an adopted mobility target at the planning horizon, it will significantly affect the facility unless it falls within the thresholds listed below for a small increase in traffic.

In addition to the capacity increasing improvements that may be required to mitigate impacts, other performance improving actions to consider include, but are not limited to:

- System connectivity improvements for vehicles, bicycles and pedestrians.
- Transportation demand management (TDM) methods to reduce the need for additional capacity.
- Multi-modal (bicycle, pedestrian, transit) opportunities to reduce vehicle demand.

- Operational improvements to maximize use of the existing system.
- Land use techniques such as trip caps / budgets to manage trip generation.

In applying "avoid further degradation" for state highway facilities already operating above the mobility targets in Table 6 or Table 7 or those otherwise approved by the Oregon Transportation Commission, or facilities projected to be above the mobility targets at the planning horizon, a small increase in traffic does not cause "further degradation" of the facility.

The threshold for a small increase in traffic between the existing plan and the proposed amendment is defined in terms of the increase in total average daily trip volumes as follows:

- Any proposed amendment that does not increase the average daily trips by more than 400.
- Any proposed amendment that increases the average daily trips by more than 400 but less than 1001 for state facilities where:
    - The annual average daily traffic is less than 5,000 for a two-lane highway
    - The annual average daily traffic is less than 15,000 for a three-lane highway
    - The annual average daily traffic is less than 10,000 for a four-lane highway
    - The annual average daily traffic is less than 25,000 for a five-lane highway
- If the increase in traffic between the existing plan and the proposed amendment is more than 1000 average daily trips, then it is not considered a small increase in traffic and the amendment causes further degradation of the facility and would be subject to existing processes for resolution.

In applying OHP mobility targets to analyze mitigation, ODOT recognizes that there are many variables and levels of uncertainty in calculating volume-to-capacity ratios, particularly over a specified planning horizon. After negotiating reasonable levels of mitigation for actions required under OAR 660-012-0060, ODOT considers calculated values for v/c ratios that are within 0.03 of the adopted target in the OHP to be considered in compliance with the target. The adopted mobility target still applies for determining significant affect under OAR 660-012-0060.

Action 1F.6

When making recommendations to local governments about development permit applications and potential actions for mitigation related to local development proposals and criteria consider and balance the following:

- OHP mobility targets;

- Community livability objectives;
- State and local economic development objectives
- Safety for all modes of travel; and
- Opportunities to meet mobility needs for all modes of travel.

Encourage local jurisdictions to consider OHP mobility targets when preparing local development ordinances and approval criteria to evaluate proposed development applications that do not trigger Section 660-012-0060 of the TPR.

Action 1F.7

Consider OHP mobility targets as guidance to ODOT's highway access management program. Balance economic development objectives of properties abutting state highways with transportation safety and access management objectives of state highways in a manner consistent with local transportation system plans and the land uses permitted in acknowledged local comprehensive plans.

When evaluating OHP mobility targets in access management decisions for unsignalized intersections consider the following:

- The highest priority for the use of OHP mobility targets in guiding access management practices is to address the state highway through traffic movements and the movements exiting the state highway facility.
- When evaluating traffic movements from an approach entering or crossing a state highway, the priority is to consider the safety of the movements. While a v/c ratio for a specific movement greater than 1.0 is an indication of a capacity problem, it does not necessarily mean the traffic movement is unsafe. Apply engineering practices and disciplines in the analysis and design of highway approaches to ensure traffic movements meet safety objectives for the program.

Private approaches at signalized intersections will be treated as all other signalized intersections under OHP Action 1F.1.

Action 1F.8

Consider OHP mobility targets when implementing operational improvements such as traffic signals and ITS improvements on the state highway system. The OHP mobility targets are meant to be used as a guide to compare the relative benefits of potential operational solutions rather than as a firm standard to be met. The main goal of operational projects is to improve system performance - which may include mobility, safety or other factors - from current or projected conditions.

Action 1F.9

Enhance coordination and consistency between planning and project design decisions whenever possible. Ensure that project development processes and design decisions take into account statewide mobility and economic objectives, including design standards, while balancing community mobility, livability and economic development objectives and expectations. Consider practical design principles that take a systematic approach to transportation solutions in planning and project development processes. Practical design principles strive to deliver the broadest benefits to the transportation system possible within expected resources.

Action 1F.10

The 2011 amendments to OHP Policy 1F and associated amendments to the TPR may lead to impacts in traffic mobility in specific corridors and on the overall state highway system that cannot be fully anticipated. ODOT shall evaluate the effectiveness of the policy in meeting broad objectives, the impacts on transportation system performance and safety, and any unintended consequences resulting from implementation within three years of adoption of this Action. Following the initial review, the mobility targets and associated policies will be reviewed periodically based on a schedule determined by the Oregon Transportation Commission.

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

Table 6: Volume to Capacity Ratio Targets for Peak Hour Operating Conditions

Notes for Table 6:

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

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

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

[D] See Action 1F.1 for additional technical details.

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

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

[17] Table 6 was replaced in August 2005, part of OHP Amendment 05-16.

VOLUME TO CAPACITY RATIO TARGETS INSIDE METRO[A, B]		
Locations	**Target**	
	1st hour	**2nd hour**
Central City Regional Centers Town Centers Main Streets Station Communities	1.1	.99
Corridors Industrial Areas Intermodal Facilities Employment Areas Inner Neighborhoods Outer Neighborhoods	.99	.99
I-84 *(from I-5 to I-205)*	1.1	.99
I-5 North *(from Marquam Bridge to Interstate Bridge)*	1.1	.99
OR 99E *(from Lincoln Street to OR 224 Interchange)*	1.1	.99
US 26 *(from I-405 to Sylvan Interchange)*	1.1	.99
I-405[C] *(from I-5 South to I-5 North)*	1.1	.99
Other Principal Arterial Routes I-205 [C] I-84 *(east of I-205)* I-5 *(Marquam Bridge to Wilsonville)*[C] OR 217 US 26 *(west of Sylvan)* US 30 OR 8 *(Murray Blvd to Brookwood Avenue)* [C] OR 224 OR 47 OR 213 242nd/US 26 in Gresham OR 99W	.99	.99

Table 7: Volume to Capacity Ratio Targets within Portland Metropolitan Region

Notes for Table 7: Deficiency thresholds for two hour peak operating conditions through the planning horizon for state highway sections within the Portland metropolitan area urban growth boundary.

[A] Unless the Oregon Transportation Commission has adopted an alternative mobility target for the impacted facility, the mobility targets in Tables 7 are considered standards for purposes of determining compliance with OAR 660-012, the Transportation Planning Rule.

[B] The volume-to-capacity ratios in Table 7 are for the highest two consecutive hours of weekday traffic volumes. The second hour is defined as the single 60-minute period either before or after the peak 60-minute period, whichever is highest. See Action 1.F.1 for additional technical details.

[C] A corridor refinement plan, which will likely include a tailored mobility policy, is required by the Metro 2035 Regional Transportation Plan for this corridor.

MAJOR IMPROVEMENTS

Background

Since road construction is very expensive and funding is very limited, it is unlikely that many new highways will be built in the future. Instead, the emphasis will be on maintaining the current system and improving the efficiency of the highways the State already has. The Major Improvements Policy reflects this reality by directing ODOT and local jurisdictions to do everything possible to protect and improve the efficiency of the highway system before adding new highway facilities. This policy carries out the direction of the Oregon Benchmarks. This direction includes improving traffic operations and maintaining the roadway for legal size vehicle travel. These priorities - laid out in Action 1G - take precedence over the other actions in this policy.

Policy 1G: Major Improvements

It is the policy of the State of Oregon to maintain highway performance and improve safety by improving system efficiency and management before adding capacity. ODOT will work in partnership with regional and local governments to address highway performance and safety needs.

Action 1G.1

Use the following priorities for developing corridor plans, transportation system plans, the Statewide Transportation Improvement Program, and project plans to respond to highway needs. Implement higher priority measures first unless a lower priority measure is clearly more cost-effective or unless it clearly better supports safety, growth management, or other livability and economic viability considerations. Plans must document the findings which support using lower priority measures before higher priority measures.

1. **Protect the existing system.** The highest priority is to preserve the functionality of the existing highway system by means such as access management, local comprehensive plans, transportation demand management, improved traffic operations, and alternative modes of transportation.

2. **Improve efficiency and capacity of existing highway facilities.** The second priority is to make minor improvements to existing highway facilities such as widening highway shoulders or adding auxiliary lanes, providing better access for alternative modes (e.g., bike lanes, sidewalks, bus shelters), extending or connecting local streets, and making other off-system improvements.

3. **Add capacity to the existing system.** The third priority is to make major roadway improvements to existing highway facilities such as adding general purpose lanes and making alignment corrections to accommodate legal size vehicles.

4. **Add new facilities to the system.** The lowest priority is to add new transportation facilities such as a new highway or bypass.

Action 1G.2

Support any major improvements to state highway facilities in local comprehensive plans and transportation system plans only if the improvements meet all of the following conditions:

- The improvement is needed to satisfy a state transportation objective or objectives;
- The scope of the project is reasonably identified, considering the long-range projection of need;
- The improvement was identified through a planning process that included:
  - Thorough public involvement;
  - Evaluation of reasonable transportation and land use alternatives including measures for managing the existing transportation system and for reducing demands for highway capacity; and
  - Sufficient environmental analysis at the fatal flaw planning level.
- The plan includes measures to manage the transportation system, but these measures will not satisfy identified highway needs during the planning period or there is a need to preserve a future transportation corridor for future needs beyond the planning period;
- The improvement would be a cost-effective means to achieve the objective(s);
- The proposed timing of the improvement is consistent with priorities established in corridor plans and regional transportation plans and the financing program identifies construction as being dependent on the future availability of funds;
- Funding for the project can reasonably be expected at the time the project is ready for development and construction;
- The local government schedules funding for local street improvements in its local transportation financing program if these are needed to attain the objectives of the major improvement; and
- The plan includes policies and implementing measures that protect the corridor and its intended function.

ODOT recognizes that transportation system plans may identify needs and regional and local governments may defer decisions regarding function, mode, and general

location of a long-range project to a refinement plan as described in the Transportation Planning Rule (OAR 660-12-025). Before ODOT will agree to any improvements on the state highway system, the improvements must conform to the requirements in this Action.

Action 1G.3

Through an intergovernmental agreement, implement a cost-sharing agreement when a project has major benefits to the local system, especially when local sponsors of the project envision purposes beyond those needed to meet state transportation objectives.

Action 1G.4

Design major improvements for limited access to protect through traffic movements. Develop and implement an access management intergovernmental agreement and require the local jurisdiction to adopt supporting actions in the local comprehensive plan.

Action 1G.5

As part of project development, negotiate an intergovernmental agreement with the local jurisdiction affected by a major improvement such as a bypass and transfer the ownership of the state routes that are bypassed to the local jurisdiction at the completion of the project.

Action 1G.6

Consider purchasing or otherwise protecting right-of-way, consistent with state, regional or local plans, in locations where projects will be necessary in the future.

BYPASSES[18]

Background

Bypasses are highways designed to maintain or increase mobility for through traffic. Generally they relocate the highway alignment around a downtown, an urban or metropolitan area or an existing highway to provide an alternative route for through traffic using that highway. Sometimes they also function as principal urban arterials. Bypasses require good system management to protect the significant public investment and achieve mobility and livability goals.

[18] The Bypass Policy section was added in its entirety April 16, 2003, Amendment 03-08.

The objectives of the Bypass Policy are

- To maintain and enhance the utility of the state highway investment,
- To assure land uses that are consistent and compatible with Oregon statewide land use goals,
- To identify the appropriate function of bypasses in the transportation system, and
- To guide the long-term operation of bypasses through agreement on land use and transportation management actions.

To attain these objectives, bypasses require local and state policy coordination involving land use, local street patterns, access control, design characteristics, the bypassed facility, and jurisdictional transfer under ORS 366.

Why Build a Bypass?

The desire for a bypass often evolves from growing congestion and safety problems on a state highway that is serving both as a regional highway and as a main street for a city. The highway is trying to serve both efficient freight and through travel and access to local business and residential areas. As traffic grows, the highway can serve neither purpose well, resulting in inefficient travel for through traffic and congested and unsafe accesses for local businesses and residences. Roadways that best serve these functions have opposite characteristics: Regional through travel is best served by limited access facilities that allow higher speeds and require infrequent stops. Downtown areas, on the other hand, require significant access opportunities, parking, and a safe, friendly pedestrian and bicycle environment. As congestion increases, regional travel and local access may need to be separated.

When the new bypass is constructed, new development is often drawn to the new facility and pressure builds for adjacent land uses to intensify. Unless controlled, this pressure could result in safety and operational problems that could detract from and impair the highway's performance and recreate the conditions that it was designed to alleviate.

Where urban areas concentrate activities along a state highway or near freeway interchanges, the mobility function is compromised as the highway is increasingly used for local trips rather than through trips. Local access along a highway, in turn, tends to draw trips away from the existing downtown and business centers. Careful planning is required to ensure the vitality of existing neighborhoods, the downtown and business centers when addressing the zoning of land near a proposed bypass facility.

Bypasses are opportunities to improve the efficiency of not only highways, but also the overall transportation system.

What Do Existing Bypasses Show?

The existing bypasses to which this policy applies vary in age, length and purpose. Most are either inside an urban growth boundary or both inside and outside the UGB. Generally, the bypasses were constructed to increase capacity for through traffic, increase safety, relieve congestion in downtown areas, and give access to particular parts of the bypass area.

Analysis shows that existing bypasses function well for regional and statewide traffic where land uses and plans are compatible with the through function of bypasses and where access to the bypass has been tightly controlled. These bypasses have improved safety and congestion in the downtown and other business areas. Vulnerable places seem to be interchanges, intersections and the ends of the bypasses.

Land Use and Transportation Compatibility

Since land use and transportation compatibility and access management are keys to an efficient bypass, ODOT and the local governments must ensure that development in the vicinity of the bypass will not reduce the highway's effectiveness or place its mobility function at future risk.

In order for a bypass to work effectively over the long term, local planning and zoning and the local street network must support the function of the bypass. Local transportation plans and ordinances should assure that land development patterns in the vicinity of the bypass will not use cul-de-sac or other interrupted street network patterns which cause reliance on the new facility for a large number of local trips. In most cases local streets should not directly access the new bypass facility. ODOT and the local governments must agree on the location of connections to the local street network and agree that local streets will be disconnected if they negatively affect the through function of the highway. Local governments and ODOT must agree on the amendment to the TSP or local transportation plan which incorporates the bypass.

Access management features should place priority on enhancing this mobility function. A bypass on a new alignment is protected from access by abutting property owners by ORS 374.405-415. According to this statute, ODOT has complete control of access rights on any bypass constructed after May 12, 1951 on new alignment. No property owner can connect to the bypass unless ODOT agrees to allow the connection. Where and how connections will be allowed should be part of the planning process.

A bypass and its supporting facilities require a significant public investment. Developing these facilities may require the joint financial resources of the state and local governments and intergovernmental agreement on land use and connections. When a proposed bypass is to be located in an area outside an urban growth boundary, ODOT and local governments will consider the impacts of the bypass facilities on agricultural, forest and other natural resource areas and comply with the Land Conservation and Development Commission statewide goals and exception processes.

Bypass Classification

- New Bypasses

  A new bypass may be constructed as a freeway or as an Expressway. Freeways are the highest form of arterials and have full access control. A freeway's primary function is to provide mobility, high operating speed and level of service while land access is limited. The full control of access is used to prioritize the needs of through traffic over direct access. Access connections, where deemed necessary, are provided through grade-separated interchanges.

  Expressways are generally high-speed limited access facilities whose function is to move inter and intra urban traffic. Access is normally restricted to at-grade signalized and unsignalized public road intersections and interchanges. In rural areas, traffic signals are discouraged. Private property access is discouraged. In areas where there is no other reasonable access, private approach roads may be allowed. The Transportation Commission classifies highways as Expressways by amending the Highway Plan.

- Existing Bypasses

  The Oregon Transportation Commission may designate existing state facilities as bypasses within this policy or in separate action. These existing bypasses may be classified as Expressways or as Statewide, Regional or District Highways without the Expressway classification. These classifications determine the applicable highway mobility standards in Oregon Highway Plan Policy 1F and access management standards in Appendix C.

Application of the Bypass Policy

Because the circumstances of each bypass vary, as do the particular issues and risks in each community, the application of the policy must be specifically fitted to the community. Therefore, this policy provides a checklist of considerations rather than an absolute criterion to be applied in each case. Jurisdictions, for example, may already have in place policies and ordinances that address these issues.

For new bypass facilities, implementation of the Bypass Policy will be iterative. Purpose and need in Action 1H.1.a should be addressed initially in a transportation system plan or corridor plan. The other provisions of Action 1H.1 and provisions in Actions 1H.2, 1H.4 and 1H.5 should be addressed in a refinement plan and/or a NEPA process, with decisions becoming more refined as the location and design of the facility become more specific. Further refinements may occur in the final design and construction phrases of the project.

Policy 1H: Bypasses

Bypasses are highways designed to maintain or increase statewide or regional mobility. Generally they relocate a highway alignment around a downtown, an urban or metropolitan area or an existing highway. The goal of bypass facilities is to effectively serve state and regional traffic trips. It is the policy of the State of Oregon to build bypasses to provide safe, efficient passage for through travelers and commerce.

Action 1H.1

a. ODOT and the affected local governments shall identify the need for a bypass in a transportation system plan and/or corridor plan in a manner consistent with Oregon Highway Plan Policy 1G.

In establishing the purpose and need for the bypass facility to guide its planning, design and development, ODOT and the affected local governments shall analyze the following:

1) Percentages of local and through trips projected at least over a 20-year period on the bypass;

2) Percentages, volumes and impacts of freight truck traffic;

3) Average trips on the proposed bypass facility based on build-out of the comprehensive land use plan, and

4) Crash data history on the nearby or impacted facility.

The purpose of the analysis is to determine whether a bypass solution is appropriate and to identify the mobility and safety problems that must be addressed over the long-term.

b. In planning and developing a bypass project, ODOT and the local governments should use a refinement plan and/or a NEPA process to consider the following:

1) Impacts on land use patterns and the local roadway system;

2) Impacts on local businesses, major institutions and public facilities, and historic resources;

3) Potential for using various kinds of public transportation, high occupancy vehicle lanes and ramps, ramp metering, park and ride lots and transportation demand management programs based on the population, density and forecasted growth of the bypass study area;

4) Impacts to the natural, social and economic environment;

5) Methods of managing land use impacts on communities and natural resources;

6) Impacts on minority and low-income populations; and

7) Funding options including public-private partnerships, value pricing and tolling in accordance with ORS 366.292.

c. After the location of the new bypass has been selected through the refinement plan and/or NEPA process, ODOT will establish joint agreements with the local and/or regional (metropolitan planning organization or county) governments on major bypass facility elements. These agreements may be in the form of interchange management plans, access management plans, master plans and/or interchange overlay zones for the bypass facility and its interchanges and intersections.

1) The agreements and/or plans must address, as appropriate,

- Access management and site plan review,
- Road connections,
- Local street circulation,
- Compatible land uses, and
- Bypass termini protection.

2) The local and/or regional governments are expected to amend the local and/or regional transportation system plans accordingly, and the Oregon Transportation Commission is expected to adopt the facility plan.

3) In the event that joint agreement on plan concepts cannot be achieved, the Transportation Commission may adopt a facility plan for the project in accordance with OAR 731-15-065 regarding state agency compatibility with comprehensive plans.

Action 1H.2

For new bypasses on new alignments or on a combination of new and existing alignments, ODOT shall implement the following whenever practical:

a. General character

1) Design the bypass for moderate to high speeds at freeway or Expressway standards for regional and statewide traffic.

2) On new alignments, avoid any direct private property access. ODOT shall

acquire the rights of access and allow no reservations of access.

b. Planning

In cooperation with local government:

1) Develop management plans for new interchanges, for existing interchanges and for interchanges replacing existing intersections when significant modifications are being planned.

2) Develop management plans for intersections with medium to high volume roads that include timelines or other triggers for grade-separation if connections are at-grade and traffic volumes or safety considerations warrant such separation.

3) Develop refinement plans or management plans, where appropriate, for the bypass termini with the local government to protect the mobility function of the bypass. These plans should be adopted in the local transportation system plan and as facility plans by the Oregon Transportation Commission.

4) Participate in development review when development proposals impact the bypass facility.

c. Access Management and Connections

1) Limit the number of public approaches based on the road's function and maintenance of the capacity for regional and statewide transportation circulation. In most cases, connections will be limited only to state highways but in certain cases connections may be to local arterials.

2) On new bypasses on new alignments:

   - Require that connections to the bypass not significantly reduce the mobility function of the bypass.

   - Design and construct the approach roads to exceed the spacing standards for connections to Expressways or freeways described in the 1999 Oregon Highway Plan and OAR 734-51 whenever possible.

3) Design and construct approach roads consistent with an adopted access management plan.

d. Interchanges/Intersections

1) Use grade separation and interchanges whenever practical and appropriate for safety and mobility:

   - If a public connection jeopardizes the mobility function of the bypass, it should be grade-separated or closed.

- If 20-year projected traffic volumes demonstrate that intersections will need to be replaced with interchanges in order to maintain the mobility function of the bypass, before or during project development where possible, ODOT shall purchase enough right of way for future interchanges, their ramps and the access rights to them.

2) Space any traffic signals and other at-grade intersections in urban areas at appropriate distances, as set forth in OAR 734-051, so they may be replaced by interchanges or overpasses/underpasses in the future. Traffic signals must be approved according to OAR 734-020.

e. Local Traffic Circulation

1) Provide for overpasses/underpasses that do not connect to the bypass and/or an alternative road system parallel to the highway to maintain local traffic and bicycle and pedestrian circulation in accordance with ORS 366.514.

2) Support provisions in the local transportation system plan for local circulation off of the bypass facility.

f. Medians

Use medians according to Policy 3B of the 1999 Oregon Highway Plan on multi-lane highways.

Action 1H.3

Since existing bypasses are already in place, ODOT and the affected local governments should expect any changes to them to be incremental and accomplished through cooperation and a balancing of state and local interests. On existing bypasses, ODOT shall implement the following whenever practical:

a. Planning

In cooperation with local government:

1) Consider development of management plans for new interchanges, for existing interchanges and for interchanges replacing existing intersections when significant modifications are being planned.

2) Consider development of management plans for intersections with medium to high volume roads that include timelines or other triggers for grade- separation if connections are currently at-grade and traffic volumes or safety considerations warrant such separation.

3) Consider development of refinement plans or management plans, where appropriate, for the bypass termini with the affected local governments to

protect the mobility function of the bypass. These plans should be adopted in the local transportation system plan and as facility plans by the Transportation Commission.

4) Participate in development review when development proposals impact the bypass facility.

b. Access Management and Connections

Move toward consistency with the access management standards in the 1999 Oregon Highway Plan and OAR 734-51 by

1) Providing reasonable alternate access to properties,

2) Encouraging consolidation of approaches and/or

3) Acquiring access to properties.

c. Interchanges/Intersections

1) Use grade separation and interchanges where possible and appropriate for safety. If a public connection jeopardizes the mobility function of the bypass, it should be grade-separated or closed.

2) Space any traffic signals and other at-grade intersections in urban areas at appropriate distances, as set forth in OAR 734-051. Traffic signals must be approved according to OAR 734-020.

d. Local Traffic Circulation

1) Provide for overpasses/underpasses that do not connect to the bypass and/or an alternative road system parallel to the highway to maintain local traffic and bicycle and pedestrian circulation in accordance with ORS 366.514.

2) Support provisions in the local transportation system plan for local circulation off of the bypass facility.

e. Medians

On multi-lane existing bypasses, install non-traversible medians beginning at well-designed intersections in accordance with Policy 3B.

Action 1H.4

Before the Oregon Transportation Commission authorizes funding for construction of a new bypass, the affected local governments shall address the following for consideration by the Transportation Commission:

a. Have an acknowledged transportation system plan unless exempt from transportation system planning requirements under OAR 660-12-0055 in which case the local comprehensive plan must address these policy provisions;

b. Protect the regional and statewide mobility function of the new bypass through their comprehensive plan, transportation system plan, and implementing ordinances;

c. Consider re-planning and re-zoning properties that could have an adverse future effect on the facility. This may include reducing the list of permitted and conditional uses which substantially impact the intersections and interchanges of the bypass;

d. Develop ordinances that provide for local street connectivity in the vicinity of the bypass facilities, including provisions for parallel streets and limits on interrupted street networks which cause reliance on the bypass facility for local trips;

e. Limit approaches to the bypass to public street connections consistent with the interchange management plan and OAR-734-051;

f. Participate, if necessary, in financing the overall bypass project and/or its connections through monetary and/or "in kind" efforts and contributions such as moving and rebuilding utilities, providing right of way for and relocating local streets and street accesses, constructing elements of the local transportation system plans needed to support the project, relocating affected facilities, participating in transit components for the project and participating in the project as a tolled project; and

g. Negotiate a jurisdictional transfer of the bypassed highway according to the provisions of Action 1G.5 and subject to the provisions of Policy 2C: Interjurisdictional Transfers.

ODOT will not require transfer of jurisdiction of a bypassed highway if the bypassed highway will continue to function as a state highway because it carries a significant number of vehicle trips that do not originate or terminate in the bypassed city or cities.

Action 1H.5

As part of the determination of project costs for the proposed bypass, determine the extent of investment in the bypassed state facility. The reinvestment considerations shall include:

a. Actions to maintain acceptable mobility on the facility,

b. Bicycle and pedestrian amenities,

c. Signing, and

d. Other urban design features.

Additionally, ODOT and the affected local governments shall determine roles and responsibilities for the maintenance needs of the bypassed facility.

Application of the Policy

This policy applies to all new bypasses, bypasses designated by the Oregon Transportation Commission, and the following existing bypasses:

a. Existing Bypasses not Classified as Expressways

1) OR 47, Tualatin Valley Highway (MP 17.88- 20.4)

2) OR 47, Nehalem Highway (MP 88.69-90.63)\

3) US 101, Oregon Coast Highway, Cannon Beach Section (MP 28.08-31.37)

4) OR 126E, McKenzie Highway, Blue River Section (MP 39.68- 41.01)

5) OR 126W, Florence-Eugene Highway, Noti Section (MP 40.78-42.29)

6) OR 99W, Pacific Highway West, Corvallis Section (NW Elks Drive-NW Buchanan) (MP 80.73-82.95)

7) US 199, Redwood Highway, Grants Pass Parkway (MP 0.35-0.25, Y-0.69 – Y-1.99)

8) OR 42, Coos Bay-Roseburg Highway, bypass of Coquille (MP 9.68 - 12.13)

b. Existing Bypasses also Classified as Expressways

9) OR 213, Cascade Highway South (I-205 – Mollala Avenue) (MP 0.00-3.59)

10) US 20, Corvallis-Newport Highway, Corvallis Bypass (MP 54.03-56.8)

11) OR 18, Salmon River Highway, Willamina-Sheridan Section (MP 24.23-34.32)

12) OR 18, Salmon River Highway, McMinnville-Dayton Section (MP 43.75-52.65)

13) Beltline Highway (MP 3.10- 12.76)

14) Salem Parkway (MP 0.00- 3.16)

15) OR 126, Eugene-Springfield Highway (MP 0.00-9.97)

16) Bend Parkway (MP 134.76– 141.83)

17) OR 140, South Klamath Falls Highway (Green Springs Highway intersection to Klamath Falls-Malin Highway intersection) (MP 0.00-5.97)

18) US 97, The Dalles-California Highway (junction of Klamath Falls-Malin Highway to city limits) (MP 272.53-277.43)

The policy is also applicable to potential bypass plans and projects undergoing environmental assessment such as the Newberg-Dundee Transportation Improvement Project and the South Bend Refinement Plan.

Goal 2: System Management

To work with local jurisdictions and federal agencies to create an increasingly seamless transportation system with respect to the development, operation, and maintenance of the highway and road system that:

- *Safeguards the state highway system by maintaining functionality and integrity;*
- *Ensures that local mobility and accessibility needs are met; and*
- *Enhances system efficiency and safety.*

Overview

Working towards a seamless highway and road system is a goal based on the need to increase system efficiencies in an environment of limited funding. The term "seamless" implies an integrated system in which a user does not recognize changes in jurisdiction or responsibilities. The state highways and local roads function as a single, integrated system. It is a system where:

- System efficiencies and safety are enhanced through interjurisdictional partnerships;
- Management responsibilities of two or more agencies are consolidated at a single agency to achieve more consistent roadway function and management;
- Duplicative functions such as maintenance responsibilities are eliminated through cooperative agreements between state and local jurisdictions;
- Technologies, such as Intelligent Transportation System technologies, are compatible across jurisdictional boundaries; and
- Federal, state, and local funding sources are flexible for improvements that provide the most benefit, regardless of management responsibilities.

INTERJURISDICTIONAL RELATIONS

Background

The Oregon Transportation Plan acknowledges that the relationships between federal, regional, and local jurisdictions and ODOT are crucial for the future of the state's highway system. It also recognizes that ODOT has direct relationships with citizens, businesses and affected communities that must be fostered and maintained.

As funding for transportation continues to lag behind the rate of inflation and maintenance needs, the ability to form partnerships and find efficiencies to stretch scarce resources farther will become more important for both economic development and quality of life issues throughout the state.

Three overlapping components would further interjurisdictional relationships:

- Creation of cooperative partnerships;
- Funding of off-system improvements; and
- Interjurisdictional transfer of roads.

Improving the relationship between ODOT and local jurisdictions is a starting point for increasing efficiency and eventually creating a seamless transportation system. An integrated system can reduce the confusion created by overlapping jurisdictions, services, and development requirements. Such a seamless system would share decision-making authority through cooperative arrangements to develop, operate, and maintain the state highway and local road systems. Partnership opportunities between ODOT, local jurisdictions, and federal agencies are necessary to help meet both state and local needs.

ODOT should also consider off-system improvements as a means of enhancing the state/regional transportation system. Off-system improvements may provide a cost-effective alternative to increasing the capacity of the state highway system, while helping to meet both state and local needs. ODOT can accomplish off-system improvements to enhance or preserve the state highway system by funding specific local modernization projects that will provide direct benefits to the state highway system or by involving ODOT staff in planning efforts to identify and address future local land use or transportation activities that will have an impact on the state highway system. This policy does not represent a commitment of funds to specific local projects.

Interjurisdictional road transfers (from ODOT to local jurisdictions or from local jurisdictions to ODOT) currently occur on an ad hoc basis, with basic issues such as condition at time of transfer, funding for maintenance, and ongoing operational responsibilities negotiated on a case-by-case basis. These transfers should occur on a more systematic basis.

ODOT recognizes that, with limited funding, segments of state highways that do not serve statewide functions will receive less attention than they deserve. These segments are often urban arterials primarily serving local traffic, frontage roads, farm-to-market roads and other roads that function like city and county streets and roads. ODOT sees its role as serving mainly regional and statewide interests. ODOT and local jurisdictions may enter into an agreement to transfer jurisdiction and ownership of highway segments to the jurisdiction when it is in the best interest of highway users for specific segments of state highways. To appropriately align responsibilities for these state-owned Local Interest Roads, ODOT proposes to develop a process with cities and counties to transfer them to local jurisdictions.

At the same time, there are local roads that are serving primarily through traffic or providing connections between state highways. Local governments and ODOT may be interested in transferring these to state jurisdiction.

The Oregon Transportation Plan stresses the importance of public participation, information, and education in the development and implementation of policies, programs, and projects to achieve the State's transportation goals. In Policy 2D ODOT recognizes that public involvement programs are an important part of building relationships with users and communities to ensure that highway development and maintenance projects meet Oregonians' needs.

Policy 2A: Partnerships

It is the policy of the State of Oregon to establish cooperative partnerships to make more efficient and effective use of limited resources to develop, operate, and maintain the highway and road system. These partnerships are relationships among ODOT and state and federal agencies, regional governments, cities, counties, tribal governments, and the private sector.

Action 2A.1

Support planning and development of highway and local road projects that enhance the seamless qualities of a transportation system which balances state, regional, and local needs.

Action 2A.2

Continue and increase the number of partnerships with federal agencies, tribal governments, and regional and local jurisdictions to share planning, development, operational and maintenance responsibilities, and address aspects of a seamless management system. Seek funding for the partnership process.

Action 2A.3

Investigate the legality of combining federal, state, regional, local and/or private funding to achieve the most effective, efficient expenditure of public money for transportation; encourage flexibility in the application of such funds.

Action 2A.414[19]

Consult with local and regional government(s) regarding the potential for local participation on major modernization projects considered for inclusion in the STIP. Local participation shall consider the size and financial capabilities of the jurisdiction(s). Participation may include but is not limited to contributions to funding, in-kind services and materials, improvements to local street circulation that support the state highway, benefits to non-auto modes, land use actions and other enhancements.

When major improvements to or replacement of an interchange are necessary, work in partnership with local and regional government(s) regarding financial participation, right-of-way contributions, and other enhancements. These partnerships are of particular importance when amendments are proposed to acknowledged comprehensive plans, interchange management plans are adopted or changes in zoning increase the intensity of development.

Action 2A.5

Establish partnerships with the private sector where doing so will provide cost efficiencies to the state and advance state goals.

Action 2A.6

With Washington State, support cooperative strategic planning for the bi-state Columbia River bridges and coordinate other transportation projects in corridors approaching the bridges on each side of the river.

Action 2.A.7[20]

Negotiate with the private sector to leverage funds, right-of-way contributions, or off-system improvements when major highway improvements benefit specific properties planned for development, where changes are proposed or have occurred to the relevant comprehensive plan or where development has occurred or will occur that necessitate major highway improvements.

[19] Action 2A.4 was amended January 19, 2006, Amendment 06-18.
[20] Action 2A.7 was added January 19, 2006, Amendment 06-18.

Policy 2B: Off-System Improvements

It is the policy of the State of Oregon to provide state financial assistance to local jurisdictions to develop, enhance, and maintain improvements on local transportation systems when they are a cost-effective way to improve the operation of the state highway system if:

- *The off-system costs are less than or equal to on-system costs, and/ or the benefits to the state system are equal to or greater than those achieved by investing in on-system improvements;*
- *Local jurisdictions adopt land use, access management and other policies and ordinances to assure the continued benefit of the off-system improvement to the state highway system;*
- *Local jurisdictions agree to provide advance notice to ODOT of any land use decisions that may impact the off-system improvement in such a way as to adversely impact the state highway system; and*
- *Local jurisdictions agree to a minimum maintenance level for the off-system improvement that will assure the continued benefit of the off-system improvement to the state highway system.*

Action 2B.1

Establish statewide criteria to identify and prioritize potential off-system improvements.

Action 2B.2

Develop a model intergovernmental agreement that addresses access management and land use restrictions, notification requirements, design standards, and maintenance issues.

Action 2B.3

Continue to participate in local transportation and land use planning to identify and mitigate potential actions that will adversely impact the state highway system or undermine the benefits to the state system of off-system improvements.

Action 2B.4

In preparing corridor plans, transportation system plans and project plans, work with local governments to identify and evaluate off-system improvements that would be cost-effective in improving performance of the state highway.

Policy 2C: Interjurisdictional Transfers

It is the policy of the State of Oregon to consider, in cooperation with local jurisdictions, interjurisdictional transfers that:

- *Rationalize and simplify the management responsibilities along a particular roadway segment or corridor;*
- *Reflect the appropriate functional classification of a particular roadway segment or corridor; and/or*
- *Lead to increased efficiencies in the operation and maintenance of a particular roadway segment or corridor.*

Action 2C.1

Working with local governments, define criteria for identifying state roads and highways that serve primarily local interests and local highways, roads, and streets that serve primarily state interests. The criteria should address land use, trip purposes, highway mobility standards, and access management.

Identify potential roads and highways for interjurisdictional transfer. The state roads and highways to be transferred to local jurisdictions may include:

- Urban arterials serving primarily local travel needs;
- Urban streets that have remained state-owned after a parallel major improvement has been constructed;
- Frontage roads;
- Farm-to-market roads;
- Other roads that function like county roads; and
- Connector roadways between highways. (These facilities do not include continuous highway segments that extend through a local jurisdiction.)

Local roads to be transferred to the state may include:

- Urban arterials that serve mainly through traffic; and
- Rural routes that have a statewide economic importance.

Action 2C.2

Establish criteria to guide decisions to transfer roads, including appropriate

compensation, roadway conditions, maintenance agreements, protection of freight mobility, and management and operational standards to maintain the functionality of the facility. Criteria for consideration of transfers should include but are not limited to:

- The importance of the facility to the functionality of the statewide system and the impacts of the transfer on that functionality. Changes in maintenance, highway mobility, or other standards resulting from the transfer should not negatively impact the function of other nearby state facilities;

- The land use vision of the local community;

- The condition or standard of the facility at the time of transfer and its meeting an agreed upon serviceability standard; and

- Appropriate compensation for the exchange that is determined during negotiation through an analysis which equalizes or balances the relative values of each transaction between the State and the local jurisdiction. In addition to providing compensation to the local jurisdiction pursuant to ORS 366.762 or 366.800, ODOT may agree to provide funds out of the State Highway Fund to address the additional costs to the county or city for the construction, repair, maintenance or improvement of the transferred road pursuant to ORS 374.329.

In addition, agreements between the state and a local jurisdiction should document design limits that protect freight mobility.

Action 2C.3

Develop a decision-making process for interjurisdictional transfers that includes the following:

- The Oregon Transportation Commission finds that the state highway is no longer needed to meet the functional needs of the system, or the local road is needed to meet the functional needs of the state system. The Oregon Transportation Commission solicits comments from the affected jurisdictions and the public;

- The State signs an intergovernmental agreement with the local jurisdiction which addresses compensation, roadway conditions, access management, freight mobility, maintenance, and operational standards;

- The local jurisdiction and ODOT both agree in writing to the transfer; and

- The extent and legal standing of any existing access rights and access management controls is documented and not contested by ODOT or the local jurisdiction.

Policy 2D: Public Involvement

It is the policy of the State of Oregon to ensure that citizens, businesses, regional and local governments, state agencies, and tribal governments have opportunities to have input into decisions regarding proposed policies, plans, programs, and improvement projects that affect the state highway system.

Action 2D.1

Conduct effective public involvement programs that create opportunities for citizens, businesses, regional and local governments, state agencies, and tribal governments to comment on proposed policies, plans, programs, and improvement projects.

Action 2D.2

Increase public information and education about construction, operations, and maintenance activities.

Action 2D.3

Coordinate with local governments and other agencies to ensure that public involvement programs target affected citizens, businesses, neighborhoods, and communities, as well as the general public.

Action 2D.4

Evaluate agency public involvement programs on a regular basis to ensure the programs are effective in involving a broad range of the public in agency planning and decision-making processes.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Background

When integrated into the transportation system, a number of information processing, communication, control, and electronic technologies can save lives, save time, and save money. These technologies are known collectively as Intelligent Transportation Systems (ITS). In Oregon, many public and private transportation providers are using these technologies to assist in the day-to-day problems of moving people and goods.

- In the Portland area, closed circuit television and other traffic surveillance devices and methods allow ODOT to rapidly detect and respond to incidents on the urban freeway system. By clearing incidents quickly, traffic flow can return to normal and minimize inconvenience and delay to travelers and freight haulers. They can also

detect congestion occurrences and allow traffic managers to use technologies such as ramp metering, variable message signs, internet, kiosks, and other technologies to alert users of potential delays and advise them of alternative routes.

- At the Farewell Bend port of entry near Ontario, in the Operation Greenlight Project, trucks that are equipped with an inexpensive communication device that mounts on the cab windshield can be uniquely identified, weighed, and checked against a computerized database within seconds while the trucks are traveling at highway speed. If a truck is found to be traveling legally, it is given a signal through the communication device and is allowed to proceed down Interstate 84 without stopping at the weigh station.

- Traveler information involving traffic, construction, road conditions, traveler services, and weather can significantly improve travel in both rural and urban areas.

- Public transit applications of ITS, including traveler information and global positioning dispatching systems, have been shown to improve transit performance.

- Incident detection and response along rural highways is a growing concern in Oregon. ITS technologies such as cellular call-in services and mayday systems are in use or the subjects of experiments in the United States at this time.

ITS can effectively provide additional road capacity without increasing the physical size of the facility. Opposition to adding lanes, as well as the cost of building them, makes ITS an attractive alternative. To keep pace with the growth of vehicle miles traveled, the U.S. Department of Transportation predicts that the United States will need to build 34 percent more highway capacity. For 50 cities, the 10-year cost is estimated to be $150 billion. Implementing an ITS solution could cost much less and provide significant portions of the needed capacity.

Sixty percent of the delay on congested freeways can be attributed to incidents. A highway accident increases the risk of an additional accident by a factor of six, according to a study of accident statistics on several California highways and expressways. National studies assessing incident management programs estimate that by reducing the time it takes to detect and respond to freeway accidents from the current national average of 5.2 minutes to 3 minutes, accident fatalities would be expected to decline by 10 percent. Incident response on rural highways can make similar gains.

Policy 2E: Intelligent Transportation Systems

It is the policy of the State of Oregon to consider a broad range of Intelligent Transportation Systems services to improve system efficiency and safety in a cost-effective manner. Deployment of ITS shall reflect the user service priorities established in the Oregon Intelligent Transportation Systems Strategic Plan. Specifically:

- *Incident Management*
- *En-route Driver Information*
- *Traffic Control (Arterials and Freeways)*
- *Route Guidance*
- *Commercial Vehicle Electronic Clearance*
- *Pre-trip Travel Information*
- *Public Transportation Management*
- *Emergency Notification and Personal Security*
- *Emergency Vehicle Management*
- *Commercial Fleet Management*

Action 2E.1

Establish planning, management, budgeting, and project selection processes within ODOT to encourage timely, cost-effective deployment of ITS applications, including:

- Creating and maintaining an ITS office in ODOT to evaluate and implement ITS, implement ITS strategies, provide outreach and coordination among agencies, technology integration, education and program development and assessment, and partnership;
- Encouraging the use of ITS in corridor and transportation system plans and ITS proposals in the Statewide Transportation Improvement Program process; and
- Creating budgets for ITS operational and maintenance requirements within the ODOT Regions.

Action 2E.2

Expand traffic management capabilities in metropolitan areas through the use of ramp meters, variable message signs and closed circuit television to address recurrent congestion and enhance incident management.

ODOT's Traffic Management Center in Portland responds to freeway incidents and emergencies.

Action 2E.3

Expand incident management capabilities in metropolitan areas and along key freight and recreational routes around the state where traffic incidents cause severe non-recurrent congestion.

Action 2E.4

Continue to advance commercial vehicle applications of ITS such as the Greenlight Project.

Action 2E.5

Work with local and regional governments and law enforcement agencies to deploy an effective advanced traffic management system in each metropolitan area.

Action 2E.6

Create a statewide network for real time weather, road condition, traffic, traveler services, and public transportation information.

Action 2E.7

Encourage transit operators and emergency service providers to develop standardized dispatching, vehicle monitoring, and vehicle priority systems.

Action 2E.8

Create a toolbox of standardized ITS applications that can be applied in small cities and rural areas. These products will emphasize enhancements for safety, traveler information, incident response, and congestion relief.

Action 2E.9

Foster public/private partnerships to further ITS development and funding.

Action 2E.10

Develop an advanced high speed telecommunications facility to serve as the communications backbone to statewide ITS deployment in partnership with private communications providers.

Action 2E.11

Develop partnership opportunities with neighboring states for the installation of ITS technologies and for opportunities to share services and information.

Action 2E.12

Support ITS planning, development, and implementation in corridor plans and local transportation system plans.

TRAFFIC SAFETY

Background

In 1996, 316 people died in the 23,053 motor vehicle crashes occurring on Oregon's state highway system. Eighty percent of these fatal crashes occurred on rural highways. Speed contributed to over 17 percent of the fatal crashes, and driving under the influence of intoxicants was a factor in 43 percent of the crashes. About half of the fatal crashes occurred during adverse weather conditions and a third on wet or icy pavement. In the cases where restraint usage was known, 42 percent of those killed were not using a safety belt. Thirteen percent of fatalities on the state highway system were non-motorists (11 percent pedestrians, 2 percent bicyclists).

Fatality and injury statistics show that the majority of all crashes are caused by some error on the driver's part. According to a Michigan study, approximately 80 percent of events causing crashes are due to driver error, 15 percent are due to environmental or roadway conditions and 5 percent are due to vehicle defects.

ODOT has the responsibility to consider safety in all construction, maintenance, and operating activities on the state highway system. This includes implementation of

programs that improve the safety of historically or potentially hazardous sites and routes and programs that address system-wide safety issues. The Oregon Transportation Plan gives safety a high priority in Policy 1G in declaring that "the policy of the State of Oregon is to improve continually the safety of all facets of statewide transportation for system users including operators, passengers, pedestrians, recipients of goods and services, and property owners."

The Oregon Transportation Safety Action Plan further clarifies the 12 actions in the Oregon Transportation Plan. Policy 2F and its actions are based on these adopted policies and priorities.

Three elements are critical to successfully solving any traffic safety issue: engineering, education, and enforcement. Some include another element: emergency medical services. Engineering fixes tend to focus on the driving environment: e.g., improving the road design; improving site distance, illumination, signing and striping; making the shoulder area safer; assessing conditions to establish appropriate speeds; constructing median barriers; and managing access to highways. Solutions to safety problems should also consider the use of non-engineering elements, including coordinating and enhancing state, city, and county law enforcement; involving business, the media, community safety groups, and schools in educational efforts; developing incident management programs; and establishing Corridor Safety Improvement Projects.

Policy 2F: Traffic Safety

It is the policy of the State of Oregon to continually improve safety for all users of the highway system using solutions involving engineering, education, enforcement, and emergency medical services.

Action 2F.1

Establish a process to develop and implement the most cost-effective solutions to high priority safety problems.

Action 2F.2

Whenever safety improvement is the stated objective of the project, include goals and a process to evaluate the outcome and further refine the project selection and solution process.

ODOT's incident response vehicle, the COMET truck, assists disabled vehicles while minimizing disruptions to traffic flow on busy Portland Metro freeways.

Action 2F.3

In identifying solutions to traffic safety problems, consider solutions including, but not limited to:

- Increasing traffic enforcement;
- Involving business and community groups and the media in educational efforts;
- Using educational materials and special signing to change driving practices;
- Making engineering improvements such as geometrics, signing, lighting, striping, signals, improving sight distance, and assessing conditions to establish appropriate speed;
- Constructing appropriate bicycle and pedestrian facilities including safe and convenient crossings;
- Managing access to the highway;
- Developing incident response and motorist assistance programs;
- Ensuring the uniformity of traffic control devices; and
- Developing driver information systems.

Action 2F.4

Continue to develop and implement the Safety Management System to target resources to sites and routes with the most significant safety problems. Encourage local governments to adopt a safety management system.

Action 2F.5

Seek additional funding for state and local traffic law enforcement.

Action 2F.6

Work with citizens and local jurisdictions to address safety concerns on the state highway system.

RAIL AND HIGHWAY COMPATIBILITY

Background

In 1997, there were 148 at-grade highway-railroad public grade crossings on Oregon state highways. Each represents the potential for serious injury or death even if equipped with gates and lights. Despite Oregon's nationally recognized success in reducing collisions at public grade crossings, the increase in both vehicle and train traffic presents on-going challenges in protecting both the motoring public and train passengers and crews.

Several types of situations can cause conflict between highway and railroad operations at grade crossings:

- Routine maintenance on a roadway, such as an overlay which leaves the track area untouched or a track resurfacing which makes the tracks higher than the adjacent roadway surface.

- Queuing roadway traffic at intersections near rail crossings which results in trapping motorists on the tracks as a train is approaching.

- Roadway design at a rail crossing, including a road expanse wider than two lanes, the angle of intersection of roadway and tracks, the location of the crossing in relation to existing track devices (switches, multiple tracks, etc.), driveways near the intersection of the track and roadway, and obstructions to motorists' views of approaching trains.

To increase safety and efficiency, ODOT is directed by statute "to achieve uniform and coordinated regulation of railroad-highway crossings and to eliminate crossings at grade wherever possible [and] to control and regulate the construction, alteration, and protection of railroad-highway crossings" (ORS 824.202). The 1995 Legislature

transferred this authority from the Oregon Public Utility Commission to ODOT.

Statutory authority means that ODOT has the responsibility of meeting the stated objective of uniformity, construction, alteration, and closure over all public crossings. This includes not only crossings of state highways, but also crossings of county roads and city streets. When a road authority wants to construct or alter a crossing, it must file an application with the ODOT Rail Division. The Rail Division works with all the parties to reach an agreed upon course of action. Determination of whether a new crossing or alteration is justified is made on an individual basis. The process includes consideration of such factors as traffic circulation, pedestrian crossings, economic development, safety, congestion and rail traffic. Both Federal Railroad Administration direction and Oregon statutes call for elimination of grade crossings wherever possible.

Policy 2G: Rail and Highway Compatibility

It is the policy of the State of Oregon to increase safety and transportation efficiency through the reduction and prevention of conflicts between railroad and highway users.

Action 2G.1

Eliminate crossings at grade wherever possible. Give priority to closing those crossings with the greatest potential for train-vehicle conflicts. Where rail grade crossings provide an important route for local pedestrian, bicycle, or vehicle circulation, the needs of these local movements should be considered.

Action 2G.2

Design highway projects to avoid or reduce rail crossings at grade.

Action 2G.3

In cooperation with railroads and local governments, target resources to increase safety through automated devices and enforcement at specific crossings.

Action 2G.4

Coordinate highway design, construction, resurfacing and traffic signals affecting rail crossings with the ODOT Rail Division and the railroads.

Action 2G.5

Address pedestrian and bicycle access issues and design concerns when designing grade-separated crossings.

Goal 3: Access Management

To employ access management strategies to ensure safe and efficient highways consistent with their determined function, ensure the statewide movement of goods and services, support economic development, enhance community livability and support planned development patterns, while recognizing the needs of motor vehicles, transit, pedestrians and bicyclists.

Overview

Access management is balancing access to developed land to promote economic development while ensuring movement of traffic in a safe and efficient manner. To achieve effective transportation it is necessary to have a blend and balance of road facilities. Each performs its unique function since no single class of highway can provide both high levels of movement and high levels of access to property. The spectrum ranges from freeways that provide for ease of movement through higher speeds, higher capacity and freedom from interruption to local residential streets that serve a diverse group of users from pedestrians to garbage collectors and emergency response vehicles by providing ease of access through slow speeds and numerous driveways.

Because expanding population growth and transportation needs are placing increasing demands on the state highway system, there is intense pressure to allow businesses and individuals extensive access to the roadways. Access can be managed a number of different ways, including freeway interchange placement and design, driveway and road spacing and design, traffic signal location, median design and spacing of openings, connectivity and the use of turn lanes. The challenge is to determine how to best apply these access management techniques on Oregon's state highway system to safely protect the highway efficiency and investment, contribute to the health of Oregon's local, regional and statewide economies, and support and maintain livable communities.

Implementation of access management is essential if the safety, efficiency and investment of the existing and planned state highways are to be protected. Roads link together as a chain, and the roadway system is only as effective as its weakest link. The amount of access and how it is allowed to a state highway is a critical factor in determining how long the facility can remain functional, and is the largest contributor to safety. An uncontrolled number of driveways to a highway can cause it to be very unsafe, and some highways will not serve their intended function to carry people, freight, and goods throughout the state. Implementation of access management techniques produces a more constant traffic flow, which helps to reduce congestion, fuel consumption and air pollution.

ACCESS MANAGEMENT

Background on Road Approaches (Driveways and Public Road Connections)

In Oregon, prior to 1949, a property owner could build a road approach (driveway or public road connection) to a highway at any location without obtaining permission. The State Legislature realized that highways would not operate safely or efficiently if this practice continued, and in 1949 a statute was passed that required all parties to receive written permission from ODOT or county governments, as appropriate, before constructing an approach road.

Since that time, property owners adjacent to state highways have been required to obtain an approach road permit from ODOT even though they have a "common law" right of access to the state highway. The common law right allows them to access the highway, and the permit process determines how and where the approach road can be safely constructed. While the statue requires that owners be allowed to access their property, it does not ensure that they can have an approach road wherever they desire. For example, ODOT is not obligated to issue an approach road permit in a location that creates unsafe conditions on the highway.

ODOT has the authority to purchase the right of access from property owners where appropriate. In some cases, such as along Interstate Highways, ODOT purchases the right of access in its entirety and the property owner no longer has any common law right to access the highway. In this case, a statement in the property owner's chain of title will show that the right of access has been conveyed to ODOT.

In other cases, ODOT purchases access rights just along portions of properties. Gaps, called "reservations of access," may remain along the property's frontage. The reservation of access gives a property owner the common law right of access to the state highway only at specific locations. The property owner must still apply for a road approach permit at these locations.

Having a reservation of access in the deed does not guarantee that ODOT will permit a driveway at that location, nor does a right of access imply a guarantee for full ingress or egress movements. For example, in the time since the reservation of access was established, traffic volumes may have increased significantly, travel speeds on the highway may have risen, the highway design may have changed (for example, by adding a passing lane), other approach roads may be too close, or alternate street connections may have been built. Any of these cases could make a new approach road unsafe or otherwise inappropriate.

In these cases, however, ODOT must still ensure that property owners have reasonable access to their property. If there is no reasonable access to the property leaving the property landlocked, ODOT may be required to purchase the property. Additionally, properties which have reservations of access may be entitled to additional

compensation if an approach road is denied at the reservation location. The type and level of compensation will be determined through appropriate right-of-way processes.

Scope of the Policies

The Access Management Policies and the standards in Appendix C shall be applied to the development of all ODOT highway construction, reconstruction or modernization projects and approach road permits, as well as all planning processes involving state highways, including corridor plans, refinement plans, state and local transportation system plans and local comprehensive plans.

- All highway plans, including corridor plans and refinement plans, which have not been adopted on or before the effective date of the Access Management Policies, shall be subject to these policies. Local and regional transportation system plans adopted after January 1, 2012 shall be subject to these policies.

- All projects which have not published the draft environmental document at the effective date of the Access Management Policies shall be subject to these policies.

- Projects which have published the draft environmental document prior to the effective date of the Access Management Policies shall be evaluated individually by the Region Manager to determine to what extent these policies should be implemented.

The Access Management Policies and the spacing standards in Appendix C, as implemented in the OAR 734, currently implemented as Division 51 (Access Management Rule), apply to local governments, private applicants, and state agencies, including ODOT, in the following instances:

- All approach road and private road crossing requests for approaches to state highways.

- New state highway construction projects and new highway plans.

- Any reconstruction or modernization work on state highways.

Deviations from the standards can be considered where the standards in the Access Management Rule are not met.

All proposed traffic control devices on the state highway system must have prior approval of the State Traffic Engineer and may include criteria not set forth in these policies.

Policy 3A: Classification and Spacing Standards

It is the policy of the State of Oregon to manage the location, spacing and type of road and street intersections and approach roads on state highways to assure the safe and efficient operation of state highways consistent with the classification and function of the highways.

Action 3A.1

Manage access to state highways based on highway classification, traffic volumes, speed, safety and operational needs to protect the function of each highway classification as explained below:

1. Freeways (NHS) – Interstate and Non-Interstate

(Examples: Interstate 5, Interstate 84, and Oregon Route 217, US Route 26 from Interstate 405 west to Oregon Route 6 (Non-Interstate))

- Freeways are multi-lane highways that provide for the most efficient and safe high speed and high volume traffic movement.
- Interstate Freeways are subject to federal interstate standards as established by the Federal Highway Administration.
- Freeways are subject to ODOT's Interchange Policy.
- ODOT owns the access rights and direct access is not allowed. Users may enter or exit the roadway only at interchanges.
  - Preference is given to through traffic.
  - Driveways are not allowed.
- Traffic signals are not allowed.
- Parking is prohibited.
- Opposing travel lanes are separated by a wide median or a physical barrier.
- Grade separated crossings that do not connect to the freeway are encouraged to meet local transportation needs and to enhance bicycle and pedestrian travel.
- The primary function is to provide connections and links to major cities, regions of the state, and other states.

2. Statewide Highways (NHS)

(Examples: Oregon Route 58, Oregon Route 42, US Route 30, US Route 97, and US Route 20)

a. Rural Expressways on Statewide Highways

- Expressways are to be designated by action of the Oregon Transportation Commission in consultation with affected local governments. (See Action 1A.2.)
- Expressways are existing two lane and multi-lane highways or planned highways that provide for safe and efficient high speed and high volume traffic movements.
- Private access is discouraged.
  - The long-range plan for improving the function of Expressways to eliminate, as possible, existing approach roads as opportunities occur or alternate access becomes available.
  - Access rights will be purchased and a local road network may be developed consistent with the function of the roadway.
- Public road connections are highly controlled and must be spaced appropriately. Future grade separations (interchanges) may be an option. Compatible land use actions may be necessary and shall be included in local comprehensive plans.
- Traffic signals are discouraged.
- Nontraversible medians are the typical median treatment to be constructed in the modernization of multi-lane Expressways with traversible medians.
- Parking is prohibited.
- The primary function of Expressways is to provide connections to larger urban areas, ports and major recreation areas with minimal interruptions.

b. Other Rural Statewide Highways[21]

- Statewide Rural Highways provide for high speed, continuous flow and through traffic movement.
- On Statewide Highways multiple direct accesses to the abutting property is

[21] Nomenclature for highways with no special designations ("other") has been changed here and throughout this section for consistency with Policy 1B changes made August 17, 2005, Amendment 05-16.

discouraged where other alternatives exist.

- The function of the highway is consistent with purchasing access rights. As the opportunity arises, access rights should be purchased. Preference is to purchase access rights in full.

- The primary function of these highways is to provide connections to larger urban areas, ports and major recreation areas of the state not served by Freeways or Expressways.

c. Urban Expressways (Not inconsistent with, but supplemental to Statewide Rural Expressways.)

- Traffic signals are discouraged. Where signals are allowed, their impact on through traffic must be minimized by ensuring that efficient progression of traffic is achieved.

- Median treatments are considered in accordance with Action 3B.3.

d. Other Urban Highways (Not inconsistent with, but supplemental to other Rural Statewide Highways.)

- Statewide Urban Highways provide high to moderate speed operations with limited interruptions in traffic flow.

e. Urban Business Areas (UBAs) (See Policy 1B.)[22]

- UBA standards may apply to a highway segment under two sets of circumstances:

- Where highway posted speed is 35 mph or lower, the UBA standards apply automatically.

- UBAs may be formally designated on higher speed highways where the designation is consistent with a corridor plan and/or local transportation system plan and agreed upon by ODOT and the local government.

- Access spacing standards in areas where the UBA standards apply are based upon posted speeds.

- Direct property access is less limited than on Statewide Urban Highways.

- Purchase of access control may be of lesser importance and access to adjacent land use is a higher priority.

- Redevelopment and infill development are encouraged.

[22] UBA information modified for consistency with Amendment 05-16, August 17, 2005.

- The needs of local auto, pedestrian, bicycle and transit movements to the area are balanced with the through movement of traffic.

f. Special Transportation Areas (STAs) (See Policy 1B.)[23]

- STAs must be consistent with a corridor plan and/or local transportation system plan and agreed upon in writing by ODOT and the local government.
- STAs apply to a highway segment.
- Direct public street connections and shared on-street parking are encouraged.
- Direct property access is limited.
- Purchase of access control may be of lesser importance and access to adjacent land use for all modes is a higher priority.
- Redevelopment and infill development are encouraged.
- Local auto, pedestrian, bicycle and transit movements to the area are generally given more importance than the through movement of traffic.

3. Regional Highways

(Examples: Oregon Route 99E, Oregon Route 138, Oregon Route 31, and Oregon Route 207)

a. Rural Expressways (Not inconsistent with, but supplemental to Statewide Rural Expressways.)

- The primary function of these highways is to provide connections and links to regions within the state, and between small urbanized areas and larger population centers.

b. Other Rural Highways

- Regional Rural Highways provide for efficient and safe medium to high speed and medium to high volume traffic movements.
- These highways serve as routes passing through areas which have moderate dependence on the highway to serve land access.
- The function of the highway supports selected acquisition of access rights. Purchase of access rights should be considered where beneficial such as, but not limited to, ensuring safe and efficient operation between connecting

[23] STA information modified for consistency with Amendment 05-16, August 17, 2005.

highways in interchange areas, protecting resource lands, preserving highway capacity on land adjacent to an urban growth boundary, or ensuring safety on segments with sharp curves, steep grades or restricted sight distance, or those with a history of accidents.

- The primary function of these highways is to provide connections and links to regions within the state, and between small urbanized areas and larger population centers through connections and links to Freeways, Expressways, or Statewide Highways.

c. Urban Expressways (Not inconsistent with, but supplemental to Regional Rural Expressways.)

- Where traffic signals are allowed, their impact on through traffic must be minimized by ensuring that efficient progression of traffic is achieved.

- Median treatments are considered in accordance with criteria in Action 3B.3.

d. Other Urban Highways (Not inconsistent with, but supplemental to other Regional Rural Highways.)

- The function of the highway is consistent with selected acquisition of access rights. Purchase of access rights should be considered where beneficial such as, but not limited to, ensuring safe and efficient operation between connecting highways in interchange areas, protecting resource lands, or ensuring safety on segments with sharp curves, steep grades or restricted sight distance, or those with a history of accidents.

e. Urban Business Areas (UBAs) (See Policy 1B. Same as Urban Business Areas on Statewide Highways.)

f. Special Transportation Areas (STAs) (Same as Special Transportation Areas on Statewide Highways.)

4. District Highways and Local Interest Roads

(Examples: Oregon Route 10, Oregon Route 34, Oregon Route 238, Oregon Route 27 and Oregon Route 86)

a. Rural Expressways (Not inconsistent with, but supplemental to, Statewide Rural Expressways.)

- The primary function of these highways is to provide connections and links to intercity, inter-community and intra-city movements.

b. Other Rural Highways

- These highways provide for safe and efficient medium speed and medium- to high-volume traffic movements.
- Traffic movement demands and access needs are more evenly balanced.
- The function of the highway supports acquisition of access rights in limited circumstances, recognizing the balanced demands of traffic movement and access needs. Purchase of access rights should be considered where beneficial such as, but not limited to, ensuring safe and efficient operation between connecting highways in interchange areas, protecting resource lands, preserving highway capacity on land adjacent to an urban growth boundary, or ensuring safety on segments with sharp curves, steep grades or restricted sight distance, or those with a history of accidents.
- The primary function of these highways is to provide connections and links to intercity, inter-community and intra-city movements.

c. Urban Expressways (Not inconsistent with, but supplemental to District Rural Expressways.)

- Where traffic signals are allowed, their impact on through traffic must be minimized by ensuring that efficient progression of traffic is achieved.
- Median treatments are considered in accordance with Action 3B.3.

d. Other Urban Highways (Not inconsistent with, but supplemental to other District Rural Highways.)

- The function of the highway is consistent with acquisition of access rights in limited circumstances, recognizing the balanced demands of traffic movement and access needs. Purchase of access rights should be considered where beneficial such as, but not limited to, ensuring safe and efficient operation between connecting highways in interchange areas, protecting resource lands, or ensuring safety on segments with sharp curves, steep grades or restricted sight distance, or those with a history of accidents.

e. Urban Business Areas (UBAs) (See Policy 1B. Same as Urban Business Areas on Statewide Highways.)

f. Special Transportation Areas (STAs) (Same as Special Transportation Areas on Statewide Highways.)

Action 3A.2

Establish spacing standards on state highways based on highway classification, type

of area and speed. The tables in Appendix C show the access spacing standards which consider urban and rural highway classification, traffic volumes, speed, safety, and operational needs.

- These standards shall be applied to the development of all ODOT highway construction, reconstruction or modernization projects, approach road and private road crossing permits, as well as all planning processes involving state highways, including corridor studies, refinement plans, state and local transportation system plans and local comprehensive plans.

- These standards do not retroactively apply to legal approach roads or private road crossings in existence prior to January 1, 2012, except or until any change of use, or highway construction, reconstruction or modernization project affecting such legal approach roads or private road crossings occurs. At that time the goal is to meet the appropriate spacing standards, if possible, but at the very least to improve current conditions by moving in the direction of the access management standards (Access Management Rule).

- When infill development occurs, the goal is to meet the appropriate access management standards. In some cases this may not be possible, and at the very least the goal is to improve the current conditions by moving in the direction of the access management standards. Thus, infill development should not worsen current approach road spacing. This may involve such options as joint access.

- In some cases new access will be allowed to a property at less than the designated spacing standards, but only where a right of access exists and the designated spacing cannot be accomplished. If possible, other options should be considered such as joint access.

- If ODOT action causes a property to become landlocked (no reasonable access exists) and no other means of providing access is, or can be made available, ODOT might be required to purchase the property. (Note: If a hardship was created by the property owner or his predecessor in title, such as by partitioning or subdividing a property, ODOT does not have responsibility for purchasing the property.)

Action 3A.3

Manage the location and spacing of traffic signals on state highways to ensure the safe and efficient movement of people and goods. Safe and efficient traffic signal timing depends on optimal intersection spacing. It is difficult to predetermine where such locations should exist, although half-mile intersection spacing for Statewide and Regional Highways is desirable. The following are critical elements in planning an interconnected traffic signal system:

- Signalized intersection capacity and operation analysis must take into account lane balance of existing and future (20-year projection) traffic volumes.

- The progression bandwidth must equal or exceed that required to accommodate the through volume on the state highway at the most critical intersection during all peak periods. The most critical intersection is defined as the intersection carrying the highest through volume per lane on the state highway. The State Traffic Engineer or designated representative shall approve signal progression parameters and analysis methodology.

- All signals must provide for adequate vehicle storage that does not encroach on the operation of adjacent lanes and signalized intersections.

- The common cycle length for the interconnected traffic signal system must provide for adequate pedestrian crossing times.

- The speed of the progressed traffic band should be no more than five miles per hour below the existing posted speed for both directions of travel during the off-peak periods, nor more than 10 miles per hour below the existing posted speed during peak periods. Approval of the State Traffic Engineer or designated representative is required where speeds deviate more than the above.

Action 3A.4

In general, traffic signals should not be installed on rural high-speed highways because they are inconsistent with the function of these highways to provide for safe and efficient high-speed travel. Although a rural traffic signal may be warranted in a particular instance to control traffic due to existing conditions, ODOT and local governments must avoid creating conditions that would make future traffic signal installations necessary in rural areas. Amendments to local comprehensive plans or land use ordinances that would require a traffic signal on rural highways are inconsistent with the function of the highway.[24]

Action 3A.5

Some private approach roads may have characteristics similar to public road approaches. Such similarities may allow a private approach road to operate as a public road approach. For a private approach road to be considered for a signal, it must have the following attributes:

- High traffic volumes, typically 200 vehicles or more during the peak period;

- Design geometry consistent with that of public road intersections including curbs, appropriate lane widths, pavement markings and vertical alignment; and

- An adequate approach throat length to assure that the movement of entering

[24] Typically, based on guidance provided in the Manual on Uniform Traffic Control Devices, rural traffic signals are not warranted. Rural traffic signals are unexpected by the motorist who is unfamiliar with the location, requiring longer than normal time for drivers to react. Rural highway speeds are typically very high, requiring longer stopping sight distance.

vehicles is not impeded by on-site queuing.

Signalization of a private approach road shall be dependent upon meeting signal spacing criteria considering the likelihood that nearby locations may be signalized in the future as development occurs in the area. Signal spacing concerns may require that a route be established to a nearby public street that can be signalized at its intersection with the state highway, or a shared private driveway may be required to serve the needs of multiple properties. If a private approach road is considered, it should also be required to connect to the existing or planned local street system and allow use by surrounding properties.

Policy 3B: Medians

It is the policy of the State of Oregon to plan for and manage the placement of medians and the location of median openings on state highways to enhance the efficiency and safety of the highways, and influence and support land use development patterns that are consistent with approved comprehensive plans including transportation system plans.

Action 3B.1

Plan for a level of median control necessary for the safe and efficient operation of state highways, consistent with the classification of the highway. When median treatments are planned, corridor plans and transportation system plans will identify those treatments.

Action 3B.2

Design and construct nontraversible medians for:

- All new multi-lane highways constructed on completely new alignment; and
- Modernization of all rural, multi-lane Expressways, including Statewide (NHS), Regional and District.

Action 3B.3

Consider construction of nontraversible medians for:

- Modernization of all urban, multi-lane Statewide (NHS) Highways;
- Modernization of all urban, multi-lane Regional Highways where posted speeds are 45 mph (70 km/h) or greater;
- Multi-lane highways undergoing 3-R or 4-R improvements; and

- Highways not undergoing modernization where a median would improve safety.

In the four instances listed above, consideration shall occur when any of the following criteria are present:

- Forecasted average daily traffic is anticipated to be 28,000 vehicles per day during the 20-year planning period;

- The annual accident rate is greater than the statewide annual average accident rate for similar roadways;

- Pedestrians are unable to safely cross the highway, as demonstrated by an accident rate that is greater than the statewide annual average accident rate for similar roadways; and/or

- Topography and horizontal or vertical roadway alignment result in inadequate left-turn intersection sight distance and it is impractical to relocate or reconstruct the connecting approach road or impractical to reconstruct the highway in order to provide adequate sight distance.

- Specific attention to two-lane highways so that freight mobility requirements are met.

Reasons for not using nontraversible medians in project development when any of these conditions are present must be documented and reviewed and approved by the Region Manager. Reasons for not using nontraversible medians in project development should include documentation of consultation with representatives of the freight industry and automobile users and may include representatives of local government, business groups and other transportation stakeholders.

A nontraversible median with plantings on Pacific Highway West in Eugene.

Action 3B.4

Full and directional median openings shall be:

- Restricted to locations that conform to ODOT's spacing standards as shown in Appendix C; and
- Designed with a left-turn bay and deceleration lane.

Full median openings will be given preference to a public road connection which is part of a continuous and comprehensive public road network.

Action 3B.5

Continuous two-way left-turn lanes are primarily used on urban highways. On urban Expressways, continuous two-way left-turn lanes are minimal; they will be approved in the future only as part of staged construction of nontraversible medians, and a strategy/plan to replace existing continuous two-way left-turn lanes with nontraversible medians will be developed.

Action 3B.6

Except on freeways, consider using raised median pedestrian refuge islands and mid-block crosswalks in urban areas that are pedestrian and/or transit oriented.

Policy 3C: Interchange Access Management Areas

It is the policy of the State of Oregon to plan for and manage grade-separated interchange areas to ensure safe and efficient operation between connecting roadways.

Action 3C.1

Develop interchange area management plans to protect the function of interchanges to provide safe and efficient operations between connecting roadways and to minimize the need for major improvements of existing interchanges.

Action 3C.2

To improve an existing interchange or construct a new interchange:

- The interchange access management spacing standards are shown in Appendix C;
- The standards do not apply retroactively to interchanges existing prior to adoption of this Oregon Highway Plan, except or until any redevelopment, change of use, or highway construction, reconstruction or modernization project

affecting these existing interchanges occurs. It is the goal at that time to meet the appropriate spacing standards, if possible, but, at the very least, to improve the current conditions by moving in the direction of the spacing standards;

- Necessary supporting improvements, such as road networks, channelization, medians and access control in the interchange management area must be identified in the local comprehensive plan and committed with an identified funding source, or must be in place;

- Access to cross streets shall be consistent with established standards for a distance on either side of the ramp connections so as to reduce conflicts and manage ramp operations. The Interchange Access Management Spacing Standards supersede the Access Management Classification and Spacing Standards (Policy 3A), unless the latter distance standards are greater (see Appendix C);

- Where possible, interchanges on Freeways and Expressways shall connect to state highways, major or minor arterials;

- Interchanges on Statewide, Regional or District Highways may connect to state highways, major or minor arterials, other county or city roads, or private roads, as appropriate;

- The design of urban interchanges must consider the need for transit and park-and-ride facilities, along with the interchange's effect on pedestrian and bicycle traffic; and

- When possible, access control shall be purchased on crossroads for a minimum distance of 1320 feet (400 meters) from a ramp intersection or the end of a free flow ramp terminal merge lane taper.

Action 3C.3

Establish criteria for when deviations to the interchange access management spacing standards may be considered. The kinds of considerations likely to be included are:

- Location of existing parallel roadways (e.g., Highways 99W or 99E which parallel Interstate 5);

- Use of traffic controls;

- Potential queuing, increased delays and safety impacts; and

- Possible use of nontraversible medians for right-in/right-out movements.

Action 3C.4

When new approach roads or intersections are planned or constructed near existing interchanges, property is redeveloped or there is a change of use, wherever possible, the access spacing and operation standards in the Access Management Rule should be applied within the influence area of the interchange (measurements are from ramp intersection or the end of a free flow ramp terminal merge lane taper).

Action 3C.5

As opportunities arise, rights of access shall be purchased on crossroads around existing interchanges. Whenever possible, this protective buying should be for a distance of 1320 feet (400 meters) on the crossroads.

Action 3C.6

Plan for and operate traffic controls within the influence area of an interchange with the priority of moving traffic off the main highway, Freeway or Expressway and away from the interchange area. Within the Interchange Access Management Area, priority shall be given to operating signals for the safe and efficient operation of the interchange.

Action 3C.7

Use grade-separated crossings without connecting ramps to provide crossing corridors that relieve traffic crossing demands through interchanges.

Policy 3D: Deviations[25]

It is the policy of the State of Oregon to manage requests for state highway approach permits that require deviations from the adopted access management spacing standards and policies through an application process to ensure statewide consistency.

Action 3D.1

The Access Management Rule includes a procedure by which an applicant may request a state highway approach permit that requires a deviation from access management standards and policies.

[25] A Technical Correction dated December 20, 2004 (Amendment 04-13) made changes to the deviation section for consistency with the January 2004 amendments to OAR 734-051.

Action 3D.2

Region Access Management Engineers review and act on requests for state highway approach permits that require deviations from the access management standards and policies.

Action 3D.3

Encourage the use of technical advisory committees to assist the Region Access Management Engineer in an advisory capacity in the review of requests for deviations from access management standards and policies where complex situations create the need for a multi-disciplinary approach. Members of a technical advisory committee shall have expertise in access management policies, roadway design standards, and traffic engineering, and may include technical persons who are not ODOT employees.

Action 3D.4

As consistent with state law established in ORS 374.312(7) and the Access Management Rule, deviations to the access management standards may be allowed. One or more deviation requests may be included in an application for one or more approaches that do not meet the standards. The kinds of considerations likely to be included are:

- Potential queuing, increased delays and safety impacts;
- Pedestrian and bicycle circulation;
- Use of traffic controls;
- Requirements for local road systems;
- Improvement of connectivity to adjacent properties or local road system;
- Plans that address an entire roadway segment (e.g., a transportation system plan);
- Potential need for channelization, such as for turn lanes;
- Possible use of nontraversible medians for right-in/right-out movements; and
- Sight distance from the approach, nearby intersections and on the mainline, including intersection sight distance and stopping sight distance.

The actual deviation criteria and process are established in ORS 374.312(7) and the Access Management Rule. These considerations above are meant to be consistent with these laws and provide additional perspective for helping to review deviation requests as well as identify potential actions to address safety.

Any request for spacing at less than the spacing standards set out in Appendix C shall be considered a deviation from the spacing standards. The applicant for a private approach must submit a traffic impact analysis, unless otherwise indicated by ODOT, to address a request for deviations from approach spacing standards.

Policy 3E: Appeals

It is the policy of the State of Oregon to manage appeals of approach permit decisions including approval subject to conditions, removal or modification of an approach, denied requests for approach roads and denied requests for deviations from adopted access management standards and policies through an appeals process to ensure statewide consistency with ORS 374.350 and the Access Management Rule.

Goal 4: Travel Alternatives

To optimize the overall efficiency and utility of the state highway system through the use of alternative modes and travel demand management strategies.

Overview

The state highway system serves different modes of transportation, including auto, bus, truck, bicycle, and pedestrian, as well as different travel purposes including freight movement and person trips. Maintaining and improving the performance of the highway system requires that it function as part of a well-coordinated and integrated multimodal system. Intermodal connections for people and goods must be efficient, and appropriate alternative mode choices must be available to allow users to take advantage of the efficiencies inherent in each mode.

Alternative passenger modes, transportation demand management, and other programs can help reduce the single-occupant vehicle demand on the highway system, thus maintaining performance while increasing the person-carrying capacity of the system. Alternative freight modes and related strategies which strive for more efficient commercial vehicle operation will help maintain the overall reliability and performance of the goods movement networks. All of these strategies can contribute to meeting the objectives of Statewide Planning Goal 12, which requires transportation plans to “avoid principal reliance upon any one mode of transportation” and “conserve energy.”

FREIGHT

Background

An efficient, safe, and environmentally sound system of moving goods through the state is an important economic development goal named in the Oregon Transportation Plan. The Plan also stresses the importance of promoting a balanced freight transportation system that takes advantage of the inherent efficiencies of each mode. For the highway system, this means both improving the efficiency with which motor carriers can operate and promoting alternative (non-highway) modes, where appropriate.

Improving and maintaining the efficiency of highway operations will require balancing the needs of goods movement with the needs of other users of the highway system. For example, some state highways that are important goods movement corridors also serve as communities’ main streets.

Improving highway operational efficiency also involves working for more standardization in theareas of commercial vehicle regulations and Intelligent Transportation System technologies. Improving efficiency for goods movement will likely entail public and private investments in infrastructure, especially in an expanding economy. Oregon's Intermodal Management System (see page 23) is a key part of tracking the need for improvements to intermodal connections.
However, public policies or projects often have limited impact on outcomes such as mode split in freight transportation. Freight transportation patterns are a product of industry trends, the requirements of shippers, the quality, range of services, and rates provided by freight carriers, and other factors outside the public sector realm. The State should not attempt to subsidize one mode over another or otherwise interfere with the market for freight transportation, but should consider making investments in non-highway freight network improvements where doing so will benefit the efficiency of the state highway system.

There are sometimes specific infrastructure problems, bottlenecks, or regulations that pose a barrier to efficiency or exacerbate trends that would be detrimental to the highway system. For example, it is important to maintain a viable deep draft and shallow draft water freight system on the Columbia River to prevent increased congestion on major highway freight routes. Shortages of rail equipment and lack of access to capital may pose a barrier to the increased use of shortline rail for bulk commodity movements. In these cases, public policies and actions should aim to mitigate physical and institutional obstacles and promote safety while avoiding undue meddling in the marketplace. The following policy and actions pertaining to freight transportation and the highway system were developed to be consistent with this philosophy.

The intermodal connector at the Port of Morrow connects Interstate 84 to port facilities where goods are transferred from truck to barge. (Photo courtesy of Port of Morrow)

Policy 4A: Efficiency of Freight Movement[26]

It is the policy of the State of Oregon to maintain and improve the efficiency of freight movement on the state highway system and access to intermodal connections. The State shall seek to balance the needs of long distance and through freight movements with local transportation needs on highway facilities in both urban areas and rural communities.

Action 4A.1

Identify roadway obstacles and barriers to efficient truck movements on state highways, especially the Statewide Freight System. These include bridges with load limits and geometric constraints that prohibit the travel of legal size vehicles. Set up a process through the Statewide Transportation Improvement Program to systematically improve the highway segments that hinder or prevent freight movements and utilize benefits/cost analysis to determine whether improvements are warranted.

Action 4A.2

Encourage uniform commercial vehicle regulations at the regional and national levels where the safety and efficiency of Oregon's transportation system will benefit. These might include regulation regarding vehicle design.

Action 4A.3

Support further development, standardization, and/or compatibility of Intelligent Transportation System Commercial Vehicle Operation technology in the western United States.

Action 4A.4

Maintain and improve roadway facilities serving intermodal freight facilities that are part of Oregon's Intermodal Management System, and support development of new intermodal roadway facilities where they are part of a local or regional transportation system plan. Recognize National Highway System Intermodal connectors as part of the freight network in transportation planning and funding considerations. Manage state-owned Intermodal connectors according to their state highway classification as Regional or District Highways.

Action 4A.5

Support the establishment of stable funding or financing sources for transportation

[26] Policy 4A and Implementing Actions 4A.1, 4A.4 were amended, and Actions 4A.8 and 4A.9 were added as part of Amendment 05-16, dated August 17, 2005.

systems that will benefit the efficiency of freight movement on the highway system. These transportation systems include non-highway freight modes and intermodal connectors.

Action 4A.6

Work with the private sector (e.g., carriers, shippers), local governments, metropolitan planning organizations, port authorities and others to improve planning coordination between public investments in highways and other investments in the freight movement infrastructure.

Action 4A.7

Support the maintenance and improvement of non-highway infrastructure that provides alternative freight-moving capacity in critical corridors where doing so will maintain or improve the overall performance of the highway system.

Action 4A.8

Recognize that local truck routes are important linkages in the movement of freight throughout the state. ODOT will consider requests to establish local government designated truck routes that will serve to detour trucks off the state highway system. ODOT will coordinate with local jurisdictions when designating, managing and constructing a project on a local freight route.

Action 4A.9

Develop an amendment process for the identification of additional routes or modifications to the State Highway Freight System.

ALTERNATIVE PASSENGER SERVICES

Background

Alternative passenger transportation services can help relieve highway traffic congestion and reduce the rate of vehicle miles of travel per capita. They can also delay, reduce, or eliminate the need for highway capacity expansion. For the purpose of this discussion, alternative passenger transportation includes both publicly and privately operated fixed- and demand-responsive bus services, light rail transit, and intercity bus, rail, and air services. Bicycle, pedestrian, and high-occupancy vehicle services are addressed to a limited extent by these alternative passenger service policies, but are addressed more fully in conjunction with the transportation demand management policies described later in this section.

Two goals within the Oregon Transportation Plan emphasize the role of alternative passenger transportation. Goal 1 seeks provision of a balanced or multimodal

transportation system as well as one that is efficient, accessible, and connected to several modes. Goal 2 looks to alternative passenger transportation to help achieve state land use goals and to provide mobility to residents of urban and rural areas through a variety of alternative services, both public and private. The State recognizes that alternative passenger transportation systems that are coordinated with land use actions can have positive benefits for the state highway system.

Three adopted state modal plans emphasize the role of alternative passenger transportation. The Oregon Public Transportation Plan (1997), the Oregon Rail Passenger Policy and Plan (1992), and the Oregon Bicycle and Pedestrian Plan (1995) further advance state policy supporting the use of alternative modes and services to relieve traffic congestion and provide mobility.

The Oregon Highway Plan emphasizes the use of alternative passenger transportation where the volume of traffic and the type of highway use indicates the potential for successful implementation of alternative passenger modes. Alternative mode passenger services can benefit the highway and community through a reduction in vehicle miles traveled, air quality, increased mobility, relief from congestion and/or delay, as well as reduction in the need for highway capacity expansion. The Highway Plan further encourages the development of alternative passenger transportation services in concert with other elements of the local transportation network, and supports the development of partnerships with the private sector and local agencies to deliver these services where they will be most effective.

Policy 4B: Alternative Passenger Modes

It is the policy of the State of Oregon to advance and support alternative passenger transportation systems where travel demand, land use, and other factors indicate the potential for successful and effective development of alternative passenger modes.

Action 4B.1

Promote alternative passenger transportation services in commute highway corridors to help maintain or meet established performance standards.

Action 4B.2

Promote alternative passenger transportation services located off the highway system that help to preserve the performance and function of the state highway system.

Portland's MAX light rail transit helps relieve congestion in Interstate 84.

Action 4B.3

Encourage the development of alternative passenger services and systems as part of broader corridor strategies, and coordinate them with necessary supportive local actions. Such actions include developing applicable land use regulations, appropriate types of passenger services, adequate collector-distributor roadway systems, and other local transportation system elements.

Action 4B.4

Encourage the use of alternative passenger modes to reduce local trips on the state highway system where limited highway facilities accommodate large numbers of both intercity and local trips.

Action 4B.5

Support the further development of alternative intercity passenger services in congested transportation corridors through additional peak hour service, use of excess freight rail system capacity, and the provision of support facilities and services which help connect passengers to their destinations (e.g., intercity

passenger rail, air, and/or shuttle or charter bus operations coordinated with parking areas).

Action 4B.6

In recreational corridors, promote shuttles and/or charter passenger transportation services, coordinated with off-site parking areas, to lessen congestion during peak periods for travel to significant tourist/visitor destination areas.

HIGH-OCCUPANCY VEHICLE (HOV) FACILITIES

Background

High-Occupancy Vehicle (HOV) facilities are one response to increasing traffic congestion, declining mobility levels, air quality and environmental concerns and limited resources. While differing in details of design and operation, HOV facilities are generally restricted to use by buses, vanpools and carpools. HOV facilities are intended to help maximize the person-carrying capacity of a roadway or corridor by providing the high-occupancy vehicles such benefits as shorter travel times and improved travel time reliability. Typically, HOV facilities are most appropriate in large metropolitan planning organization areas and their corresponding fringe areas.

The High-Occupancy/Toll (HOT) lane is a variation of the HOV concept which allows vehicles ineligible by their occupancy number to use the HOV lane with payment of a toll. If limited to commercial vehicles, the practice is known as “commercial vehicle buy-in” and has the potential to offer time savings benefits to the small truck carriers of high-value goods. The HOT approach could achieve capacity improvements, provide additional financing tools, and solve the problem of under-use of HOV lanes. However, large scale implementation of HOT lanes will require a practical method of automatic vehicle occupant counting and a way to tell when the required toll has been paid.

A number of factors will affect whether HOV treatment is an appropriate or effective option for a given roadway or corridor. The first factor is the level of demand for the roadway or corridor. Recent research suggests that HOV facilities are appropriate where delays are major and the HOV vehicle/total vehicle ratio is about 5 to 10 percentage points below the HOV lane/total lane ratio. Outside this range, the facility will either be too crowded to offer real benefit to HOV vehicles or will suffer from “empty lane syndrome,” irritating the single occupant vehicle motorists in adjacent congested lanes and resulting in inefficient expenditure of funds.

The extent and completeness of the HOV system will also have an impact on whether any individual HOV facility will function effectively. In addition to the roadway mainline, access ramps, toll plazas, bridges, tunnels and connectors should ultimately be brought into the system to obtain the maximum utility. This system planning approach does not preclude incremental construction of individual HOV facilities, but the individual elements should be part of a well thought-out plan.

HOV facilities encourage ride sharing and help congestion on Interstate 5 in Portland.

Consideration should also be given to the trip ends, or origins and destinations. Park-and-ride facilities on the home end and preferential HOV parking at the work end of a trip complement HOV facilities and increase their effectiveness.

Finally, surrounding land use patterns and transit facilities should also be taken into account. Although HOV and rail in the same corridor are not mutually exclusive, HOV is generally most appropriate in corridors where the existing and planned land uses will not support rail transit. However, HOV may be a suitable forerunner to rail in corridors where long term plans specify a level of development that would support rail.

Policy 4C: High-Occupancy Vehicle (HOV) Facilities

It is the policy of the State of Oregon to utilize HOV facilities to improve the efficiency of the highway system in locations where travel demand, land use, transit, and other factors are favorable to their effectiveness. A systems planning approach shall be taken in which individual HOV facilities complement one another and the other elements of the multimodal transportation system.

Action 4C.1

Promote the development of HOV facilities in corridors where:

- They are supported in local or regional transportation system plans;
- Current or projected demand will allow for efficient operations; and
- HOV facilities will function as part of the overall transportation system.

Action 4C.2

Support conversion of existing mixed-flow lanes to HOV lanes where the proposed HOV facility would close specific gaps in the HOV network, such as bridges, toll plazas, tunnels, etc., or where increased number of people in vehicles could offset the need for additional highway capacity.

Action 4C.3

Promote the development of support facilities for HOV lanes, such as park-and-ride lots and preferential HOV parking, to provide the complementary elements needed in a comprehensive HOV system.

Action 4C.4

Support the development of High-Occupancy/Toll (HOT) lanes when and where doing so supports the objectives of, and is consistent with, state, local and regional plans.

Action 4C.5

Support light-duty commercial vehicle buy-in to HOV lanes only with the levy of equitable fees or tolls.

TRANSPORTATION DEMAND MANAGEMENT

Background

Transportation demand management is a broad family of techniques that help extend the use of the highway system by reducing peak period single occupant vehicle traffic, moving traffic demand to time periods other than the peak period or improving the flow of traffic. Transportation demand management includes but is not limited to:

- Rideshare programs and facilities which foster the use of carpools, vanpools, and express bus or light rail services;
- Incentives that encourage the use of transportation alternatives for the daily commute, such as discounted transit passes and employee transportation allowances;

- Market-based mechanisms designed to influence shift of mode or time of travel, such as parking management or pricing strategies to favor high-occupancy vehicles or congestion-based pricing of transportation facilities and services;

- Other demand management techniques intended to “flatten” peak period demand such as truck traffic restrictions, compressed work hours, staggered work hours, and flex-time; and

- Operational techniques designed to improve the flow of vehicular traffic through modifying demand or optimizing available capacity, such as ramp metering, reversible lanes, traffic signal coordination, traveler information systems, one-way streets, high-occupancy vehicle/bus bypass lanes and telecommuting programs.

The Oregon Transportation Plan and the Oregon Public Transportation Plan support the use of demand management programs as a way to effectively manage existing infrastructure and services and to minimize transportation-related energy consumption. ODOT, in cooperation with local agencies and private employers, has created a toolbox of demand management strategies that can be used in corridor and local transportation system planning. This toolbox is described in ODOT’s Transportation System Planning Guidelines.

Policy 4D focuses on demand management techniques which are appropriate in both rural and urban areas to help decrease congestion, energy consumption and vehicle miles traveled and maintain air quality. These programs are most successful where parking at the destination is costly or where a variety of amenities are available.

Policy 4E highlights one of the most commonly used and cost-effective transportation demand management measures – park-and-ride facilities. Park-and-ride facilities provide a common location for individuals to transfer from a low- to high-occupancy travel mode. Park-and-ride lots may be either exclusive or shared-use facilities. Exclusive lots are planned, designed, constructed and operated to specifically serve as park-and-ride facilities. Shared-use lots serve multiple functions and may be located, for example, at existing shopping centers, schools or churches. In many locations, commuters create informal park-and-ride areas along the side of a road or at an existing parking lot so that they may share rides. Informal and formal park- and-ride facilities exist throughout the state and are common at interchanges along Interstate 5.

The Oregon Constitution strictly limits the use of state highway trust funds to facilities and services that directly benefit the highway system. Therefore, park- and-ride facilities funded through this source must support the motoring public as it travels on the state highway and road system and must be either within the highway right-of-way or adjacent to it. The location of park-and-ride facilities funded from federal and other sources is more flexible.

Policy 4D: Transportation Demand Management

It is the policy of the State of Oregon to support the efficient use of the state transportation system through investment in transportation demand management strategies.

Action 4D.1

Establish and support demand management strategies that reduce peak period single occupant vehicle travel, move traffic demand out of the peak period, and/or improve the flow of traffic on the state highway system.

Action 4D.2

Investigate further the effectiveness, feasibility, and impacts of tolling and congestion-based pricing on congested highway corridors as a means of reducing peak period congestion and delaying or eliminating the need for highway capacity expansion.

Action 4D.3

Support existing transportation demand management/rideshare programs in Portland, Salem, Eugene, Corvallis, Medford, and Bend to reduce peak period congestion. Consider establishing new programs where congestion levels make it appropriate.

Policy 4E: Park-and-Ride Facilities

It is the policy of the State of Oregon to encourage the efficient use of the existing transportation system and to seek cost-effective expansion of the highway system's passenger capacity through development and use of park-and-ride facilities.

Action 4E.1

In coordination with local jurisdictions and based on an analysis of need and potential use, provide park-and-ride facilities at appropriate urban and rural locations adjacent to or within the highway right-of-way.

Action 4E.2

Acquire right-of-way for park-and-ride facilities during construction or expansion projects as appropriate. Consider acquisition and use of adjacent right-of-way for park-and-ride facilities at highway interchanges, consistent with ODOT access management policies and standards.

Action 4E.3

Establish partnerships with other jurisdictions and the private sector to site park-and-ride facilities.

Action 4E.4

Convert informal parking areas within highway rights-of-way to formal park-and-ride facilities where appropriate.

Action 4E.5

Use ODOT surplus property for park-and-ride facilities where appropriate.

Action 4E.6

Provide park-and-ride facilities located in urban areas that are safely accessible by pedestrians, bicyclists and transit users whenever feasible. Include secure bicycle parking in urban park-and-ride designs.

Goal 5: Environmental and Scenic Resources

To protect and enhance the natural and built environment throughout the process of constructing, operating, and maintaining the state highway system.

ENVIRONMENTAL RESOURCES

Background

Protecting and enhancing the natural and built environments is important to the State of Oregon. It is part of protecting Oregon's livability, preserving its scenic character, and maintaining a healthy environment for plants, wildlife, and people. ODOT constructs, operates, and maintains a state transportation network that traverses a number of habitat types and regional ecosystems. These include the wet forests of the Coastal Range, the mixed forest of the Klamath Mountains Province in southern Oregon, the Willamette Valley grasslands, the temperate and alpine forests of the Western and High Cascades, the High Desert of eastern Oregon, and the Columbia River Gorge. The natural and social diversity of the state contributes to its beauty and resources, but adds complexity to its maintenance.

A variety of federal, state, and local environmental laws and regulations direct ODOT's actions involving the natural and built environment in constructing, operating, and maintaining the highway system. The following are some of the most significant that ODOT must implement:

General Process Regulations

- National Environmental Policy Act (NEPA) 1969 as amended
- FHWA Environmental Impact and Related Procedures, 23 CFR 771
- Section 4(f) of the Department of Transportation Act of 1966
- Occupational Safety and Health Act

Biology, Water Resources, Wetlands

- Federal Endangered Species Act - Oregon Endangered Species Act
- Federal Clean Water Act and the Oregon Water Quality Standards
- Section 404 of the Clean Water Act and Army Corps of Engineers Regulations and the Oregon Removal/Fill Law

- Location and Hydraulic Design of Encroachments on Floodplains
- Executive Memorandum on Landscaping Guidelines
- Wild and Scenic Rivers Acts (federal and state)

Cultural, Social, Land Use, Aesthetics

- National Historic Preservation Act of 1966
- Oregon Historic and Scenic Highways Act
- Oregon Land Use Program and Statewide Planning Goals
- Uniform Relocation Assistance and Real Property Acquisition Act
- Civil Rights Act (Title VI)
- Farmland Protection Policy Act
- Executive Order 12898 (Environmental Justice)

Noise, Air Quality, and Hazardous Material

- FHWA Noise Standard
- Federal Clean Air Act Amendments – State and Federal Conformity Rules
- Federal Comprehensive Environmental Response, Compensation and Liability Act
- Resource Conservation and Recovery Act

Note: More specific information about these laws and regulations is included in Appendix F.)

ODOT makes significant efforts to comply with environmental laws and regulations, but wants to broaden responsibility for the effects of its activities. The Environmental Resources Policy was developed to protect more than that required by law.

Policy 5A: Environmental Resources

It is the policy of the State of Oregon that the design, construction, operation, and maintenance of the state highway system should maintain or improve the natural and built environment including air quality, fish passage and habitat, wildlife habitat and migration routes, sensitive habitats (i.e. wetlands, designated critical habitat, etc.), vegetation, and water resources where affected by ODOT facilities.

Action 5A.1

Implement best management practices to minimize the effects of construction, operations, and maintenance impacts to the human and natural environment.

- Attain and maintain water quality standards through implementation of best management practices, or other actions as needed, to minimize to the maximum extent practicable the effects of construction, operations and maintenance impacts to the human and natural environment.

- Seek and budget money for these purposes as available, especially through federal transportation funding.

Action 5A.2

Attain and maintain air quality standards in highway-related plans, programs, projects and maintenance activities, and ensure that transportation commitments in air quality plans are implemented.

- Consult with federal, state and local government agencies to implement air quality transportation conformity regulations of the Clean Air Act, and take the lead role in regional transportation conformity determinations in rural non-attainment areas.

- Take the lead role in the statewide coordination of the Congestion Mitigation and Air Quality (CMAQ) program.

Action 5A.3

Partner with state and federal agencies, local governments, tribal governments and resource organizations to identify sensitive habitat areas with a high value that are affected by ODOT facilities. Incorporate design features that will avoid or minimize and, when this is not possible, mitigate impacts to sensitive habitats with a high value on all construction and maintenance activities.

Action 5A.4

Design, construct and maintain all stream crossings with anadromous fish in accordance with applicable Oregon Department of Fish and Wildlife standards and criteria for stream-road crossings.

Action 5A.5

Re-vegetate all cleared areas on construction projects, using plants and species based on expected survival, sustainability and compatibility with the surrounding biological and cultural environment. In areas dominated by a native plant environment, give priority to the use of native plants along roadsides.

This retrofitted culvert has increased water depth, lower water velocities and a concentrated flow that will form a jump pool for endangered salmon in King Creek on the Coos Bay – Roseburg Highway (Oregon 42)

Action 5A.6

Establish a credit/debit banking system for wetland mitigation and wildlife habitat enhancement. Provide advanced mitigation in high-priority areas where construction projects are known to be necessary in the future.

Action 5A.7

Establish an inventory system that identifies natural resources on unsold state lands that may be used for mitigation credit when damage to natural resources is unavoidable.

Action 5A.8

Establish resource management plans and guidelines that describe ODOT's maintenance actions for roads in natural resource areas, and map resource locations.

Action 5A.9

Support and implement integrated pest and vegetation management planning.

Action 5A.10

Identify and implement water- and energy-efficient construction and maintenance practices.

Action 5A.11

Participate in watershed and coordinating councils for planning and on-the-ground actions to enhance fish and wildlife habitat and improve migration.

Action 5A.12

Prevent hazardous substances encountered as a result of construction and maintenance activities from entering the human and natural environment.

Action 5A.13

Design highways with criteria that meet Federal Highway Administration Traffic Noise Standards.

Action 5A.14

Increase ODOT employees' knowledge of the effects of planning, design, development, construction and maintenance activities on environmental and scenic resources and of the legal requirements that govern these resources.

Action 5A.15

Promote and reward the integration of innovative environmental principles in planning, design, development, construction and maintenance activities to encourage ODOT employees to value environmental stewardship.

Action 5A.16

Partner with tribal governments, special districts, local governments, non-profit groups and the private sector to assist in implementing new design standards and environmentally sensitive technologies.

Action 5A.17

Identify environmentally sensitive areas and areas with significant scenic value in corridor plans as appropriate.

SCENIC RESOURCES

Background

The introduction to the Oregon Historic and Scenic Highway Program developed in 1985 is still true: "Oregonians have long recognized that preservation of the state's historic and scenic resources plays a vital role in the enhancement of the state's economic base, and in maintaining its citizens' pride in and respect for its historic and natural resources. Oregon's immense wealth of history and diverse scenery provide unlimited recreation potential for residents and visitors alike…" Even early efforts to develop a state transportation system foresaw the importance of preserving the state's scenic and historic values. Construction of the Columbia River Highway in the Columbia Gorge in the 1910s "focused on the need to construct a scenic highway that would complement the beauty of the area."

Since then, a number of state and federal efforts have directed ODOT to preserve or protect historic and scenic features of the state highway system. For example, the 1987 Oregon Legislature declared that it is the state's policy to "preserve and restore the continuity and historic integrity of the remaining segments of the Historic Columbia River Highway." This highway is included in the Columbia River Gorge National Scenic Area, and the Historic Columbia River Highway Master Plan guides its management. Federal, state and local policies and regulations also recognize the need to balance protection of scenic resources with economic development.

The Scenic Resources Policy is intended to guide project planning, development, construction and maintenance for state highways in a consistent manner with regard to scenic resources and aesthetics. This policy applies to all state highways, not only designated Scenic Byways.

Scenic resources, as addressed in this policy, include the combination of structural, historic, cultural, and natural features within highway rights-of-way. Where appropriate, ODOT may coordinate with other agencies and property owners to address scenic resources that lie beyond the rights-of-way. In addition to views from the highway, views of the highway from other areas should be considered, particularly on designated Scenic Byways.

Policy 5B: Scenic Resources

It is the policy of the State of Oregon that scenic resources management is an integral part of the process of creating and maintaining the state highway system. The State of Oregon will use best management practices to protect and enhance scenic resources in all phases of highway project planning, development, construction, and maintenance.

Action 5B.1

Coordinate scenic and cultural resources management with appropriate federal, state and local agencies, tribal governments and special interest groups.

Action 5B.2

Coordinate with federal and state agencies, tribal governments, local governments and property owners to encourage aesthetic considerations outside the state highway rights-of-way, such as land use controls for signs, urban design, rural development, utilities and vegetation.

Action 5B.3

Design transportation facilities that consider visual quality with functional requirements, including safety and other transportation needs.

Action 5B.4

Use best management practices to minimize impacts to scenic resources, and preserve and/or enhance visual quality within the state highway right-of-way when improving and maintaining the state highway system.

Action 5B.5

Identify criteria, and measure and evaluate scenic resources management performance on a regular basis.

Action 5B.6

Develop an inventory system that identifies scenic resources on unsold state lands that may be used for visual mitigation on designated Oregon Scenic Byways and Wild and Scenic Rivers adjacent to state highways.

Action 5B.7

Inventory and map historic resources within the state highway right-of-way including archaeological sites, trails, stone walls, buildings, bridges and other significant antiquities.

Action 5B.8

In project designs, include aesthetic elements that enhance the quality of system improvements. Examples of aesthetic elements include plantings and attractive finishes on poured concrete structures.

Goal 6: Tolling and Congestion Pricing[27]

Overview

Oregon's citizens have become accustomed to public funding of roads through use taxes such as fuel and vehicle fees; they generally understand how these funding mechanisms work, and have built their traveling behavior on the basis of this system. The Oregon financing structure is based on the relationship between beneficiaries and responsibility for funding the road system.

However, roads are perceived by many as a "public good"; that is, roads are accessible to any citizen at any time and the cost of developing, operating and maintaining the system is borne by the population as a whole. Also, everyone benefits from some level of use; even if one does not drive, drives very little, or uses public transportation, they still benefit from a road system being in place as the goods and services that they have access to are delivered via a roadway system.

In Oregon, tolling has been limited to a few Columbia River bridges. The rationale for tolling bridges has been that they are extraordinarily expensive, vehicles have limited travel alternatives, tolls can be collected at one location and those that use the bridge pay for their use.

Highway tolling has two key attributes: 1) it can affect motorist behavior- drivers react to even small changes in price; and 2) tolls generate revenue which may not be obtainable by other means. Around the world, and in the United States, tolling is seeing a resurgence. There are two main drivers: 1) bridges and highways are increasingly expensive to build with limited public appetite for tax increases; and 2) modern electronic tolling technology allows creative new tolling applications that not only raise money, but potentially enhance transportation system performance by altering motorist behavior and, thereby, better managing congestion. Commensurate with this renewed interest, the Oregon Department of Transportation (ODOT) has undertaken a variety of tolling and congestion pricing studies supportive of the policies and strategies below.

The rapid and continuing improvement in tolling and in-vehicle navigation technology also has resulted in making the consideration of tolling in many cases more complex. First, there are a variety of policy objectives beyond the traditional financing of construction of a new road or bridge. Tolling can now be used to relieve congestion, improve the environment or enhance economic development. In fact, the number of possible objectives can be quite large, and in some cases, but not all, can be mutually reinforcing. Second, the number of different ways tolls can be applied also has expanded considerably. In addition to the new road or bridge, individual lanes, new or existing, can be priced in various ways to encourage different behavior. Time-of-day (congestion) pricing can be applied to certain portions of an urban area or to select parts of the highway system. Finally, it is not always possible to separate tolling applied to

[27] Goal 6: Tolling and Congestion Pricing and Policies 6.A – 6.E were adopted in July 2012, Amendment 12-21.

new capacity, new facilities, and existing capacity. For instance, there may be situations where existing capacity will need to be tolled to help pay for new capacity in the same corridor, or situations where new facilities provide additional capacity while concurrently replacing existing capacity.

The degree of flexibility with the use of toll revenue in Oregon is statutorily limited to tollway projects, tollways, and related facilities. “Related facility” is narrowly defined and generally limits the use of revenues to investments to the operation and use of the tollway itself. This implies that improvements to parallel facilities affected by diversion from tolled facilities may not be funded with toll revenues.

The number of possible combinations of policy objectives and tolling applications raises the question of whether, or how well, particular applications can achieve particular objectives. The effectiveness of applications to objectives varies considerably, requiring each combination to be considered in and of itself. Further, for every tolling application there will be winners and losers. The winners may consider the toll a bargain, or at least feel indifferent between paying the toll and saving time. Those made worse off, either directly or indirectly, are likely to view tolling as an expensive or less affordable alternative to new capacity funded through higher fuel use and vehicle taxes or fees. Even those that benefit may question tolling as the most appropriate solution.

The indeterminate outcome of any application coupled with Oregon’s limited experience with tolling, implies that any proposed use of tolling of the state highway system should be preceded by a thorough analysis of likely effects and public acceptance. Oregon Revised Statutes, Chapter 383 grants the Oregon Transportation Commission authority over toll rates and over tolling state highways. Additionally, interstate bridge authority is granted to ODOT by Chapter 381. Therefore, the role of the Oregon Transportation Commission is to provide policy guidance for developing, evaluating and implementing tollway projects in Oregon in a manner consistent with Oregon statutes as well as existing Commission policies and the *Oregon Transportation Plan*.

Policy 6.A: New Toll Facilities

Background

Most new highway capacity in the United States is not currently financed with toll revenues. Many projects are not suited to tolling due to low traffic volumes, traffic diversion impacts or inadequate revenue generation. As one example, Truck–only toll lanes (TOT lanes) have little utility in Oregon because the state already allows longer combination vehicles; hence the ability to improve productivity is limited. In addition, limited urban right-of-way, high construction costs, environmental concerns and insufficient demand appear to limit utility for TOT lanes even in urban areas.

Other projects seem well suited to toll financing, and nationally the number of toll

roads has increased significantly in recent years. Each project will have its own unique circumstances. National experience shows that the National Environmental Policy Act (NEPA) process, combined with required financial analysis, adequately demonstrates the societal effects of new toll facilities. The additional analysis needed for considering the impacts of tolling existing capacity, for which there is almost no experience nationally, is not required for new toll facilities.

ODOT has well-established procedures within the Statewide Transportation Improvement Program (STIP) process for developing and funding projects. The Oregon Transportation Commission has managed this process in a manner intended to provide public assurance that once a project is undertaken, it will move forward in an appropriate way. In Oregon, low traffic volumes indicate few, if any, projects can be funded solely with toll receipts so this introduces the issue of how ODOT should financially manage projects that have the potential to be partially funded with toll receipts.

Policy

It is the policy of the State of Oregon to consider the use of tolling for financing the construction, operations and maintenance of new roads, bridges or dedicated lanes only if expected toll receipts will pay for an acceptable portion of project costs.

Action 6.A.1

Tolling projects providing new capacity need to be in compliance with other State policies and be under consideration for inclusion as tollways in relevant local and regional land use and transportation plans.

Action 6.A.2

ODOT will only consider those toll projects ranked "medium to high" under tolling parameters considered by ODOT.[28]

Action 6.A.3

Toll projects requesting statewide funds to supplement toll receipts must prepare and submit to ODOT a formal financing plan that includes debt service, operational, maintenance, and preservation expenses.[29]

Action 6.A.4

Proposed "premium service" high occupancy/toll (HOT) lanes must be expressly

[28] Currently see, Table 4 in Tolling White Paper #2 – Geographic and Situational Limits (February 2009). http://www.oregon.gov/ODOT/TD/TP/docs/Tolling/WhitePaper2.pdf.

[29] This is a separate requirement from the Federal requirement to have an annual financial plan for projects of over $100 million.

compared to high occupancy vehicle (HOV) lane(s) and "multi-class," general purpose alternatives to ensure the overall best use of the limited additional capacity.[30]

Action 6.A.5

The equity of any tolling or pricing proposal for new facilities will be examined by ODOT and will comply with federal and state statutes, rules and guidance.

Policy 6.B: Pricing Existing Capacity

Background

Applying tolls to existing roadways is likely to be viewed differently by the public than using tolls to finance new capacity. Our current financing system essentially treats roadways as "public goods." Congested roadways, however, do not meet the classic definition of a public good as one person's use can preclude or significantly limit the use by others at the same time. In addition, under many circumstances it may be possible to charge for the use of roadways. This reality, experienced in many urban areas, has driven the renewed interest in congestion pricing of existing roadways.

Several problems have been seen to impede the application of time-of-day tolls, despite the efficiency benefits cited in economic theory. The public seems to prefer the existing approach, with the notable exception of pricing existing HOV lanes which has seen considerable success in a number of locales. A few major cities (London, Singapore, Stockholm) have successfully priced access to their cores. Most cities, however, have not opted to do the same. The reasons for this are varied and not well documented by existing research. Therefore, consideration of road pricing in Oregon cities will warrant careful study of the economic, social, energy and environmental effects - positive and negative -, consistency with other statutes and policies, and public reaction.

Policy

It is the policy of the State of Oregon to consider the use of tolls, including time-of-day pricing, on existing, non-tolled state highways consistent with other Oregon Transportation Commission policies, state law, and federal statutes and planning regulations.

Action 6.B.1

A project that tolls the existing capacity of a previously non-tolled state highway must be under consideration for inclusion in relevant local and regional land use and transportation plans.

[30] Currently see, Benefit-Cost Assessment Guidance for Evaluating Proposed Highway Tolling and Pricing Options for Oregon (March 2010) http://www.oregon.gov/ODOT/TD/TP/docs/Tolling/Benefit.pdf.

Action 6.B.2

The proposer of any tolling or pricing project is required to have a clear statement of public policy objectives against which the effectiveness of the proposal can be measured.

Action 6.B.3

The proposer of any tolling or pricing project is required to compare the proposal to a non-tolled alternative to ensure the effects of introducing tolls can be clearly demonstrated.

Action 6.B.4

The economic, social and environmental effects of any proposed tolling or pricing project will be analyzed by ODOT according to analytical procedures adopted by ODOT.[31]

Action 6.B.5

The equity of any tolling or pricing proposal, particularly upon the transportation disadvantaged, will be examined by ODOT and will comply with federal and state statutes, rules and guidance.

Policy 6.C: Consistent and Supportive Policy Objectives

Background

Roadway tolls may be levied for a variety of public policy objectives. The relative importance or degree of public acceptance of these objectives may vary in different locales and parts of the state. Similarly, a pricing program for a given purpose in one locale inadvertently may have undue negative effects on other parts of the region or state.

In addition, some potential policy objectives require tolls so high that facility throughput is reduced.

It is unclear which policy objectives will be deemed the most important in future tolling or pricing proposals. It is clear, however, that attention may have to be given to the need for a degree of statewide consistency in policy objectives advanced through pricing proposals, as per Goal 7 of the Oregon Transportation Plan.

[31] Currently see, Economic Assessment of Tolling Schemes for Congestion Reduction (March 2010) http://www.oregon.gov/ODOT/TD/TP/docs/Tolling/Economic.pdf and Benefit-Cost Assessment Guidance for Evaluating Proposed Highway Tolling and Pricing Options for Oregon (March 2010) http://www.oregon.gov/ODOT/TD/TP/docs/Tolling/Benefit.pdf.

Policy

It is the policy of the State of Oregon to ensure motorists and its citizens have clear, consistent and coordinated objectives for any future highway tolling or pricing proposals, reflective of primary public concerns with the performance of the state highway system.

Action 6.C.1

Project proposers will review and document that their roadway tolling or pricing proposals are consistent with other tolling and congestion pricing policies, state and federal statutes and policies, and other tollway projects within the state.

Action 6.C.2

ODOT will analyze the likely transportation, economic, social, energy and environmental effects of any tolling or pricing project on parts of the region or state outside of the project area.

Action 6.C.3

ODOT will analyze the expected change, if implemented, in vehicle throughput due to any tolling or pricing proposal.

Action 6.C.4

ODOT region staff and local government agencies shall work together to evaluate public understanding of and support for the principal objectives for road tolling and pricing applications, as compared to allocating resources to other alternatives which may address the purpose and need.

Policy 6.D: Toll Revenues

Background

The appropriate use of toll generated revenues may be dependent upon a number of factors. These include: a) the type of tolling application under consideration; b) the objective(s) for the application; c) the geographic scope of the application; d) public attitudes on transportation system needs; and e) how best to off-set any negative effects of levying tolls. The most appropriate use of toll revenues for any given application may be constrained by federal and state statutes or procedures.

Policy

The effectiveness, equity and overall utility of tolling projects can be affected by how net toll receipts are used. Multiple approaches to using revenue may need to be considered. It is the policy of the State of Oregon to treat the use of toll-generated revenue as an important component in evaluating any tolling proposal.

Action 6.D.1

For any proposed tolling or pricing project on a state highway, the project proposer will consider the allowable range of potential uses for toll generated revenue, conditional upon the policy objective for the application; and ODOT will incorporate the resultant investments into the economic, social, energy and environmental analysis undertaken for the proposed project.

Action 6.D.2

ODOT region staff and local government agencies shall work together to assess public attitudes toward proposed toll revenue usage for any tolling or pricing project on a state highway as a means of meeting public needs.

Policy 6.E: Tolling Technology and Systems

Background

The trend in the United States is for state-owned tolling systems to offer electronic toll collection in addition to toll booth cash collection. In contrast, modern toll facilities in other parts of the world now operate as all-electronic systems with no cash payment option at entry to the facilities. Potential toll payers without transponders or bank accounts, or who seek privacy, have options for electronic payment derived from cash payment at another location. Typically, a motorist can obtain a day pass at roadside kiosks or retail stores.

Most state-owned toll facilities in the United States that allow electronic toll collections operate as closed proprietary systems that are not interoperable with each other. As a result, state-owned toll facilities become bound to one provider and limited to the capabilities of that provider. Motorists using toll facilities in multiple states may require more than one transponder for compliance. An alternative is to develop an integrated system based on common standards and an operating sub-system accessible by the marketplace where components performing the same function can be readily substituted or provided by multiple providers.

Policy

When tolling state highways, it is the policy of the state of Oregon to implement tolling systems that:

(1) Enable cash-based motorists ready access to all-electronic toll facilities while eliminating the need for cash payment at the point of entry;

(2) Deploy technology that facilitates interoperability with tolling systems of neighboring states and allows evolution of fully functional, non-proprietary tolling systems.

Action 6.E.1

For any proposed tolling or pricing project on a state highway, ODOT shall develop tolling systems that rely on all-electronic collection mechanisms, and enable at least one manner of toll collection that allows a readily accessible electronic payment method for cash customers.

Action 6.E.2

For any proposed tolling or pricing project on a state highway, ODOT will develop and utilize tolling technologies and systems that are based on common standards and an operating sub-system accessible by the marketplace where components performing the same function can be readily substituted or provided by multiple providers to the extent possible while compatible with tolling systems in the State of Washington.

1999 Oregon Highway Plan

System Element

System Element

State Highway Needs Analysis

Oregon's ability to implement highway programs in the future is grounded in the current condition of state highways, projected future use of the system and projected transportation revenues. The "Description of the Highway System" section beginning on page 33 discusses future trends. This section summarizes current conditions, the highway needs analysis, and user costs.

Current Infrastructure Condition

ODOT evaluates the condition of the state highway system's pavements on an annual basis using a visual assessment scale ranging from "very poor" to "very good." According to ODOT's 1997 Pavement Condition Report, 77 percent of state highway mileage is in "fair or better condition" (Figure 12), down 1 percent from 1996 (Figure 13).

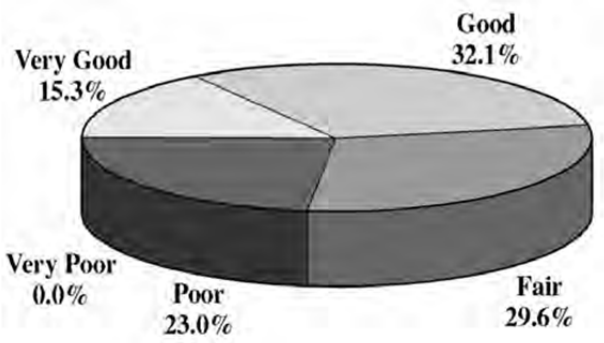


Figure 12: Overall state highway pavement condition, 1997

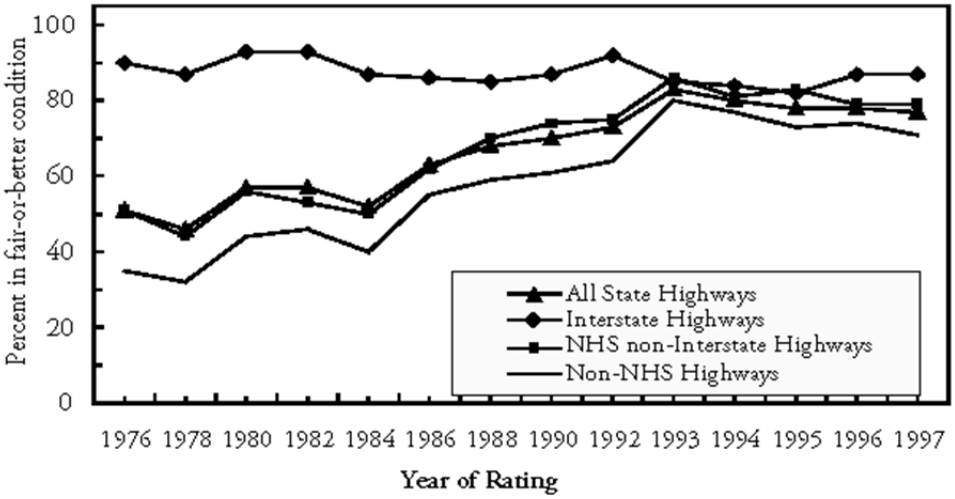


Figure 13: History of state highway pavement conditions

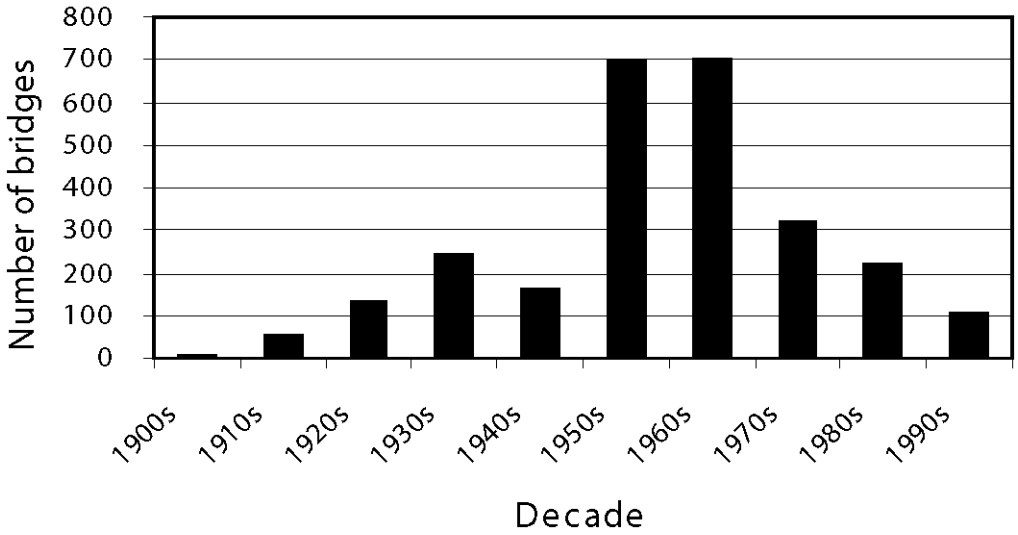
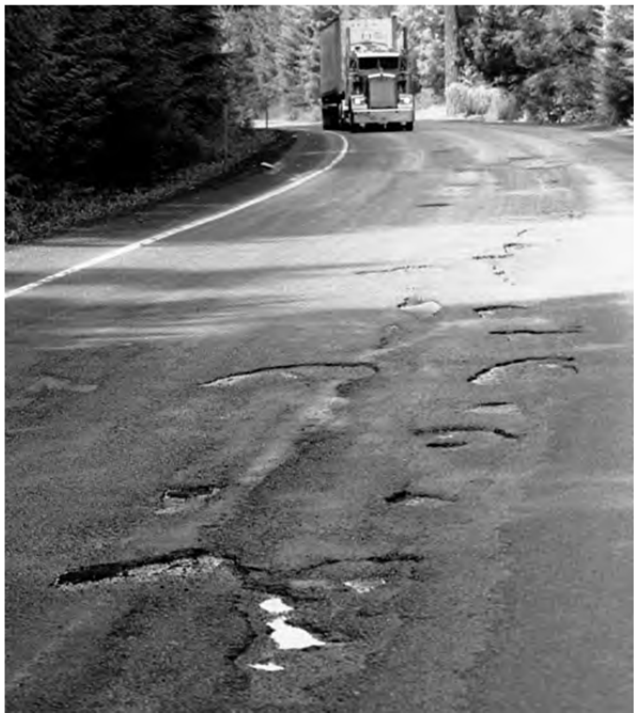


Figure 14: Original construction year of ODOT bridges

There are 2,551 bridges on the state highway system, about 38 percent of the bridges in the state. About 95 percent of ODOT bridges are either steel or concrete, and 5 percent are timber. By the year 2000, 76 percent of Oregon's state-owned bridges will be more than 30 years old, and 23 percent will be more than 50 years old (Figure 14).

ODOT's goal is to maintain highway infrastructure in good condition. Not only does this provide the safest, smoothest ride for the public, but it is also the most cost-effective way to do business in the long run. This is because deterioration and repair costs accelerate rapidly over time (Figure 15, page 143). On average, for every dollar spent treating pavement in "fair or better" condition, four dollars are required to repair that same pavement once it has reached "poor" condition.



Oregon 58, a major freight route, east of Oakridge shows the signs of surface damage caused by harsh winter weather

For this reason, ODOT has established a goal of having 90 percent of state highway pavements in "fair or better" condition. If this goal is to be reached by the year 2010, the average amount of paving

completed each year will need to be increased from 550 miles (880 kilometers) to approximately 630 miles (1,010 kilometers). However, recent budgets have not even allowed ODOT to maintain pavement conditions.

Over the 20-year planning period of the Highway Plan, the state would need to perform 1,553 major bridge replacement and rehabilitation projects to keep state owned bridges at current conditions. This includes work to repair seismic and load deficiencies; strengthen bridge footings; repair decks, railings, mechanical and electrical systems; and perform corrosion and painting projects.

As traffic volumes increase because of population increases, state highways reach capacity during all or part of the day, affecting safety, livability and economic activity. Based on projected traffic volumes, ODOT has identified highway segments that need added lanes, new alignments, bypasses and other major improvements. Some of these are needs and projects identified through corridor plans and/or regional and local transportation system plans. Without these projects, traffic speeds and movements, especially in metropolitan areas, will dramatically decrease over the next 20 years.

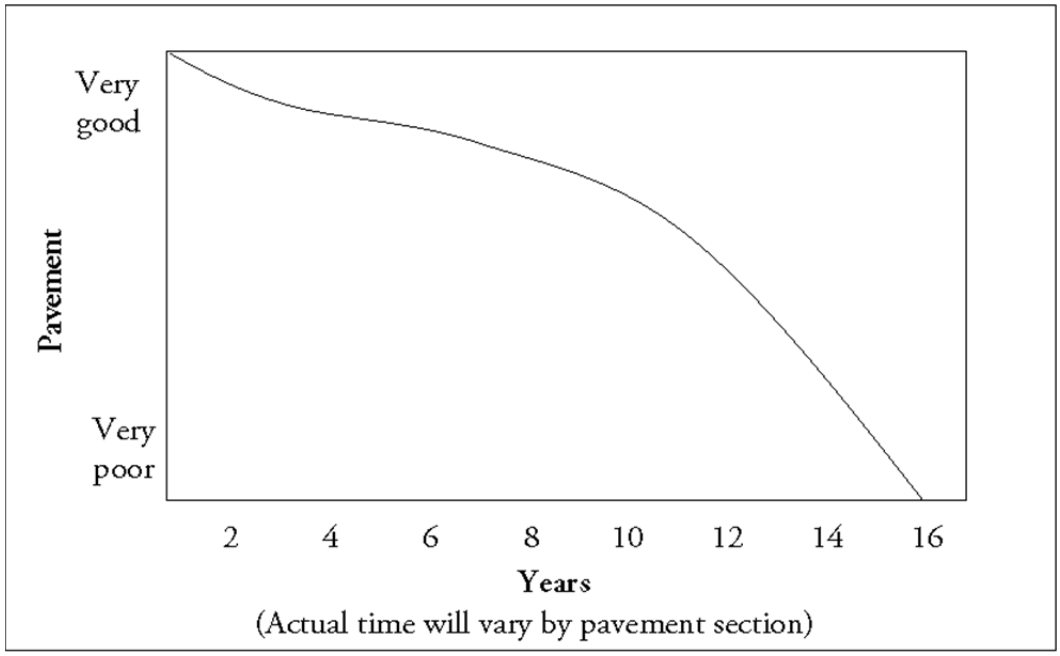


Figure 15: Typical pavement deterioration pattern

ODOT's goal is also to make the system efficient and safe. Replacing traffic signs and guardrails, interconnecting traffic signals and using intelligent transportation systems are means for achieving this goal. The needs analysis presents more details on these projects and associated costs.

20-Year Needs Summary

Funding needs for the state highway system reflect infrastructure condition and deterioration, traffic volumes and congestion, safety programs, management, operation and maintenance of the system, and related planning, administrative and support services as well as the policies in this plan.

Since the Highway Plan only addresses ODOT's highway programs, many important ODOT departments and programs are not covered by this needs analysis and revenue projection, including Driver and Motor Vehicle Services, Motor Carrier Transportation, Public Transit, Rail and Aeronautics.

The Highway Plan breaks ODOT's highway responsibility into eleven major programs and categories: modernization, preservation, bridge, maintenance, operations, safety, special programs, construction support, planning, administration and central services.

Policies in this Plan may affect the funding needs of these programs. The Land Use/ Transportation Policy and Off-System Improvements Policy suggest that funds are needed to assist local governments in making improvements in Special Transportation Areas and on off-system arterials and collectors that benefit movement on the state highway system. Funding for improvements in Special Transportation Areas needs to be identified. The costs of off-system improvements should be offset by reductions in the modernization needs. The freight-related policies call for thicker pavements on designated freight routes and improvements to obstacles to freight movements. The needs analysis for preservation includes funding for thicker pavements. The modernization needs analysis includes geometric improvements to rights-of-way that impede truck movements. The Scenic Byways Policy calls for enhancing designated Scenic Byways. The needs analysis includes some funding for improvements, but relies on federal grants for the majority of the funding. No specific funding for Scenic Byways is included in the maintenance program needs. The Major Improvements Policy should reduce modernization needs since the policy requires examination and implementation of less costly alternatives before a major improvement is constructed.

Funding for the Intelligent Transportation System, Traffic Safety, and Rail and Highway Compatibility Policies are included in the needs analysis. Some funding to buy access is included under the safety program, but more is needed to fully implement the access management program. Most of the funding for the Travel Alternatives and Environmental Policies are also included in the analysis although additional funding, largely for maintenance, may be needed to carry out the Scenic Resources Policy. Funding for HOV lanes should come from the modernization and/or operations programs, but needs for HOV lanes have not been identified. The needs created by these policies mean that the needs analysis underestimates the total highway needs.

The following list contains a general description of each program or category, some examples of typical projects and costs in that category and a summary of 20-year program needs. More detailed program definitions are presented in Appendix B. For

each highway program, needs estimates are presented for both average yearly and total 20-year investment. The costs were calculated in 1997 dollars. However, the effects of inflation must be considered in order to present a true picture of future buying power. Although inflation is currently quite low – 2.3 percent in 1997 – the State projects that it will increase gradually over the 20-year period, reaching 3.9 percent by 2017. The Highway Plan uses the State of Oregon forecast which projects an average annual inflation rate of 3.3 percent for the 20-year period from 1998 to 2017.

Inflation means that buying power decreases over time unless more dollars are spent. For example, an annual inflation of 3.3 percent means that a program that spent $100,000 in 1997 would have to spend $103,300 in 1998 to achieve the same results. Inflation takes on particular importance over the 20-year Highway Plan period: a program that required $100,000 in 1997 would require $190,635 in 2017 with the average 3.3 percent inflation rate used in this plan. That is, if expenditures were not adjusted for inflation, a program would only have 52 percent of its original buying power after 20 years of 3.3 percent inflation.

The annual needs presented are averages. In some cases, programs require higher investments now and lower investments in the future. As discussed above, this is often the most cost-effective way to maintain highway infrastructure: Higher investments in the short term result in savings over the long term.

1. **Modernization.** The primary goal of modernization projects is to add capacity to the highway system in order to facilitate existing traffic and/or accommodate projected traffic growth. Modernization means capacity-adding projects including HOV lanes and off-system improvements. Projects in this category include major widening of lanes or bridges, and the addition of lanes, rest areas or entire facilities.

   The cost of modernization projects can vary greatly because there are several different types of projects in this category. However, recent modernization projects and their costs in 1997 dollars provide some examples:

   - Widening and reconstruction of 3 miles of Highway 62 north of Medford: $8 million.
   - Construction of 4.2 miles of new highway on Route 20 west of Corvallis: $20 million.
   - Construction of the Chenoweth interchange on Interstate 84 at The Dalles: $10 million.
   - Typical left turn lane: $150,000.
   - Typical passing lane (one direction): $650,000.

   Modernization needs were calculated by combining current traffic conditions with projections of future highway demand in a computer model. ODOT staff checked

the results of the modeling for feasibility and added projects that had been identified in corridor plans and local transportation system plans. The result is an estimate of feasible needs on the state highway system that would allow the state to meet current design standards and minimum tolerable conditions.

2. **Preservation.** The preservation program includes rehabilitative work on roadways and improvements to rebuild or extend the service life of existing facilities. Preservation projects, such as paving, striping and reconstruction, add useful life to a road without increasing its capacity.

   Paving costs alone for a two-lane roadway are typically from $100,000 to $200,000 per mile. However, preservation costs can vary greatly depending on the type of treatment required, existing traffic flow and patterns, and the cost of other features (such as safety guardrails) that are included in the total project. The average cost of preservation projects in the 1998-2001 Statewide Transportation Improvement Program was $220,000 per mile. Recent preservation projects provide examples of this variation:

   - Five miles on the northbound lanes of Interstate 5 near Albany: $388,000 per mile.
   - 21 miles on the Ukiah-Hilgard Highway near the Union County line: $55,000 per mile.
   - Three miles on the Oregon Coast Highway in Newport: $900,000 per mile.
   - 11 miles on Highway 97 beginning at the California border: $159,000 per mile.

   Preservation needs were estimated by determining the cost of getting 90 percent of state highway pavement to be in “fair or better” condition by the year 2010 and keeping it at this level until 2017. In 1997, statewide pavement condition was 77 percent fair or better. The Pavement Management System was used to determine the required investment. Current funding levels will lead to a decline in pavement conditions.

3. **Bridge.** Bridge projects include improvements or work needed to rebuild or extend the service life of existing bridge structures. These projects include bridge reconstruction or replacement, painting, seismic retrofitting to mitigate the effects of earthquakes, and overpass screening as well as major work on tunnels and large culverts.

   Bridge projects vary greatly in expense according to the type of work required, the location, and the type of bridge being considered. Projects identified in the bridge needs analysis provide examples of costs:

   - Rehabilitation of the Willamette River Bridge on Interstate 205 in West Linn to allow it to perform vital functions after a moderate earthquake: $8 million.

- Cleaning and repainting of the 3,500-foot long northbound Interstate Bridge over the Columbia River in Portland: $23 million. Costs are high due to the bridge's size and the environmental and lead-abatement requirements of the project.

- Replacement of the Kahler Creek Bridge on the John Day Highway in Wheeler County: $400,000.

- Replacement of rails on the Gales Creek Bridge in rural Washington County: $73,000.

Bridge needs were calculated from existing inventories and inspection databases. Only the most critical third of the identified seismic retrofit needs were included in the needs analysis. At the current level of funding, bridges are declining in condition and value.

4. **Maintenance.** Maintenance covers many areas relating to the appearance and functionality of the highway system, including surface repairs, drainage work, minor structural work, maintenance of signs, signals, lighting, rest areas, and snow and ice removal.

   Maintenance needs were estimated on the basis of current expenditures by assuming that maintenance practices will continue as they are today. Facility conditions under current funding levels are declining. Any additional facilities or infrastructure will require additional funding.

5. **Operations.** Operations investments increase the efficiency of the highway system, leading to safer traffic operations and greater system reliability. Operations programs include interconnected traffic signal systems, new traffic signals, ramp meters, signs, other control devices, Intelligent Transportation System features, transportation demand management, and rock fall and slide repairs.

   Typical costs for the operations program include the following:

   - Replacement of a typical traffic signal: $150,000.

   - Replacement of an electronic variable message sign: $200,000.

   - Replacement or rehabilitation of a typical sign on an Interstate Highway: $5,000.

   - Placement of ramp meters: $100,000.

   Operations needs were based on staff estimates of individual program costs.

6. **Safety.** The safety program focuses on investments which address priority hazardous highway locations and corridors in order to reduce the number of fatal

and serious injury crashes. Projects funded through this program meet strict benefit/cost criteria. Safety projects may include access management features, guardrails, illumination, signing, rumble strips and railroad crossing improvements.

Safety needs were based on current and projected costs for each activity.

7. **Special programs.** Special programs meet special needs or mandates. Included in this category are the Transportation and Growth Management Program, ODOT's share of the Oregon Plan for Salmon and Watersheds, Scenic Byways, the Immediate Opportunity Fund and the Bicycle /Pedestrian Program.

   The salmon recovery program and the Immediate Opportunity Fund make up the bulk of the needs in this category. ODOT will retrofit culverts to improve fish passage as part of the salmon recovery program. While these projects may vary greatly in cost, an average culvert retrofit is expected to cost approximately $150,000.

   Special program needs were calculated from individual program estimates.

8. **Construction support.** This category includes project reconnaissance, staff training and personnel that directly support development of projects. The needs estimate was based on a percentage of construction and preservation related costs.

9. **Planning.** ODOT planning activities include policy development, modal and corridor planning, review of local comprehensive plans and transportation system plans, transportation analysis and accident data. Planning funds are also given to metropolitan planning organization s and local governments to support their planning activities.

   Planning needs were based on current funding and assume a decrease in corridor planning and an increase in state involvement with local plans.

10. **Administration.** Administration involves costs for management related to highway planning, operations, projects, preservation and maintenance.

11. **Central services assessment.** Central services include central administration, communications, finance, human resources/organizational development, information services and business services. The needs estimate was based on an assessment of 6 percent of program costs for these services.

SUMMARY OF FEASIBLE NEEDS				
PROGRAM	Average annual investment assuming no inflation (millions)	20-year total investment assuming no inflation (millions)	Average annual investment assuming 3.3% inflation (millions)	20-year total investment assuming 3.3% inflation (millions)
Modernization	$339	$6,785	$471	$9,428
Preservation	$172	$3,436	$239	$4,774
Maintenance	$159	$3,180	$221	$4,419
Bridge	$133	$2,664	$185	$3,702
Safety	$35	$694	$48	$964
Operations	$29	$576	$40	$801
Special Programs	$29	$581	$40	$807
Construction Support	$67	$1,339	$93	$1,861
Planning	$30	$590	$41	$820
Administration	$8	$160	$11	$222
Central Services Assessment	$48	$950	$66	$1,321
TOTAL	$1,048	$20,955	$1,456	$29,119

Table 8: Summary of feasible needs

User Costs

In addition to state costs for modernization, preservation and other highway needs, there are significant costs experienced by every user of the system. For example, roads in poor condition put extra wear and tear on private and commercial vehicles, meaning that the public spends more money on vehicle maintenance and replacement. Travel speed decreases as a result of both poorer roadway conditions and increased congestion. Declining travel speed results in increased costs to private and commercial travelers. As congestion reaches very high levels, or roadway condition deteriorates to very low levels, safety is also adversely affected, and the public bears additional costs in the form of accident-related losses. These kinds of costs are called “user costs” since they are paid “out of pocket” by highway users.

Currently, Oregon highway users incur an estimated $16 billion per year in highway user costs. This is over 30 times as much as the current annual expenditure by ODOT on all highway programs and administration. User costs will go up in the future due to projected increases in vehicle miles of travel and the resulting impact on highway conditions and congestion. ODOT programs can impact only a portion of future user costs. Whatever ODOT can do to minimize future user costs, however, will return dollars into the Oregon economy in the form of reduced user costs which can then be invested elsewhere.

The Oregon Highway Plan evaluates the return on investment or benefit/cost ratio of its programs. Since the State is concerned about all Oregon residents and industries and about Oregon's livability and economy, ODOT's concern is with overall benefits of its investments, not with whether state government captures those benefits. User costs and user benefits are of primary concern in this approach to evaluation of investment in the highway system.

Forecasts of vehicle miles of travel (VMT) indicate that VMT will increase by over 40 percent on the state highway system by 2017. This is consistent with forecasts of VMT growth by Metro for the Portland region and by ODOT for all highway travel in the state. VMT growth has direct implications for highway mobility and user costs. If nothing is done to improve currently high volume highway segments and VMT grows substantially, highway mobility will decrease, travel times will increase, and user costs will increase for each user as well as for users altogether.

Impact of Various Funding on User Costs

ODOT has estimated the impacts of various scenarios on user costs for selected categories of investments which are highly correlated with user costs. The Oregon Highway Economic Requirements System (OR HERS) was used to make estimates of user cost impacts of alternative levels of funding for modernization and preservation. ODOT has made parallel estimates of the user cost impacts of operations and safety improvements. ODOT estimated bridge investment impacts not as user costs impacts, but rather as a related "value" of bridges in service by year. No formal estimates of user cost impacts were made for maintenance or special categories.

User cost impacts were estimated as accurately as possible for higher and lower investments in each category. The OR HERS model calculated that the user benefits in the 20th year of the Oregon Highway Plan would be $310 million greater each year for an additional $10 million per year invested in preservation, and about $260 million per year greater in the 20th year for an additional $10 million per year spent on modernization. These marginal benefits in comparison to marginal costs are much higher than could be achieved with any other private or public investment of the $10 million per year increment.

Similar returns on investment accrue from safety and operations improvements. Returns over 20 years from safety investments are estimated at over 20 to 1 in terms of ultimate dollars saved due to fewer fatalities and injuries.

These very high returns from added investments in each category provide assurance that added money over and above today's resources can be wisely spent, but provide little guidance about priorities among categories. The priorities among categories have to be set by first taking care of existing system deficiencies and then by investing in successively higher levels where the dollars have good payoff. Continuing to invest in any one category will result in decreasing returns to scale. Therefore, once critical needs are met in a category, additional resources may go to other categories with a larger backlog of needs. This is the basis for the investment scenarios.

Investment Policies and Scenarios

To meet the state highway system needs, ODOT has developed policies and scenarios to use in planning and prioritizing programs at a range of potential funding levels– from no increases in current state fees supporting the highway system up to a level of funding that can support those highway needs which are feasible to implement.

As funding increases or decreases, various program categories are not increased or decreased proportionately. Difficult choices are necessary under constrained funding. None of the choices yield wholly satisfactory outcomes. However, when the State is not able to fully fund feasible and desirable needs, the goal should be to minimize the short and long term harm to Oregon's economy and livability which will occur when funding levels are inadequate.

At the lowest funding levels, the emphasis is on doing as much as possible to operate the highway system safely and efficiently and to preserve what already is in place, although conditions are likely to continue to deteriorate under such a strategy. Trying to build a larger system of highways (or of other modes) would be counterproductive under very low funding levels because new or expanded portions of the system would not be sustainable.

With higher than minimum funding, infrastructure conditions can be stabilized or improved, and attention and resources can begin to be devoted to a wider range of goals. All analyses have shown that conditions and system performance improve rapidly as more resources above the current levels are added for any of the program categories. The plan has not examined levels of investment which are so high that conditions and performance could not be improved further in a cost effective manner.

To operate the highway system as efficiently as possible with limited abilities to expand the infrastructure, the plan's investment policies emphasize capacity-adding programs that are not as costly as traditional modernization projects. These include interconnected traffic signal systems and other operational changes, Intelligent Transportation System technologies, access management, off-system improvements, and High-Occupancy Vehicle lanes.

Safety is an element in all the major programs. For example, new extended freeway ramps in the modernization program can ensure that traffic does not extend from an off-ramp of an interchange onto the freeway. The preservation program overlays rutted pavement that may cause drivers to lose control. The operations program installs traffic signals at dangerous intersections. The maintenance program fills potholes and replaces signs and illumination devices. The safety program addresses problems in priority hazardous locations and corridors; the solutions involve better operations or maintenance or traffic enforcement or other changes.

The Highway Plan recognizes that it is critical to maintain alternate modes in order to limit or reduce demand on the highway system in congested areas. At the lowest

funding levels, if highway conditions can only be maintained at status quo, it is in the State's interest to maintain at least status quo conditions for alternate modes.

Investment Policy and Priorities

It is the policy of the State of Oregon to place the highest priority for making investments in the state highway system on safety and managing and preserving the physical infrastructure.

ODOT's funding priorities will change according to changes in available revenues. The following scenarios establish funding priorities for highway-related plans and programs at four general funding levels; the first applies at the 1998 funding level. With increases in funding ODOT will progress toward the fourth funding scenario.

1. With funding that does not increase with inflation and subject to statutory requirements and regional equity, address critical safety issues, and manage and preserve existing infrastructure at 77 percent fair or better before adding capacity, as explained below:

    - Focus safety expenditures where the greatest number of people are being killed or seriously injured.

    - Fund modernization only to meet statutory requirements.

    - Preserve pavement conditions at 77 percent fair or better on all roads except for certain Regional and District Highways.

    - Do critical bridge rehabilitation and replace bridges only when rehabilitation is not feasible.

    - Fund operations to maintain existing facilities and services and extend the capacity of the system.

2. Invest to improve infrastructure conditions and to add new facilities or capacity to address critical safety problems, critical levels of congestion, and/or desirable economic development.

    - Address the highest priority modernization projects.

    - Move toward pavement conditions of an average 78 percent fair or better on all state highways.

    - Maintain the Bridge Value Index (percentage of total replacement value) at 86 percent.

3. When critical infrastructure preservation, safety and congestion needs are met, pursue a balanced program of additional high priority modernization projects and preservation of infrastructure.

- Move toward modernization funding to meet 55 percent of feasible needs.
- Bring pavement conditions up to an average 84 percent fair or better level on all state highways.
- Maintain bridge conditions at 87 percent of total replacement value and address the critical 1/3 of seismic retrofit needs.

4. With significant funding increases, develop feasible modernization projects, address long-term bridge needs and upgrade pavements to a more cost effective condition.

   - Move toward modernization funding to meet 100 percent of feasible needs.
   - Bring pavement conditions up to an average 90 percent fair or better level on all state highways.
   - Begin to replace 850 aging bridges and increase the Bridge Value Index (percentage of total replacement value) to 91 percent.

Funding for specific programs will follow these priorities:

Modernization

- Give priority to modernization projects that improve livability and/or address critical safety problems and high levels of congestion.

Preservation

- Give priority to Interstate pavement condition.
- Maintain Statewide Highways at a higher condition than Regional and District Highways, and invest in thicker pavement on designated freight routes.
- Preserve other highways at lower pavement conditions according to their classification. Preserve District Highways at 60 percent fair or better or higher.
- With no increase in state funding, consider the option of a “maintain only” policy for certain Regional/District Highways.
- With increased funding, increase pavement condition level toward an optimal level.
- With significantly increased funding, maintain pavement conditions at an optimal level of fair or better (90 percent fair or better).

Bridge

- At declining funding due to inflation, do critical bridge rehabilitation and replace critical bridges when rehabilitation is not feasible. Do seismic retrofit projects only

to maintain the functionality of major river crossings on Interstate 5 and Interstate 84.

- At increased funding, preserve bridge value at the present state, but ignore most seismic retrofit needs.
- With more funding, maintain the Bridge Value Index (percentage of total replacement value) and address the most critical one-third of the seismic retrofit needs.
- With significant funding increases, address the long-term problems of replacing the 850 bridges built in the 1950s and 1960s.

Safety

- Focus expenditures where the greatest number of people are being killed or seriously injured.[32]
- Allow for a reduced number of safety upgrades in preservation projects on highway segments with little or no crash history to increase dollars available for highway preservation.
- Make safety investments based on benefit/cost analysis. The first priority is on preservation projects with a high risk segment. The second priority is stand-alone projects on priority safety segments or spot locations.

Operations

- Maintain the existing facilities and services.
- Increase funding for Intelligent Transportation Systems and other operations to increase safety, increase travel time reliability, and relieve congestion especially in congested metropolitan areas.
- With increased funding, take advantage of technological devices to increase safety, decrease travel time, and relieve congestion throughout the state.

[32] These priorities are reflected in the Safety Investment Program used to select safety projects for the Statewide Transportation Improvement Program. The Program identifies where the most people are being killed and seriously injured on the state highway system and applies the most cost-effective measures to reduce the number of crashes.

Maintenance crews respond to snow, ice, mudslides, and other weather-related conditions to keep the roads open. (Skyline Boulevard, near Mt. Bachelor)

Maintenance

- With existing funding, focus on maintenance of features critical to keeping roads open and safe for travel.
- With increased funding, begin to move toward desired levels of service of features critical to keeping roads open and safe for travel.
- With significantly increased funding, invest in high initial cost solutions that improve service to travelers and minimize long-term spending. Examples range from upgrading substandard guardrail to major culvert and ditch upgrades and include improvements such as durable pavement marking.

Special Programs

- **Scenic Byways:** Position the state and local entities to be able to fund national and state Scenic Byway improvements and facilities mainly through federal funding.
- **Salmon Recovery:** Implement the Oregon Plan for Salmon and Watersheds as directed by the Governor's Executive Order. Fund at appropriate levels.
- **Transportation/Growth Management:** Fund transportation plans and projects in local jurisdictions to support livability and economic opportunity.

- **Bicycle /Pedestrian Program:** Focus the program on identifying simple, low-cost projects on urban highways to improve pedestrian and bicyclist access.

- **Immediate Opportunity Fund:** Fund street, road or other transportation-related improvements needed to respond quickly to economic development opportunities and/or revitalize commercial and industrial centers.

Planning

- Maintain basic planning program needs, including region and central work on Transportation Planning Rule implementation, periodic reviews, plan amendments, development review, access management, corridor plans and transportation system plan assistance. Adhere to funding priorities when developing corridor plans, facility plans and local transportation system plans.

- Maintain basic ODOT long-range planning to comply with statutory requirements for the Oregon Transportation Plan and related modal plans.

- Continue to assist in funding local transportation system planning.

- If not able to maintain the basic planning program, decrease or eliminate ODOT funding assistance for local planning.

Investment Scenarios

The investment scenarios fit these policies and priorities together. They begin with the continuation of current (1998) funding rates.

Scenario 1: Current Funding Continued

This scenario is based on the assumption that funding rates will not rise; there will be no fuel tax increase or other state source increase.

Total Investment – $515 million/year

New Funding Requirements – $0

If current funding rates were to continue, ODOT would focus investment on preservation and maintenance. Modernization spending would be limited to the state legislative minimum (currently approximately $54 million in accordance with ORS 366.507) and the high priority projects in TEA 21. Only the most critical capacity improvement projects and TEA 21 projects would be completed. The emphasis of the remaining funds would be on preservation and maintenance.

Since this scenario assumes that current funding rates will continue, the absolute dollars of revenue would rise as population rises, but inflation and increased highway system use would mean that ODOT would not be able to maintain current conditions in terms

of physical condition or mobility. This investment level would lead to higher long term costs to repair or replace system facilities.

Under this scenario, the physical condition of highway infrastructure would decline and congestion would increase.

Projected Highway System Conditions in 2017 for Scenario 1:

- *Pavement conditions would decline from 77 percent fair or better, about 2 percent per year.*
- *Bridge Value Index would decline from 87 percent to 82 percent of total replacement value; funding does not keep up with even the most serious deficiencies. ODOT would place restrictions for truck weight on additional bridges.*
- *User costs would increase dramatically by over 50 percent per mile of travel, and speeds would decline by 50 percent compared to current levels.*

Scenario 2: Protecting Current Infrastructure, But No Preservation of Certain Regional and District Roads

This scenario is designed to maintain the current physical condition of the system as well as possible with limited increases in funding.

Investment – $576 million/year (uninflated) beginning in year 2000.

New Funding Requirements: Approximately 3 cents per gallon gas tax increase to take effect in year 2000, plus adjustments for inflation.[33]

ODOT would focus the first additional dollars on protecting the physical condition of the current system by investing more in its maintenance and preservation programs. No additional money would be spent on modernization beyond the level in Scenario 1. Certain Regional and District roads would receive maintenance treatments, but not preservation treatments. Long-term needs to replace aging bridges and retrofit high-priority bridges to withstand moderate earthquakes would be ignored.

With this level of investment, physical condition of higher volume roads would stabilize at current levels, but overall pavement conditions would decline, bridge conditions would decline, congestion would increase significantly, and mobility would decline.

[33] Each scenario's description contains a rough estimate of new funding required to match the scenario. These estimates are discussed in more detail in Table 11 on page 188.

Projected Highway System Conditions in 2017 for Scenario 2:

- *77 percent fair or better pavement for roads with higher volumes. Overall condition of the system would decline over the long term.*
- *Bridge conditions would decline slightly, but most critical bridge projects are addressed. There is very little seismic retrofit.*
- *User costs would increase and speeds would decline, but by much less than under current funding.*

Scenario 3: Protecting Current Infrastructure

This scenario is designed to maintain the current physical condition of the system as well as possible with limited increases in funding.

Investment – $599 million/year (uninflated) beginning in year 2000.

New Funding Requirements: Approximately 5 cents per gallon gas tax increase to take effect in year 2000, plus adjustments for inflation.

ODOT would focus additional dollars on protecting the physical condition of the current system by investing more in its maintenance and preservation programs. This scenario is like Scenario 2 in that no additional money would be spent on modernization beyond the level in Scenario 1. Preservation projects would occur on all state highways; safety costs would go up because of the additional preservation projects, but maintenance costs would go down slightly from Scenario 2. Long-term needs to replace aging bridges and retrofit high-priority bridges to withstand moderate earthquakes would be ignored.

With this level of investment, the physical condition of pavement would stabilize at current levels, but congestion would increase and mobility would decline.

Projected Highway System Conditions in 2017 for Scenario 3:

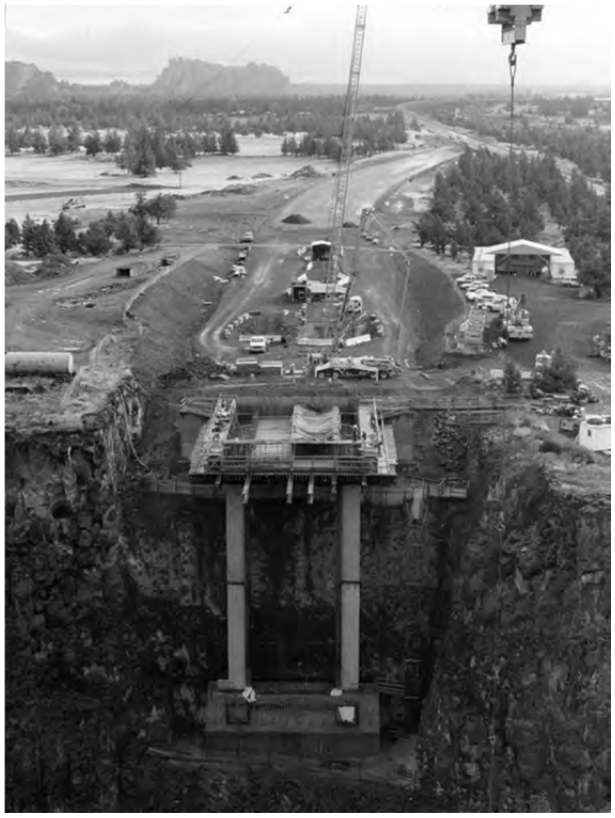
- *78 percent fair or better pavement condition for roads overall.*
- *All critical bridge projects are addressed, but very little seismic retrofit.*
- *User costs would increase and speeds would decline but by less than under current funding.*

Scenario 4: Protecting the Current Infrastructure with Some Modernization

This scenario focuses investment on preserving and maintaining pavement and bridge conditions as well as possible with limited funding. It would fund about 30 percent of feasible modernization needs.

Investment – $659 million/year (uninflated) beginning in year 2000.

New Funding Requirements: Approximately 10 cents per gallon gas tax increase to take effect in year 2000, plus adjustments for inflation.



The new Crooked River Gorge Bridge will replace a bridge built in 1924 which cannot carry the increasing traffic on Highway 97.

Although most of the funding would be directed to preserving pavement conditions, improving bridge conditions, and improving operations, safety and maintenance, funding would support additional modernization projects. Operational and safety increases could help mitigate increased congestion.

Projected Highway System Conditions in 2017 for Scenario 4:

- *78 percent fair or better pavement condition for roads overall.*
- *Bridges maintained in their current state, but with very little seismic retrofit.*
- *User costs would increase and speeds would decline.*

Scenario 5: Protecting the Current Infrastructure with Additional Modernization

This level of investment is designed to marginally improve current pavement, bridge and maintenance conditions. Additionally, this scenario addresses high priority capacity-improvement needs (modernization), thus providing greater management of mobility and congestion than the other scenarios.

Investment – $735 million/year (uninflated) beginning in year 2000.

New Funding Requirements: Approximately 17 cents per gallon gas tax increase to take effect in year 2000, plus adjustments for inflation.

This next level of funding would improve the condition of current infrastructure and allow additional high priority modernization projects. Modernization needs would be funded to about $145 million/year. About 43 percent of the feasible projects identified through the review of current state and local transportation system plans and projected needs would be constructed.

Under this scenario, congestion continues to increase over current levels, but less than in the first four scenarios.

Projected Highway System Conditions in 2017 for Scenario 5:

- *Pavement conditions would be improved to 80 percent fair or better.*
- *All critical bridge projects would be addressed; seismic retrofit work would be focused on critical routes. Bridges would be maintained at 86 percent of full replacement value.*
- *Speeds would be higher and user costs would be lower than under protecting current infrastructure, but still very unfavorable compared to meeting feasible needs in Scenario 7.*

Scenario 6: Coping with Congestion

This level of investment is designed to further improve current pavement, bridge and maintenance conditions on all roads. Bridge values are maintained at current levels, and the most critical seismic retrofit needs are addressed. Additionally, this scenario addresses about 55 percent of high priority capacity-improvement needs (modernization), thus providing greater management of mobility and congestion than the previous scenarios.

Investment – $826 million/year (uninflated) beginning in year 2000.

New Funding Requirements: Approximately 25 cents per gallon gas tax increase to take effect in year 2000, plus adjustments for inflation.

This next level of funding would improve the condition of current infrastructure and fund 55 percent of feasible modernization projects. The most critical one-third of the seismic retrofitting of bridges would be done.

Under this scenario, congestion continues to increase over current levels, but less than

in the previous scenarios.

Projected Highway System Conditions in 2017 for Scenario 6:

- *Pavement conditions would be improved to 84 percent fair or better overall.*
- *All critical bridge projects and the most critical one-third of the seismic retrofit needs would be addressed. The Bridge Value Index would be maintained at 87 percent of full replacement value.*
- *Speeds would be higher and user costs would be lower than Scenarios 1 through 5, but still very unfavorable compared to meeting Scenario 7 Feasible Needs.*

Scenario 7: Feasible Needs

This scenario is designed to improve pavement conditions to 90 percent fair or better, improve bridge conditions to increase the current value of the system, and complete the list of feasible capacity-enhancing projects that has emerged from the Oregon Highway Plan Needs Analysis. These are projects identified through state and local transportation planning processes and analyses.

Investment – $1,048 million/year (uninflated) beginning in year 2000.

New Funding Requirements – Approximately 46 cents per gallon gas tax increase to take effect in year 2000, plus adjustments for inflation.

This scenario improves the physical condition of highways so that pavements and bridges can be maintained most cost-effectively, operates the system efficiently and completes feasible capacity projects to relieve congestion problems except in places where physical constraints, environmental impacts, high costs and/or political decisions would limit congestion relief. The places with these constraints are mainly in the metropolitan areas. A program to replace the 850 aging bridges built during the 1950s and 1960s would be underway. Seismic retrofitting would be incorporated into the replacement.

Highway physical condition would improve but congestion would increase, although less than above.

Projected Highway System Conditions in 2017:

- *Pavement conditions would be 90 percent fair or better overall.*
- *Bridge value would be increased to 91 percent of full replacement value, and problems with aging of "baby boomer" bridges would begin to be addressed.*
- *Speeds would decline and user costs would increase compared to current levels, but user costs per mile would increase by less than half the increase under current funding.*

These policies, priorities, and scenarios will be the basis for ODOT's Statewide Transportation Improvement Program (STIP), the document that programs and schedules specific construction projects for the next four years. Actual dollar figures will vary between the Highway Plan and the STIP because the Highway Plan figures are 20-year averages and include preliminary engineering, right-of-way and other costs that the STIP does not. The Highway Plan figures are based on needs, and the STIP project costs have to balance to revenues.

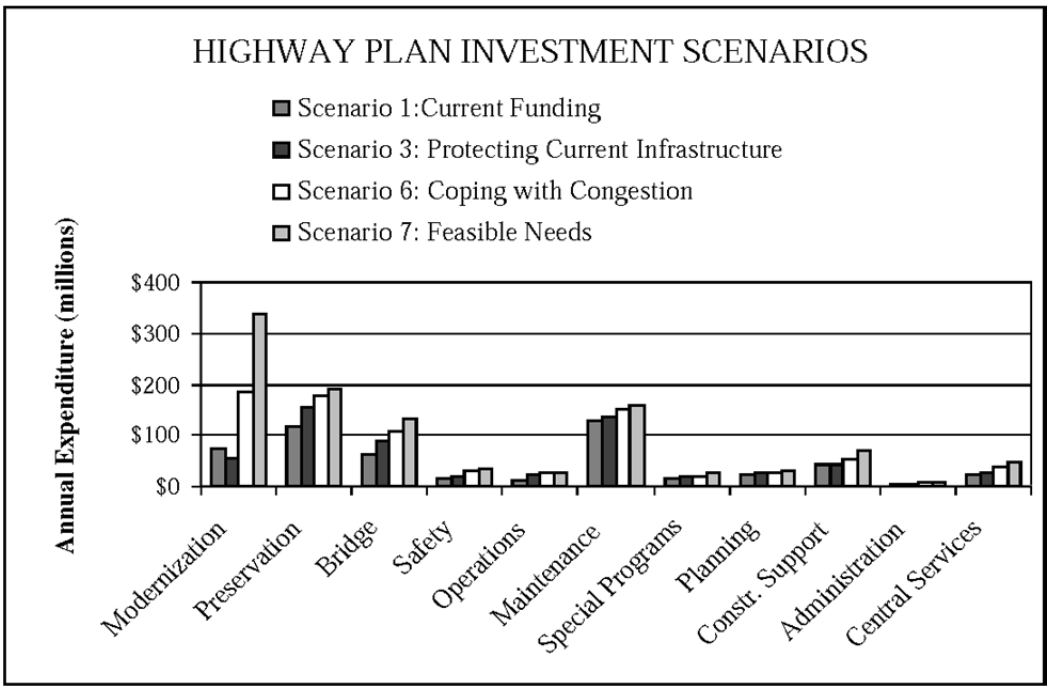


Figure 16: Summary of investment scenarios

This chart illustrates the relative size of the eleven highway programs that contribute to 20-year state highway needs. It also illustrates how spending on each program would vary under the Highway Plan's investment scenarios. The main differences between the scenarios are in the Modernization, Preservation and Bridge categories.

Impacts of Scenarios on User Costs

User costs vary considerably across the scenarios. User costs always decrease much faster than ODOT investment levels increase, for all categories of expenditure and for all investment levels that have been analyzed. In terms of overall benefits that can accrue to Oregon's economy, the highest level of expenditure that was formally evaluated is the most desirable level of expenditure.

None of the alternatives examined, up to and including the alternative with the highest funding level, achieve speeds, user costs and mobility standards as good as current figures.

Table 9 shows the results of using the OR HERS model to estimate the speeds and user costs for the scenarios. The first row of numbers shows initial year conditions. Speeds average around 43 miles per hour for travel on state highways. The average cost per mile, considering ownership and operating costs, safety costs, and travel time costs, is about 82 cents per mile. Total user costs for travel on the state system are estimated at nearly $16 billion per year. Thus, users spend much more on travel costs on the state system than ODOT spends.

SCENARIO IMPACTS ON USER COSTS			
Investment Scenario	Average Speed	Total User Costs Per Mile	Total Use costs Per Year
Initial Year[1]	43.1 mph	82.4¢	$15.9 Billion
Protect Current Infrastructure[2]	21.6 mph	132.1¢	$34.4 Billion
Coping with Congestion[3]	22.6 mph	123.6¢	$32.5 Billion
Feasible Needs	29.0 mph	102.3¢	$28.4 Billion
Feasible Needs with Reduced VMT Growth[4]	31.2 mph	96.6¢	$25.7 Billion

Table 9: Implications of scenarios for transportation system

Notes for Table 9:

1. All values, other than for the Initial Year, represent condition at the end of the 20-year planning period.
2. Approximately 40 percent below Feasible Needs.
3. Approximately 27 percent below Feasible Needs.
4. The maximum likely level of VMT reduction, relative to 20-year forecast, achieved through aggressive transportation demand management programs primarily at the metropolitan planning organization level.

The investment scenarios are shown in terms of the conditions in the 20th year (2017). The intermediate scenarios defined for the Highway Plan, Protecting Current Infrastructure and Coping with Congestion, are shown in the second and third rows of the table. These scenarios result in user speeds and costs which are significantly worse than the initial year. These scenarios also show significantly worse performance than the Feasible Needs scenario (row four). In fact, because user costs go up much faster than ODOT budget increases, all increases below the Feasible Needs scenario have significant negative impacts which far outweigh the budget savings. For example, by the 20th year, any expenditure level below Feasible Needs is costing users 40 times the savings in ODOT highway budget for that year, due to the cumulative negative impact of foregone investments.

For the Feasible Needs scenario with the VMT growth as forecast, speeds will decrease compared to today and user costs will go up, both in total and on a cost per mile basis.

The fifth row shows what speeds and user costs would be by 2017 if Feasible Needs were funded and if the VMT reductions that the metropolitan planning organizations consider to be the maximum feasible were achieved. Speeds increase substantially compared to a higher VMT, and user costs go down. User costs per mile still increase compared to today, but by a lower amount than if Feasible Needs were implemented but VMT was not reduced.

Revenue Projections

It is difficult to accurately predict future revenues since they are dependent on a large number of political and economic variables. The Highway Plan makes general estimates so that investment priorities can be discussed. State highway funding in Oregon comes from both state and federal taxes and fees. Each of these revenue sources is discussed briefly below. This discussion and the numbers cited only cover those revenues that go to the highway programs described above. There are a number of state transportation programs that are not covered by the Highway Plan.

State road user revenues provide approximately 65 percent of state transportation revenues. Oregon’s State Highway Fund, which is constitutionally dedicated to highways, derives most of its revenue from three major highway user taxes: vehicle registration fees, motor vehicle fuel taxes and motor carrier fees (the weight-mile tax). These taxes are governed by the concept of cost responsibility (collecting revenues from users based on their fair share of highway costs. Cost responsibility studies are published periodically to ensure that users’ shares reflect current conditions. The latest cost responsibility study update was completed in 1995 and assigns 62.3 percent of highway costs to vehicles weighing less than 8,000 pounds and 37.7 percent to heavy vehicles. The 1995 State Legislature reduced heavy vehicle registration fees and weight mile taxes to match this cost responsibility.

PROJECTED HIGHWAY REVENUES			
Year	State	Federal	Total
1998	$346,983,057	$184,257,079	$531,240,136
1999	$364,822,730	$211,757,470	$576,580,200
2000	$369,977,182	$217,371,205	$587,348,387
2001	$375,263,272	$222,597,185	$597,860,457
2002	$381,364,362	$227,419,252	$608,783,614
2003	$396,202,160	$229,322,523	$615,524,683
2004	$392,805,296,	$279,526,785	$672,332,081
2005	$398,948,938	$279,526,785	$678,475,723
2006	$405,115,216	$279,526,785	$684,642,001
2007	$410,579,143	$279,526,785	$690,105,928
2008	$415,577,315	$279,526,785	$695,104,100
2009	$420,216,752	$279,526,785	$699,743,537
2010	$424,528,979	$334,432,142	$758,960939
2011	$427,621,303	$334,432,142	$762,053,445
2012	$431,120,363	$334,432,142	$765,552,778
2013	$434,492,387	$334,432,142	$768,924,529
2014	$437,387,939	$334,432,142	$771,820,081
2015	$440,453,086	$334,432,142	$774,885,228
2016	$442,803,615	$400,318,571	$843,122,186
2017	$445,689,041	$400,318,571	$846,007,612
Total	$8,151,952,226	$5,777,115,420	$13,929,067,646

Table 10: Projected state and federal highway revenues, 1998-2017

In 1998 automobiles paid an annual registration fee of $15 and a state gas tax of 24.6 cents per gallon. Heavy vehicles (those over 8,000 pounds) paid an annual registration fee of between $110 and $415 depending on their weight. In addition, all commercial vehicles with a registered weight of over 26,000 pounds paid a weight-mile tax of between 4.45 cents and 20.4 cents per mile depending on their weight and the number of axles. Vehicles that paid the weight-mile tax did not pay state fuel taxes.

If there are no rate increases, state highway revenues from these sources are expected to average approximately $424 million over the next 20 years, for a total of $8.1 billion. This estimate assumes growth in revenues from additional users of the system, but does not assume any increase in the tax rate. Since motor vehicle taxes in Oregon are fixed amounts (i.e., rather than a percentage of fuel prices), these revenues will not grow with inflation over time.

Oregon also receives highway revenues from the federal government. The federal highway program is financed with proceeds from federal fuel and other transportation related user taxes and fees. These funds are discretionary and subject to Congressional authorization. The federal Transportation Equity Act for the 21st Century, signed in June 1998, will provide over $246 million annually for Oregon state highways for fiscal years 1998-2003. After this point, it is difficult to accurately forecast revenues. This

analysis assumes a gradual rise in federal highway funds which reflects an upper limit of what may be achievable under fixed tax rates. Using this assumption, federal highway funds for the State of Oregon are estimated at a total of $5.8 billion over the next 20 years.

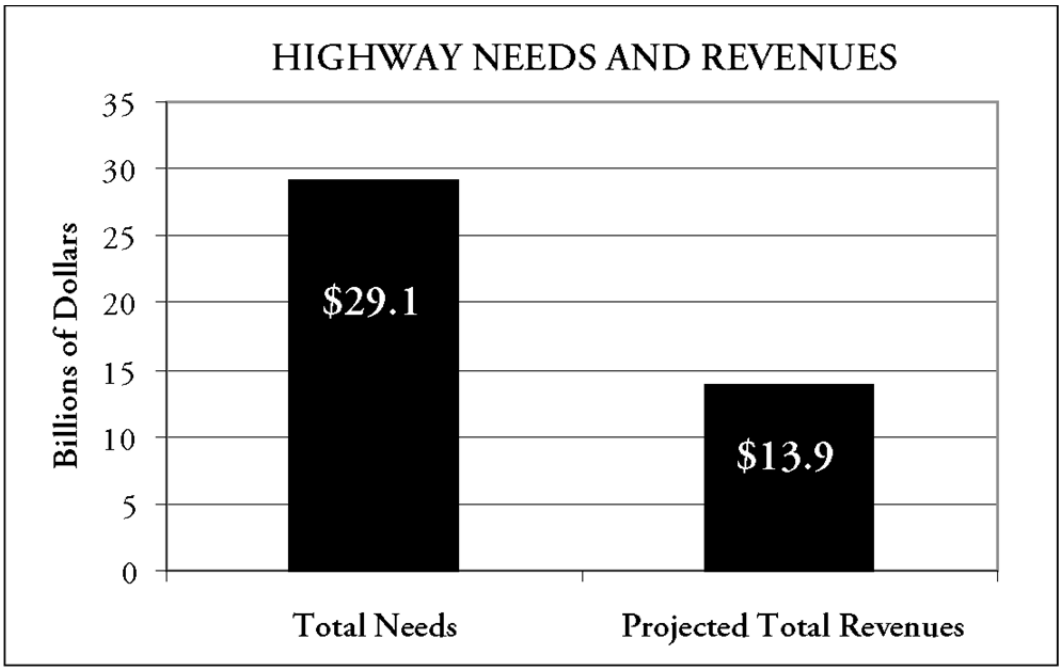


Figure 17: Projection of 20-year highway needs and revenues (assumes 3.3% inflation)

Thus, Oregon's total highway revenues for the period 1998-2017 are projected to be approximately $13.9 billion (see Table 10, page 171) if state funding rates do not change.

Summary of Needs and Revenues

If revenues remain at current rates, there will be a shortfall of at least $15.2 billion over the 20-year planning period of the 1999 Highway Plan (Figure 17). This means that all state highway needs will not be met unless highway funding rises.

Tax Increases Required to Meet Scenarios

In order to meet the needs of any of the scenarios above current funding, state highway revenues would have to rise. Table 11 lists estimates of the gas and weight-mile tax increases that would be necessary to meet the needs of each scenario. These are general estimates presented to give a context for long-term state highway needs. The estimates are shown in two ways: a steady increase each year which covers the effects of inflation, and a "one-time" increase with future adjustments tied to inflation.

TAX INCREASES TO MEET NEEDS						
	Scenario 2	Scenario 3	Scenario 4	Scenario 5	Scenario 6	Scenario 7
Steady Increase	1 cent increase per year (1+1+1…)	1.1 cent increase per year (1+1+1…)	2 cent increase per year (2+2+2…)	3 cent increase per year (3+3+3…)	4 cent increase per year (4+4+4…)	7 cent increase per year (7+7+7…)
Total **new** gas tax by 2018 with steady increase	18 cents	20 cents	36 cents	54 cents	72 cents	126 cents
"One-time" increase + inflation increase	3 cents	5 cents	10 cents	17 cents	25 cents	46 cents
Total **new** gas tax by 2018 with "one-time" increase	19 cents	22 cents	32 cents	44 cents	58 cents	93 cents

Table 11: Examples of tax increases needed to match projected revenues with needs.

Notes for Table 11:

1. The steady increase only meets highway needs (including the effect of inflation) over the full 20-year period. In the next 5-10 years, relatively low levels of new revenues are generated, but this would be compensated for by increased revenues in later years.
2. The "one-time" increase would match needs and revenues in the year 2000. After this increase, there would still need to be yearly increases pegged to inflation in order to meet the needs.
3. Revenue produced by each penny assumes:
   A. There will be an equivalent increase in the weight-mile tax that will maintain the cost responsibility split at current levels (62.3 percent light vehicles/37.7 percent heavy vehicles).
   B. The State will receive 50 percent of any new revenues (the State would receive half of the increase shown in Table 11).
   C. There will be growth in the revenue produced by each penny due to increased highway use.
   D. Taxes take effect in the year 2000.
4. The numbers assume that federal revenues will increase as shown in Table 10.
5. Needs were calculated assuming an average inflation rate of 3.3 percent for the period 1998-2017. This consists of inflation rates under 3 percent until 2003, and rising to 3.9 percent by 2018.
6. The numbers do not include needs for city- or county-owned roads.

Implementation Strategies

The Highway Plan will be implemented through planning, project selection, design and development, operations and maintenance related to the state highway system. Within one year of the Plan's adoption, ODOT will develop an Action Plan that identifies implementation actions and agency responsibilities. More specifically ODOT will:

1. Identify responsibilities and impacts of the Plan related to planning, project selection and development, maintenance and investments.

2. Monitor the implementation of the Plan's policies through performance measures.

3. Conduct a process for examining highway classifications, classifying Expressways and designating Special Transportation Areas.

4. Work with local governments to:

   - Develop a process for identifying and transferring Local Interest Roads.

   - Conduct a demonstration project in each ODOT region to apply the Special Transportation Area highway segment designation.

   - Complete corridor plans and transportation system plans to address Highway Plan policies.

   - Achieve consistency between the Highway Plan and local plans and ordinances.

   - Establish criteria and designate lifeline routes.

   - Develop a policy or strategy for interchange management through the Interstate 5 corridor study or other planning efforts.

   - Establish criteria for considering, evaluating and prioritizing off-system improvements.

5. Develop a funding plan that includes looking at various funding options. These options might include:

   - Increased vehicle fuel taxes

   - Higher vehicle registration fees

   - Increased weight/mile tax commensurate with increased fuel taxes

   - Increased heavy vehicle fees

   - New vehicle sales taxes

- Fees on vehicle miles traveled
- Congestion pricing
- Tolls
- State systems development charges

6. Develop an administrative rule for access management procedures.
7. Work with freight interests to identify concerns about freight movements on state highways.
8. Develop best management practices to protect environmental and scenic resources.

Performance Measures

The following performance measures have been developed as a means of monitoring the overall implementation of the Highway Plan. ODOT will use these measures to track progress in meeting the goals of the Plan. In some cases, current and historical trend data already exist. In others, the current or baseline conditions need to be established. Once the baseline data is in place, future trends will be monitored to evaluate how well the Highway Plan is helping ODOT and its partners meet their stated goals in four policy areas. These measures are intended for overall system-wide use rather than for project-specific application. They are intended to guide the implementation and periodic refinement of programs and strategies rather than be used for budgeting purposes.

Goal 1: System Definition

Policy 1B: Land Use and Transportation

1. Percent of Special Transportation Areas where the highway mobility, as measured by volume-to-capacity ratios (v/c), meets the designated standard.
2. Highway v/c ratio within a Special Transportation Area (for corridor planning applications).

Policy 1C: State Highway Freight System

1. Percent of freight system lane miles that meet highway mobility standards during peak hour or two hour peak period.
2. Number and percent of accidents on the designated state highway freight system involving trucks.

Policy 1D: Scenic Byways

1. Percent of customers reporting favorable perception of Scenic Byway aesthetics, safety and performance.

2. Oregon Scenic Byway Committee rating (every three years) of improvement/degradation overall and for certain routes.

Policy 1E: Lifeline Routes

1. Percent of bridges on lifeline routes with satisfactory seismic rating (potentially bridge health index, sufficiency rating, and/or National Bridge Inventory rating).

2. Number of bridges on lifeline routes brought to satisfactory rating in reporting period.

Additional desirable measures which would be feasible as Geographic Information Systems capabilities are expanded within ODOT include:

3. Percentage of Oregon residents whose lifeline system access has been defined and evaluated.

4. Percentage of Oregon residents whose lifeline system access meets bridge rating standards.

Policy 1F: Highway Mobility Standards

1. Percent of highway lane miles that meet highway mobility standards, by statewide highway classification.

2. Percent of miles on limited-access highways in Oregon urban areas that do not meet highway mobility standards (Oregon Benchmark Number 70).

Goal 2: System Management

Policy 2A: Partnerships

1. Percent of state expenditures saved through cost-sharing and other partnership arrangements.

Policy 2B: Off-System Improvements

1. Net benefit (savings and/or benefits less costs) of off-system improvements.

Policy 2C: Interjurisdictional Transfers

1. Number of route miles designated by ODOT as having potential for interjurisdictional transfer.

2. Number (and percent of potential total) of route miles transferred.

Policy 2F: Traffic Safety

The Oregon Transportation Commission established safety priorities to carry out the Traffic Safety policy when it approved the Oregon Transportation Safety Action Plan (OTSAP). Three of the performance measures included in the OTSAP are directly related to state highway travel:

1. Reduce deaths due to motor vehicle crashes from 1.73 per 100 million vehicle miles traveled (VMT) in 1996 to 1.30 by the year 2010.

2. Increase the percentage of occupants using vehicle safety restraints from 83 percent in 1996 to 90 percent by the year 2010.

3. Reduce the number of deaths due to alcohol and drug-related motor vehicle crashes from 0.72 per 100 million VMT in 1996 to 0.58 per 100 million VMT by the year 2010.

Two additional measures are:

4. Number of accidents with fatalities or serious injury (F/SI) per million vehicle miles traveled.

5. Annual percent reduction in fatal and injury crashes on Category 3, 4, and 5 safety segments, based on 1998 baseline.[34]

Policy 2G: Rail and Highway Compatibility

1. Number of newly constructed at-grade crossings on the state system (target is zero).

2. Number of at-grade crossings eliminated or replaced with grade-separated crossings.

3. Number of at-grade crossings improved through installation of new control devices or improved geometric design.

Goal 3: Access Management

There are no performance measures proposed for the Access Management Policies.

[34] The state highway system is divided into fi e-mile segments, and a tally is made of the number of fatal and serious injury crashes over a three-year period. Category 3, 4, and 5 have had three or more fatal and serious injury crashes during this time period.

Goal 4: Travel Alternatives

Policy 4A: Efficiency of Freight Movement

1. Percentage of identified obstacles to freight movement that are eliminated through action of the State, or the State in partnership with others.

2. Percentage (or number) of intermodal connectors improved.

Policy 4B: Alternative Passenger Modes

1. Percent of Oregonians who commute to and from work during peak hours by means other than a single occupancy vehicle (Oregon Benchmark Number 73).

2. Vehicle miles traveled per capita in metropolitan areas (Oregon Benchmark Number 74).

Policy 4C: High-Occupancy Vehicle (HOV) Facilities

1. Percent of total person miles of travel that are made in High-Occupancy Vehicle lanes.

2. Percent VMT reduction attributable to High-Occupancy Vehicle lanes.

Policy 4D: Transportation Demand Management

1. Percent of Oregonians who commute to and from work in peak hours in a single-occupancy vehicle.

Policy 4E: Park-and-Ride Facilities

1. Inventory (number) of park-and-ride spaces within and immediately adjacent to the state highway right-of-way, by corridor.

Goal 5: Environmental and Scenic Resources

Policy 5A: Environmental Resources

1. Number of state highway miles with up-to-date natural resource maps relative to the total number of miles needing mapping.

2. Number of culverts retrofitted for salmon relative to the total number of culverts needing retrofitting.

Policy 5B: Scenic Resources

1. Percent of customers by region reporting “favorable or better” perception of the state highway system for aesthetics, safety and performance.

1999 Oregon Highway Plan

Appendices

Appendix A

Glossary

A1: Definition of Technical Terms and Acronyms

3-R Project: A project involving resurfacing, restoration or rehabilitation of an existing highway.

4-R Project: A project involving reconstruction of an existing highway.

AASHTO: American Association of State Highway and Transportation Officials.

ADT: Average Daily Traffic, the average number of vehicles passing a certain point each day on a highway, road or street.

Access management: Measures regulating physical connections to streets, roads and highways from public roads and private driveways. See Goal 3, Access Management.

Alignment: Geometric arrangement of a roadway (curvature, etc.).

Approach road: A roadway or driveway connection, between the outside edge of the shoulder or curb line and the right-of-way line of the highway, intended to provide vehicular access to and from said highway and the adjoining property.

Alternative modes: Modes such as rail, transit, carpool, walking, and bicycle that provide transportation alternatives to the use of single-occupancy automobiles.

AOH: Access Oregon Highways, a 1987-1997 highway development and funding program which focused on through traffic movements and economic development.

ATMS: Advanced Traffic Management System, technology which facilitates traffic movements.

Best management practices: Techniques which reflect current thinking on a specific subject.

Capacity: Maximum volume of traffic that the roadway section is able to carry on a sustained basis.

Commercial Center: An area of concentrated commercial activity inside the urban growth boundary. A commercial center is intended to support commercial, office, residential, and civic activities of the surrounding neighborhood, neighborhoods or communities. The buildings are clustered in compact development patterns and

provide convenient and safe pedestrian linkages between them. The Commercial Center highway segment designation has specific attributes as described in Actions 1B.7 and 1B.12.

Commercial node: An area of concentrated commercial activity inside the urban growth boundary smaller than a commercial center. Commercial nodes are intended to support commercial, office, residential, and civic activities for the surrounding neighborhood. The buildings are clustered in compact development patterns and provide convenient and safe pedestrian linkages between them.

Community center: An area of concentrated civic and public activity inside the urban growth boundary that may include public plazas, post offices, libraries, school facilities and the city hall. Residential, office, industrial and commercial activities may support and enhance the community center. Community centers have a high level of community and neighborhood accessibility, and can be reached by a variety of local street routes and transportation modes. Community centers conveniently accommodate pedestrians and bicyclists on and off the site and, where appropriate, have transit.

Continuous two-way left-turn lane: A traversible median that is designed to accommodate left-turn egress movements from opposite directions.

Developable frontage: The total crossroad frontage between the ramp terminal and the furthest limit of the interchange management area. Each interchange has up to four frontages subject to development.

Deviation: A departure from an access management standard.

DLCD: Department of Land Conservation and Development.

Expressway: Highways that provide for safe and efficient high speed and high volume traffic movements. See Action 1A.2.

"Fair or better" condition: A measure of pavement condition. ODOT annually evaluates the condition of the state highways, and rates the pavement from "very poor" to "very good." See Systems Element.

Feasible needs: Projects and services needed on the state highway system to meet performance measures and carry out corridor plans and acknowledged regional and local transportation system plans, but constrained by topographical, environmental, community, and fiscal considerations.

FHWA: Federal Highway Administration.

Full development: For the purposes of Policy 1F, Highway Mobility Standards, full development means the amount of population and employment growth and associated travel anticipated by the community's acknowledged comprehensive plan over the planning period.

Fully developed urban interchange management areas: Fully developed areas are distinguished from urban interchange management areas to acknowledge those areas of well-established existing development within urban growth boundaries. It

is recognized that in fully developed urban areas, traffic speeds are generally slower with different driver expectations. A fully developed urban interchange management area occurs when 85 percent or more of the parcels along the developable frontage are developed at urban densities and many have driveways connecting to the crossroad.

Grade crossings: Intersections between railroad tracks and a road. Crossings can be either "at-grade" (at the same level) or separated grade, where the road uses either a tunnel or a bridge to avoid crossing the rail tracks.

Highway: A public way for purposes of travel, including the entire area within the public right-of-way.

Highway mobility standards: See Policy 1F.

HOT Lanes: High-Occupancy/Toll lanes, a type of HOV lane which can be used by single occupancy or commercial vehicles for an extra charge. See Policy 4C.

HOV Lanes: High-Occupancy Vehicle lanes, special road lanes which can only be used by vehicles with more than one occupant. See Policy 4C.

Immediate opportunity fund: A fund that enables ODOT to respond quickly to economic development opportunities by funding transportation projects that will influence business location decisions and/or revitalize commercial and industrial centers.

Incident management: The detection and verification of incidents (accidents, stalled vehicles, etc. blocking traffic) and the implementation of appropriate actions to clear the highway.

Interchange management area: The area defined by a distance along both the mainline and crossroads in all directions extending beyond the end of the interchange ramp terminal intersections, or the end of the ramp merge lane tapers, as shown in Appendix C, Tables 16-19.

Intermodal connectors: Short lengths of roads that connect intermodal facilities to the state highway system.

Intermodal facilities: Facilities that allow passenger and/or freight connections between modes of transportation. Examples include airports, bus stations, ports and rail stations.

ISTEA: Intermodal Surface Transportation Efficiency Act, passed by Congress in 1991.

ITS: Intelligent Transportation System; see Policy 2E

Lane miles/kilometers: Length of road multiplied by the number of lanes.

LCDC: Land Conservation and Development Commission.

LOI: Level of Importance, the highway classification system used in the 1991 Highway Plan and replaced in this plan by the State Highway Classification System.

LOS: Level of Service, a range of operating conditions defined for each type of facility and related to the amounts of traffic that can be accommodated at each level.

Median: That portion of the roadway which separates opposing traffic streams. See also nontraversible median and traversible median.

Median pedestrian island: A nontraversible median section designed to provide an area where pedestrians can take refuge while crossing the traffic stream approaching from the left and then the traffic stream approaching from the right.

Mode of transportation: A means of moving people and/or goods.

MPO: Metropolitan Planning Organization, a planning body in an urbanized area of over 50,000 population which has responsibility for developing transportation plans for that area. Designated in the 1991 ISTEA, MPOs exist in 1999 in the Eugene/Springfield, Medford, Portland, and Salem areas. Rainier is part of a fifth MPO, Longview-Kelso-Rainier, which is not considered to be an MPO for the purposes of this plan. Subsequent to the 2000 census, MPOs have been formed in Corvallis and Bend.

Native plant: A species that occurs naturally in a particular region, ecosystem, and/or habitat without direct or indirect human actions.

New road: A public road or road segment that is not a realignment of an existing road or road segment.

NHS: National Highway System, a system of Statewide and Interstate Highways and intermodal connectors meeting federal criteria (approximately 155,000 miles total), designated by Congress in the National Highway System Designation Act of 1995.

Nontraversible median: A median which, by its design, physically discourages or prevents vehicles from crossing it except at designated openings which are designed for turning or crossing movements. Nontraversible medians include grass, flush grass and raised medians. Landscaping is used to delineate medians and is commonly used to actively discourage cross median vehicular movements or pedestrian crossing except at locations designated and designed for such movements or crossings as well as for beautification. Access can be provided for emergency and official vehicles.

OAR: Oregon Administrative Rules, rules written by a government agency intended to clarify the intent of an adopted law.

ODOT: Oregon Department of Transportation.

ORS: Oregon Revised Statutes, the laws passed by the legislature to govern the State of Oregon.

OTC: Oregon Transportation Commission, ODOT's governing body. The Commission has five members appointed by the Governor.

OTI: Oregon Transportation Initiative.

OTP: Oregon Transportation Plan.

Peak hour: Hour of the day with the most traffic, usually during morning and evening commute times.

Pedestrian: A person on foot, in a wheelchair or walking a bicycle.

Policy: For ODOT, this is a strategy or direction officially adopted by the Oregon Transportation Commission.

Raised median: A nontraversible median where curbs are used to help delineate the boundary between the median and the adjacent traffic lane and to elevate the surface of the median above the surface of the adjacent traffic face.

Realignment: Rebuilding an existing roadway on a new alignment where the new centerline shifts outside the existing right-of-way and where the existing road surface is either removed, maintained as an access road, or maintained as a connection between the realigned roadway and a road that intersects the original alignment.

Region Access Management Engineer: An individual who is a registered professional engineer and who by training and experience has comprehensive knowledge of ODOT"s access management standards, policies and procedures, and has professional expertise in traffic engineering concepts which underlie access management principles.

Right-of-way: A general term denoting publicly-owned land, property or interest therein, usually in a strip. The entire width between the exterior right-of-way lines including the paved surface, shoulders, ditches, and other drainage facilities in the border area between the ditches or curbs and right-of-way line.

Roadway: The paved portion of a highway.

RTP: Regional Transportation Plan.

SAC: State Agency Coordination Program.

SOV: Single Occupancy Vehicle, a non-commercial vehicle with only one occupant.

STA: Special Transportation Area.

State highway system: Public roads owned and operated by the State of Oregon through the Oregon Department of Transportation. The state highway system does not include state-owned roads managed by State Parks, State Forests, Oregon Department of Fish and Wildlife, college campuses or other state institutions.

STIP: Statewide Transportation Improvement Program.

TEA-21: The Transportation Equity Act for the 21st Century.

TDM: Transportation Demand Management; see Policy 4D.

Traversible median: A median that by its design does not physically discourage or prevent vehicles from entering upon or crossing it. Such medians include painted medians and continuous two-way left-turn lanes.

TPR: Transportation Planning Rule.

TSP: Transportation System Plan.

UBA: Urban Business Area.

UGB: Urban Growth Boundary, the area surrounding an incorporated city in which the city may legally expand its city limits.

Urban interchange management areas: Interchange management areas within an urban growth boundary that are not fully developed urban interchange management areas.

US DOT: United States Department of Transportation.

Vehicle miles of travel (VMT): Miles traveled per vehicle multiplied by the total number of vehicles.

Vehicle miles of travel per capita: VMT divided by the number of people in the area in question.

Volume to capacity ratio (V/C ratio): A measure of roadway congestion, calculated by dividing the number of vehicles passing through a section of highway during the peak hour by the capacity of the section.

A2: Definition of Verbs Used in Policy Element

The following verbs appear throughout the goals, policies, and actions of the Oregon Highway Plan. The terms are used to confer varying levels of commitment, action, or involvement from ODOT in the administration and implementation of the Highway Plan. To facilitate shared understanding of the goals, policies, and actions, these verbs have been organized into three categories. Within each category, definitions and examples of usage from the Highway Plan are given.

- **Obligation:** This category of terms shows ODOT's intention to ensure the outcome, whether through funding, policy enforcement, or other means of implementing a policy or objective. The terms that fall within this category include:
  - implement
  - provide
  - protect
  - maintain
  - support
  - establish
  - develop
  - improve
  - enhance

- **Compromise:** This middle category of terms indicates ODOT willingness to consider specific circumstances when applying a policy or implementing an action. Terms that fall within this category include:
  - Balance
  - Favor
  - Consider
- **Accommodation:** This is the most flexible category of terms, giving ODOT grounds to evaluate the situation's particular conditions at the time and location of a policy decision or implementation of an action. Terms that fall within this category include:
  - Recognize
  - Encourage
  - Promote
  - investigate

Specific definitions and usage examples of each of these verbs follow.

Obligation:

- **Implement:** Generally means *fulfill* or *execute*. ODOT will take part in the actual accomplishment of a plan or policy. One of the highest apparent levels of commitment or involvement.

  Example: *Identify and **implement** water- and energy-efficient construction and maintenance practices.*

- **Provide:** *Render, arrange, offer*. Used to demonstrate ODOT's role as both the funding authority and the agency for interpreting regulations.

  Example: *It is the policy of the State of Oregon to **provide** a secure lifeline network of streets, highways and bridges to facilitate emergency services response and to support rapid economic recovery after a disaster.*

- **Protect:** Asserts ODOT's role as a guarantor of statewide priorities.

  Example: *The State of Oregon will use best management practices to **protect** and enhance scenic resources in all phases of highway project planning, development, construction and maintenance.*

- **Maintain:** Similar to protect, suggests ODOT's role as the custodian of the highway system, or indirectly of other systems affected by highway system actions.

  Example: *It is the policy of the State of Oregon to **maintain** and improve the efficiency of freight movement on the state highway system and access to intermodal connectors.*

- **Support:** The definition ranges from sustain (its weakest meaning) to champion (a proactive role). In its weakest usage, support could be part of the "accommodation" category.

  Example: ***Support*** *the establishment of stable funding or financing sources for transportation systems that will benefit the efficiency of freight movement on the highway system.*

- **Establish:** Means enact or make into law. This term is used to show ODOT's institutional commitment to formal legal or administrative action.

  Example: ***Establish*** *spacing standards on state highways based on highway classification, type of area and speed.*

- **Develop:** Similar to establish, but without any legal connotation; implies commitment of resources to create or enact.

  Example: ***Develop*** *partnership opportunities with neighboring states for the installation of ITS technologies and for opportunities to share services and information.*

- **Enhance, Improve:** Connotes ODOT's willingness to actively make better and may imply financial effort to ensure the improvements are carried out.

  Examples: *The State of Oregon will use best management practices to protect and* ***enhance*** *scenic resources in all phases of highway project planning, development, construction and maintenance.*

  Set up a process through the Statewide Transportation Improvement Program to systematically ***improve*** *the highway segments that hinder or prevent freight movements.*

Compromise:

- **Balance:** Strive to accommodate multiple goals or objectives by taking different perspectives into consideration.

  Example: *It is the policy of the State of Oregon to* ***balance*** *the need for movement of goods with other uses of the highway system....*

- **Favor:** Generally meant as appease or conciliate. Implies ODOT's willingness to compromise a statewide objective in favor of a local or alternative statewide objective, under certain circumstances.

  Example: *Manage land uses to* ***favor*** *types of uses that generate less traffic or traffic peaks which do not coincide with traffic peaks on the highway.*

- **Consider:** Means to bear in mind or take into account. This term is intended to note

the non-exclusivity of a criteria.

Example: ***Consider*** *the importance of timeliness in freight movements in developing and implementing plans and projects on freight routes.*

Accommodation:

- **Recognize:** Generally intended as endorse, sanction or approve. Indicates ODOT's intention to scrutinize the circumstances and uphold ODOT policy.

  Example: *It is the policy of the State of Oregon to balance the need for movement of goods with other uses of the highway system, and to recognize the importance of maintaining efficient through movement on major truck freight routes.*

- **Encourage:** Could be considered similar to support but with a lesser level of commitment and direct involvement. Used by some policy advisory committee members to distinguish situations involving an outside agency where ODOT wishes to see change in a certain direction, but does not feel compelled to be the driving force behind that change, as in the example below.

  Example: ***Encourage*** *the use of alternative passenger modes to reduce local trips on the state highway system where limited highway facilities accommodate large numbers of both intercity and local trips.*

- **Promote:** Advocate or urge; in the example below, promote is used to suggest that ODOT, along with other players, will contribute to development of certain facilities. By itself, develop would imply too great a commitment.

  Example: ***Promote*** *alternative passenger transportation services in commute highway corridors to help maintain or meet established performance standards.*

- **Investigate:** To research or explore further before moving to a higher level of commitment.

  Example: ***Investigate*** *the legality of combining federal, state, regional, local, and/or private funding to achieve....*

Appendix B

Highway Program Definitions

Note: *Each category includes examples of elements which may be used to accomplish the goal. The list of examples is not necessarily exhaustive.*

Modernization

Improvements to accommodate existing traffic and/or projected traffic growth. Primary goal is to add capacity.

- Addition of lanes.
- Passing and climbing lanes
- Turn lanes
- Acceleration and deceleration lanes
- New alignments or facilities (bypasses)
- Highway reconstruction with major alignment improvements or major widening
- Widening of bridges to add travel lanes
- New safety rest areas
- Grade separations
- Intersection improvements
- Intermodal connectors
- High-Occupancy Vehicle lanes
- Off-system improvements

Preservation

Improvements to rebuild or extend the service life of existing facilities and rehabilitative work on roadways. Preservation projects add useful life to the road without increasing capacity.

- “Pave mainly” (includes minor safety and bridge improvements)
- Interstate Maintenance Program
- Reconstruction to re-establish an existing roadway
- Resurfacing projects
- Durable striping

Bridge

Improvements or work needed to rebuild or extend the service life of existing bridge-sand structures beyond the scope of routine maintenance.

- Bridge reconstruction/replacement
- Painting
- Seismic retrofitting
- Overpass screening
- Tunnels
- Large (over 6') culverts

Safety

An investment program focused on improvements which address priority hazardous highway locations and corridors, including the Interstate, in order to reduce the number of fatal and serious injury crashes. Projects funded through this program meet strict benefit/cost criteria.

- Capital improvements such as passing lanes, turn lanes and wider shoulders
- Access management
- New guardrails
- Illumination, delineation or signing
- Channelization within the existing roadway at intersections
- Continuous shoulder rumble strips
- Enforcement
- Railroad crossing improvements (separate funding source)

Operations

Relates to system efficiency. System management and improvements that lead to efficient and safer traffic operations and greater system reliability.

- ITS: Intelligent Transportation Systems (includes ramp metering, incident management, emergency response and traffic management operations centers)
- TDM: Transportation Demand Management (includes rideshare, vanpool, park-and-ride programs)
- Rock falls and slides (named, known rock fall areas and slides; not emergency repair work)
- Slow moving vehicle turnouts
- Signals and signs

Maintenance

- Repairs and work on the highway system.

- Surface repairs
- Bridge deck repairs
- Drainage work on ditches
- Culverts, storm sewers, curbs and bridges
- Stream channel maintenance and improvements
- Minor structural work (including cleaning and vegetation control)
- Roadside maintenance
- Signing, signal and illumination maintenance (including Intelligent Transportation System features)
- Snow and ice removal
- Rest area maintenance and upgrades
- Maintenance paving (including chip seals and crack sealing)

Special Programs

- The Oregon Plan for Salmon and Watersheds
- Other modes: bikeways/lanes, pedestrian walkways/sidewalks, bus pullouts
- Immediate Opportunity Fund projects
- Transportation and Growth Management program (funded through ODOT Planning & the Department of Land Conservation and Development)
- Scenic Byways Program

Planning

- Planning and research
- Transportation data and mapping
- Transportation analysis

Construction Support

- Reconnaissance
- Project development
- Training
- Other construction support expenses

Construction Administration

- Administration and management related to highway planning, operations, projects, preservation and maintenance

Central Services Assessment

- Central administration, communications, finance, human resources/organizational development, information services and business services

Appendix C[35]

Access Management Standards

Access Management Spacing Standards

The following tables show the access spacing standards for the access management classifications listed in Goal 3, Policy 3A: Classification and Spacing Criteria, Action 3A.1.

Table 12: Interchange Spacing(1)

Access Management Classification	Area	Interchange Spacing(2)(3)
Interstate* and Non-Interstate Freeways (NHS)	Urban	3 miles (5 kilometers)
	Rural	6 miles (10 kilometers)
All Expressways (NHS), Statewide (NHS), Regional and District Highways	Urban	1.9 miles (3 kilometers)
	Rural	3 miles (5 kilometers)

Notes for Table 12:

* Interstate interchange spacing must be in conformance with federal policy.

(1) The spacing standards in Table 12 are for planning and design of new interchanges on freeways or expressways. A design exception is required to change these standards. A proposed design exception should also consider the spacing requirements in the Interchange Access Management Area Tables 16-19.

(2) Crossroad to crossroad centerline distance.

(3) A design exception is required to change these planning spacing standards.

[35] Appendix C was replaced as part of Technical Amendment 06 - 21 to include changes adopted as Amendments 04 - 13 and 05 - 16.

Table 13: Access Management Spacing Standards for Statewide Highways with Annual Average Daily Traffic (AADT) of 5,000 Vehicles or Less

Posted Speed (mph)*	Regional & Highways District Highways	Statewide Highways	Statewide Highways	Statewide Highways
	Rural and Urban Areas	Rural Areas	Urban Areas	Unincorporated Communities in Rural Areas
	Spacing (ft)			
55 or higher	650	1320	1320	1320
50	425	1100	1100	1100
40 & 45	360	990	360	750
30 & 35	250	770	250	425
25 & lower	150	550	150	350

* Posted Speed: Posted speed can only be adjusted (up or down) after a speed study is conducted and that study determines the correct posted speed to be different than the current posted speed. In cases where actual speeds are suspected to be much higher than posted speeds, the Department reserves the right to adjust the access management spacing accordingly. A determination can be made to go to longer access management spacing standards as appropriate for a higher speed. A speed study will need to be conducted to determine the correct speed.

Notes for Table 13:

1) Table 13 does not apply to expressways.
2) The spacing standards for approaches on one-way highways or highways with a raised or depressed nontraversable median where only a right-hand or left-hand turn is allowed are one-half the spacing standards for highways where the annual average daily traffic is more than 5,000 motor vehicles as described in Tables 14-16.
3) The spacing standards described in Table 13 apply to the distance measured along the highway from the center of an existing or proposed private approach to the center of the nearest existing or proposed private or public approach on the same side of the highway in both directions.
4) Special transportation areas, access management plans, corridor plans, interchange area management plans or interchange management areas, as designated by the Oregon Transportation Commission, may have spacing standards that take precedence over the spacing standards described in Table 13.
5) These access management spacing standards are for unsignalized approaches only. Signal spacing standards supersedes access management spacing standards for approaches.
6) For in-fill and redevelopment, see OAR 734-051.
7) For deviations to the designated access management spacing standards see ORS 374.312(7) and OAR 734-051.
8) Spacing standards in Table 13 do not apply to approaches in existence prior to January 1, 2012, except when:
    a. A new or change of use of an approach permit is required under ORS 374.305 and OAR 734-051,
    b. Infill development or redevelopment occurs and spacing and safety will be improved by moving in the direction of the spacing standards described in Table 13,
    c. A highway or interchange project occurs and spacing and safety will be improved by moving in the direction of the spacing standards described in Table 13.

Table 14: Access Management Spacing Standards for Statewide Highways with Annual Average Daily Traffic (AADT) of More Than 5,000 Vehicles

Posted Speed (mph)*	Rural Expressway **	Rural Areas	Urban Expressway ** ***	Urban Areas ****
	Spacing (ft)			
55 or higher	5280	1320	2640	1320
50	5280	1100	2640	1100
40 & 45	5280	990	2640	800
30 & 35	-	770	-	500
25 & lower	-	550	-	350

* Posted Speed: Posted speed can only be adjusted (up or down) after a speed study is conducted and that study determines the correct posted speed to be different than the current posted speed. In cases where actual speeds are suspected to be much higher than posted speeds, the Department reserves the right to adjust the access management spacing accordingly. A determination can be made to go to longer access management spacing standards as appropriate for a higher speed. A speed study will need to be conducted to determine the correct speed.

** Spacing for Expressway at-grade intersections only. See Table 12 for interchange spacing.

*** These standards also apply to Commercial Centers.

**** The Urban standard applies in UBAs unless a management plan agreed to by ODOT and the local government(s) establishes a different standard. Spacing standards on access controlled facilities are also guided by those controls.

Notes for Table 14:

1) The spacing standards for approaches on one-way highways or highways with a raised or depressed nontraversable median where only a right-hand or left-hand turn is allowed are one-half the spacing standards in Table 14.
2) The spacing standards described in Table 14 apply to the distance measured along the highway from the center of an existing or proposed private approach to the center of the nearest existing or proposed private or public approach on the same side of the highway in both directions.
3) Special transportation areas, access management plans, corridor plans, interchange area management plans or interchange management areas, as designated by the Oregon Transportation Commission, may have spacing standards that take precedence over the spacing standards described in Table 14.
4) These access management spacing standards are for unsignalized approaches only. Signal spacing standards supersedes access management spacing standards for approaches.
5) Minimum access management spacing for public road approaches is the existing city block spacing or the city block spacing as identified in the local comprehensive plan. Public road connections are preferred over private driveways and in STAs driveways are discouraged. However, where driveways are allowed and where land use patterns permit, the minimum access management spacing for driveways is 150 feet (46 meters) or mid-block if the current city block is less than 300 feet (91 meters).
6) For in-fill and redevelopment, see OAR 734-051.
7) For deviations to the designated access management spacing standards see ORS 374.312(7) OAR 734-051.
8) Spacing standards in Table 14 do not apply to approaches in existence prior to January 1, 2012, except when:
    a. A new or change of use of an approach permit is required under ORS 374.305 and OAR

734-051,

b. Infill development or redevelopment occurs and spacing and safety will be improved by moving in the direction of the spacing standards described in Table 14,
c. A highway or interchange project occurs and spacing and safety will be improved by moving in the direction of the spacing standards described in Table 14.

Table 15: Access Management Spacing Standards for Regional Highways with Annual Average Daily Traffic (AADT) of More Than 5,000 Vehicles

Posted Speed (mph)*	Rural Expressway **	Rural Areas	Urban Expressway ** ***	Urban Areas ****
	Spacing (ft)			
55 or higher	5280	990	2640	990
50	5280	830	2640	830
40 & 45	5280	750	2640	500
30 & 35	-	600	-	350
25 & lower	-	450	-	250

* Posted Speed: Posted speed can only be adjusted (up or down) after a speed study is conducted and that study determines the correct posted speed to be different than the current posted speed. In cases where actual speeds are suspected to be much higher than posted speeds, the Department reserves the right to adjust the access management spacing accordingly. A determination can be made to go to longer access management spacing standards as appropriate for a higher speed. A speed study will need to be conducted to determine the correct speed.

** Spacing for Expressway at-grade intersections only. See Table 12 for interchange spacing.

*** These standards also apply to Commercial Centers.

**** The Urban standard applies in UBAs unless a management plan agreed to by ODOT and the local government(s) establishes a different standard. Spacing standards on access controlled facilities are also guided by those controls.

Notes for Table 15:

1) The spacing standards for approaches on one-way highways or highways with a raised or depressed nontraversable median where only a right-hand or left-hand turn is allowed are one-half the spacing standards in Table 15.
2) The spacing standards described in Table 15 apply to the distance measured along the highway from the center of an existing or proposed private approach to the center of the nearest existing or proposed private or public approach on the same side of the highway in both directions.
3) Special transportation areas, access management plans, corridor plans, interchange area management plans or interchange management areas, as designated by the Oregon Transportation Commission, may have spacing standards that take precedence over the spacing standards described in Table 15.
4) These access management spacing standards are for unsignalized approaches only. Signal spacing standards supersedes access management spacing standards for approaches.
5) Minimum access management spacing for public road approaches is the existing city block spacing or the city block spacing as identified in the local comprehensive plan. Public road connections are preferred over private driveways and in STAs driveways are discouraged. However, where driveways are allowed and where land use patterns permit, the minimum access management spacing for driveways is 150 feet (46 meters) or mid-block if the current city block is less than 300 feet (91 meters).

6) For in-fill and redevelopment, see OAR 734-051.
7) For deviations to the designated access management spacing standards see ORS 374.312(7) OAR 734-051.
8) Spacing standards in Table 15 do not apply to approaches in existence prior to January 1, 2012, except when:
    a. A new or change of use of an approach permit is required under ORS 374.305 and OAR 734-051,
    b. Infill development or redevelopment occurs and spacing and safety will be improved by moving in the direction of the spacing standards described in Table 15,
    c. A highway or interchange project occurs and spacing and safety will be improved by moving in the direction of the spacing standards described in Table 15.

Table 16: Access Management Spacing Standards for District Highways with Annual Average Daily Traffic (AADT) of More Than 5,000 Vehicles

Posted Speed (mph)*	Rural Expressway **	Rural Areas	Urban Expressway ** ***	Urban Areas ****
	Spacing (ft)			
55 or higher	5280	700	2640	700
50	5280	550	2640	550
40 & 45	5280	500	2640	500
30 & 35	-	400	-	350
25 & lower	-	400	-	250

* Posted Speed: Posted speed can only be adjusted (up or down) after a speed study is conducted and that study determines the correct posted speed to be different than the current posted speed. In cases where actual speeds are suspected to be much higher than posted speeds, the Department reserves the right to adjust the access management spacing accordingly. A determination can be made to go to longer access management spacing standards as appropriate for a higher speed. A speed study will need to be conducted to determine the correct speed.

** Spacing for Expressway at-grade intersections only. See Table 12 for interchange spacing.

*** These standards also apply to Commercial Centers.

**** The Urban standard applies in UBAs unless a management plan agreed to by ODOT and the local government(s) establishes a different standard. Spacing standards on access controlled facilities are also guided by those controls.

Notes for Table 16:

1) The spacing standards for approaches on one-way highways or highways with a raised or depressed nontraversable median where only a right-hand or left-hand turn is allowed are one-half the spacing standards in Table 16.
2) The spacing standards described in Table 16 apply to the distance measured along the highway from the center of an existing or proposed private approach to the center of the nearest existing or proposed private or public approach on the same side of the highway in both directions.
3) Special transportation areas, access management plans, corridor plans, interchange area management plans or interchange management areas, as designated by the Oregon Transportation Commission, may have spacing standards that take precedence over the spacing standards described in Table 16.
4) These access management spacing standards are for unsignalized approaches only. Signal spacing

standards supersedes access management spacing standards for approaches.

5) Minimum access management spacing for public road approaches is the existing city block spacing or the city block spacing as identified in the local comprehensive plan. Public road connections are preferred over private driveways and in STAs driveways are discouraged. However, where driveways are allowed and where land use patterns permit, the minimum access management spacing for driveways is 150 feet (46 meters) or mid-block if the current city block is less than 300 feet (91 meters).
6) For in-fill and redevelopment, see OAR 734-051.
7) For deviations to the designated access management spacing standards see ORS 374.312(7) and OAR 734-051.
8) Spacing standards in Table 16 do not apply to approaches in existence prior to January 1, 2012, except when:
    a. A new or change of use of an approach permit is required under ORS 374.305 and OAR 734-051,
    b. Infill development or redevelopment occurs and spacing and safety will be improved by moving in the direction of the spacing standards described in Table 16,
    c. A highway or interchange project occurs and spacing and safety will be improved by moving in the direction of the spacing standards described in Table 16.

Access Management Spacing Standards for Interchange Area

The following tables show the access spacing standards for interchanges as discussed in Goal 3, Policy 3C: Interchange Access Management Areas.

Table 17: Minimum Spacing Standards Applicable To Freeway Interchanges with Two-Lane Crossroads

Category of Mainline	Type of Area	Spacing Dimensions			
		A	X	Y	Z
FREEWAY	Fully Developed Urban	1 mi. (1.6 km)	750 ft. (230 m)	1320 ft. (400 m)	750 ft. (230 m)
	Urban	1 mi. (1.6 km)	1320 ft. (400 m)	1320 ft. (400 m)	990 ft. (300 m)
	Rural	2 mi. (3.2 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)

Notes for Table 17:

1) If the crossroad is a state highway, these distances may be superseded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
2) No four-legged intersections may be placed between ramp terminals and the first major intersection.
3) No application will be accepted where an approach would be aligned opposite a freeway or expressway ramp terminal.
4) Four-lane crossroad standards apply for urban and suburban locations that are documented to be widened in a Transportation System Plan or corridor plan.

Notes for Figure 18:

A = Distance between the start and end of tapers of adjacent interchanges.
X = Distance to the first approach on the right, right in/right out only.
Y = Distance to first intersections where left turns are allowed.
Z = Distance between the last right in/right out approach road and the start of the taper for the on-ramp.

Figure 18: Measurement of Spacing Standards for Table 17

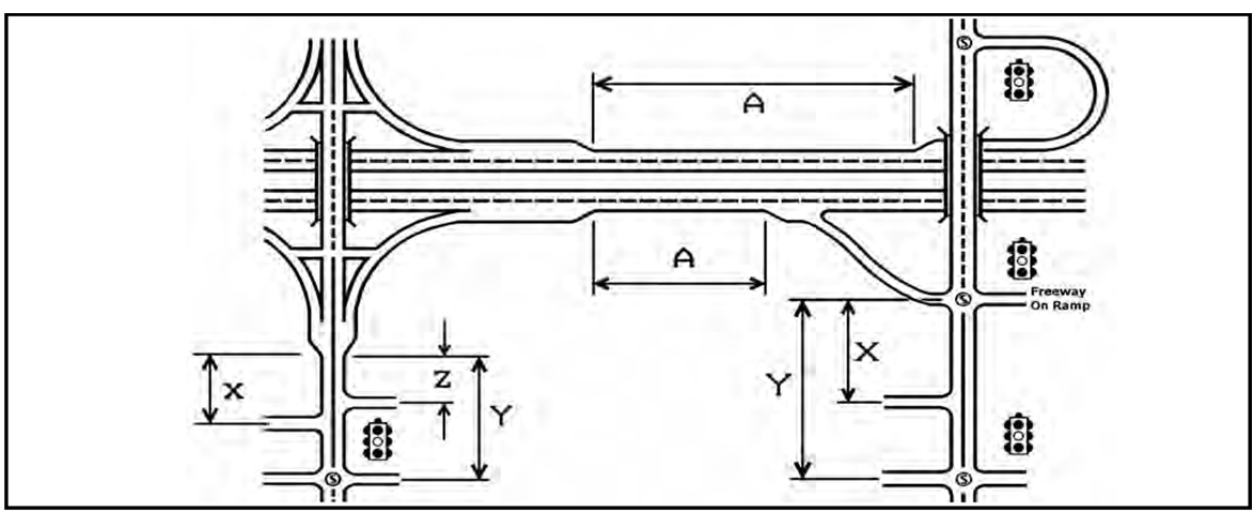


Table 18: Minimum Spacing Standards Applicable to Freeway Interchanges with Multi-Lane Crossroads

Category of Mainline	Type of Area	Spacing Dimensions			
		A	X	Y	Z
FREEWAY	Fully Developed Urban	1 mi. (1.6 km)	750 ft. (230 m)	1320 ft. (400 m)	990 ft. (300 m)
	Urban	1 mi. (1.6 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)
	Rural	2 mi. (3.2 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)

Notes for Table 18:

1) If the crossroad is a state highway, these distances may be superseded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
2) No four-legged intersections may be placed between ramp terminals and the first major intersection.
3) No application will be accepted where an approach would be aligned opposite a freeway or expressway ramp terminal.

Notes for Figure 19:

A = Distance between the start and end of adjacent interchanges.
X = Distance to first approach on the right, right in/right out only.
Y = Distance to first intersections where left turns are allowed.
Z = Distance between the last approach road and the start of the taper for the on-ramp.

Figure 19: Measurement of Spacing Standards for Table 18

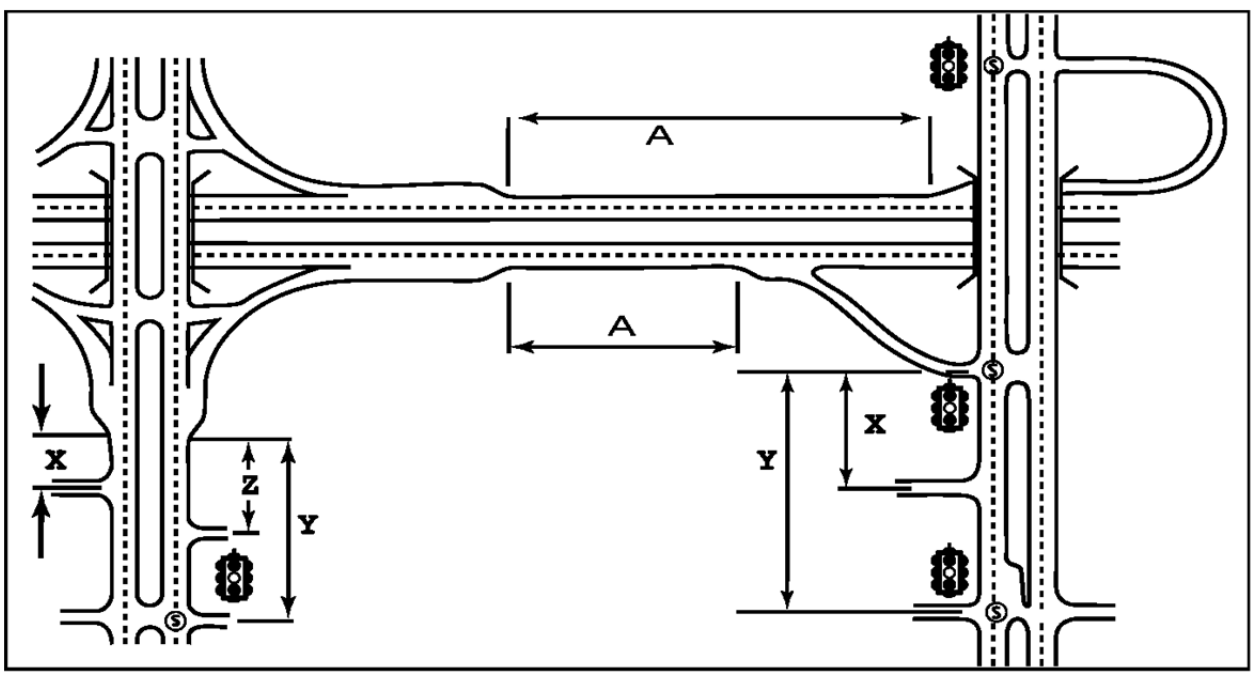


Table 19: Minimum Spacing Standards Applicable to Non-Freeway Interchanges with Two-Lane Crossroads

Category of Mainline	Type of Area	Speed of Mainline	Spacing Dimensions				
			B	C	X	Y	Z
Expressways, Statewide, Regional and District Highways	Fully Developed Urban	45 mph (70 kph)	2640 ft. (800 m)	1 mi. (1.6 km)	750 ft. (230 m)	1320 ft. (400 m)	990 ft. (300 m)
	Urban	45 mph (70 kph)	2640 ft. (800 m)	1 mi. (1.6 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)
	Rural	55 mph (90 kph)	1 mi. (1.6 km)	2 mi. (3.2 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)

Notes for Table 19:

1) If the crossroad is a state highway, these distances may be superseded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
2) No four-legged intersection may be placed between ramp terminals and the first major intersection.
3) Use four-lane cross road standards for urban and suburban locations that are likely to be widened.
4) No at-grade intersections are permitted between continuous interchanges less than 5 miles apart.

Notes for Figure 20:

B = Distance between the start and end of tapers.
C = Distance between nearest at-grade and ramp terminal intersections or the end/start of the taper section.
X = Distance to first approach on the right, right in/right out only.
Y = Distance to first intersections where left turns are allowed.
Z = Distance between the last right in/out approach road and the start of the taper for the on-ramp.

Figure 20: Measurement of Spacing Standards for Table 19

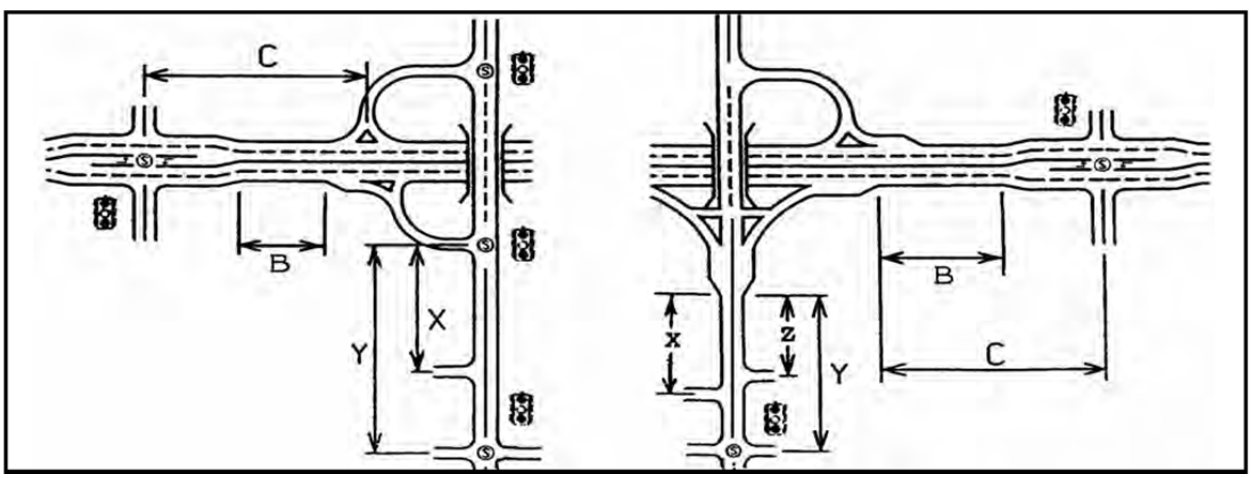


Table 20: Minimum Spacing Standards Applicable to Non-Freeway Interchanges with Multi-Lane Crossroads

Category of Mainline	Type of Area	Speed of Mainline	Spacing Dimensions				
			B	C	X	Y	Z
Expressways, Statewide, Regional and District Highways	Fully Developed Urban	45 mph (70 kph)	2640 ft. (800 m)	1 mi. (1.6 km)	750 ft. (230 m)	1320 ft. (400 m)	990 ft. (300 m)
	Urban	45 mph (70 kph)	2640 ft. (800 m)	1 mi. (1.6 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)
	Rural	55 mph (90 kph)	1 mi. (1.6 km)	2 mi. (3.2 km)	1320 ft. (400 m)	1320 ft. (400 m)	1320 ft. (400 m)

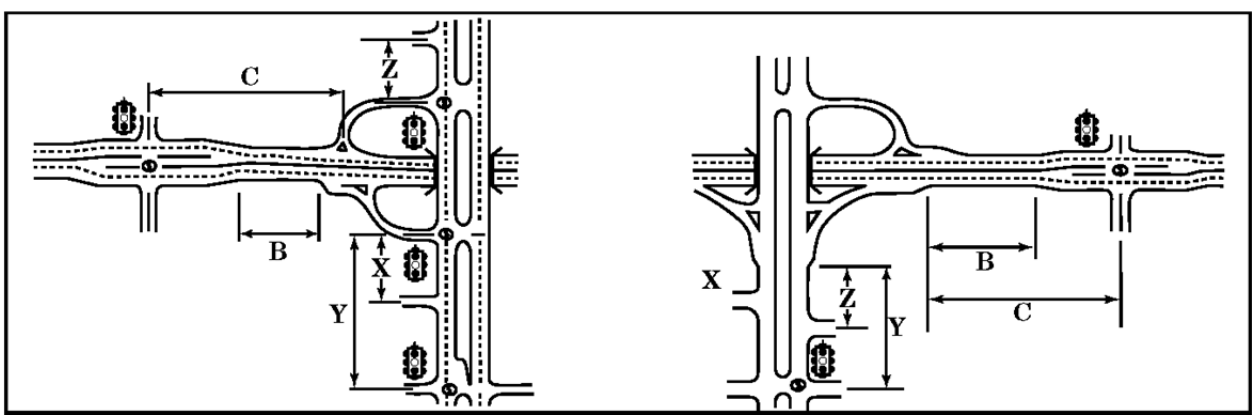
Notes for Table 20:

1) If the crossroad is a state highway, these distances may be superseded by the Access Management Spacing Standards, providing the distances are greater than the distances listed in the above table.
2) No four-legged intersection may be placed between ramp terminals and the first major intersection.
3) Use four-lane cross road standards for urban and suburban locations that are likely to be widened.
4) No at-grade intersections are permitted between continuous interchanges less than 5 miles apart.

Notes for Figure 21:

B = Distance between the start and end of tapers.
C = Distance between nearest at-grade and ramp terminal intersections or the end/start of the taper section.
X = Distance to first approach on the right, right in/right out only.
Y = Distance to first intersections where left turns are allowed.
Z = Distance between the last right in/out approach road and the start of the taper for the on-ramp.

Figure 21: Measurement of Spacing Standards for Table 20



Appendix D[36]

Highway Classification by Milepoint

Revised: July 22, 2013

[36] OHP amendments include the reclassification of highways, designation of Expressways, Bypasses, Special Transportation Areas, Scenic Highways, Urban Business Areas, Commercial Centers, State Freight Routes and Federal Truck Routes. The Table has been expanded to include all of these categories.

State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
PACIFIC												
001	0.00	11.47	I-5	Interstate	NHS	NN	FR	RRR				
001	Z 11.44	Z 11.47	I-5	Interstate	NHS	NN	FR	RRR				
001	11.47	35.80	I-5	Interstate	NHS	NN	FR	RRR				
001	35.80	41.02	I-5 OR-99	Interstate	NHS	NN	FR	RRR				
001	41.02	58.25	I-5	Interstate	NHS	NN	FR	RRR				
001	58.25	80.96	I-5 OR-99	Interstate	NHS	NN	FR	RRR				
001	81.00	98.10	I-5 OR-99	Interstate	NHS	NN	FR	RRR				
001	98.10	101.31	I-5	Interstate	NHS	NN	FR	RRR				
001	101.31	103.68	I-5 OR-99	Interstate	NHS	NN	FR	RRR				
001	103.68	108.43	I-5	Interstate	NHS	NN	FR	RRR				
001	108.43	112.13	I-5 OR-99	Interstate	NHS	NN	FR	RRR				
001	112.13	124.37	I-5	Interstate	NHS	NN	FR	RRR				
001	124.37	136.31	I-5 OR-138	Interstate	NHS	NN	FR	RRR				
001	136.31	140.48	I-5	Interstate	NHS	NN	FR	RRR				
001	140.48	150.00	I-5 OR-99	Interstate	NHS	NN	FR	RRR				
001	150.00	162.36	I-5	Interstate	NHS	NN	FR	RRR				
001	162.36	168.37	I-5 OR-99	Interstate	NHS	NN	FR	RRR				
001	168.37	188.57	I-5	Interstate	NHS	NN	FR	RRR				
001	188.57	192.27	I-5 OR-99	Interstate	NHS	NN	FR	RRR				
001	192.27	234.69	I-5	Interstate	NHS	NN	FR	RRR				
001	234.69	258.40	I-5 OR-99E	Interstate	NHS	NN	FR	RRR				
001	258.40	301.96	I-5	Interstate	NHS	NN	FR	RRR				
001	301.96	302.74	I-5 US-30	Interstate	NHS	NN	FR	RRR				
001	302.74	308.38	I-5	Interstate	NHS	NN	FR	RRR				
COLUMBIA RIVER												
002	0.00	7.37	I-84 US-30	Interstate	NHS	NN	FR	RRR				
002	9.70	43.38	I-84 US-30	Interstate	NHS	NN	FR	RRR				
002	43.38	45.33	I-84	Interstate	NHS	NN	FR	RRR				
002	45.33	61.81	I-84 US-30	Interstate	NHS	NN	FR	RRR				
002	61.81	64.69	I-84	Interstate	NHS	NN	FR	RRR				
002	64.69	69.63	I-84 US-30	Interstate	NHS	NN	FR	RRR				
002	69.63	87.23	I-84	Interstate	NHS	NN	FR	RRR				
002	87.23	167.58	I-84 US-30	Interstate	NHS	NN	FR	RRR				
002	167.58	182.66	US-730	Regional	NHS	NN		RRR				
002	182.66	183.52	US-730	Regional	NHS	NN		RRR				STA

KEY: Z – Overlap Mileage after Reroute, SCS – State Classification System, NHS – National Highway System, NN – National Network (Federally Designated Truck Route), RRR – Reduction Review Route, Scenic Byway – State and/or Federal Scenic Byway, Highway System Designation: (CC – Commercial Center, STA – Special Transportation Area, UBA – Urban Business Area).

State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
002	183.52	184.03	US-730	Regional	NHS	NN		RRR				UBA
002	184.03	184.08	US-730	Regional	NHS	NN		RRR				
002	184.08	184.17	US-395 US-730	Statewide	NHS	NN		RRR				
002	184.17	184.87	US-395 US-730	Statewide	NHS	NN	FR	RRR				
002	184.87	203.28	US-730	Regional		NN	FR	RRR				
OSWEGO												
003	0.00	0.64	OR-43	District	NHS							
003	0.64	0.94	OR-43	District	NHS							STA
003	1.00	2.20	OR-43	District	NHS							STA
003	2.20	2.64	OR-43	District	NHS							
003	2.64	5.79	OR-43	District								
003	5.79	6.13	OR-43	District								STA
003	6.13	6.67	OR-43	Statewide	NHS							STA
003	6.67	11.29	OR-43	Statewide	NHS							
003	11.29	11.55	OR-43	District								
THE DALLES-CALIFORNIA												
004	0.00	0.61	US-197	Regional	NHS	NN						
004	0.61	0.69	US-30 US-197	Regional	NHS	NN						
004	0.69	0.96	US-30 US-197	Regional	NHS							
004	0.96	1.27	US-197	Regional	NHS							
004	1.27	23.00	US-197	Regional								
004	27.88	33.89	US-197	Regional								
004	33.89	37.77	US-197 OR-216	Regional								
004	39.33	42.43	US-197 OR-216	Regional								
004	42.43	42.90	US-197	Regional								
004	42.93	44.69	US-197	Regional								
004	44.97	45.29	US-197	Regional								STA
004	45.29	67.17	US-197	Regional								
004	67.17	89.65	US-97	Statewide	NHS	NN	FR	RRR				
004	89.65	91.00	US-97	Statewide	NHS	NN	FR	RRR		EXP		
004	91.00	91.94	US-97	Statewide	NHS	NN	FR	RRR				
004	91.94	93.12	US-26 US-97	Statewide	NHS	NN	FR	RRR				
004	96.04	97.18	US-26 US-97	Statewide	NHS	NN	FR	RRR				
004	97.18	97.29	US-26 US-97	Statewide	NHS	NN	FR	RRR		EXP		
004	97.29	115.25	US-97	Statewide	NHS	NN	FR	RRR		EXP		
004	115.61	115.88	US-97	Statewide	NHS	NN	FR	RRR				

KEY: Z – Overlap Mileage after Reroute, SCS – State Classification System, NHS – National Highway System, NN – National Network (Federally Designated Truck Route), RRR – Reduction Review Route, Scenic Byway – State and/or Federal Scenic Byway, Highway System Designation: (CC – Commercial Center, STA – Special Transportation Area, UBA – Urban Business Area).

State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
004	115.94	119.02	US-97	Statewide	NHS	NN	FR	RRR		EXP		
004	Z 118.96	Z 119.02	US-97	Statewide	NHS	NN		RRR		EXP		
004	119.02	121.98	US-97	Statewide	NHS	NN	FR	RRR		EXP		
004	121.98	123.30	US-97	Statewide	NHS	NN	FR	RRR				
004	123.60	134.67	US-97	Statewide	NHS	NN	FR	RRR		EXP		
004	134.67	141.12	US-97	Statewide	NHS	NN	FR	RRR		EXP	BP	
004	141.86	141.91	US-97	Statewide	NHS	NN	FR	RRR		EXP	BP	
004	141.91	167.50	US-97	Statewide	NHS	NN	FR	RRR		EXP		
004	167.50	168.04	US-97	Statewide	NHS	NN	FR	RRR				
004	168.04	185.12	US-97	Statewide	NHS	NN	FR	RRR		EXP		
004	185.12	185.77	US-97	Statewide	NHS	NN	FR	RRR				
004	185.77	202.79	US-97	Statewide	NHS	NN	FR	RRR		EXP		
004	202.79	203.57	US-97	Statewide	NHS	NN	FR	RRR				
004	203.57	272.58	US-97	Statewide	NHS	NN	FR	RRR		EXP		
004	272.58	277.33	US-97	Statewide	NHS	NN	FR	RRR		EXP	BP	
004	277.33	277.43	US-97	Statewide	NHS	NN	FR	RRR	SB	EXP	BP	
004	277.43	277.61	US-97	Statewide	NHS	NN	FR	RRR	SB	EXP		
004	278.03	291.73	US-97	Statewide	NHS	NN	FR	RRR	SB	EXP		
JOHN DAY												
005	0.00	1.13	OR-19	Regional		NN		RRR				
005	Z 0.97	Z 1.13	OR-19	Regional		NN		RRR				
005	1.13	16.84	OR-19	Regional		NN		RRR				
005	17.02	38.07	OR-19	Regional		NN		RRR				
005	38.07	38.27	OR-19 OR-206	Regional								
005	38.27	44.51	OR-19	Regional								
005	44.99	49.12	OR-19	Regional								
005	49.29	58.15	OR-19	Regional								
005	58.15	58.21	OR-19	Regional					SB			
005	59.18	78.56	OR-19	Regional					SB			
005	78.56	86.71	OR-19 OR-207	Regional					SB			
005	88.13	95.40	OR-19 OR-207	Regional					SB			
005	95.51	95.56	OR-19 OR-207	Regional					SB			
005	95.56	105.40	OR-19	Regional					SB			
005	105.44	108.02	OR-19	Regional					SB			
005	108.14	123.69	OR-19	Regional					SB			
005	123.98	124.17	OR-19	Regional					SB			

KEY: Z – Overlap Mileage after Reroute, SCS – State Classification System, NHS – National Highway System, NN – National Network (Federally Designated Truck Route), RRR – Reduction Review Route, Scenic Byway – State and/or Federal Scenic Byway, Highway System Designation: (CC – Commercial Center, STA – Special Transportation Area, UBA – Urban Business Area).

State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
005	124.17	130.86	US-26	Statewide	NHS			RRR	SB			
005	130.86	131.20	US-26	Statewide	NHS			RRR	SB			STA
005	131.20	143.91	US-26	Statewide	NHS			RRR	SB			
005	143.98	154.03	US-26	Statewide	NHS			RRR	SB			
005	154.03	161.51	US-26 US-395	Statewide	NHS		FR	RRR	SB			
005	161.51	162.07	US-26 US-395	Statewide	NHS		FR	RRR	SB			UBA
005	162.07	162.29	US-26 US-395	Statewide	NHS		FR	RRR	SB			STA
005	162.29	162.36	US-26	Statewide	NHS			RRR	SB			STA
005	162.36	162.62	US-26	Statewide	NHS			RRR	SB			UBA
005	162.62	183.21	US-26	Statewide	NHS			RRR	SB			
005	183.25	190.67	US-26	Statewide	NHS			RRR	SB			
005	190.67	203.19	US-26	Statewide	NHS			RRR				
005	203.82	211.47	US-26	Statewide	NHS			RRR				
005	211.57	212.30	US-26	Statewide	NHS			RRR				
005	212.30	212.87	US-26	Statewide	NHS			RRR				STA
005	212.87	254.17	US-26	Statewide	NHS			RRR				
005	254.60	277.71	US-26	Statewide	NHS			RRR				
005	277.71	278.21	US-26	Statewide	NHS			RRR				UBA
OLD OREGON TRAIL												
006	167.58	189.13	I-84 US-30	Interstate	NHS	NN	FR	RRR				
006	189.12	207.10	I-84 US-30 US-395	Interstate	NHS	NN	FR	RRR				
006	207.10	209.36	I-84 US-395	Interstate	NHS	NN	FR	RRR				
006	209.36	213.37	I-84	Interstate	NHS	NN	FR	RRR				
006	213.37	259.27	I-84 US-30	Interstate	NHS	NN	FR	RRR				
006	259.27	264.92	I-84	Interstate	NHS	NN	FR	RRR				
006	264.92	285.69	I-84 US-30	Interstate	NHS	NN	FR	RRR				
006	285.69	298.94	I-84	Interstate	NHS	NN	FR	RRR				
006	298.94	303.21	I-84 US-203	Interstate	NHS	NN	FR	RRR				
006	303.21	306.78	I-84	Interstate	NHS	NN	FR	RRR				
006	306.78	342.52	I-84 US-30	Interstate	NHS	NN	FR	RRR				
006	342.52	353.04	I-84	Interstate	NHS	NN	FR	RRR				
006	353.04	376.91	I-84 US-30	Interstate	NHS	NN	FR	RRR				
006	376.91	378.01	I-84	Interstate	NHS	NN	FR	RRR				
CENTRAL OREGON												
007	0.51	1.11	US-20	Statewide	NHS	NN	FR	RRR				
007	4.79	17.60	US-20	Statewide	NHS	NN	FR	RRR				

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
009	22.00	27.53	US-101	Statewide	NHS	NN		RRR	SB			
009	27.61	28.08	US-101	Statewide	NHS	NN		RRR	SB			
009	28.08	31.37	US-101	Statewide	NHS	NN		RRR	SB		BP	
009	31.37	44.89	US-101	Statewide	NHS	NN		RRR	SB			
009	44.89	45.06	US-101	Statewide	NHS	NN		RRR	SB			STA
009	45.06	47.13	US-101	Statewide	NHS	NN		RRR	SB			
009	47.13	47.48	US-101	Statewide	NHS	NN		RRR	SB			STA
009	47.48	49.57	US-101	Statewide	NHS	NN		RRR	SB			
009	Z 45.37	Z 49.57	US-101	Statewide	NHS	NN		RRR	SB			
009	49.57	50.38	US-101	Statewide	NHS	NN		RRR	SB			
009	50.38	51.42	US-101	Statewide	NHS	NN		RRR	SB			STA
009	51.42	55.29	US-101	Statewide	NHS	NN		RRR	SB			
009	55.29	56.12	US-101	Statewide	NHS	NN		RRR	SB			STA
009	56.12	60.86	US-101	Statewide	NHS	NN		RRR	SB			
009	61.07	65.64	US-101	Statewide	NHS	NN		RRR	SB			
009	65.64	65.74	US-101	Statewide	NHS	NN		RRR	SB			STA
009	65.74	66.24	US-101	Statewide	NHS				SB			STA
009	66.21	87.35	US-101	Statewide	NHS				SB			
009	87.35	87.66	US-101	Statewide	NHS				SB			STA
009	87.66	92.02	US-101	Statewide	NHS				SB			
009	92.21	96.15	US-101	Statewide	NHS				SB			
009	96.76	98.01	US-101	Statewide	NHS				SB			
009	98.05	105.21	US-101	Statewide	NHS				SB			
009	105.21	105.65	US-101	Statewide	NHS	NN		RRR	SB			
009	110.75	117.71	US-101	Statewide	NHS	NN		RRR	SB			
009	117.71	118.05	US-101	Statewide	NHS	NN		RRR	SB			STA
009	118.05	120.69	US-101	Statewide	NHS	NN		RRR	SB			
009	120.81	127.31	US-101	Statewide	NHS	NN		RRR	SB			
009	127.31	127.58	US-101	Statewide	NHS	NN		RRR	SB			STA
009	127.58	140.37	US-101	Statewide	NHS	NN		RRR	SB			
009	140.37	155.90	US-101	Statewide	NHS				SB			
009	155.90	156.18	US-101	Statewide	NHS				SB			STA
009	156.18	164.12	US-101	Statewide	NHS				SB			
009	164.12	164.46	US-101	Statewide	NHS				SB			STA
009	164.46	177.83	US-101	Statewide	NHS				SB			
009	177.88	188.97	US-101	Statewide	NHS				SB			

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
009	188.97	190.23	US-101	Statewide	NHS				SB			UBA
009	190.23	190.84	US-101	Statewide	NHS	NN	FR	RRR	SB			STA
009	190.85	239.89	US-101	Statewide	NHS	NN	FR	RRR	SB			
009	239.89	244.27	US-101	Statewide	NHS	NN	FR	RRR	SB	EXP		
009	244.27	261.57	US-101	Statewide	NHS	NN		RRR	SB			
009	273.36	289.13	US-101	Statewide	NHS	NN		RRR	SB			
009	289.12	300.24	US-101	Statewide	NHS	NN		RRR	SB			
009	300.41	300.66	US-101	Statewide	NHS	NN		RRR	SB			
009	300.66	301.37	US-101	Statewide	NHS	NN		RRR	SB			STA
009	301.37	301.48	US-101	Statewide	NHS	NN		RRR	SB			
009	301.48	337.97	US-101	Statewide	NHS				SB			
009	337.97	339.71	US-101 OR-255	Statewide	NHS				SB			
009	339.71	357.08	US-101	Statewide	NHS				SB			
009	357.08	357.57	US-101	Statewide	NHS				SB			STA
009	357.57	363.11	US-101	Statewide	NHS				SB			
WALLOWA LAKE												
010	0.00	0.22	OR-82	District	NHS				SB			
010	0.22	0.80	OR-82	District	NHS							
010	0.82	0.98	OR-82	Statewide	NHS							
010	0.98	1.61	OR-82	Statewide	NHS				SB			
010	1.61	2.81	OR-82	Statewide	NHS				SB			UBA
010	2.81	12.13	OR-82	Statewide	NHS				SB			
010	12.13	12.34	OR-82	Statewide	NHS				SB			STA
010	12.34	19.44	OR-82	Statewide	NHS				SB			
010	19.44	19.73	OR-82	Statewide	NHS				SB			UBA
010	19.96	20.13	OR-82	Statewide	NHS				SB			UBA
010	20.13	20.34	OR-82	Statewide	NHS				SB			STA
010	20.34	20.60	OR-82	Statewide	NHS				SB			UBA
010	20.60	34.14	OR-82	Statewide	NHS				SB			
010	34.14	42.09	OR-82	Statewide	NHS				SB			
010	42.09	46.33	OR-82	Statewide	NHS				SB			
010	46.33	46.89	OR-82	Statewide	NHS				SB			UBA
010	46.89	47.32	OR-82	Statewide	NHS				SB			STA
010	47.32	54.65	OR-82	Statewide	NHS				SB			
010	54.65	54.98	OR-82	Statewide	NHS				SB			STA
010	54.98	64.70	OR-82	Statewide	NHS				SB			

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
009	188.97	190.23	US-101	Statewide	NHS				SB			UBA
009	190.23	190.84	US-101	Statewide	NHS	NN	FR	RRR	SB			STA
009	190.85	239.89	US-101	Statewide	NHS	NN	FR	RRR	SB			
009	239.89	244.27	US-101	Statewide	NHS	NN	FR	RRR	SB	EXP		
009	244.27	261.57	US-101	Statewide	NHS	NN		RRR	SB			
009	273.36	289.13	US-101	Statewide	NHS	NN		RRR	SB			
009	289.12	300.24	US-101	Statewide	NHS	NN		RRR	SB			
009	300.41	300.66	US-101	Statewide	NHS	NN		RRR	SB			
009	300.66	301.37	US-101	Statewide	NHS	NN		RRR	SB			STA
009	301.37	301.48	US-101	Statewide	NHS	NN		RRR	SB			
009	301.48	337.97	US-101	Statewide	NHS				SB			
009	337.97	339.71	US-101 OR-255	Statewide	NHS				SB			
009	339.71	357.08	US-101	Statewide	NHS				SB			
009	357.08	357.57	US-101	Statewide	NHS				SB			STA
009	357.57	363.11	US-101	Statewide	NHS				SB			
WALLOWA LAKE												
010	0.00	0.22	OR-82	District	NHS				SB			
010	0.22	0.80	OR-82	District	NHS							
010	0.82	0.98	OR-82	Statewide	NHS							
010	0.98	1.61	OR-82	Statewide	NHS				SB			
010	1.61	2.81	OR-82	Statewide	NHS				SB			UBA
010	2.81	12.13	OR-82	Statewide	NHS				SB			
010	12.13	12.34	OR-82	Statewide	NHS				SB			STA
010	12.34	19.44	OR-82	Statewide	NHS				SB			
010	19.44	19.73	OR-82	Statewide	NHS				SB			UBA
010	19.96	20.13	OR-82	Statewide	NHS				SB			UBA
010	20.13	20.34	OR-82	Statewide	NHS				SB			STA
010	20.34	20.60	OR-82	Statewide	NHS				SB			UBA
010	20.60	34.14	OR-82	Statewide	NHS				SB			
010	34.14	42.09	OR-82	Statewide	NHS				SB			
010	42.09	46.33	OR-82	Statewide	NHS				SB			
010	46.33	46.89	OR-82	Statewide	NHS				SB			UBA
010	46.89	47.32	OR-82	Statewide	NHS				SB			STA
010	47.32	54.65	OR-82	Statewide	NHS				SB			
010	54.65	54.98	OR-82	Statewide	NHS				SB			STA
010	54.98	64.70	OR-82	Statewide	NHS				SB			

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
010	64.76	71.07	OR-82	Statewide	NHS				SB			
010	71.07	71.42	OR-82	Statewide	NHS				SB			STA
ENTERPRISE-LEWISTON												
011	0.00	24.74	OR-3	District								
011	24.80	43.19	OR-3	District								
BAKER-COPPERFIELD												
012	0.00	1.57	OR-7	District	NHS			RRR				
012	2.43	2.66	OR-86	District								
012	2.66	2.77	OR-86	District					SB			
012	Z 2.52	Z 2.77	OR-86	District					SB			
012	2.77	18.10	OR-86	District					SB			
012	18.25	31.73	OR-86	District					SB			
012	32.01	41.36	OR-86	District					SB			
012	41.36	41.37	OR-86	District					SB			STA
012	42.00	42.27	OR-86	District					SB			STA
012	42.27	53.55	OR-86	District					SB			
012	53.55	54.96	OR-86 OR-86S	District					SB			
012	54.96	70.80	OR-86	District					SB			
CROOKED RIVER												
014	1.90	19.65	OR-27	District								
014	19.72	27.39	OR-27	District								
014	Z 25.04	Z 27.39	OR-27	District								
014	27.39	42.51	OR-27	District								
MCKENZIE												
015	-0.06	6.23	OR-126B	Statewide	NHS							
015	6.23	39.68	OR-126	Statewide	NHS	NN		RRR				
015	39.68	41.01	OR-126	Statewide	NHS	NN		RRR			BP	
015	41.01	41.16	OR-126	Statewide	NHS	NN		RRR				
015	41.34	45.39	OR-126	Statewide	NHS	NN		RRR				
015	45.39	54.97	OR-126	Statewide	NHS	NN		RRR	SB			
015	55.46	89.22	OR-242	District					SB			
015	89.40	92.05	OR-242	District					SB			
015	Z 91.85	Z 92.03	OR-242	District					SB			
015	Z 92.03	Z 92.05	US-20 OR-126	Statewide	NHS	NN	FR	RRR				
015	92.05	92.29	US-20 OR-126 OR-242	Statewide	NHS	NN	FR	RRR				
015	92.29	93.07	US-20 OR-126	Statewide	NHS	NN	FR	RRR				

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
015	93.38	109.65	OR-126	Statewide	NHS	NN	FR	RRR		EXP		
015	110.65	112.03	OR-126	Statewide	NHS	NN	FR	RRR				
SANTIAM												
016	-0.03	2.88	US-20	Regional	NHS	NN		RRR				
016	2.88	11.69	US-20	Regional		NN		RRR				
016	11.69	12.80	US-20	Regional	NHS	NN		RRR				
016	12.80	13.08	US-20	Regional	NHS	NN	FR	RRR				
016	13.08	13.45	US-20	Regional	NHS	NN	FR	RRR				STA
016	13.45	27.07	US-20	Regional	NHS	NN	FR	RRR				
016	27.07	31.31	US-20	Regional	NHS	NN		RRR	SB			
016	31.31	71.52	US-20	Regional	NHS				SB			
016	71.52	74.90	US-20 OR-126	Statewide	NHS	NN		RRR	SB			
016	74.90	90.85	US-20 OR-126	Statewide	NHS	NN	FR	RRR	SB			
016	99.95	100.12	US-20 OR-126	Statewide	NHS	NN	FR	RRR	SB			
MCKENZIE-BEND												
017	0.37	18.10	US-20	Statewide	NHS	NN	FR	RRR		EXP		
017	18.51	20.99	US-20 US-97B	Statewide	NHS	NN		RRR				
WILLAMETTE												
018	-0.30	-0.12	OR-58 OR-99	Statewide	NHS	NN	FR	RRR				
018	-0.12	0.07	OR-58	Statewide	NHS	NN	FR	RRR				
018	0.07	0.28	OR-58 OR-99	Statewide	NHS	NN	FR	RRR				
018	0.28	64.34	OR-58	Statewide	NHS	NN	FR	RRR				
FREMONT												
019	0.00	120.57	OR-31	Regional		NN		RRR	SB			
019	120.57	138.34	US-395	Statewide	NHS	NN	FR	RRR	SB			
019	137.34	143.03	US-395 OR-140	Statewide	NHS	NN	FR	RRR	SB			
019	143.03	157.73	US-395	Statewide	NHS	NN	FR	RRR	SB			
KLAMATH FALLS-LAKEVIEW												
020	-0.14	0.19	US-97B OR-39	District	NHS							
020	2.50	3.28	OR-39	Regional								
020	3.28	5.54	OR-39	Regional	NHS							
020	5.54	60.67	OR-140	Statewide	NHS		FR	RRR				
020	60.71	82.02	OR-140	Statewide	NHS		FR	RRR				
020	82.05	96.37	OR-140	Statewide	NHS		FR	RRR				
GREEN SPRINGS												
021	0.73	2.50	OR-66	District	NHS							

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
021	2.50	13.66	OR-66	District								
021	Z 13.00	Z 13.66	OR-66	District								
021	13.66	44.01	OR-66	District								
021	44.17	57.93	OR-66	District								
021	57.93	58.86	OR-66	District	NHS							
021	58.86	59.01	OR-66 OR-140	Statewide	NHS	NN	FR	RRR	SB			
021	59.01	59.05	OR-66 OR-140	Statewide	NHS	NN	FR	RRR				
CRATER LAKE												
022	0.05	0.48	OR-62	Statewide	NHS	NN		RRR				
022	0.48	1.59	OR-62	Statewide	NHS	NN	FR	RRR				
022	1.59	6.00	OR-62	Statewide	NHS	NN	FR	RRR		EXP		
022	9.20	10.06	OR-62	Regional				RRR		EXP		
022	10.06	13.63	OR-62	Regional				RRR				
022	13.63	26.65	OR-62	Regional				RRR	SB			
022	26.91	35.70	OR-62	Regional				RRR	SB			
022	36.64	44.29	OR-62	Regional				RRR	SB			
022	45.31	57.28	OR-62	Regional				RRR	SB			
022	57.28	57.31	OR-62	District				RRR	SB			
022	57.31	65.45	OR-62	District								
022	83.63	90.01	OR-62	District					SB			
022	90.05	90.07	OR-62	District					SB			
022	90.07	103.95	OR-62	District								
DAIRY-BONANZA												
023	0.00	6.97	OR-70	District								
REDWOOD												
025	-2.74	0.02	OR-99	District	NHS	NN		RRR				
025	0.02	0.20		District	NHS	NN		RRR				
025	0.20	0.25		Statewide	NHS	NN		RRR				
025	0.25	0.35	US-199	Statewide	NHS	NN	FR	RRR		EXP	BP	
025	0.35	6.92	US-199	Statewide	NHS	NN	FR	RRR		EXP		
025	6.92	9.03	US-199	Statewide	NHS	NN	FR	RRR				
025	9.33	21.46	US-199	Statewide	NHS	NN	FR	RRR				
025	21.59	32.52	US-199	Statewide	NHS	NN	FR	RRR				
025	32.64	41.69	US-199	Statewide	NHS	NN	FR	RRR				
MT. HOOD												
026	-0.10	0.01	US-26	District								

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
026	0.01	0.35	US-26	District		NN		RRR				
026	0.35	5.05	US-26	District	NHS	NN		RRR				
026	5.10	5.87	US-26	District	NHS	NN		RRR				
026	5.97	9.96	US-26	District	NHS	NN		RRR				
026	14.22	14.75	US-26	Statewide	NHS	NN		RRR	SB	EXP		
026	14.75	19.96	US-26	Statewide	NHS	NN		RRR		EXP		
026	19.96	22.15	US-26	Statewide	NHS	NN	FR	RRR		EXP		
026	22.15	23.87	US-26	Statewide	NHS	NN	FR	RRR				
026	23.87	24.61	US-26	Statewide	NHS	NN	FR	RRR	SB			STA
026	24.61	24.70	US-26	Statewide	NHS	NN	FR	RRR	SB			
026	24.92	41.60	US-26	Statewide	NHS	NN	FR	RRR	SB			
026	42.25	44.57	US-26	Statewide	NHS	NN	FR	RRR	SB			
026	44.79	56.11	US-26	Statewide	NHS	NN	FR	RRR	SB			
026	57.20	80.59	OR-35	Statewide	NHS	NN	FR	RRR	SB			
026	82.62	85.09	OR-35	Statewide	NHS	NN	FR	RRR	SB			
026	88.34	94.17	OR-35	Statewide	NHS	NN	FR	RRR	SB			
026	94.43	96.87	OR-35	Statewide	NHS	NN	FR	RRR	SB			
026	97.08	101.82	OR-35	Statewide	NHS	NN	FR	RRR	SB			
ALSEA												
027	0.00	0.16	OR-34	District								STA
027	0.16	20.81	OR-34	District								
027	20.84	28.21	OR-34	District								
027	2.35	48.65	OR-34	District								
027	50.43	58.56	OR-34	District								
PENDLETON-JOHN DAY												
028	0.05	1.02		Statewide								STA
028	1.02	1.37		Statewide								
028	1.37	1.57	OR-37	Statewide								
028	1.57	1.63	US-395 OR-37	Statewide								
028	1.63	1.70	US-395 OR-37	Statewide								UBA
028	1.70	2.02	US-395	Statewide	NHS		FR	RRR				UBA
028	2010	2.74	US-395	Statewide	NHS		FR	RRR				UBA
028	2.74	15.21	US-395	Statewide	NHS		FR	RRR				
028	15.21	15.57	US-395	Statewide	NHS		FR	RRR				STA
028	15.57	15.68	US-395	Statewide	NHS		FR	RRR				
028	13.00	56.16	US-395	Statewide	NHS		FR	RRR				

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
026	0.01	0.35	US-26	District		NN		RRR				
026	0.35	5.05	US-26	District	NHS	NN		RRR				
026	5.10	5.87	US-26	District	NHS	NN		RRR				
026	5.97	9.96	US-26	District	NHS	NN		RRR				
026	14.22	14.75	US-26	Statewide	NHS	NN		RRR	SB	EXP		
026	14.75	19.96	US-26	Statewide	NHS	NN		RRR		EXP		
026	19.96	22.15	US-26	Statewide	NHS	NN	FR	RRR		EXP		
026	22.15	23.87	US-26	Statewide	NHS	NN	FR	RRR				
026	23.87	24.61	US-26	Statewide	NHS	NN	FR	RRR	SB			STA
026	24.61	24.70	US-26	Statewide	NHS	NN	FR	RRR	SB			
026	24.92	41.60	US-26	Statewide	NHS	NN	FR	RRR	SB			
026	42.25	44.57	US-26	Statewide	NHS	NN	FR	RRR	SB			
026	44.79	56.11	US-26	Statewide	NHS	NN	FR	RRR	SB			
026	57.20	80.59	OR-35	Statewide	NHS	NN	FR	RRR	SB			
026	82.62	85.09	OR-35	Statewide	NHS	NN	FR	RRR	SB			
026	88.34	94.17	OR-35	Statewide	NHS	NN	FR	RRR	SB			
026	94.43	96.87	OR-35	Statewide	NHS	NN	FR	RRR	SB			
026	97.08	101.82	OR-35	Statewide	NHS	NN	FR	RRR	SB			
ALSEA												
027	0.00	0.16	OR-34	District								STA
027	0.16	20.81	OR-34	District								
027	20.84	28.21	OR-34	District								
027	2.35	48.65	OR-34	District								
027	50.43	58.56	OR-34	District								
PENDLETON-JOHN DAY												
028	0.05	1.02		Statewide								STA
028	1.02	1.37		Statewide								
028	1.37	1.57	OR-37	Statewide								
028	1.57	1.63	US-395 OR-37	Statewide								
028	1.63	1.70	US-395 OR-37	Statewide								UBA
028	1.70	2.02	US-395	Statewide	NHS		FR	RRR				UBA
028	2010	2.74	US-395	Statewide	NHS		FR	RRR				UBA
028	2.74	15.21	US-395	Statewide	NHS		FR	RRR				
028	15.21	15.57	US-395	Statewide	NHS		FR	RRR				STA
028	15.57	15.68	US-395	Statewide	NHS		FR	RRR				
028	13.00	56.16	US-395	Statewide	NHS		FR	RRR				

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
028	56.21	97.18	US-395	Statewide	NHS		FR	RRR				
028	98.30	114.90	US-395	Statewide	NHS		FR	RRR				
028	115.32	120.51	US-395	Statewide	NHS		FR	RRR				
TUALATIN VALLEY												
029	0.05	2.90	OR-8	District	NHS							
029	2.90	16.06	OR-8	Statewide	NHS	NN		RRR				
029	16.06	16.67	OR-8	Statewide	NHS	NN		RRR				STA
029	16.67	17.88	OR-8	Statewide	NHS	NN		RRR				
029	17.88	19.96	OR-47	Regional	NHS						BP	
029	19.96	20.40	OR-47	Regional							BP	
029	21.08	21.57	OR-47	Regional								
029	21.57	22.31	OR-47	Regional					SB			
029	22.31	25.34	OR-47	Regional								
029	25.34	25.73	OR-47	Regional								STA
029	26.52	26.54	OR-47	Regional								STA
029	26.54	37.89	OR-47	Regional								
029	37.89	38.00	OR-47	Regional								STA
029	38.00	42.46	OR-47	Regional								
WILLAMINA-SALEM												
030	0.00	12.72	OR-22	Statewide	NHS	NN	FR	RRR				
030	12.72	16.17	OR-22	Statewide	NHS	NN	FR	RRR		EXP		
030	16.20	20.56	OR-22	Statewide	NHS	NN	FR	RRR		EXP		
030	20.75	25.97	OR-22	Statewide	NHS	NN	FR	RRR		EXP		
030	25.97	26.01	OR-22	Statewide	NHS		FR	RRR		EXP		
030	26.04	26.14	OR-22	Statewide	NHS					EXP		
ALBANY-CORVALLIS												
031	0.10	2.92	US-20	Regional	NHS	NN		RRR				
031	2.92	8.43	US-20	Regional		NN		RRR				
031	8.43	11.28	US-20	Regional	NHS	NN		RRR				
THREE RIVERS												
032	0.00	24.97	OR-22	Regional								
CORVALLIS-NEWPORT												
033	0.00	11.92	US-20	Statewide	NHS		FR	RRR				
033	14.50	28.23	US-20	Statewide	NHS		FR	RRR				
033	28.69	29.11	US-20	Statewide	NHS		FR	RRR				
033	29.15	36.63	US-20	Statewide	NHS		FR	RRR				

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
033	37.20	42.18	US-20	Statewide	NHS		FR	RRR				
033	Z 42.07	Z 42.18	US-20	Statewide	NHS		FR	RRR				
033	42.18	44.68	US-20	Statewide	NHS		FR	RRR				
033	45.66	49.70	US-20	Statewide	NHS		FR	RRR				
033	49.70	79.76	US-20 OR-34	Statewide	NHS		FR	RRR				
033	46.76	50.79	US-20 OR-34	Statewide	NHS	NN	FR	RRR				
033	Z 50.72	Z 50.79	US-20	Statewide	NHS	NN	FR	RRR				
033	50.79	54.03	US-20 OR-34	Statewide	NHS	NN	FR	RRR				
033	54.03	55.67	US-20 OR-34	Statewide	NHS	NN	FR	RRR		EXP	BP	
033	55.67	56.80	OR-34	Statewide	NHS		FR	RRR		EXP	BP	
COOS BAY-ROSEBURG												
035	0.00	9.68	OR-42	Statewide	NHS	NN	FR	RRR		EXP		
035	9.97	10.85	OR-42	Statewide	NHS	NN	FR	RRR		EXP	BP	
035	10.85	11.42	OR-42	Statewide	NHS		FR	RRR			BP	
035	12.13	12.67	OR-42	Statewide	NHS		FR	RRR				
035	20.53	20.80	OR-42	Statewide	NHS		FR	RRR				UBA
035	20.80	23.07	OR-42	Statewide	NHS		FR	RRR				
035	23.11	39.04	OR-42	Statewide	NHS		FR	RRR				
035	40.53	60.14	OR-42	Statewide	NHS		FR	RRR				
035	61.72	73.37	OR-42	Statewide	NHS		FR	RRR				
035	73.37	73.88	OR-42 OR-99	Statewide	NHS		FR	RRR				
035	73.88	76.22	OR-42 OR-99	Statewide	NHS		FR	RRR		EXP		
035	76.22	77.17	OR-42	Statewide	NHS		FR	RRR		EXP		
035	77.17	77.20	OR-42	Statewide	NHS		FR	RRR				
PENDLETON-COLD SPRINGS												
036	0.00	0.88		District								
036	0.88	6.59	OR-37	District								
036	6.90	30.75	OR-37	District								
WILSON RIVER												
037	0.00	4.63	OR-6	Regional		NN	FR	RRR				
037	5.00	51.62	OR-6	Regional		NN	FR	RRR				
OREGON CAVES												
038	0.00	19.33	OR-46	District								
SALMON RIVER												
039	-0.22	17.77	OR-18	Statewide	NHS	NN	FR	RRR				
039	17.92	18.78	OR-18	Statewide	NHS	NN	FR	RRR				

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
039	18.78	23.04	OR-18	Statewide	NHS	NN	FR	RRR		EXP		
039	23.04	23.31	OR-18 OR-22	Statewide	NHS	NN	FR	RRR		EXP		
039	23.31	23.32	OR-18 OR-22	Statewide	NHS	NN	FR	RRR				
039	23.32	24.23	OR-18 OR-22	Statewide	NHS	NN	FR	RRR		EXP		
039	24.23	27.17	OR-18 OR-22	Statewide	NHS	NN	FR	RRR		EXP	BP	
039	27.17	34.32	OR-18	Statewide	NHS	NN	FR	RRR		EXP	BP	
039	34.32	43.75	OR-18	Statewide	NHS	NN	FR	RRR		EXP		
039	43.75	49.91	OR-18	Statewide	NHS	NN	FR	RRR		EXP	BP	
039	49.91	52.65	OR-18 OR-233	Statewide	NHS	NN	FR	RRR		EXP	BP	
039	52.65	52.71	OR-18 OR-233	Statewide	NHS	NN	FR	RRR				
BEAVERTON-HILLSDALE												
040	0.97	3.41	OR-10	District	NHS							
OCHOCO												
041	0.22	1.37	OR-126	Statewide	NHS	NN	FR	RRR				
041	2.32	17.92	OR-126	Statewide	NHS	NN	FR	RRR		EXP		
041	17.92	18.16	OR-126	Statewide	NHS	NN	FR	RRR				
041	18.16	18.24	US-26	Statewide	NHS			RRR				
041	18.24	19.38	US-26	Statewide	NHS			RRR				STA
041	19.38	72.52	US-26	Statewide	NHS			RRR				
041	73.52	88.60	US-26	Statewide	NHS			RRR				
041	88.68	98.36	US-26	Statewide	NHS			RRR				
SHERMAN												
042	-0.43	-0.17	US-97	Statewide	NHS	NN		RRR	SB			
042	-0.17	4.46	US-97	Statewide	NHS	NN	FR	RRR	SB			
042	4.59	13.01	US-97	Statewide	NHS	NN	FR	RRR	SB			
042	13.27	18.73	US-97	Statewide	NHS	NN	FR	RRR	SB			
042	18.57	40.55	US-97	Statewide	NHS	NN	FR	RRR	SB			
042	40.72	56.53	US-97	Statewide	NHS	NN	FR	RRR	SB			
042	56.53	68.66	US-97	Statewide	NHS	NN	FR	RRR				
MONMOUTH-INDEPENDENCE												
043	0.00	0.76	OR-51	District								
043	0.76	1.70	OR-51	District								CC
043	1.70	2.14	OR-51	District								
043	2.14	2.35	OR-51	District								STA
WAPINITIA												
044	0.18	26.03	OR-216	District								

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
UMPQUA												
045	0.00	14.93	OR-38	Statewide	NHS	NN	FR	RRR	SB			
045	15.00	36.17	OR-38	Statewide	NHS	NN	FR	RRR	SB			
045	36.17	36.32	OR-38	Statewide	NHS	NN	FR	RRR	SB			UBA
045	36.32	36.44	OR-38	Statewide	NHS	NN	FR	RRR	SB			
045	36.44	38.07	OR-38	Statewide	NHS	NN	FR	RRR				
045	38.14	50.25	OR-38	Statewide	NHS	NN	FR	RRR				
045	50.25	56.17	OR-99	Statewide	NHS	NN	FR	RRR				
045	56.27	57.13	OR-99	Statewide	NHS	NN	FR	RRR				
NECANICUM												
046	0.04	5.90	OR-53	District								
046	5.98	19.03	OR-53	District								
SUNSET												
047	-0.10	45.41	US-26	Statewide	NHS	NN	FR	RRR				
047	45.41	49.31	US-26 OR-47	Statewide	NHS	NN	FR	RRR				
047	49.31	53.33	US-26	Statewide	NHS	NN	FR	RRR				
047	53.33	58.29	US-26	Statewide	NHS	NN	FR	RRR		EXP		
047	58.29	59.12	US-26	Statewide	NHS	NN	FR	RRR	SB	EXP		
047	59.12	73.75	US-26	Statewide	NHS	NN	FR	RRR		EXP		
047	73.75	73.81	US-26	Statewide		NN	FR	RRR		EXP		
047	73.81	73.97		Statewide			FR	RRR				
JOHN DAY-BURNS												
048	0.00	0.28	US-395	Statewide	NHS	NN	FR	RRR				STA
048	0.28	2.13	US-395	Statewide	NHS	NN	FR	RRR				UBA
048	2.13	10.21	US-395	Statewide	NHS	NN	FR	RRR				
048	10.30	21.15	US-395	Statewide	NHS	NN	FR	RRR				
048	22.74	29.58	US-395	Statewide	NHS	NN	FR	RRR				
048	29.68	35.39	US-395	Statewide	NHS	NN	FR	RRR				
048	35.42	67.61	US-395	Statewide	NHS	NN	FR	RRR				
LAKEVIEW-BURNS												
049	0.01	0.11	US-395	Statewide	NHS		FR	RRR				
049	0.11	5.27	US-395	Statewide	NHS	NN	FR	RRR				
049	5.36	34.96	US-395	Statewide	NHS	NN	FR	RRR				
049	35.06	81.23	US-395	Statewide	NHS	NN	FR	RRR				
049	81.39	90.02	US-395	Statewide	NHS	NN	FR	RRR				
KLAMATH FALLS-MALIN												

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
050	-6.87	-4.97	US-97B OR-39	Regional	NHS							
050	-4.97	-2.24	OR-39	Regional	NHS							
050	0.00	1.78	OR-39 OR-140	Statewide	NHS		FR	RRR				
050	1.78	16.51	OR-39	Statewide	NHS	NN	FR	RRR				
050	16.51	27.10		District								
WILSONVILLE-HUBBARD												
051	-0.31	5.63	OR-551	Regional								
HEPPNER												
052	0.00	0.23	OR-74	District								
052	0.23	36.30	OR-74	District					SB			
052	36.30	36.42	OR-74	District					SB			STA
052	36.45	36.68	OR-207	Regional		NN		RRR	SB			STA
052	36.68	44.72	OR-207	Regional		NN		RRR	SB			
052	44.72	45.61	OR-207	Regional		NN		RRR	SB			UBA
052	45.61	45.89	OR-207	Regional		NN		RRR	SB			STA
052	45.89	45.98	OR-74	District								STA
052	45.98	76.60	OR-74	District								
052	76.63	83.15	OR-74	District								
WARM SPRINGS												
053	57.45	61.85	US-26	Statewide	NHS	NN	FR	RRR				
053	61.94	62.16	US-26	Statewide	NHS	NN	FR	RRR				
053	102.79	106.56	US-26	Statewide	NHS	NN	FR	RRR				
053	114.73	117.71	US-26	Statewide	NHS	NN	FR	RRR				
UMATILLA-STANFIELD												
054	0.04	4.33	US-395	Statewide	NHS	NN	FR	RRR				
054	4.33	6.03	US-395	Statewide	NHS	NN	FR	RRR				UBA
054	6.03	10.78	US-395	Statewide	NHS	NN	FR	RRR				
054	10.78	11.28	US-395	Statewide	NHS	NN	FR	RRR				STA
054	11.28	12.90	US-395	Statewide	NHS	NN	FR	RRR				
ALBANY-JUNCTION CITY												
058	0.00	1.42	OR-99E	Regional	NHS	NN		RRR				
058	1.42	2.25	US-20 OR-99E	Regional	NHS	NN		RRR				
058	2.25	6.30	OR-99E	Regional	NHS	NN		RRR				
058	6.30	19.33	OR-99E	Regional		NN		RRR				
058	19.33	28.39	OR-99E	Regional		NN	FR	RRR				
058	28.39	28.48	OR-99E	Regional		NN		RRR				

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058	28.48	28.81	OR-99E	Regional		NN		RRR				STA
058	28.81	32.37	OR-99E	Regional		NN		RRR				
ROGUE RIVER												
060	0.00	2.09	OR-99	District	NHS	NN		RRR				
060	20.9	14.57	OR-99	District		NN		RRR				
060	14.57	14.95		District		NN		RRR				
STADIUM FREEWAY												
061	-0.04	1.17	I-405	Interstate	NHS	NN	FR	RRR				
061	1.17	1.24	I-405 US-26	Interstate	NHS	NN	FR	RRR				
061	1.24	3.08	I-405	Interstate	NHS	NN	FR	RRR				
061	3.08	3.57	I-405 US-30	Interstate	NHS	NN	FR	RRR				
061	3.57	4.21	I-405	Interstate	NHS	NN	FR	RRR				
FLORENCE-EUGENE												
062	0.02	34.90	OR-126	Statewide	NHS	NN	FR	RRR				
062	34.95	40.78	OR-126	Statewide	NHS	NN	FR	RRR				
062	40.78	42.29	OR-126	Statewide	NHS	NN	FR	RRR			BP	
062	42.29	42.72	OR-126	Statewide	NHS	NN	FR	RRR				
062	42.88	47.46	OR-126	Statewide	NHS	NN	FR	RRR				
062	Z 47.27	Z 47.46	OR-126	Statewide	NHS	NN	FR	RRR				
062	47.46	52.69	OR-126	Statewide	NHS	NN	FR	RRR				
ROGUE VALLEY												
063	0.00	1.64	OR-99	District	NHS							
063	3.60	5.48	OR-99	District	NHS							
063	8.13	11.43	OR-99	District	NHS							
063	11.43	11.85	OR-99	District	NHS							STA
063	11.85	18.44	OR-99	District	NHS							
063	18.44	19.19	OR-99	District	NHS							UBA
063	19.19	19.46	OR-99	District	NHS							STA
063	20.84	22.52	OR-99	District	NHS							
063	22.52	24.12	OR-99	District								
EAST PORTLAND FREEWAY												
064	0.00	10.46	I-205	Interstate	NHS	NN	FR	RRR				
064	10.46	12.94	I-205 OR-213	Interstate	NHS	NN	FR	RRR				
064	12.94	13.11	I-205 OR-213 OR-224	Interstate	NHS	NN	FR	RRR				
064	13.11	26.56	I-205	Interstate	NHS	NN	FR	RRR				
LA GRANDE-BAKER												

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066	-0.08	1.27	US-30	District	NHS							
066	1.27	1.65	US-30	District	NHS							UBA
066	1.65	2.10	US-30	District	NHS				SB			STA
066	2.10	2.19	US-30	District	NHS				SB			UBA
066	2.19	2.93	US-30	District	NHS							UBA
066	2.93	4.43	US-30	District	NHS							
066	4.43	5.39	US-30	District								
066	5.39	5.62	US-30 OR-203	District					SB			
066	5.62	10.47	US-30	District					SB			
066	10.47	11.25	US-30	District					SB			
066	11.29	15.93	US-30	District					SB			
066	15.93	16.51	US-30 OR-237	District								
066	16.51	24.71	US-237	District								STA
066	24.71	31.76	US-237	District								
066	31.76	32.09	US-237	District								
066	32.09	32.23	US-237	District								
066	32.23	32.30	US-30 US-237	District								
066	32.30	40.31	US-30	District								
066	40.31	40.52	US-30	District								UBA
066	40.52	40.69	US-30	District								STA
066	40.69	40.73	US-30	District					SB			STA
066	40.73	40.82	US-30	District					SB			UBA
066	40.82	49.97	US-30	District					SB			
066	49.97	51.79	US-30	District								
066	51.79	52.04	US-30 OR-7	District	NHS			RRR				
066	52.04	53.91	US-30	District	NHS							
066	53.91	54.46	US-30	District								
PENDLETON												
067	-0.03	2.08	US-30	District	NHS							
067	2.08	2.48	US-30 OR-37	District	NHS							
067	2.48	2.54	US-30 OR-37	District	NHS							STA
067	2.54	3.92	US-30	District	NHS							STA
067	4.62	6.60	US-30	District								
CASCADE HWY NORTH												
068	0.00	8.63	OR-213	District	NHS							
068	8.63	9.40	OR-213	District	NHS							STA

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
068	9.40	10.18	OR-213	District	NHS							
BELTLINE												
069	0.00	3.10	OR-126	Statewide	NHS	NN	FR	RRR				
069	3.10	12.76	OR-569	Statewide	NHS		FR	RRR		EXP	BP	
069	12.76	13.00	OR-569	Regional	NHS							
MCNARY												
070	0.00	0.76	I-82 US-395	Interstate	NHS	NN	FR	RRR				
070	0.76	11.21	I-82	Interstate	NHS	NN	FR	RRR				
WHITNEY												
071	0.00	49.17	OR-7	Regional				RRR	SB			
071	49.17	50.96	OR-7	Regional	NHS			RRR				
SALEM												
072	0.00	3.16	OR-99EB	Regional	NHS		FR	RRR		EXP	BP	
072	3.16	5.01	OR-99EB	Regional	NHS		FR	RRR				
072	5.01	5.19	OR-99EB	Statewide	NHS		FR	RRR				
072	5.19	6.20	OR-22 OR-99EB	Statewide	NHS	NN	FR	RRR				
072	7.92	8.48	OR-22 OR-99EB	Statewide	NHS	NN	FR	RRR		EXP		
PACIFIC HIGHWAY EAST												
081	-6.09	-6.03	OR-99E	Statewide	NHS							
081	-6.03	-4.01	OR-99E	Statewide	NHS	NN		RRR				
081	-4.01	-3.75	OR-99E	District	NHS	NN		RRR				
081	1.00	1.24	OR-99E	District	NHS	NN	FR	RRR				
081	1.24	5.43	OR-99E	Statewide	NHS	NN	FR	RRR				
081	5.43	5.46	OR-99E	Statewide	NHS	NN		RRR				
081	5.46	5.67	OR-99E	District	NHS	NN		RRR				
081	5.67	6.30	OR-99E	District	NHS	NN		RRR				STA
081	6.30	11.73	OR-99E	District	NHS	NN		RRR				
081	11.73	11.94	OR-99E	Regional	NHS	NN		RRR				
081	11.94	12.60	OR-99E	Regional	NHS	NN		RRR				STA
081	12.60	15.01	OR-99E	Regional	NHS	NN		RRR				
081	15.01	24.88	OR-99E	Regional		NN		RRR				
081	24.88	25.10	OR-99E	Regional		NN		RRR				STA
081	25.10	30.87	OR-99E	Regional		NN		RRR				
081	30.87	31.70	OR-99E	Regional	NHS	NN		RRR				
081	31.70	32.87	OR-99E OR-214	Regional	NHS	NN		RRR				
081	32.87	33.62	OR-99E	Regional	NHS	NN		RRR				

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
081	33.62	42.21	OR-99E	Regional		NN		RRR				
081	42.21	46.16	OR-99E	Regional	NHS	NN		RRR				
081	46.16	46.17	OR-99E	Regional	NHS			RRR				
081	46.17	46.49		Regional	NHS							
PACIFIC HIGHWAY WEST												
091	-5.76	-4.75		District								
091	-0.44	-0.29		District								
091	1.24	1.43		District								
091	1.43	1.67	OR-10	District								
091	1.67	3.19	OR-10	District	NHS							
091	3.19	7.16		District	NHS							
091	7.16	7.22		District	NHS	NN		RRR				
091	7.22	7.42		District	NHS	NN	FR	RRR				
091	7.42	7.61		Statewide	NHS	NN	FR	RRR				
091	7.61	22.89	OR-99W	Statewide	NHS	NN	FR	RRR				
091	22.89	23.31	OR-99W OR-219	Statewide	NHS	NN	FR	RRR				
091	23.32	23.45	OR-99W OR-219	Statewide	NHS	NN	FR	RRR				
091	23.45	24.58	OR-99W	Statewide	NHS	NN	FR	RRR				
091	Z 24.49	Z 24.58	OR-99W	Statewide	NHS	NN	FR	RRR				
091	24.58	29.79	OR-99W	Statewide	NHS	NN	FR	RRR				
091	29.79	32.18	OR-99W	Regional		NN		RRR				
091	32.18	32.57	OR-99W	Regional		NN		RRR				STA
091	32.57	35.01	OR-99W	Regional		NN		RRR				
091	35.01	39.05	OR-99W	Regional	NHS	NN		RRR				
091	Z 39.01	Z 39.05	OR-99W	Regional	NHS	NN	FR	RRR				
091	39.05	39.28	OR-99W	Regional	NHS	NN		RRR				
091	39.28	39.34	OR-99W	Regional	NHS	NN	FR	RRR				
091	39.34	42.96	OR-99W	Regional		NN	FR	RRR				
091	43.00	59.04	OR-99W	Regional		NN	FR	RRR				
091	59.08	74.99	OR-99W	Regional		NN	FR	RRR				
091	74.99	77.94	OR-99W	Regional	NHS	NN	FR	RRR				
091	Z 77.90	Z 77.94	OR-99W	Regional	NHS	NN	FR	RRR				
091	77.94	80.73	OR-99W	Regional	NHS	NN	FR	RRR				
091	80.73	82.95	OR-99W	Regional	NHS	NN	FR	RRR			BP	
091	82.95	83.20	OR-99W	Regional	NHS	NN	FR	RRR				
091	83.20	83.35	OR-99W	Regional	NHS	NN	FR	RRR				STA

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
091	83.35	83.93	US-20 OR-34 OR-99W	Regional	NHS	NN	FR	RRR				STA
091	83.93	84.07	US-20 OR-34 OR-99W	Regional	NHS	NN	FR	RRR				
091	84.07	84.21	OR-34 OR-99W	Regional	NHS	NN	FR	RRR				
091	84.21	87.71	OR-99W	Regional	NHS	NN	FR	RRR				
091	87.71	100.90	OR-99W	Regional		NN	FR	RRR				
091	100.90	101.08	OR-99W	Regional		NN	FR	RRR				STA
091	101.08	108.76	OR-99W	Regional		NN	FR	RRR				
091	108.76	108.92	OR-99	Regional		NN	FR	RRR				
091	Z 108.99	Z 108.92	OR-99	Regional		NN	FR	RRR				
091	108.92	115.04	OR-99	Regional		NN	FR	RRR				
091	115.04	117.04	OR-99	Regional	NHS	NN	FR	RRR				
091	117.04	118.46	OR-99	Statewide	NHS	NN	FR	RRR				
091	118.46	122.25	OR-99	Statewide	NHS	NN		RRR				
091	122.25	123.37	OR-99 OR-126	Statewide	NHS	NN		RRR				
091	125.48	125.81	OR-99 OR-126B	Statewide	NHS							
091	125.81	126.37	OR-99	Regional	NHS	NN		RRR				
LOWER COLUMBIA RIVER												
092	0.95	4.13	US-30	Statewide	NHS	NN	FR	RRR				
092	4.52	9.98	US-30	Statewide	NHS	NN	FR	RRR				
092	18.37	41.90	US-30	Statewide	NHS	NN	FR	RRR				
092	42.00	53.42	US-30	Statewide	NHS	NN	FR	RRR				
092	54.50	89.13	US-30	Statewide	NHS	NN	FR	RRR				
092	91.01	92.84	US-30	Statewide	NHS	NN	FR	RRR				
092	92.87	99.34	US-30	Statewide	NHS	NN	FR	RRR				
HISTORIC COLUMBIA RIVER												
100	0.00	22.25		District					SB			
100	30.00	31.28	US-30	District								
100	48.68	51.26	US-30 OR-35	District		NN		RRR				
100	51.26	52.48		District								
100	56.91	57.43		District								
100	57.43	57.57	US-30	District								
100	57.57	72.37	US-30	District					SB			
NEHALEM												
102	0.18	1.42	US-101B OR-202	Statewide	NHS							
102	1.42	2.64	OR-202	Statewide	NHS							
102	2.64	11.73	OR-202	District								

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102	11.84	46.14	OR-202	District								
102	46.14	62.25	OR-47	District								
102	62.25	62.54	OR-47	District								STA
102	62.54	64.14	OR-47	District								
102	64.18	76.96	OR-47	District								
102	80.83	82.85	OR-47	Statewide	NHS	NN		RRR				
102	82.85	83.12	OR-47	Statewide	NHS	NN		RRR				STA
102	83.12	88.69	OR-47	Statewide	NHS	NN		RRR				
102	88.69	90.09	OR-47	Statewide	NHS	NN		RRR			BP	
102	90.09	90.63	OR-47	District	NHS	NN		RRR			BP	
102	90.63	90.64	OR-47	District	NHS	NN		RRR				
FISHHAWK FALLS												
103	0.00	9.02	OR-103	District								
FORT STEVENS												
104	0.00	0.10	OR-104	District								
104	0.10	0.52	OR-104	District								STA
104	0.52	3.38	OR-104	District								
104	3.38	3.62	OR-104	District								STA
104	3.62	6.03	OR-104	District								
WARRENTON-ASTORIA												
105	0.00	1.27		District								
105	1.27	7.25	US-101B	District								
MIST-CLATSKANIE												
110	0.00	11.89	OR-47	District								
SWIFT												
120	0.35	0.41	OR-120	District	NHS							
120	2.49	2.71	OR-120	Statewide	NHS							
NORTHEAST PORTLAND												
123	0.00	1.31	US-30BY	Statewide	NHS		FR	RRR				
123	1.31	1.32	US-30BY	District			FR	RRR				
123	1.32	1.76	US-30BY	District			FR	RRR				STA
123	1.76	5.32	US-30BY	District			FR	RRR				
123	5.32	9.20	US-30BY	District								
123	9.20	10.88	US-30BY	Statewide								
123	10.88	11.25	US-30BY	Statewide	NHS							
123	11.25	14.76	US-30BY	District	NHS							

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LITTLE NESTUCCA												
130	-0.10	9.30	OR-130	District								
NETARTS												
131	0.00	9.08	OR-131	District								
NORTH UMPQUA												
138	-1.13	-0.31	OR-138	Regional	NHS			RRR				
138	-0.31	0.00	OR-99 OR-138	Regional	NHS			RRR				
138	0.00	2.34	OR-138	Regional	NHS			RRR				
138	2.34	3.84	OR-138	Regional	NHS			RRR	SB			
138	3.84	38.92	OR-138	Regional				RRR	SB			
138	38.98	83.08	OR-138	Regional				RRR	SB			
138	83.08	86.09	OR-138	Regional				RRR				
138	86.09	100.82	OR-138	Regional				RRR	SB			
HILLSBORO-SILVERTON												
140	0.00	10.05	OR-219	District								
140	10.05	10.88	OR-219	District					S			
140	10.88	17.93	OR-219	District								
140	17.93	20.19	OR-219	District	NHS							
140	20.65	25.01	OR-219	District	NHS							
140	25.01	25.26	OR-219	District								
140	25.22	36.20	OR-219	District								
140	36.20	36.78	OR-219	District	NHS							
140	36.78	36.79	OR-214 OR-219	District	NHS							
140	36.79	36.83	OR-214 OR-219	District	NHS	NN		RRR				
140	36.83	36.86	OR-214	District	NHS	NN		RRR				
140	36.86	37.87	OR-214	District	NHS	NN		RRR	SB			
140	37.87	39.29	OR-214	District	NHS	NN		RRR				
140	39.31	39.66	OR-214	District	NHS	NN		RRR	SB			
140	39.66	43.43	OR-214	District		NN		RRR	SB			
140	43.50	49.05	OR-214	District		NN		RRR	SB			
140	49.05	50.19	OR-214	District	NHS	NN		RRR	SB			
140	50.19	50.59	OR-214	District	NHS	NN		RRR	SB			STA
140	50.59	50.64	OR-214	District	NHS	NN			SB			STA
140	50.64	50.66	OR-214	District	NHS				SB			STA
140	50.66	50.72	OR-214	District	NHS							STA
BEAVERTON-TUALATIN												

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
141	2.57	2.84	OR-141	District								
141	2.84	3.84	OR-141	District								STA
141	3.84	7.07	OR-141	District								
141	7.69	8.74	OR-141	District								
141	8.78	8.91	OR-141	District								
141	12.47	13.14	OR-141	District								
FARMINGTON												
142	5.88	7.38	OR-10	District	NHS							
SCHOLLS												
143	9.03	9.13	OR-210	District	NHS							
143	9.13	9.60	OR-210	District								
BEAVERTON-TIGARD												
144	0.00	7.52	OR-217	Statewide	NHS	NN	FR	RRR		EXP		
SALEM-DAYTON												
150	0.00	9.26	OR-221	District								
150	9.26	17.55	OR-221	Regional								
150	17.55	20.15	OR-221	Regional	NHS							
150	20.19	20.78	OR-221	Regional	NHS							
YAMHILL-NEWBERG												
151	0.00	10.94	OR-240	District								
151	10.94	11.50	OR-240	District	NHS							
BELLEVUE-HOPEWELL												
153	0.00	6.23	OR-153	District								
153	6.30	10.96	OR-153	District								
153	10.96	14.36	OR-153	Regional								
LAFAYETTE												
154	0.00	0.52	OR-233	Regional								
154	0.52	6.26	OR-154	Regional								
AMITY-DAYTON												
155	0.00	7.44	OR-233	District								
155	7.44	9.19		District								
WILLAMINA-SHERIDAN												
157	0.00	5.33	OR-18B	District								
157	5.37	7.00	OR-18B	District								
157	7.00	7.18	OR-18B	District								STA
157	7.18	8.60	OR-18B	District								

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CASCADE HWY SOUTH												
160	0.00	3.59	OR-213	District	NHS					EXP	BP	
160	3.59	4.00	OR-213	District	NHS							
160	Z 3.69	Z 4.00	OR-213	District	NHS							
160	4.00	5.73	OR-213	District	NHS							
160	5.73	10.61	OR-213	District								
160	10.64	10.84	OR-213	District								
160	10.90	28.54	OR-213	District								
160	28.54	29.50	OR-213	District	NHS							
160	29.50	29.71	OR-213	District	NHS							STA
WOODBURN-ESTACADA												
161	0.00	0.43	OR-211	District	NHS							
161	0.43	2.51	OR-211	District								
161	2.61	27.04	OR-211	District								
161	27.15	33.49	OR-211	District								
NORTH SANTIAM												
162	1.17	20.51	OR-22	Statewide	NHS	NN	FR	RRR		EXP		
162	20.51	50.06	OR-22	Statewide	NHS	NN	FR	RRR				
162	50.06	81.53	OR-22	Statewide	NHS	NN	FR	RRR	SB			
162	81.53	81.81	OR-22	Statewide	NHS	NN	FR	RRR				
SILVER CREEK FALLS												
163	8.79	15.59	OR-214	District								
163	15.59	40.66	OR-214	District					SB			
163	40.66	40.84	OR-214	District					SB			STA
JEFFERSON												
164	0.00	8.54	OR-164	District								
CLACKAMAS												
171	-0.01	0.00		District	NHS							
171	0.00	0.09		District	NHS		FR	RRR				
171	0.09	0.11	OR-224	Statewide	NHS	NN	FR	RRR				
171	0.11	3.96	OR-224	Statewide	NHS	NN	FR	RRR		EXP		
171	Z 3.82	Z 3.96	OR-224	Statewide	NHS	NN	FR	RRR		EXP		
171	3.96	4.04	OR-224	Statewide	NHS	NN	FR	RRR		EXP		
171	4.04	4.36	OR-213 OR-224	Statewide	NHS	NN	FR	RRR		EXP		
171	4.91	5.18	OR-212 OR-224	Statewide	NHS	NN	FR	RRR				
171	Z 4.89	Z 5.18	OR-212 OR-224	Statewide	NHS	NN	FR	RRR				

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171	5.18	8.15	OR-212 OR-224	Statewide	NHS	NN	FR	RRR				
171	8.15	8.16	OR-224	District	NHS		FR	RRR				
171	8.16	9.30	OR-224	District	NHS							
171	9.30	17.92	OR-224	District								
171	17.92	23.30	OR-211 OR-224	District								
171	23.30	23.36	OR-224	District								
171	23.36	23.51	OR-224	District					SB			
171	23.84	29.18	OR-224	District					SB			
171	30.02	47.26	OR-224	District					SB			
171	47.41	49.97	OR-224	District					SB			
EAGLE CREEK-SANDY												
172	-0.23	5.94	OR-211	District								
TIMBERLINE												
173	0.12	3.71	OR-173	District					SB			
173	3.76	5.49	OR-173	District					SB			
CLACKAMAS-BORING												
174	0.03	8.87	OR-212 OR-224	Statewide	NHS	NN	FR	RRR				
EDDYVILLE-BLODGETT												
180	0.00	19.18	OR-180	District								
SILETZ												
181	-0.21	11.64	OR-229	District								
181	11.74	15.36	OR-229	District								
181	15.44	31.24	OR-229	District								
DALLAS-RICKREALL												
189	0.00	4.32	OR-223	District		NN		RRR				
KINGS VALLEY												
191	0.00	3.09	OR-223	District								
191	3.09	3.40	OR-223	District								STA
191	3.40	31.40	OR-223	District								
INDEPENDENCE												
193	0.00	6.23	OR-51	District								
193	623	6.34	OR-51	District								STA
MONMOUTH												
194	0.00	7.17	OR-194	District								
194	7.17	7.53	OR-194	District								STA
194	7.53	7.56	OR-194	District								

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TERRITORIAL												
200	-0.03	8.62	OR-200	District								
200	10.08	42.08	OR-200	District								
ALSEA-DEADWOOD												
201	0.00	9.49	OR-501	District								
CORVALLIS-LEBANON												
210	-0.10	-0.05		District	NHS	NN	FR	RRR				STA
210	-0.05	0.00	US-20 OR-34	District	NHS	NN	FR	RRR				STA
210	0.00	0.07	OR-34	District	NHS	NN	FR	RRR				STA
210	0.07	0.34	OR-34	District	NHS	NN	FR	RRR				
210	0.34	10.14	OR-34	Statewide	NHS	NN	FR	RRR		EXP		
210	10.14	10.38	OR-34	Regional	NHS	NN	FR	RRR				
210	10.49	16.89	OR-34	Regional	NHS	NN	FR	RRR				
210	16.92	17.89	OR-34	Regional	NHS	NN	FR	RRR				
210	17.89	18.13	OR-34	Regional	NHS	NN	FR	RRR				STA
ALBANY-LYONS												
211	0.00	4.31	OR-226	District								
211	4.70	25.36	OR-226	District								
211	25.40	25.71	OR-226	District								
HALSEY-SWEET HOME												
212	0.00	2.40	OR-228	District			FR	RRR				
212	2.40	2.46	OR-228	District								
212	2.46	20.58	OR-228	District					SB			
212	20.58	21.40	OR-228	District	NHS				SB			
CLEAR LAKE-BELKNAP SPRINGS												
215	0.00	19.81	OR-126	Statewide	NHS	NN		RRR	SB			
SPRINGFIELD-CRESWELL												
222	5.11	8.00	OR-222	District								
222	11.63	13.77	OR-222	District								
222	13.86	14.88	OR-222	District								
MCVAY												
225	0.01	2.53	OR-225	District								
GOSHEN-DIVIDE												
226	0.02	13.75	OR-99	District								
226	13.75	14.10	OR-99	District	NHS							
226	14.10	14.72	OR-99	District	NHS				SB			

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226	14.75	14.76	OR-99	District	NHS				SB			
226	14.76	16.17	OR-99	District	NHS							
226	16.17	19.92	OR-99	District								
EUGENE-SPRINGFIELD												
227	0.00	3.49	I-105 OR-126	Interstate	NHS	NN	FR	RRR			BP	
227	3.49	3.52	I-105 OR-126	Statewide	NHS	NN	FR	RRR		EXP	BP	
227	3.52	9.97	OR-126	Statewide	NHS	NN	FR	RRR		EXP	BP	
SPRINGFIELD												
228	0.00	1.40	OR-258	District								
MAPLETON-JUNCTION CITY												
229	0.01	51.59	OR-36	District								
ELKTON-SUTHERLIN												
231	0.00	24.15	OR-138	Regional		NN		RRR	SB			
231	24.15	24.25	OR-138	Regional					SB			
231	24.25	25.39		Regional					SB			
WEST DIAMOND LAKE												
233	0.00	23.80	OR-230	Regional				RRR	SB			
CAPE ARAGO												
240	-0.05	0.27	OR-540	District	NHS							STA
240	0.27	0.77	OR-540	District	NHS							CC
240	0.77	2.24	OR-540	District	NHS							UBA
240	4.49	8.49	OR-540	District								
240	8.49	10.94	OR-540	District					SB			
COOS RIVER												
241	0.00	0.08	OR-241	Statewide	NHS							
241	0.08	0.12	OR-241	District	NHS							
241	0.12	0.72	OR-241	District								
241	2.19	2.45	OR-241	District								
241	2.48	3.97	OR-241	District								
241	4.00	9.92	OR-241	District								
241	10.00	13.85	OR-241	District								
241	13.94	19.15	OR-241	District								
POWERS												
242	0.00	3.65	OR-542	District								
242	3.78	17.00	OR-542	District								
242	17.10	18.91	OR-542	District								

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
COQUILLE-BANDON												
244	0.01	16.94	OR-42S	District								
CAPE BLANCO												
250	3.05	5.57	OR-250	District								
PORT ORFORD												
251	0.00	0.76	OR-251	District								
CARPENTERVILLE												
255	334.87	339.68	OR-255	District								
255	341.22	362.27	OR-255	District								
ROGUE RIVER LOOP												
260	1.30	12.94	OR-260	District								
260	12.99	17.78	OR-260	District								
260	17.88	22.24	OR-260	District								
LAKE OF THE WOODS												
270	-8.29	-2.55		Statewide	NHS							
270	-2.46	0.00		Statewide	NHS							
270	0.00	43.58	OR-140	Statewide	NHS	NN	FR	RRR				
270	43.58	68.76	OR-140	Statewide	NHS	NN	FR	RRR	SB			
SAMS VALLEY												
271	-0.30	2.36	OR-99	District								
271	2.36	3.84	OR-234	District								
271	3.84	17.48	OR-234	District					SB			
JACKSONVILLE												
272	0.00	2.84	OR-238	District	NHS							
272	2.84	13.62	OR-238	District								
272	13.70	31.09	OR-238	District								
272	31.09	33.16	OR-238	District	NHS							
272	33.16	33.97	OR-238	District	NHS							STA
272	33.97	38.75	OR-238	District	NHS							
SISKIYOU												
273	0.00	12.42	OR-273	District								
HOOD RIVER												
281	0.00	0.73	OR-281	District								
281	0.78	19.07	OR-281	District								
ODELL												
282	0.00	3.45	OR-282	District								

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
SHERARS BRIDGE												
290	-0.05	28.42	OR-216	District								
SHANIKO-FOSSIL												
291	0.00	8.04	OR-218	District					SB			
291	8.11	17.11	OR-218	District					SB			
291	17.21	24.93	OR-218	District					SB			
291	25.30	39.25	OR-218	District					SB			
291	39.31	40.61	OR-218	District					SB			
291	40.91	42.95	OR-218	District					SB			
291	42.95	42.98	OR-218	District								
MOSIER-THE DALLES												
292	18.74	20.24	US-30	District								
ANTELOPE												
293	0.00	3.07	OR-293	District								
293	3.10	8.95	OR-293	District								
293	Z 8.86	Z 8.95	OR-293	District								
293	8.95	13.52	OR-293	District								
WASCO-HEPPNER												
300	-1.97	-0.09		Regional								
300	-0.09	15.09	OR-206	Regional								
300	15.16	40.68	OR-206	Regional								
300	40.88	73.33	OR-206	District								
300	73.33	83.20	OR-206 OR-207	Regional								
300	83.20	84.12	OR-206 OR-207	Regional					SB			
CELILO-WASCO												
301	0.00	15.57	OR-206	District								
LEXINGTON-ECHO												
320	0.00	19.53	OR-207	Regional		NN		RRR				
320	19.63	27.24	OR-207	Regional		NN		RRR				
320	27.24	35.38		District								
320	35.38	35.70		District								STA
320	35.70	37.13		District								
HEPPNER-SPRAY												
321	0.00	25.81	OR-207	Regional								
321	25.90	40.96	OR-207	Regional								
WESTON-ELGIN												

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
330	-1.32	6.69	OR-204	Regional								
330	7.00	10.05	OR-204	Regional								
330	10.09	18.09	OR-204	Regional								
330	18.19	40.38	OR-204	Regional								
330	40.38	40.63	OR-204	Regional								UBA
330	40.63	40.84	OR-204	Regional								STA
UMATILLA MISSION												
331	0.00	4.84	OR-331	District			FR	RRR				
SUNNYSIDE-UMAPINE												
332	0.00	7.93	OR-332	District								
HERMISTON												
333	0.02	4.97	OR-207	Regional		NN		RRR				
333	4.97	8.68	OR-207	Regional	NHS	NN		RRR				
333	Z 8.28	Z 8.68	OR-207	Regional	NHS	NN		RRR				
333	8.68	9.54	OR-207	Regional	NHS	NN		RRR				
333	9.54	11.27	OR-207	Regional		NN		RRR				
333	11.34	17.81	OR-207	Regional		NN		RRR				
ATHENA-HOLDMAN												
334	0.00	8.44	OR-334	District								
334	9.57	17.09	OR-334	District								
334	17.09	17.49	OR-334	District								STA
334	17.49	18.12	OR-334	District								
HAVANA-HELIX												
335	0.00	8.77	OR-335	District								
335	8.83	9.79	OR-335	District								
FREEWATER												
339	0.00	3.43	OR-330	District								
MEDICAL SPRINGS												
340	0.00	0.49	OR-203	District								
340	0.54	1.90	OR-203	District								
340	1.90	7.67	OR-203	District					SB			
340	7.76	15.97	OR-203	District					SB			
340	16.02	21.33	OR-203	District					SB			
340	21.33	23.48	OR-203	District								
340	23.58	38.94	OR-203	District								
UKIAH-HILGARD												

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
341	0.00	1.07	OR-244	District				RRR	SB			
341	1.07	1.24	OR-244	District				RRR	SB			STA
341	1.24	1.40	OR-244	District				RRR				STA
341	1.40	47.22	OR-244	District				RRR				
COVE												
342	0.00	0.25	OR-237	District								UBA
342	0.25	12.35	OR-237	District								
342	12.35	13.34	OR-237	District					SB			
342	13.34	13.72	OR-237	District					SB			STA
342	13.72	21.83	OR-237	District					SB			
342	21.83	22.07	OR-237	District								
LITTLE SHEEP CREEK												
350	0.00	8.07	OR-350	District					SB			
350	8.07	29.36	OR-350	District								
JOSEPH-WALOWA LAKE												
351	0.00	0.33	OR-351	Statewide	NHS							STA
351	0.33	6.94	OR-351	Statewide	NHS							
MADRAS-PRINEVILLE												
360	0.09	26.28	US-26	Regional		NN	FR	RRR				
CULVER												
361	0.00	11.62	OR-361	District								
O NEIL												
370	0.00	17.67	OR-370	District								
CENTURY DRIVE												
372	4.63	21.98		District					SB			
PAULINA												
380	0.00	47.19	OR-380	District								
380	47.61	55.91	OR-380	District								
SERVICE CREEK-MITCHELL												
390	0.00	8.95	OR-207	District								
390	9.48	24.32	OR-207	District								
KIMBERLY-LONG CREEK												
402	0.00	34.88	OR-402	District								
SUMPTER												
410	0.00	0.33	OR-410	District					SB			
410	0.33	0.76	OR-410	District					SB			STA

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
410	0.76	3.71	OR-410	District					SB			
HALFWAY-CORNUCOPIA												
413	0.00	5.45	OR-413	District								
413	5.62	10.95	OR-413	District								
413	10.95	11.29	OR-413	District								UBA
413	11.29	11.45	OR-413	District								STA
PINE CREEK												
414	0.00	0.91	OR-414	District								
DOOLEY MOUNTAIN												
415	0.00	36.62	OR-245	District								
MIDLAND												
420	1.33	1.78		District								
420	1.80	5.65		District								
CHILOQUIN												
422	0.00	3.08	OR-422	District								
422	3.18	5.29	OR-422	District								
SOUTH KLAMATH FALLS												
424	0.00	3.31	OR-140	Statewide	NHS	NN	FR	RRR		EXP	BP	
424	3.37	5.67	OR-140	Statewide	NHS	NN	FR	RRR		EXP	BP	
HATFIELD												
426	16.51	18.93	OR-39	Statewide	NHS	NN	FR	RRR				
CRESCENT LAKE												
429	0.00	2.39	OR-429	District								
WARNER												
431	0.00	3.29	OR-140	District								
431	3.33	9.33	OR-140	District								
431	9.55	18.47	OR-140	District								
431	18.54	65.28	OR-140	District								
FRENCHGLEN												
440	0.00	63.32	OR-205	District					SB			
440	63.72	73.35	OR-205	District					SB			
STEENS												
442	0.00	1.73	OR-78	Regional		NN	FR	RRR				
442	1.73	22.29	OR-78	Regional		NN	FR	RRR	SB			
442	22.34	65.18	OR-78	Regional		NN	FR	RRR	SB			

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
410	0.76	3.71	OR-410	District					SB			
HALFWAY-CORNUCOPIA												
413	0.00	5.45	OR-413	District								
413	5.62	10.95	OR-413	District								
413	10.95	11.29	OR-413	District								UBA
413	11.29	11.45	OR-413	District								STA
PINE CREEK												
414	0.00	0.91	OR-414	District								
DOOLEY MOUNTAIN												
415	0.00	36.62	OR-245	District								
MIDLAND												
420	1.33	1.78		District								
420	1.80	5.65		District								
CHILOQUIN												
422	0.00	3.08	OR-422	District								
422	3.18	5.29	OR-422	District								
SOUTH KLAMATH FALLS												
424	0.00	3.31	OR-140	Statewide	NHS	NN	FR	RRR		EXP	BP	
424	3.37	5.67	OR-140	Statewide	NHS	NN	FR	RRR		EXP	BP	
HATFIELD												
426	16.51	18.93	OR-39	Statewide	NHS	NN	FR	RRR				
CRESCENT LAKE												
429	0.00	2.39	OR-429	District								
WARNER												
431	0.00	3.29	OR-140	District								
431	3.33	9.33	OR-140	District								
431	9.55	18.47	OR-140	District								
431	18.54	65.28	OR-140	District								
FRENCHGLEN												
440	0.00	63.32	OR-205	District					SB			
440	63.72	73.35	OR-205	District					SB			
STEENS												
442	0.00	1.73	OR-78	Regional		NN	FR	RRR				
442	1.73	22.29	OR-78	Regional		NN	FR	RRR	SB			
442	22.34	65.18	OR-78	Regional		NN	FR	RRR	SB			

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
442	65.18	91.60	OR-78	Regional		NN	FR	RRR				
HUNTINGTON												
449	0.00	5.48	US-30	District								
449	5.48	5.89	US-30	District								STA
449	5.89	11.09	US-30	District								
SUCCOR CREEK												
450	0.02	11.72	OR-201	District								
450	11.72	12.23	OR-201	District								STA
450	12.23	20.11	OR-201	District								
VALE-WEST												
451	0.03	10.39	OR-451	District								
ADRIAN-ARENA VALLEY												
453	0.00	3.19	OR-453	District								
ADRIAN-CALDWELL												
454	0.00	5.09	OR-454	District								
OLDS FERRY-ONTARIO												
455	-0.29	11.65	OR-201	District								
455	11.65	25.13	OR-201	District		NN		RRR				
455	25.13	25.17	US-30B OR-201	District	NHS	NN		RRR				
455	25.17	25.21	US-30B OR-201	Statewide	NHS	NN		RRR		EXP		
455	25.21	25.50	US-30B OR-201	Statewide	NHS	NN	FR	RRR		EXP		
455	25.75	27.90	OR-201	Statewide	NHS	NN	FR	RRR		EXP		
455	29.44	31.81	OR-201	Statewide	NHS	NN	FR	RRR		EXP		
I.O.N.												
456	0.00	20.10	US-95	Statewide	NHS	NN	FR	RRR				
456	20.10	20.40	US-95	Statewide	NHS	NN	FR	RRR				UBA
456	20.40	20.59	US-95	Statewide	NHS	NN	FR	RRR				STA
456	20.59	117.55	US-95	Statewide	NHS	NN	FR	RRR				
456	117.61	121.36	US-95	Statewide	NHS	NN	FR	RRR				
BAKER-COPPERFIELD SPUR												
481	53.55	54.32	US-86S	District								
481	54.32	54.56	US-86S	District								UBA
481	54.56	54.70	US-86S	District								STA
REDWOOD SPUR												
482	-0.69	1.99	US-199	Statewide	NHS		FR	RRR		EXP	BP	
MCMINNVILLE SPUR												

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State Highway	Begin MP	End MP	Route Number	SCS	NHS	NN	OHP Freight Route	RRR	Scenic Byway	Expressway	Bypass	Highway Segment Designation
483	46.26	46.85		District	NHS							
ESPLANADE SPUR												
484	4.97	5.10	US-97B	District								
FORT STEVENS SPUR												
485	4.43	5.38	OR-104S	District								
GOLD HILL SPUR												
486	2.36	3.32	OR-99 OR-234	District								
CELILO-WASCO SPUR												
487	4.80	7.62		District								
CHILOQUIN SPUR												
488	4.39	4.58	OR-422S	District								
PARMA SPUR												
489	12.51	15.26	OR-452	District								
HOMEDALE SPUR												
490	20.11	22.24	OR-201	District								
WEISER SPUR												
491	11.65	13.66	US-95S	District		NN		RRR				
PAYETTE SPUR												
492	19.65	21.30	OR-52	District								
ONTARIO SPUR												
493	27.37	27.73	US-30B	Statewide	NHS	NN	FR	RRR				
493	27.73	27.74	US-30 US-30B	District	NHS	NN	FR	RRR				
493	27.74	28.39	US-30	District	NHS	NN		RRR				

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Appendix E

Intermodal Connectors[37] on the National Highway System

Ownership	Route Description	Location	Total Miles
City	Hamburg St./US 101 - Industry St.	Astoria	0.03
City	Industry St./Hamburg St. - Portway St.	Astoria	0.20
City	Portway St./US 101 - Basin St.	Astoria	0.10
State	I-84, Conn. 002HC/Conn. 002HB - Laurel Rd. Ahead	Boardman	0.14
County	Laurel Rd./I-84 Conn. 002HC - Boardman-Irrigon Rd.	Boardman	0.04
County	Boardman Irrigon Rd./Laurel Rd. - Ullman Blvd.	Boardman	0.43
Port	Ulman Blvd./Boardman Rd. - Port Terminal Facility	Boardman	0.63
County	Boardman-Irrigon Rd./Laurel Rd. - Coyote Station Rd.	Boardman	1.18
Port	Marine Dr./Ullman Rd. - Port Access Rd.	Boardman	0.51
County	Transpacific Parkway/US 101 - Jordan Cove Rd.	Coos Bay/North Bend	1.58
County	Jordan Cove Rd./Transpacific Parkway - Private Rd.	Coos Bay/North Bend	0.14
City	California Ave./Sherman Ave., US 101S - Port Facility	Coos Bay/North Bend	0.16
City	Sheridan Ave./US 101N - Port Facility	Coos Bay/North Bend	0.22
State	Newport Ave.(Hwy. No. 241)/US 101 - Edwards St.	Coos Bay/North Bend	0.12
City	Mullen St./US 101 - Nickel and Chips Terminals	Coos Bay/North Bend	0.19
State	US 101, Conn. 009BJ, (Edwards St.)/US 101 - Hwy. No. 241 (Newport Ave.)	Coos Bay/North Bend	0.05
City	Lockheed Dr./Green Hill Rd. - Passenger Terminal	Eugene	0.11
County	Airport Rd./Green Hill Rd. - OR 99	Eugene	1.32
County	Green Hill Rd./Airport Rd. - Lockheed Dr.	Eugene	0.52
City	Willamette St./AMTRAK Depot - 6th Ave.	Eugene	0.13
City	5th Ave./Willamette St. - Oak St.	Eugene	0.07
City	Oak St./7th Ave. - 5th Ave.	Eugene	0.15
City	Charnelton St./6th Ave. - 10th Ave.	Eugene	0.32

[37] Amended June 18, 2003, Amendment 03-09

Ownership	Route Description	Location	Total Miles
City	10th Ave./Charnelton[38] St. - Pearl St.	Eugene	0.30
City	Pearl St./6th Ave. - 10th Ave.	Eugene	0.31
City	11th Ave./OR 99, Franklin Ave. - Willamette St.	Eugene	0.85
City	Willamette St./11th Ave. - 10th Ave.	Eugene	0.07
City	High St./10th Ave. - 6th Ave.	Eugene	0.31
City	10th Ave./Pearl St. - High St.	Eugene	0.08
City	Cross St./Garfield St. - Cleveland St.	Eugene	0.23
City	Cleveland St./Cross St. - Roosevelt Blvd.	Eugene	0.15
City	Roosevelt Blvd./OR 99 - Cleveland St.	Eugene	0.48
City	Garfield St./OR 99 (7th Ave.) - Cross St.	Eugene	0.63
State	OR 99/Airport Rd. - Beltline Hwy. No. 69	Eugene	1.38
City	Biddle Rd. and Pine St./I-5, Conn. 001BO - Hwy. No. 022, Conn. 022AD	Medford	2.78
State	Hwy. No. 022, Conn. 022AE (Biddle Rd.)/Beg. Conn. 022AE - Conn. 022AD	Medford	0.25
City	Airport Rd./Biddle Rd. - Biddle Rd.	Medford	0.51
State	I-5, Conn. 001BO (Biddle Rd.)/I-5 Conn. 001BR - End Conn.	Medford	0.28
City	47th Ave./Columbia Blvd. - Cornfoot Rd.	Portland	0.50
Port	Airtrans Rd./Cornfoot Rd. - Air Freight Terminals	Portland	0.36
City	Cornfoot Rd./47th - Alderwood Rd.	Portland	1.50
Port	Alderwood Rd./Cornfoot Rd. - 82nd Rd.	Portland	0.46
City	82nd Ave./Alderwood Rd.- Beg. Hwy. No. 68	Portland	0.71
State	Hwy. No. 68 (82nd Ave.)/End city jurisdiction - Columbia Blvd.	Portland	0.10
Port	82nd Ave./Airportway - Alderwood Rd.	Portland	0.47
Port	Airport Way/I-205, Conn. 064CZ - Portland International Airport (PDX)	Portland	1.67
State	I-205, Conn. 064CZ/Beg. Conn. 064CZ - Conn. 064CY	Portland	0.56
State	Hwy. No. 123/ Columbia Blvd. - I-205, Conn. 123AE	Portland	0.37
City	Columbia Blvd./Hwy. No. 123 - I-5	Portland	4.67
Port	Port Access Rd./Yeon St. - Front Ave.	Portland	0.35
Port	N. Terminal Rd./Lombard St. - Terminal 4	Portland	0.17
City	Terminal 5 Access Rd./Lombard St. Terminal 5	Portland	0.12
Port	N. Pacific Gateway Blvd./N. Marine Dr. - Terminal 6	Portland	0.18

[38] Street was listed incorrectly as “Chanelton” in the 2006 OHP amended version and is correctly listed here.

Ownership	Route Description	Location	Total Miles
City	Burgard St. and Lombard St./Columbia Blvd. - N. Saint Louis Ave.	Portland	1.63
City	N. Saint Louis/Lombard Blvd. - Ivanhoe St.	Portland	0.05
City	Ivanhoe St./Hwy No. 123 - N. Saint Louis	Portland	0.23
City	Columbia Blvd./I-5 - Lombard St. and Burgard Rd.	Portland	5.54
City	Greeley Ave./I-5 - Conn. 001TQ - Going St.	Portland	0.87
City	Lombard and Marine Dr./Columbia Blvd. to Hwy. No. 120	Portland	5.62
City	Conn. To Columbia Blvd./Columbia Way - Columbia Blvd.	Portland	0.17
City	Columbia Way/Columbia Blvd. - Beg. Hwy. No. 120	Portland	0.10
State	Hwy. No. 120/Beg. Hwy. No. 120 - I-5, Conn. 001UI	Portland	2.71
State	Hwy. No. 081/I-5 and Hwy. No. 120 - Columbia Blvd.	Portland	2.08
State	Hwy. No. 123/Hwy. No. 92 - Ivanhoe St.	Portland	1.31
City	Nicolai St./Yeon Ave. - Front Ave.	Portland	0.18
City	Front Ave./Nicolai St. - Kittridge Ave.	Portland	2.05
City	Holgate Blvd./End Conn. 081AE - UPRR	Portland	0.54
State	Conn. 081AE/Hwy. No. 081 - End Conn. 081AE (Beg. Holgate Blvd.)	Portland	0.12
City	Interstate Ave./Going St. - Larrabee Ave.	Portland	1.82
City	Russell St./Interstate Ave. - Rail Facility	Portland	0.07
City	Larrabee Ave./Broadway St. - Interstate Ave.	Portland	0.18
City	Going St./Basin Ave. - I-5 Conn. 001TS	Portland	0.91
City	Front Ave./61st St. - Kittridge Ave.	Portland	1.01
City	61st St./Culebra Ave. - Front Ave.	Portland	0.18
City	Culebra Ave./Balboa Ave. - 61st St.	Portland	0.12
City	Balboa Ave./US 30 - Culebra Ave.	Portland	0.10
City	6th Ave./Glisan St. - AMTRAK Station	Portland	0.17
City	Glisan St./6th Ave. - I-405	Portland	0.49
City	Hoyt St./Broadway Ave. - 6th Ave.	Portland	0.05
City	Everett St./I-405 - 6th Ave.	Portland	0.49
City	6th Ave./Everett St. - Glisan St.	Portland	0.10
City	Broadway Ave./Victoria - Everett St.	Portland	1.03
City	Williams Ave./Weidler St. - I-5, Conn. 001TK	Portland	0.08
City	Victoria Ave./I-5, Conn. 001TJ - Broadway St.	Portland	0.05
City	Vancouver Ave./Weidler St. - I-5 Conn. 001TN	Portland	0.11

Ownership	Route Description	Location	Total Miles
City	Weidler St./N. Williams - Broadway St.	Portland	0.15
		Total Miles	**59.45**

Appendix F

Environmental Laws and Regulations

(Basic State and Federal Environmental Regulations, Statutes, and Executive Orders applicable to ODOT)

This is not an exhaustive compendium of all environmental regulations; it is a listing of umbrella legislation and regulation for general guidance.

GENERAL PROCESS REGULATIONS

National Environmental Policy Act 1969 (NEPA)
40 CFR 1500 et seq. and

Council on Environmental Quality Regulations for the Implementation of NEPA (1978)
40 CFR 1500-1508

The basic national charter for protection of the environment. Requires federal agencies (and their designees) to consider environmental consequences in decision making. Requires the preparation of Environmental Impact Statements or Environmental Assessments.

US DOT Order 5610.1C (1979)
US Department of Transportation's procedures for consideration of NEPA requirements.

FHWA Environmental Impact and Related Procedures (1987)
23 CFR 771

The Federal Highway Administration's regulations for the compliance with NEPA.

FHWA Technical Advisory (1987)
T6640.08

Guidance for the preparation and processing of environmental and Section 4(f) documents. Includes guidance on content.

Section 4(f) for the Department of Transportation Act of 1966
23 CFR 771.135

Requires US DOT agencies to avoid impacts to parklands, recreation property, wildlife and waterfowl refuges, and historic property unless they can demonstrate there are no feasible and prudent alternatives and that all measures to minimize harm have been taken.

Section 4(f) Policy Paper (1987)
An extensive discussion of Section 4(f) (see above) and FHWA's policy on the applicability of Section 4(f) to various resources.

FHWA Environmental Policy (1990, revised 1994)
The FHWA's statement on environmental protection which guides approval and funding of state DOT actions.

BIOLOGY, WATER RESOURCES, WETLANDS

Federal Endangered Species Act (1973)
50 CFR 402

Requires the protection of federally-designated threatened and endangered animal and plant species. Avoidance of taking individuals or jeopardy to populations is required. Agencies are required under Section 7 to consult with appropriate federal resource agency before taking any action.

Oregon Endangered Species Act (1987)
OAR 603-73...and 496 et seq.

Establishes program for the protection and conservation of wildlife and plant species that are threatened or endangered. Requires state agencies to inventory populations on state lands and establish protection and conservation programs.

Waterway Habitat Policies
OAR 496...506 and 635...

Various Oregon statutes that charge Oregon Department of Fish and Wildlife to protect fish and wildlife habitat.

Executive Order 11990 and US DOT Order 5660.1A (1977)
23 CFR 777

Declares that it is the policy of the federal government, to the extent possible, to avoid new construction in wetlands and to minimize their destruction.

Clean Water Act (1972, 1977, 1987)
33 USC 1251, 1342 & 1344 and 33 CFR 230 and 40 CFR 131

This umbrella legislation covers the protection of waters of the United States to include wetlands. It establishes various programs such as the National Pollution Discharge Elimination System (NPDES) governing pollution point sources, an indirect source control program, and the 404 Process and permits controlling pollution and filling in wetlands and deep water habitat.

Oregon Removal - Fill Law
ORS 196.800 - 196.990

Regulates the removal of material from the beds and banks of, and the filling of, the waters of this state.

Oregon Freshwater Wetland Compensatory Mitigation Rules
OAR 141-85-005 through 141-85-690

Estuarine Mitigation in Oregon Estuaries

OAR 141-85-240 through 141-85-264

Controls the removal and filling of materials in the waters of the state, including wetlands. Requires a review for avoidance, need, and mitigation of effects of fills and removals, particularly in wetlands.

Oregon Mitigation Law
ORS 541.626

Requires mitigation of impacts as a condition of any permit for filling or the removal of material from freshwater, intertidal or tidal marsh area of an Oregon estuary.

Executive Order 11988 and Location and Hydraulic Design of Encroachments on Floodplains
23 CFR 650 Subpart A (1984)

Federal agencies must avoid adverse impacts associated with the occupancy and modification of floodplains. They must furthermore avoid support of floodplain development wherever there are practicable alternatives.

Executive Memorandum on Environmentally Beneficial Landscaping (1977, 1979)

Oregon Standards and Criteria for Stream-road Crossings
ORS 498.351 and ORS 509.605

CULTURAL, SOCIAL, LAND USE, AESTHETICS

Executive Order 11593 and National Historic Preservation Act (1971)
36 CFR et seq. and 36 CFR 66

Establishes national policy to identify and protect cultural resources, historic and archaeological sites. Requires agencies to inventory for significant properties and address impacts. Requires concurrence of State Historic Preservation Officer and the President's Advisory Council on Historic Places before commencing with actions which may impact significant properties.

Oregon Scenic and Historic Highways Act (1983)
ORS 377, 100-105

Requires ODOT to identify its most scenic and historic highways and features for purposes of preservation and avoid adversely affecting them unless there is no prudent or feasible alternative to meet transportation needs.

Native American Graves Protection and Repatriation Act (1990)
43 CFR 10

Gives lineal descendants and Indian tribes rights to human remains, funerary objects, sacred objects or objects of cultural patrimony with which they are affiliated. This and other legislation give a high degree of control to Native Americans over archaeological site mitigation and protection.

Oregon Land Use Program and Statewide Planning Goals (1973)

Establishes Oregon's land use planning program. Requires the identification of certain land use categories and natural resources and the development of mechanisms for their protection. Also requires the development of agency land use coordination agreements that spell out how state agencies will pursue their missions while fulfilling the goals of the land use program.

Coastal Zone Management Act (1972)
15 CFR 923 et seq.

Requires actions in the coastal zones to demonstrate consistency with the land use programs to protect coastal features and resource values.

Uniform Relocation Assistance and Real Property Acquisition Act and Civil Rights Act (Title VI) (1970)
49 CFR 24 and 23 CFR 740 et seq.

Identifies policies and procedures to insure that individuals and businesses being relocated as a result of federal actions are fairly and equitably compensated for their

homes, businesses and relocation expenses.

Wild and Scenic Rivers Acts (federal and state)

36 CFR 297

Requires coordination with the federal land management agency or Oregon State Parks and identification of the compatibility of the proposed action with the river management plan. Adverse actions may trigger the provisions of Section 4(f) (see above) and prevent the action unless minimized.

6(f)(3) of Land Water Conservation Act

36 CFR 297

Requires National Park approval of lands acquired with Land Water and Conservation Funds if converted to another use.

Farmland Protection Policy Act (1981)

7 USC 4201

Programs are to minimize the extent to which they contribute to the unnecessary, irreversible and avoidable conversion of farmland to non-agricultural use.

Executive Order 12898 (Environmental Justice)

Agencies are to evaluate and eliminate programs and actions which disproportionately adversely impact or negatively affect minority and other protected classes, and identify methods to better communicate with these groups on proposed actions.

NOISE, AIR QUALITY AND HAZARDOUS MATERIAL

Procedures for the Abatement of Highway Traffic and Construction Noise

23 CFR 772

Establishes FHWA policies on noise analysis, disclosure and mitigation. Supplies noise abatement criteria. Directs the sharing of their information with local government officials for use in planning and design.

Clean Air Act (1970, last amended 1990), EPA/DOT Conformity Guidance, Air Quality Conformity and Priority Procedures for Use in Federal-Aid Highway and Federally Funded Transit Programs (1984), and Oregon Air Pollution Control laws

42 USC 7401 et seq., 23 USC 109 et seq., 49 USC 1601 et seq., and OAR 340-20-710 et seq.

The Clean Air Act established a national policy on controlling air pollution. The 1990 Amendments to the Clean Air Act attempt to limit air pollution through changes to industrial operations, advanced control technologies and community

action.

Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation and Liability Act, and Guidance for Hazardous Waste Sites Affecting Highway Project Development

PL 94-580, PL 96-510

RCRA and CERCLA set national policy on disposal and treatment of hazardous waste.

Appendix G

Members of Steering and Policy Advisory Committees

STEERING COMMITTEE

Chair: Steve Corey, *Member, Oregon Transportation Commission*
Vice-Chair: Tom Schuft, *Manager, ODOT Region 5*

Christine Andersen, *Director, City of Eugene Public Works*
Ralph Blanchard, *Commissioner, Polk County/Art Schlack, Association of Oregon Counties*
Andy Cotugno, *Transportation Director, Metro*
Cam Gilmour, *Manager, ODOT Finance and Administration Operations*
Tom Lulay, *Deputy Director, ODOT*
Robin McArthur-Phillips, *Office of the Governor*
Curtis McCracken, *President, McCracken Motor Freight*
John Porter/Anne O'Ryan, *AAA Oregon/Idaho*
Ron Schaadt/Craig Greenleaf, *Manager, ODOT Transportation Development Division*

SYSTEM DEFINITION COMMITTEE

Chair: Steve Macnab, *Manager, ODOT Region 4*

Rex Burkholder, *Bicycle Transportation Alliance*
Nicholas Fortey, *Federal Highway Administration*
Terry Harbour, *Transportation Development Unit Manager, ODOT Region 3*
Mike Hoglund, *Transportation Planning Director, Metro*
Del Huntington, *Access Management Program Manager, ODOT Planning*
Dan Moore/Elaine Wray, *Rogue Valley Council of Governments*
Jon Oshel, *Director, Tillamook County Public Works*
Norm Paullus, *Engineering Superintendent, City of LaGrande*
Dave Reinhard, *Transportation Engineer, City of Eugene Public Works*
Art Schlack, *Association of Oregon Counties*
Lainie Smith, *Urban Growth Management Planner, Department of Land Conservation and Development*
Karen Swirsky, *Statewide Bicycle/Pedestrian Advisory Committee*
Dave Williams, *Manager, ODOT Region 1 Planning & Development*

SYSTEM MANAGEMENT COMMITTEE

Chair: Gary Johnson, *Manager, ODOT Region 2*

Daniel Boldt, *Director, Wasco County Public Works*
Bob Doran/Pat Creedican, *District Manager, ODOT Region 4*
Erik Havig, *Principal Urban Planner, ODOT Technical Services*
Bob Payne, *Councilman, City of McMinnville*
Louie Pitt, Jr., *Governmental Affairs Director, Confederated Tribes of Warm Springs*
Anna Russo/Bob Cortright, *Department of Land Conservation and Development*
Jeff Schieck/John Grassman, *State Traffic Engineer, ODOT Traffic Management*
Richard Schmid/Barry Hennelly, *Transportation Planning, Mid-Willamette Valley Council of Governments*
Goran Sparrman/Rob Burchfi eld, *City of Portland Traffic Management*
Joe Strahl, *Director, Jackson County Roads & Parks Services*
Michael Sykes, *Assistant Manager, Port of St. Helens*
Jerry Thackery, *Mayor, City of Redmond*

TRAVEL ALTERNATIVES COMMITTEE

Chair: Paul Norris, *Manager, ODOT Planning*

G.B. Arrington, *Strategic Planning Director, Tri-Met*
Keith Bartholomew, *Staff Attorney, 1000 Friends of Oregon*
Todd Davidson, *Manager, Tourism Commission*
Chuck Fisher, *City of Salem*
Lanny Gower, *Licensing Manager, CNF Transportation*
Von Hemmert, *Manager, ODOT Transportation Planning Analysis Unit*
Leo Huff, *Land Use Manager, ODOT Region 1*
Craig Lomnicki, *Mayor, City of Milwaukie*
Robert McKellar, *President, Oregon Forest Products Transportation Association*
Allan Rumbaugh, *General Manager, Port of Coos Bay*
Tom Schwetz, *Lane Council of Governments*
Greg Smith, *Port of Morrow*
Susan Walsh-Enloe, *Portland and Western Railroad*
Dennis Williams, *Transportation Services Manager, Roseburg Forest Products*

ENVIRONMENTAL AND SCENIC RESOURCES COMMITTEE

Chair: Paul Mather, *Manager, ODOT Region 3*

Sue Chase, *Manager, ODOT Salmon Recovery Program*
Pieter Dykman, *Research Unit Supervisor, ODOT Environmental Services*
Paul Edgecomb, *Landscape Architect, ODOT Technical Services*
Pat Ehrlich, *County Road Program Manager, Association of Oregon Counties*
Roy Gerig, *Conservation Director, Salem Audubon*

Pat Moran, *Oregon Scenic Byways Coordinator, ODOT Planning*
Louie Pitt, Jr., *Governmental Affairs Director, Confederated Tribes of Warm Springs*
Jim Pollock/Frank Hunsaker, *US Forest Service*
Janet Porter, *Oregon Tourism Commission*
Don Richards, *Applied Horticultural Consulting*
Kathryn Ryan, *Maintenance Operations Manager, ODOT Region 2*
Ken Stoneman, *Manager, ODOT Operations Support*

OTHER MAJOR ODOT CONTRIBUTORS

Don Aman, *Financial Services*
Linda Apple, *Planning*
Bill Barnett, *Region 5*
Frannie Brindle, *Geo/Hydro*
Molly Cary, *Region 2*
Larry Christianson, *Transportation Safety*
John deTar, *Region 2*
Mark DeVoney, *Region 4*
Victor Dodier, *Governmental Relations*
Fred Eberle, *Region 1*
Mark Ford, *Policy*
Jeff Gower, *Pavement*
Brian Gregor, *Planning*
Dick Groff, *Bridge*
Allison Hamilton, *Financial Services*
Bonnie Heitsch, *Region 2/Planning*
Claudia Howells, *Rail*
Kim Hunn, *Financial Services*
Steve Kale, *Planning*
Joan Kugler, *Region 1*
Dan Layden, *Region 1*
Dave Lutz, *Policy/Statewide Project Delivery*
Mazen Malik, *Financial Services*
Susan Mead, *Inventory and Mapping*
Cole Mullis, *Pavement*
Frank Nelson, *Bridge*
Robin Phillips, *Public Transit*
Kate Poole, *Planning*
John Preston, *Region 5*
Michael Ronkin, *Bicycle/Pedestrian Program*
June Ross, *Traffic Management*
Pamela Rounsley, *Policy*
Martha Sartain, *Bridge*
Bob Sherman, *Planning/Public Transit*
Doug Tindall, *Office of Maintenance*
Monte Turner, *Communications*
Jill Vosper, *Management Systems*
Linda Willnow, *Planning*

Appendix H

Oregon Highway Plan Findings of Compliance

Compliance With Statewide Planning Goals

State Agency Coordination (SAC) Program Requirements

ODOT's certified State Agency Coordination (SAC) Program and Oregon Administrative Rules Chapter 31, Division 15, describe the procedures that ODOT will follow when developing and adopting plans to assure that they comply with the statewide planning goals and are compatible with acknowledged comprehensive plans. The SAC Program recognizes that planning occurs in stages and that compliance and compatibility obligations depend on the stage of planning being undertaken. The SAC Program describes the process as follows:

> "ODOT's program for assuring compliance and compatibility recognizes the successive stages of transportation planning and establishes a process that coordinates compliance and compatibility determinations with the geographic scale of the plan and the level of detail of information that is available. At each planning stage, some compliance and compatibility issues come into focus with sufficient clarity to enable them to be addressed. These issues shall be resolved at that time. Other issues may be apparent but not seen clearly enough to determine compliance and compatibility. These issues shall be resolved in subsequent planning stages and any plan decisions that depend on their resolution shall be contingent decisions. The result of this successive refinement process shall be the resolution of all compliance and compatibility issues by the end of the project planning stage of the transportation planning program.
>
> "The department's coordination efforts at the transportation policy plan and modal systems plan stages will be directed at involving metropolitan planning organizations, local governments and others in the development of statewide transportation policies and plans. Since these plans have general statewide applicability and since ODOT has the mandate under ORS 184.618 to develop such plans, compatibility with the comprehensive plan provisions of specific cities and counties will not be generally established. However, compatibility determinations shall be made for new facilities identified in modal systems plans that affect identifiable geographic areas. Compliance with any statewide planning goals that specifically apply will be established at these planning stages.

"The focus of the department's efforts to establish compatibility with acknowledged comprehensive plans will be at the facility planning and project planning stages of the planning program. At these stages, the effects of the department's plans are more regional and local in nature, although some statewide effects are also present."

- At the beginning of the Highway Plan process, the Department organized four policy advisory committees to develop the draft goals and policies. The 54 members of the committees represented ODOT managers, state and federal agencies, Indian tribal governments, metropolitan planning organizations, cities, counties, business and transportation industry users and providers, and environmental and public interest organizations. Each committee met from four to seven times in 1997 and 1998 to formulate the goals, policies and actions that form the Policy Element of the Plan. Each committee was chaired by an ODOT manager and supported by ODOT technical staff and the consulting team.

- The Highway Plan Steering Committee provided direction to the policy and investment strategy development. The Committee, chaired by a Transportation Commission member, included representatives of cities, counties, metropolitan planning organizations, the Governor's office and highway users, and met 10 times during the plan's development.

- Public review of the plan included two series of statewide meetings. The public review of the Policy Element in spring 1998 included 12 public meetings, 6 regional workshops for local government officials, and over 30 presentations to government bodies and business and civic organizations. The review of the System Element in September-October 1998 involved 22 public meetings throughout the state. Press releases, ads and newspaper articles publicized the meetings and the issues. Two newsletters outlined the issues for local governments and any interested parties. The staff summarized the written and oral comments received during the public review and recommended changes in the draft policies and investment strategies to the policy advisory committees and Steering Committee.

- The Transportation Commission conducted a public hearing on the draft plan on Wednesday, January 20, 1999. The Commission considered changes to the draft plan based on the public hearing at their meeting on January 21.

- The draft plan and the draft findings of compliance with the applicable statewide planning goals were presented to the Transportation Commission at their meeting on January 21, 1999.

- Findings of compliance with statewide planning goals were adopted as part of the final Highway Plan on March 18, 1999.

- Copies of the adopted Oregon Highway Plan will be distributed to DLCD, cities, counties, metropolitan planning organizations and participating state agencies, as well as to all interested persons and agencies who request copies.

Transportation Planning Rule

The Land Conservation and Development Commission adopted the Transportation Planning Rule (OAR 660-12) to implement Statewide Planning Goal 12 (Transportation) and "to explain how local governments and state agencies responsible for transportation planning demonstrate compliance with other statewide planning goals."

The Transportation Planning Rule describes transportation planning as follows (Section 010):

> "(1) As described in this division, transportation planning shall be divided into two phases: transportation system planning and transportation project development. Transportation system planning establishes land use controls and a network of facilities and services to meet overall transportation needs. Transportation project development implements the Transportation System Plan (TSP) by determining the precise location, alignment and preliminary design of improvements included in the TSP."

Section 15 of the Transportation Planning Rule recognizes that ODOT's TSP is composed of a number of elements as described in the Department's State Agency Coordination (SAC) Program.

> "(1)(a) The state TSP shall include the state transportation policy plan, modal systems and transportation facility plans as set forth in OAR 731, Division 15."

The Oregon Highway Plan is an ODOT modal system/topic plan. The system plan is described in the SAC Program as follows:

> "These are the overall plans and policies for each mode of transportation. These plans evaluate system wide needs for transportation services, identify and classify facilities by function and importance to meet the needs, and establish policies for the system and each class of facilities. These policies may cover topics such as prioritization of resources across the system; allocation of resources between maintenance, preservation, operation and modernization; operational goals for classes of facilities; and relationship of facilities categories to land use. Modal Systems Plans are adopted by the Transportation Commission."

The Highway Plan evaluates system-wide needs, classifies facilities by function, establishes policies for the system, allocates resources, and outlines the relationship of facilities categories to land use.

Section 15 of the TPR describes ODOT planning responsibilities under the statewide planning goals.

> "(1) ODOT shall prepare, adopt and amend a state TSP in accordance with ORS

184.618, its program for state agency coordination certified under ORS 197.180, and OAR 660-12-030, 035, 050, 065 and 070. The state TSP shall identify a system of transportation facilities and services adequate to meet identified state transportation needs."

Following are findings relating to each of the above sections of the TPR that apply to ODOT.

Section 030 - Determination of Transportation Needs

Section 030 identifies the basic requirements for determining transportation needs as follows:

"(1) The TSP shall identify transportation needs relevant to the planning area and the scale of the transportation network being planned including:

(a) State, regional and local transportation needs.

(b) Needs of the transportation disadvantaged.

(c) Needs for movement of goods and services to support industrial and commercial development planned for pursuant to OAR 660-09 and Goal 9 (Economic Development)."

Since the Oregon Highway Plan is at a statewide scale, it addresses the current status of highway service in the state and identifies system deficiencies to assist ODOT with management priorities and with its forecasts of transportation funding needs.

The determination of transportation needs included in this Plan is appropriate and sufficient for the level of decision-making provided in the Plan. The needs analysis is based on projected traffic volumes, deterioration rates, deficiency analysis, safety analysis and transportation system plans. It includes capacity-adding projects, pavement preservation, bridge preservation, operations and safety improvements, and maintenance and planning needs in the aggregate at the statewide level.

The Plan addresses the needs of the transportation disadvantaged by emphasizing facilities for transit riders, pedestrians and bicyclists in Policy 1B.

The Plan addresses the needs for the movement of goods and services by establishing a state freight system, addressing freight efficiency in Policy 4A, requiring higher highway mobility standards for freight routes in Policy 1F, and calling for investing in thicker pavements on freight routes.

Section 035 - Evaluation and Selection of Transportation System Alternatives

Section 035 contains requirements for evaluating and selecting transportation system alternatives.

"(1) The TSP shall be based upon evaluation of potential impacts of system alternatives that can reasonably be expected to meet the identified transportation needs in a safe manner and at a reasonable cost with available technology. The following shall be evaluated as components of system alternatives:

(a) Improvements to existing facilities and services;

(b) New facilities and services, including different modes or combinations of modes that could reasonably meet identified transportation needs;

(c) Transportation system management measures;

(d) Demand management measures; and

(e) A no-build system alternative required by the National Environmental Policy Act of 1969 or other laws."

The Major Improvements Policy (Policy 1G) requires evaluation of these alternatives in addressing highway problems.

This section of the TPR also contains the following standards for evaluating transportation system alternatives:

"(3) The following standards shall be used to evaluate and select alternatives:

(a) The transportation system shall support urban and rural development by providing types and levels of transportation facilities and services appropriate to serve the land uses in the acknowledged comprehensive plan.

(b) The transportation system shall be consistent with state and federal standards for protection of air, land and water quality including the State Implementation Plan under the Federal Clean Air Act and State Water Quality Management Plan.

(c) The transportation system shall minimize adverse economic, social, environmental and energy consequences.

(d) The transportation system shall minimize conflicts and facilitate connections between modes of transportation.

(e) The transportation system shall avoid principal reliance on any one mode of transportation and shall reduce principal reliance on the automobile. In MPO areas this shall be accomplished by selecting transportation alternatives which meet the requirements in 660-12-035(4)."

The Highway Plan is in line with these standards in several policies:

- The Land Use/Transportation Policy (Policy 1B), Highway Mobility Standards (Policy 1F), and Access Management Policies (Policies 3A, 3B, and 3C) provide types and levels of transportation facilities and services appropriate to serve the land uses identified in the acknowledged comprehensive plan.

- Goal 5 for Environmental and Scenic Resources would protect or enhance the natural and built environment throughout the process of constructing, operating, and maintaining the state highway system and emphasizes compliance with state and federal standards for the protection of air, land and water quality.

- While Goal 5 (Environmental and Scenic Resources) and Policy 4D (Transportation Demand Management) specifically address environmental and energy issues, the plan as a whole seeks to enhance system efficiency and safety and minimize adverse economic, social, environmental and energy consequences.

- The Highway Plan addresses problems regarding conflicts between modes and connections between modes in Policies 1B (Land Use/Transportation), 2G (Rail and Highway Compatibility), 4A (Efficiency of Freight Movement), and 4B (Alternative Passenger Modes).

- The Highway Plan is a modal plan that addresses use of the highway, but recognizes the importance of other modes in reducing reliance on the automobile. (See Policies 4A Efficiency of Freight Movement, 4B Alternative Passenger Modes, 4D Transportation Demand Management, 4E Park-and-Ride Facilities.)

ODOT will apply the standards in Section 035 as it develops corridor plans and as it works with local governments to develop local TSPs.

Section 050 - Transportation Project Development

This section contains requirements for transportation project development and references ODOT's administrative rule for state agency coordination OAR 731 Division 15. The Highway Plan does not refer to any transportation projects.

Section 065 - Transportation Improvements on Rural Lands

This section includes requirements for making transportation improvements on rural lands. The Highway Plan does not identify any specific improvements on rural lands. Access management policies and standards (Policies 3A, 3B, and 3C) are consistent with Section 065. Specific highway improvements will be proposed through corridor plans or TSPs, and compliance with the TPR provisions will be addressed at that time.

Section 070 - Exceptions for Transportation Improvements on Rural Lands

The Highway Plan does not identify any improvements on rural lands. Specific highway improvements will be proposed through corridor plans or TSPs, and compliance with the TPR provisions will be addressed at that time.

Statewide Planning Goals

Goal 1 (Citizen Involvement) and Goal 2 (Land Use Planning) are addressed by ODOT's SAC Program. ODOT has complied with these goals by following its SAC Program procedures as described above.

The SAC Program describes a process of going from the general to the specific. The Highway Plan is a modal/topic plan which addresses system-wide management strategies and policies. It does not identify specific areas that would be affected by improvements. Accordingly, several land specific goals do not apply. These include:

Goal 3	(Agricultural Land)
Goal 4	(Forest Lands)
Goal 5	(Open Spaces, Scenic and Historic Areas, and Natural Resources)
Goal 7	(Areas Subject to Natural Disasters and Hazards)
Goal 15	(Willamette River Greenway)
Goal 16	(Estuarine Resources)
Goal 17	(Coastal Shorelands)
Goal 18	(Beaches and Dunes)

According to the SAC Program, these goals will be addressed during the development of facility plans such as corridor plans and project plans when specific future improvements and geographic impacts are identified.

Two goals have an indirect relationship to the Oregon Highway Plan in that they have some connection to the evaluation of needs. The requirements of these goals, however, have no direct bearing on the Highway Plan. These are:

Goal 8	(Recreational Needs)
Goal 10	(Housing)

A number of goals do affect system-wide planning. These include:

Goal 6	(Air, Water and Land Resources Quality)
Goal 9	(Economic Development)
Goal 11	(Public Facilities and Services)
Goal 12	(Transportation)
Goal 13	(Energy Conservation)
Goal 14	(Urbanization)

These goals are all addressed by TPR requirements.

FINDINGS OF COMPLIANCE WITH THE OREGON TRANSPORTATION PLAN

The Purpose

One of the purposes of the Oregon Highway Plan is to meet the requirements of the Oregon Transportation Plan for a modal/topic plan for the state highway system. It provides more detailed policies, actions and strategies for the state highway system. The Oregon Highway Plan is considered an element of the unified transportation plan as described in the State Agency Coordination Program, December 1990.

The Process: Highway Plan Advisory Committees

The four Highway Plan policy advisory committees and Steering Committee that participated in, and provided guidance to, the Plan's development have been described above under State Agency Coordination Program.

Public Involvement

The development of the Oregon Highway Plan has involved extensive public involvement throughout the process. Newsletters, press releases, newspaper articles, and the Highway Plan Website announced each of the two series of public meetings to review the policies and investment strategies. Public Review Draft One (focusing on the Policy Element), Public Review Draft Two (the Policy and System Elements), and the Public Hearing Draft were widely circulated to citizens, organizations, regional and local governments and state agencies for their comment. About 1000 people, including ODOT employees, participated in over 50 meetings throughout the state on the Policy Element in the spring of 1998. Six of these meetings were regional workshops for local government officials. About 360 citizens and local governments participated in the review of the plan at 22 public meetings during the fall of 1998. The staff had additional meetings with business and regional and local government groups throughout the planning process.

ODOT staff compiled the oral and written comments made during the public review periods and recommended changes to plan concepts and language to the advisory committees and Oregon Transportation Commission.

The Transportation Commission held a public hearing on the plan on January 20, 1999, and modified the plan in response to written and oral comments.

Oregon Transportation Plan Goals and Policies

The Oregon Highway Plan delineates and expands all of the policies in the Oregon Transportation Plan related to the highway system except for the financial policies (Policies 4A, 4D, and 4F). The Highway Plan does not address these financial policies because it does not advocate a funding package. The following are examples of policies in the Oregon Highway Plan that elaborate OTP policies:

RELATIONSHIP OF OTP AND OHP POLICIES	
OTP Policy[39]	**OHP Policies**
Policy 1A – Balance	Policy 1B - Land Use/Transportation Policy 4B - Alternative Passenger Modes
Policy B – Efficiency	Policy 1G - Major Improvements Policy 4D - Transportation Demand Management
Policy 1C – Accessibility	Policy B - Land Use/Transportation
Policy 1D – Environmental Responsibility	Policy 5A - Environmental Resources
Policy 1E – Connectivity Among Places	Policy 1A - State Highway Classification System Policy 1C - State Highway Freight System
Policy 1F - Connectivity Among Modes	Policy 4A - Efficiency of Freight Movement Policy 4B - Alternative Passenger Modes
Policy 1G - Safety	Policy 2F - Traffic Safety Policy 2G - Rail and Highway Compatibility
Policy 1H - Financial Stability	Investment Policy in System Element
Policy 2A - Land Use	Plan as a whole Policy B - Land Use/Transportation
Policy 2B - Urban Accessibility	Policy 1B - Land Use/Transportation
Policy 2C - Relationship of Interurban & Urban Mobility	Policy B - Land Use/Transportation Policy 1F - Highway Mobility Standards Policy 3A, 3C - Access Management
Policy 2D - Facilities for Pedestrians & Bicyclists	Policy B - Land Use/Transportation
Policy 2E - Minimum Levels of Service Policy 2F - Rural Mobility	Policy IA - State Highway Classification System Policy 1C - State Highway Freight System
Policy 2G - Regional Differences	Policy 1B - Land Use/Transportation Policy 1F - Highway Mobility Standards
Policy 2H - Aesthetic Values	Policy 5B - Scenic Resources
Policy 3A - Balanced & Efficient Freight System	Policy 4A - Efficiency of Freight Movement
Policy 3B - Linkages to Markets	Policy 1C - State Highway Freight System
Policy 3D - Intermodal Hubs	Policy 4A - Efficiency of Freight Movement
Policy 3E - Tourism	Policy 1D - Scenic Byways Policy 5B - Scenic Resources

[39] The Oregon Transportation Plan (OTP) was updated in September 2006. OTP policies listed here are out of date.

RELATIONSHIP OF OTP AND OHP POLICIES	
OTP Policy[39]	**OHP Policies**
Policy 4G - Management Practices	Investment Policy Policy 1G - Major Improvements Policy 4D - Transportation Demand Management
Policy 4M - Private/Public Partnership	Policy 2A – Partnerships
Policy 4N - Public Participation Policy 4O - Public Information & Education	Policy 2D - Public Involvement

The Highway Plan does not address the highway-related Action 2B.2 in the OTP that says "Give preference to projects and assistance grants that support compact or infill development or mixed use projects." This action can be addressed in Transportation Commission policy beyond the Highway Plan.

Index

Access Management, 10, 123, 215
Deviations, 140
Interchanges, 137, 218
Medians, 134
Spacing standards, 131, 215
Alternative Modes, 11
Benchmarks, 32, 91
Bridges, 17, 167, 171, 178, 184, 212
Clean Air Act, 34, 158, 159, 230, 239
Commercial Center, 53
Commercial Centers, 58, 62
Corridor Plans, 35
Cost responsibility, 191
District Highways, 47, 49, 217
Environmental Resources, 157, 159, 200, 240
Expressways, 48
Freight, 41, 69, 197, 199, 240
High Occupancy Vehicles (HOV), 149, 169, 200
Highway Mobility Standards, 79, 198, 239
ide Transportation Improvement Program (STIP), 188
Implementation Strategies, 195
Intelligent Transportation Systems (ITS), 18, 113, 172, 179
Intelligent Transportation Systems (TS), 169
Interjurisdictional Transfers, 111, 198
Intermodal, 11, 212
Intermodal Surface Transportation Efficiency Act (ISTEA), 30, 34, 50
Interstate Highways, 47, 126
Investment Policies, 15, 175
level of Service (LOS), 80
Lifeline Routes, 77, 197
Local Interest Roads, 48, 130
Major Improvements, 79, 92, 169, 239
Metropolitan Planning Organization (MPO), 88
Modernization, 15, 17, 170, 177
National Highway System (NHS), 41, 45, 47, 50, 126
Off-System Improvements, 110, 198
Oregon Transportation Commission (OTC), 38, 46, 48, 49, 74, 112, 127, 198
Oregon Transportation Plan (OTP), 8, 11, 24, 30, 34, 105, 117, 143, 146, 153, 242
Park-and-ride Lots, 150, 153, 200
Partnerships, 108, 198
Pavement preservation, 15, 16, 166, 169, 171, 177, 178, 212
Performance Measures, 197
Population growth, 25
Population, Oregon, 25, 26
Public involvement, 113
Public Involvement, 242
Rail, 120, 169, 199, 240
Regional Highways, 47, 216
Scenic Byways, 19, 74, 163, 180, 197
Scenic resources, 157, 162, 169, 200, 240
Special Transportation Area (STA), 61, 67, 79, 85, 88, 128, 130, 131
State Agency Coordination Program, 31, 241, 242
State Highway Classification System, 47
Statewide Highways, 47, 126, 215, 216
Statewide Planning Goals, 30, 158, 229, 240
Statewide Transportation Improvement Program (STIP), 35
Traffic Safety, 18, 117, 169, 172, 178, 198, 213
Transportation Demand Management (TDM), 152, 200, 240
Transportation Equity Act for the 21st Century (TEA-21), 30
Transportation Planning Rule (TPR), 30, 80, 237
Transportation System Plan (TSP), 36, 237
Urban Business Area (UBA), 53, 56, 61, 65, 68, 128, 130, 131
Vehicle Miles Traveled (VMT), 25, 26, 27, 174, 190
Volume to capacity ratio (v/c), 80
Willamette Valley, 8, 27

1999 Oregon Highway Plan

Highway Classification Maps

INTERMODAL CONNECTORS ON THE NATIONAL HIGHWAY SYSTEM

STATE HIGHWAY CLASSIFICATION SYSTEM

Updated in June 2006

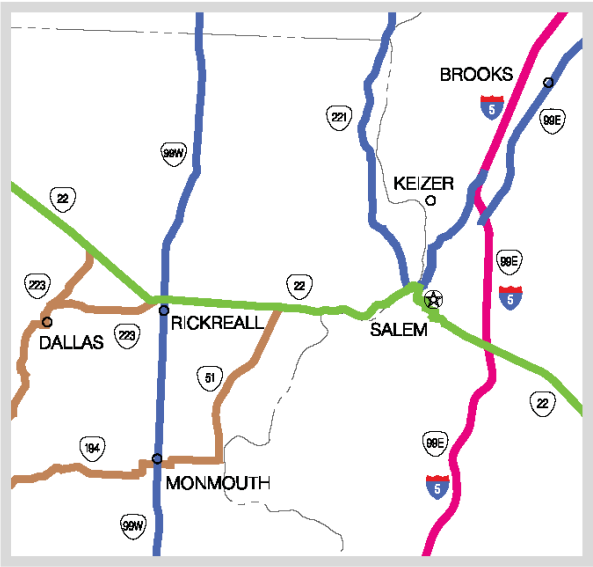
Maps have been updated to represent current information as of July 2006, Technical Amendment 06-21.

State Highway Classification System and Intermodal Connectors on the NHS

Interstate Highways - NHS
Statewide Highways - NHS
Regional Highways
District Highways
Intermodal Connectors on the NHS

SALEM REGIONAL ENLARGEMENT

SCALE 0 2 4 MILES



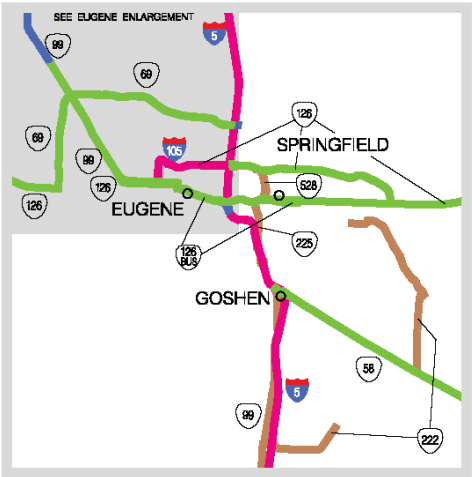
N

Connector routes are shown for major intermodal freight and passenger facilities as defined by the Federal Highway Administration. Most intermodal connectors are under the jurisdiction of local governments.

County Boundary
ORE Route - US Route - Interstate Route
See Enlargement

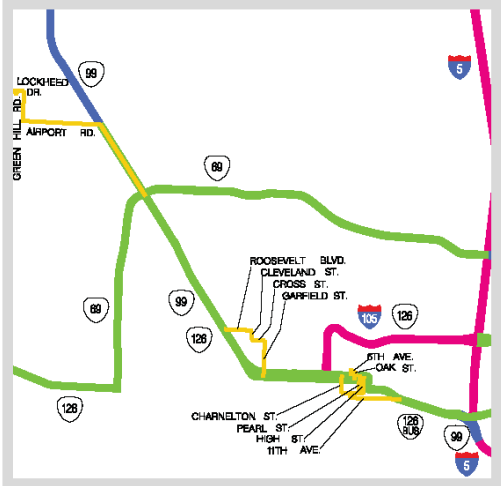
EUGENE/SPRINGFIELD REGIONAL ENLARGEMENT

SCALE 0 2 4 MILES



EUGENE ENLARGEMENT

SCALE 0 1 2 MILES



State Highway Classification System and Intermodal Connectors on the NHS

Interstate Highways - NHS
Statewide Highways - NHS
Regional Highways
District Highways
Intermodal Connectors on the NHS

N

Connector routes are shown for major intermodal freight and passenger facilities as defined by the Federal Highway Administration. Most intermodal connectors are under the jurisdiction of local governments.

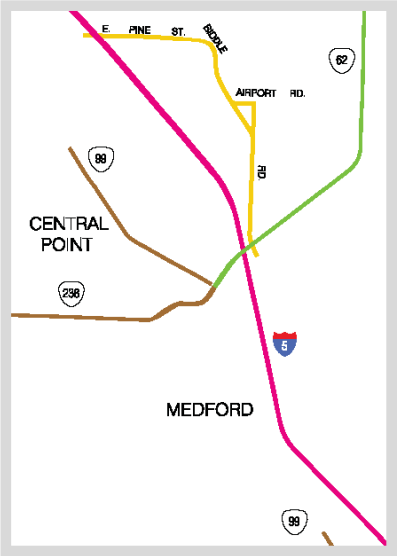
County Boundary
ORE Route - US Route - Interstate Route

ASTORIA ENLARGEMENT

SCALE 0 1 MILE

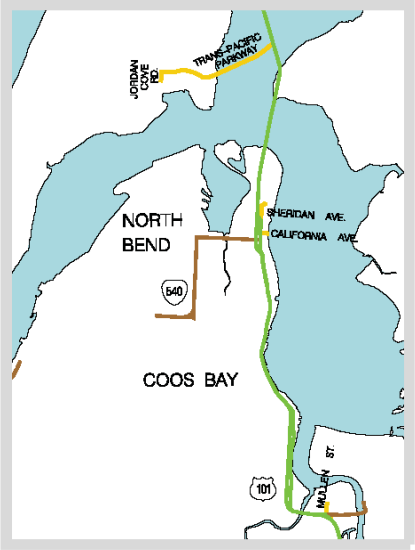
MEDFORD ENLARGEMENT

SCALE 0 1 MILE



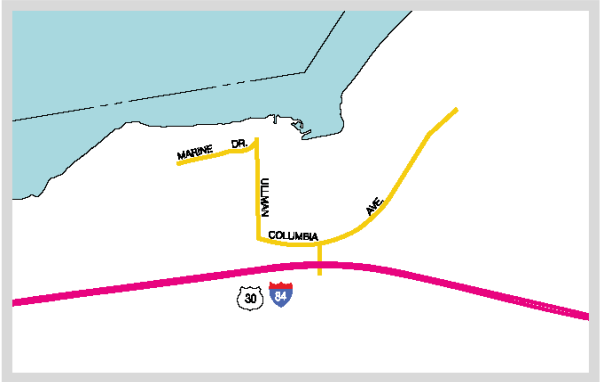
COOS BAY / NORTH BEND ENLARGEMENT

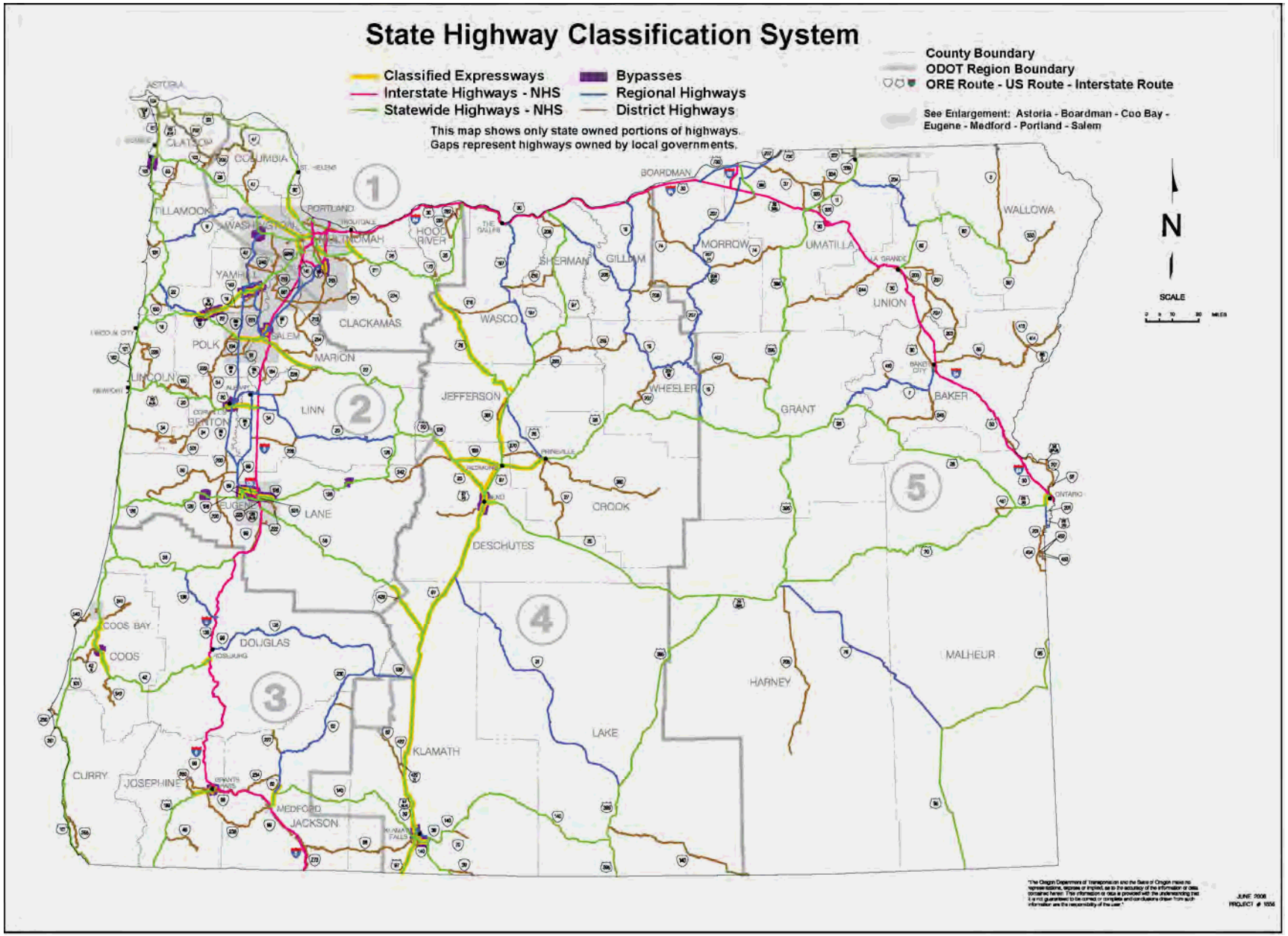
SCALE 0 1 2 MILES



BOARDMAN ENLARGEMENT

SCALE 0 1 MILE




State Highway Classification System
Classified Expressways
Interstate Highways - NHS
Statewide Highways - NHS
Bypasses
Regional Highways
District Highways
This map shows only state owned portions of highways.
Gaps represent highways owned by local governments.
County Boundary
ODOT Region Boundary
ORE Route - US Route - Interstate Route
See Enlargement: Astoria - Boardman - Coo Bay - Eugene - Medford - Portland - Salem
N
SCALE
ASTORIA
CLATSOP
COLUMBIA
TILLAMOOK
WASHINGTON
PORTLAND
MULTNOMAH
HOOD RIVER
THE DALLES
BOARDMAN
WALLOWA
SHERMAN
GILLIAM
MORROW
UMATILLA
LA GRANDE
UNION
YAMHILL
CLACKAMAS
WASCO
SALEM
POLK
MARION
LINCOLN
NEWPORT
ALBANY
BENTON
LINN
JEFFERSON
WHEELER
GRANT
BAKER
BAND CITY
PRINEVILLE
BEND
EUGENE
LANE
CROOK
ONTARIO
DESCHUTES
COOS BAY
COOS
DOUGLAS
ROSEBURG
MALHEUR
HARNEY
LAKE
KLAMATH
CURRY
JOSEPHINE
GRANTS PASS
MEDFORD
JACKSON
KLAMATH FALLS
1
2
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5
JUNE 2006
PROJECT # 1556

State Highway Classification System and Intermodal Connectors on the NHS

N

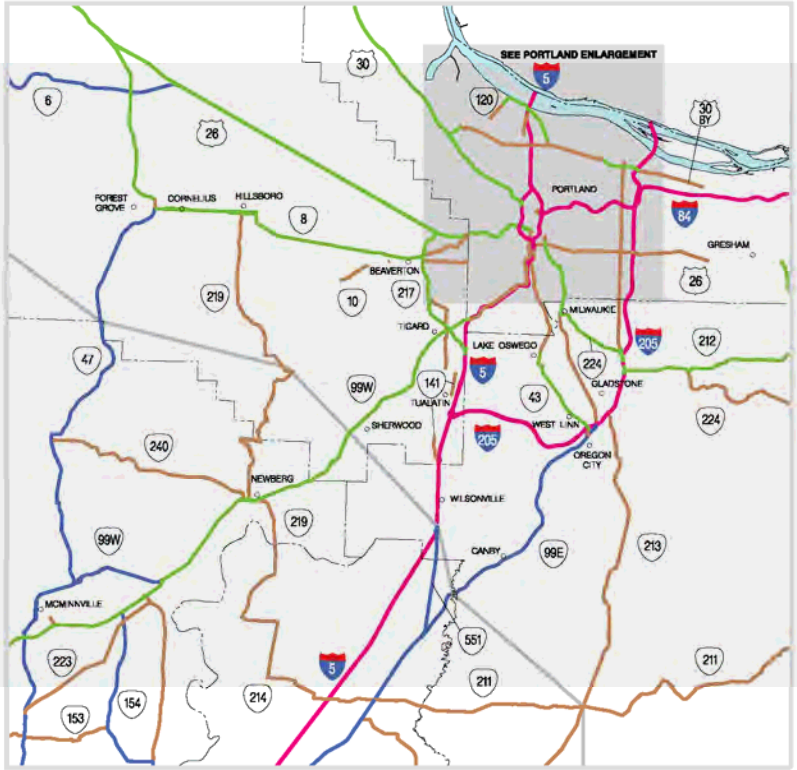
Interstate Highways - NHS
Statewide Highways - NHS
Regional Highways
District Highways
Intermodal Connectors on the NHS

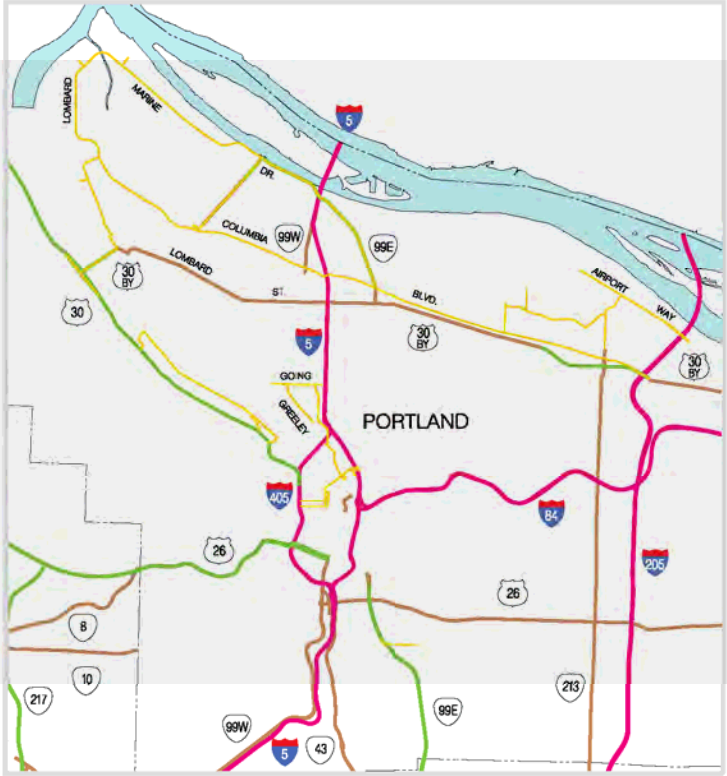
Connector routes are shown for major intermodal freight and passenger facilities as defined by the Federal Highway Administration. Most intermodal connectors are under the jurisdiction of local governments.

County Boundary
ORE Route - US Route - Interstate Route
See Enlargement

PORTLAND REGIONAL ENLARGEMENT

SCALE 0 1 2 3 4 5 MILES



PORTLAND ENLARGEMENT

SCALE 0 1 2 MILES