1-14-1999

Meeting Notes 1999-01-14 [Part B]

Joint Policy Advisory Committee on Transportation

DRAFT

1998 OREGON HIGHWAY PLAN

Public Hearing Draft

January 1999

Oregon Department of Transportation
Planning Section
Statewide Mobility Unit

Investment Policy

The state highway system will need $29.1 billion for preserving the existing system and making feasible improvements during the next 20 years. Projected state revenues at the present tax rate and federal revenues including projected increases will bring in $13.9 billion over the next 20 years, leaving a revenue gap of $15.2 billion.

In recognition of this gap, the Plan's investment policy places the highest priority for making investments in the state highway system on safety and managing and preserving the physical infrastructure. The Plan would manage and preserve existing infrastructure at least at 1998 levels before adding new facilities. The second priority is to 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. With significant funding increases, the Plan would develop feasible modernization projects, address long-term bridge needs and upgrade pavements to a more cost-effective condition.

Specific Policies: Land Use/Transportation Policy

The Land Use/Transportation Policy addresses the relationship between the highway and patterns of development both on and off the highway. It recognizes that state highways serve as the main streets of many communities and strives to maintain a balance between serving these main streets and the through traveler. It recognizes this main street function through the designation of Special Transportation Areas where the primary objective of the highway facility is community access and ciriculation and accommodation of pedestrian movements.

The policy emphasizes compact development in Special Transportation Areas. It also encourages commercial development in compact Commercial Centers, but recognizes existing commercial patterns on urbanized low-speed District Highways.

Freight Policies

The Highway Plan contains two freight-related policies:

- The State Highway Freight System Policy is intended to facilitate interstate, intrastate, and regional movements of trucks by designating statewide routes with heavy truck tonnage as the state freight system. Designated freight highways have higher highway mobility standards; their need for mobility is to be balanced with accessibility in Special Transportation Areas; they may be designated as Expressways; and they will be preserved with thicker pavements.

- The Efficiency of Freight Movement Policy calls for identifying and eliminating roadway obstacles and barriers, encouraging uniform vehicle regulations and standardization of ITS commercial vehicle technology, maintaining roadway facilities that serve intermodal facilities and supporting financing sources for transportation systems that benefit highway performance.

The Oregon Highway Plan in Brief
January 1999

The Oregon Highway Plan sets long-range policy and investment strategies for the state highway system. The Plan will guide the way ODOT develops, manages and invests in the state system for the next 20 years.

Planning Process

Begun about two years ago, the Highway Plan process has relied on extensive input from internal and external stakeholders and the general public. Four policy advisory committees developed the basic policies, and a steering committee reviewed and directed the policies and investment strategies. Members represented regional and central ODOT staff, federal and state agencies, the MPOs, cities, counties, businesses, interest groups and environmental organizations. Members included representatives of DLCD, EDD, DEQ, and the Governor's Office.

Review of the policies in the spring and review of the investment strategies in the fall involved 33 public meetings throughout the state, 6 regional workshops for local government officials sponsored by AOC/LOC, and over 35 meetings with governmental organizations and other business and professional groups. This week the Public Hearing Draft of the Plan is being mailed out in preparation for the public hearing on January 20. The Transportation Commission will be asked to adopt the plan at its February meeting.

Policy Direction

The Highway Plan focuses on making the highway system safer and more efficient. Its policies

- link land use and transportation;
- recognize the importance of freight movements;
- add capacity through better management, alternative modes of transportation, and off-system improvements before adding major improvements;
- recognize the importance of partnerships with other agencies, local governments and the private sector;
- support the use of Intelligent Transportation Systems to improve safety, capacity and communication;
- broaden the spectrum of types of safety improvements, but focus the safety program on the most hazardous locations of serious injury and fatality crashes;
- provide standards for driveway/road spacing, access in interchange areas, and highway medians and a process for resolving proposed deviations from the standards;
- recognize the importance of alternative modes and transportation demand management in improving highway performance;
- recognize scenic byways and the scenic resources of the highway system; and
- recognize the environmental responsibilities associated with the highway system.

Oral comments on this plan may be made at the public hearing on Wednesday, January 20, 1999 at 1:00 p.m. in Room 122 of the Transportation Building, 355 Capitol NE, Salem. Written comments are due at the time of the hearing.

To make comments or obtain additional copies of this draft, please contact:

Carolyn Gassaway, Highway Plan Manager

Phone: (503) 986-4224

Fax: (503) 986-4174

E-mail: carolyn.h.gassaway@odot.state.or.us

Oregon Department of Transportation

Planning Section

555 13th St. NE, Suite 2

Salem, OR 97301-4178

1998 OREGON HIGHWAY PLAN

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Oregon Department of Transportation

Planning Section

Statewide Mobility Unit

Plan produced by:

Statewide Mobility Unit

Barbara Fraser, Statewide Mobility Unit Manager

Carolyn Gassaway, Highway Plan Manager

Richard Arnold, Highway Needs Coordinator

John Williams, Transportation Planner

Robert Royer, Plan Advisor

Kimberly Jordan, Administrative Assistant

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.

1998 OREGON HIGHWAY PLAN

Public Hearing Draft

Table of Contents

Preface

The 1998 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 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 represent cities, counties, federal and state agencies, a tribal government, user groups, environmental and industry groups, and ODOT regions and technical services.

The Highway Plan gives policy and investment direction to 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 these plans.

Note: Technical terms and acronyms are explained in Appendix A1, page 158. Appendix A2, page 163, contains a classification of verbs used in the Policy Element.

Executive Summary

Oregon's state highways are a critical component of the state's transportation network. Oregonians rely on highways to get 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. Eighty 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 1998 Oregon Highway Plan applies these general directives to the state highway system. This plan comprises three main elements: the Vision, the Policy Element, and the System Element.

The **Vision** presents a vision of the state highway system in the future, summarizes economic and demographic forecasts for Oregon and their impact on transportation, and discusses some of the technologies which may impact highway transportation in the future. It also describes the policy and legal context of the Highway Plan and contains an inventory of the state highway system and statistics on the condition and usage of that system.

The **Policy Element** contains goals, policies, and actions in five main areas:

- *System Definition.* System Definition policies lay out a classification system for the state highways to guide future management and investment decisions. This classification system uses the National Highway System instead of the Level of Importance and Access Oregon Highways designations created in the 1991 Highway Plan, but retains the district and regional categories. The system also has special designations for land use, freight, scenic byways, and lifeline routes.

- *System Management.* The focus of System Management policies is on making the highway system operate more efficiently. The main policies cover interjurisdictional relations, intelligent transportation systems, traffic safety, and rail-highway compatibility.

- *Access Management.* Access management policies set standards for medians, interchanges, and connections to highways to improve the safety and efficiency of the highway system.

- *Travel Alternatives.* Policies in the Travel Alternatives area focus on reducing highway system demand as well as reducing barriers to efficient movement for all highway-related modes. The policies address freight, alternative passenger travel, HOV facilities, demand management, and park-and-ride facilities.

- *Environmental and Scenic Resources.* 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 focus on incorporating environmental and scenic resource considerations into highway planning, construction, operation, and maintenance.

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

The 1998 Oregon Highway Plan will replace the 1991 Plan.

VISION

I. 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, 99.4 percent of which are paved. Although the 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 82 million kilometers (51 million miles) every day on the state highway system 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 we live and the way our country looks. Highways have enabled us to work, shop, and recreate long distances from where we live. However, we 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.

There are many challenges for the future. 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 major challenge 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;
- A discussion of future transportation technologies; and
- The policy and legal context of the Highway Plan.

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 1998 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 other 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.[1] 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 I.1~~Figure I.1~~). Twenty-seven percent of the state's growth will be due to natural population increase, while 73 percent will be from in-migration.

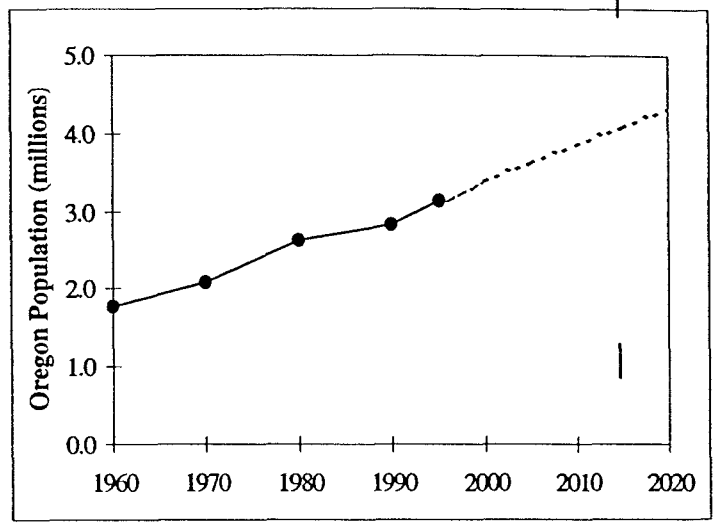


Figure I.1: Oregon Population Trends

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 13.5 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 they do 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 more 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 mid1980s, 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 I.1~~Table I.1~~, page 8). This growth will contribute to higher total VMT and will mean more traffic on the roads at peak commute hours.

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

Table I.1: 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	102,593,000	129,229,000			

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 I.2~~Figure I.2~~.)

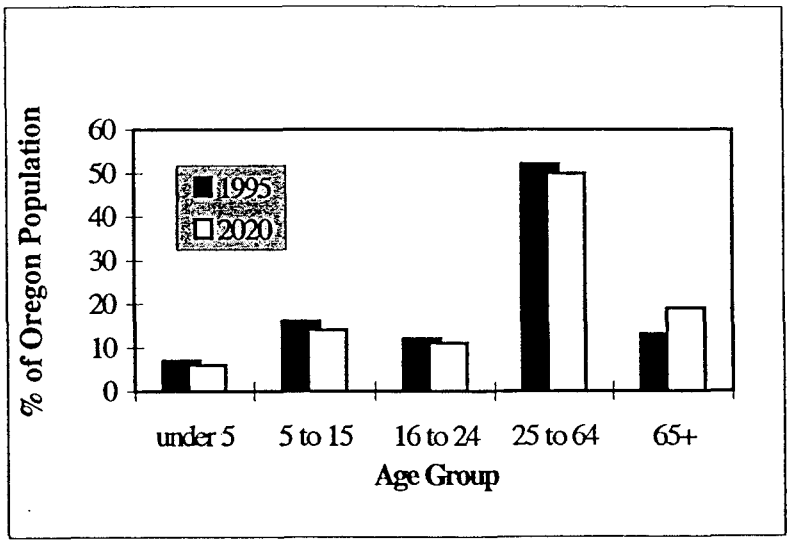


Figure I.22: Age Distribution in Oregon, 1995 and 2020

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 eight new cities the size of Salem.

   Impacts: Increased transportation demand in the Willamette Valley will rely on essentially the same highway system since funding will likely be available to build few new state highways in the Willamette Valley 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 80 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 percent of the projected growth is expected to occur outside the Willamette Valley, in central and eastern Oregon east of the Cascades and along the Columbia River Gorge to the north. 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.

   Impacts: Many of the State'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 insure 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. Here are some of the changes that 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 28 kilometers to the liter (80 mpg).

   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.

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 reductions 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. On-board vehicle technologies are mainly being developed 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 systems. 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 would be necessary to reap long-term rewards. Partnerships to develop and implement new technologies will be critical, especially 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 I.3~~Figure I.3~~ on page 13 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. States are required to prepare long-range statewide, multimodal transportation plans and produce a statewide transportation improvement program that is consistent with the plan. Oregon has designated the Oregon Transportation Plan and the adopted modal and topic plans (Aviation, Bicycle/Pedestrian, Highway, Public Transportation, Rail Freight, Rail Passenger, Transportation Safety, and Willamette Valley Strategy) as the statewide transportation plan. Thus, the Oregon Transportation Plan and each of the modal and topic 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), which replaced ISTEA. The new law established an increased level of Federal funding for surface transportation and continued 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, together with the adopted modal/topic and facility plans, is 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 also directs metropolitan planning organizations to reduce vehicle miles traveled per capita by 10 percent in 20 years.

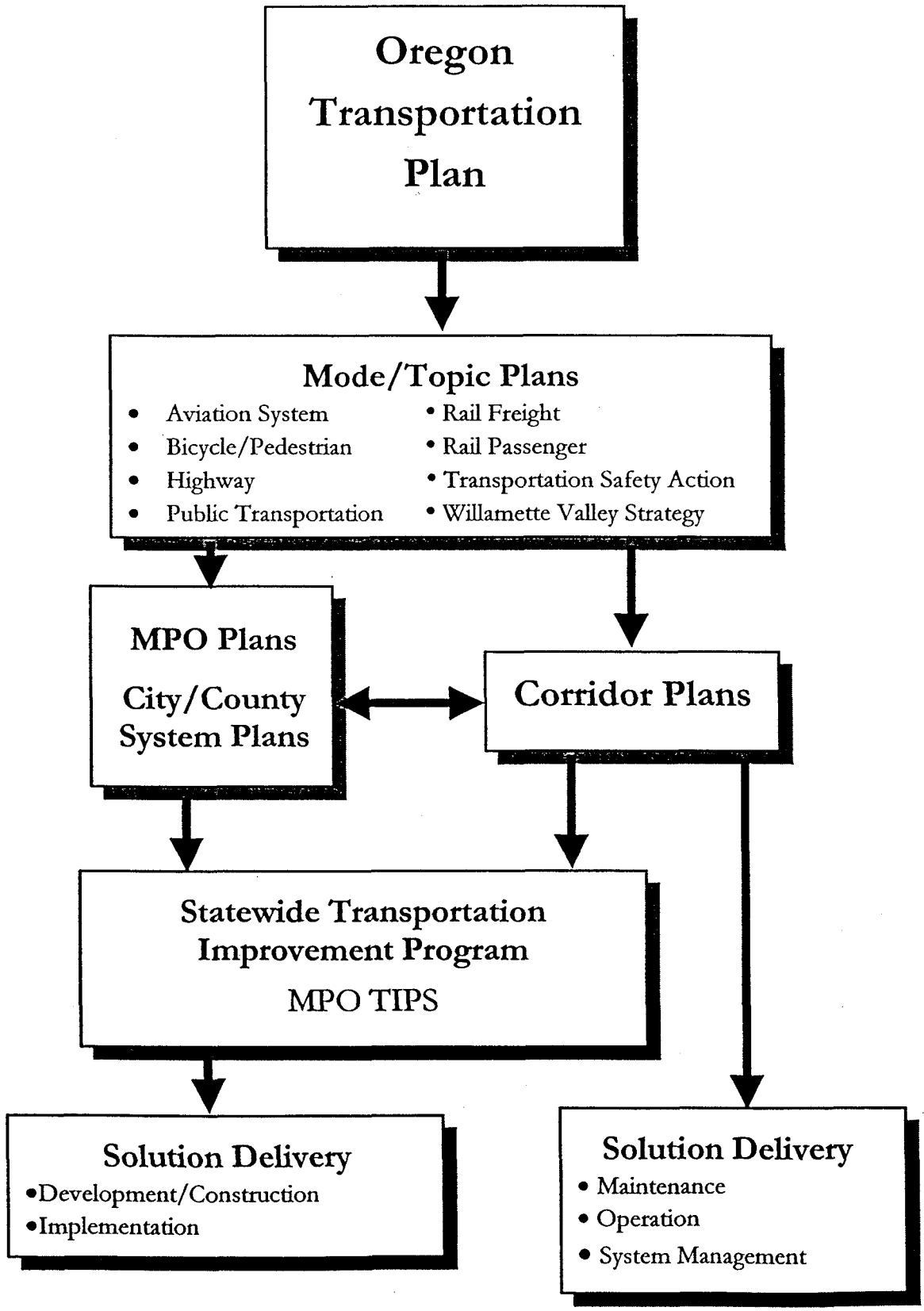


Figure I.33: Integrated Transportation Planning

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 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 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. The benchmarks are being considered in the Highway Plan process.

OREGON BENCHMARKS AFFECTING TRANSPORTATION (1997)

BENCHMARK	1997 STATUS	2010 TARGET
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	28%	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

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 meets the requirements of the Intermodal Surface Transportation Efficiency Act and state law (ORS 184.618), and 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 20–30 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 I.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 are meant to 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 Plan

The Statewide Transportation Improvement Plan (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 eight major recommendations include improving efficiency, reorganizing decision making, and managing funds in new ways. The OTI recommendations led to Governor Kitzhaber's Executive Order on Quality Communities Livability (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 1998 Oregon Highway Plan.

The Planning Process

Policy Element

The first step in the 1998 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 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 created a detailed needs analysis of the state highway system based on existing and new data sources. This needs analysis was used in the creation of investment strategies.

After discussions in October, November and December, 1997, the Oregon Transportation Commission sent this Policy Element out for public review and comment. In February through April, 1998, ODOT staff presented the plan policies and highway needs analysis at meetings across the state to gather public comment. In the spring, the policy committees met again to review the public comment and make final policy recommendations.

System Element

The Steering Committee led an investment strategy analysis based on the draft goals and policies and the needs analysis. The investment 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 September and October 1998, the public has the opportunity to discuss the investment strategies at another series of meetings statewide.

The Oregon Transportation Commission is scheduled to adopt the Oregon Highway Plan in February 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 I.4~~Figure I.4~~). The 1998 Oregon Highway Plan sets policy for the state highway system: 7,484 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 kilometers) 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 will be provided in the final version of the plan.)

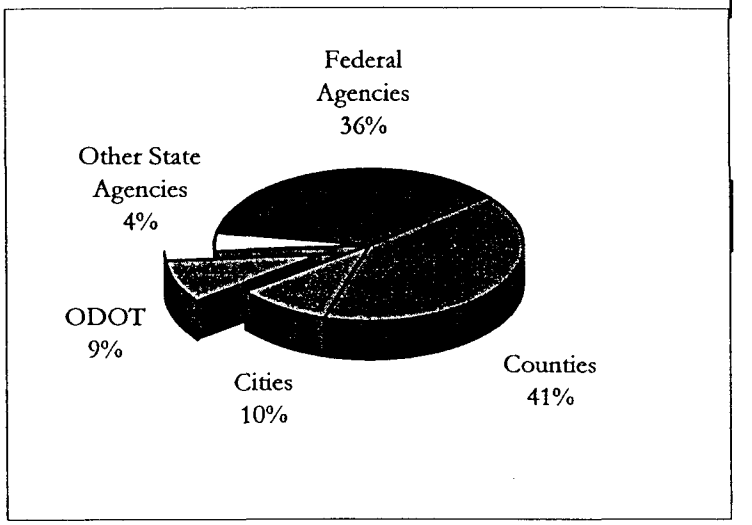


Figure I.44: Public Road Jurisdiction in Oregon, 1997

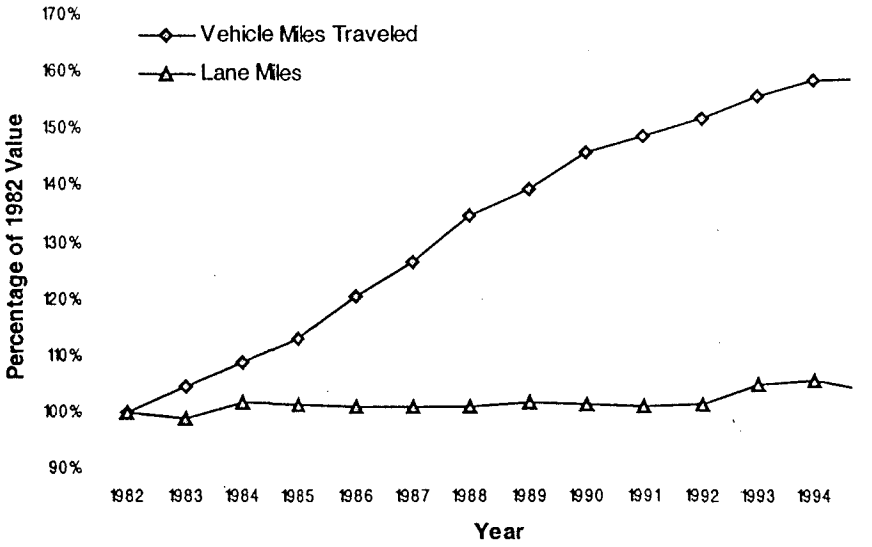
The state highway system ranges from eight lane freeways to two lane gravel roads. More than 99.5 percent of state highway mileage is paved. The system also includes 4,800 major structures including bridges and viaducts.

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 I.~~Figure I.~~5, page 20). This means that there are many more cars on the same amount of roadway, a trend most noticeable on freeways in urban areas (Figure I.6~~Figure I.6~~, page 20).

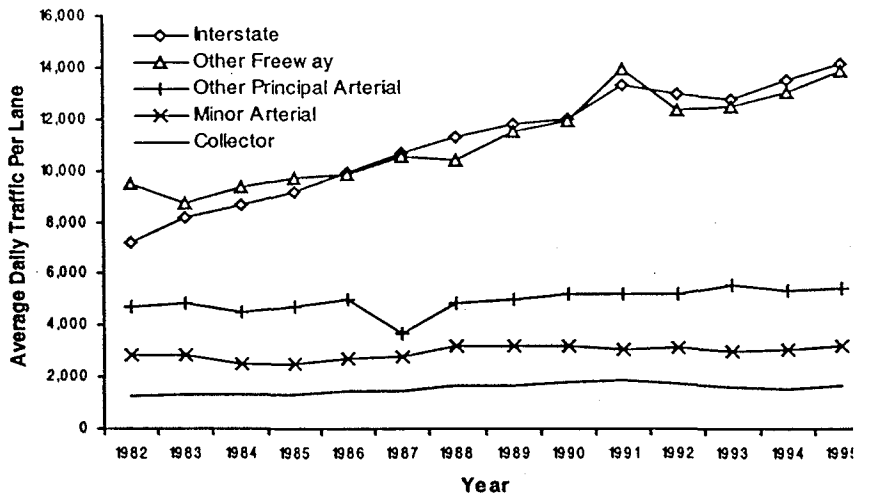
Oregonians are very aware of the increased congestion on their roads, and surveys completed in 1994 and 1995 show that people in central and southern Oregon were as concerned about congestion as people in the Portland Metro area.



Source: ODOT Transportation Planning & Data Sections

Figure I.5: Trends in VMT and Lane Miles in Oregon (all jurisdictions).

In the past 15 years, vehicle miles traveled on Oregon's roads has increased 60 percent while road mileage has grown less than 1 percent. Both VMT and lane miles are charted as a percentage of 1982 levels.



Source: ODOT Transportation Planning & Data Sections

Figure I.66: Average Daily Traffic on Oregon's Urban Roadways (all jurisdictions).

In the past 15 years, urban freeways have become much more congested. The unit of measurement in this chart is thousands of vehicle miles traveled each day per lane mile of roadway.

Commuting

There were approximately 1,450,000 workers in Oregon in 1997, and approximately 74 percent of them drove alone to work, while the remaining 26 percent used some sort of alternative (Figure I.7~~Figure I.7~~). These figures include all jurisdictions of roads in Oregon; data is not available for state highways alone.

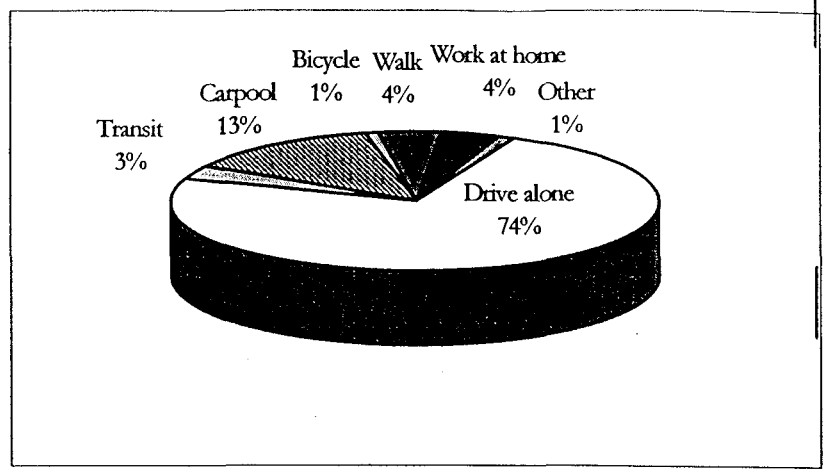


Figure I.7~~7~~: Means of Transportation to Work in Oregon

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 trucks, 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 I.8~~Figure I.8~~, page 22, 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 come from 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.

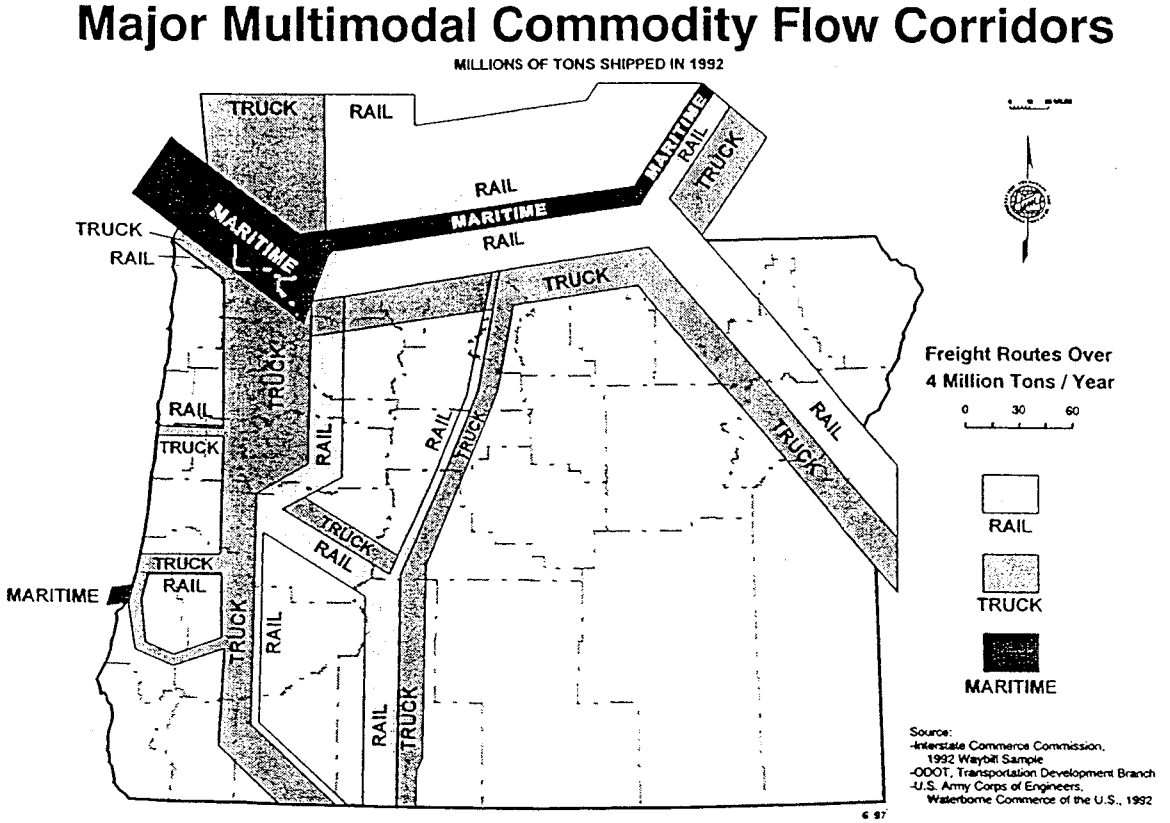


Figure I.88: Major Multimodal Commodity Flow Corridors in Oregon

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.

POLICY ELEMENT

II. 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 designations: *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 levels of service 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 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.)In brief, the NHS and Statewide categories replace Access Oregon Highways and the Level of Importance system. In brief, the NHS and Statewide categories replace Access Oregon Highways and the Level of Importance system.

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. (Note: These roads will be listed in Appendix B, which is not completed yet.) 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 there are certain roads which are currently state highways but 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 1C, 1D, 1E, 1F, 1G, and 3A). These subcategories and designations are policy-specific; the overall state highway classification defined in ~~this p~~ Policy 1A forms the basis for the classification system. ~~takes precedence in general application.~~ The classification map in this plan and Appendix C ~~(not completed yet)~~ detail the application of the state highway classification system to specific highways.

The categories ~~are non-hierarchical,~~ recognize~~ing~~ 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 system 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 B, 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 may also be a priority.

- **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, low to moderate speed traffic flow and for pedestrian and bicycle movements. Inside STAs, local access is a priority.

- **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.

Action 1A.2

Conduct a study of highway classifications statewide to determine whether highways function as they are classified. Conduct this study within two years after the adoption of the Highway Plan as a special study of the classification system or as part of a corridor plan. Consider changing the classification of a state highway if the function of the highway has changed significantly since its original designation. 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

Background

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 insure that the National Highway System (the routes designated Interstates, statewide highways and intermodal connectors) adequately performs this function of serving a larger geographic area. Historically, however, communities have grown up along 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 highway system's ability to fulfill these functions depends in large part on community land use patterns and the ways that land uses are served by the transportation system. Development with poorly designed accesses along highways and poorly developed street networks often focus local traffic on state highways and reduce the ability of state highways to move through traffic and provide connections between communities. Communities with compact urban designs that incorporate a transportation network of arterials and collectors will reduce traffic impacts on state highways. ~~Whose primary objectives are to connect cities and move goods and services between cities and regions~~

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 compact development patterns that are less dependent on state highways than linear development for access and local circulation. ~~Such development patterns can also encourage shorter auto trips and more walking, bicycling, and public transit usage, thereby conserving energy and enhancing air quality.~~

Policy 1B also recognizes that state highways serve as the main streets of many communities, and it strives to maintain a balance between serving these main streets ~~special transportation areas~~ and the through traveler ~~motorist~~. It emphasizes management of the transportation

system for safety and efficient use of resources. It recognizes the main street function of state highways through designation of these areas as Special Transportation Areas.

The policy encourages compact development patterns for commercial development through the special designation of Commercial Centers on Statewide and Regional Highways, but recognizes existing commercial development patterns on urbanized low-speed District Highways.

~~Policy 1B applies to all state highways. It provides guidance to ODOT regarding system management and working with local governments in planning and in implementation activities. It is not proposed to be an administrative rule. It is designed to clarify how ODOT will work with local governments and others to link land use and transportation in transportation system plans, corridor plans, plan amendments, access permitting, and project development.~~

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; and
- Reduction of the number of vehicle trips to shop and do business.

These measures can enhance air quality and conserve energy.

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.

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 of transportation system 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 special transportation areas, including 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 collaboratively to achieve accessibility and mobility goals for a balanced transportation system.

Policy 1B applies to all state highways. It provides guidance to ODOT regarding system management and working with local governments in planning and in implementation activities. It is not proposed to be an administrative rule. It is designed to clarify how ODOT will work with local governments and others to link land use and transportation in transportation system plans, corridor plans, plan amendments, access permitting, and project development.

ODOT recognizes that the policy will be applied under three different circumstances:

- 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.
- 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/or 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 an ability to fully comply with the policy objectives and/or actions.

Policy 1B implements the Oregon Transportation Plan's Urban Accessibility Policy to "assure balanced, multimodal 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 Major Improvements, Levels of Service, Partnerships, Off-system Improvements and Travel Alternatives complement the Land Use and Transportation Policy. "Nodal development" in the Eugene-Springfield *TransPlan* and "2040 concept areas" in Metro's *2040 Plan* are consistent with the policy direction of Policy 1B.

Policy 1B: Land Use and Transportation

This policy recognizes the role of both the 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; and***
- ***Enhance livability and economic competitiveness.***

Action 1B.1

Work with local governments to develop and implement plans that support compact development, especially within community centers and commercial centers. Support plans, strategies and local ordinances that include:

- Parallel and interconnected local roadway network 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 automobile use;
- Provision of public and shared parking;
- Infill and redevelopment;
- Expansion of intensive urban development guided away from state highways rather than along state highways; and
- Other supporting public investments that encourage compact development and development within centers.

Action 1B.2

Work with local governments to help protect the state highway function by collaborating with local jurisdictions in developing land use and subdivision ordinances, specifically:

~~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;~~

~~Standards to protect future operation of state highways and other roads;~~

- 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 levels of service of facilities identified in transportation system plans including the Oregon Highway Plan and adopted highway corridor plans; and

- Refinement of commercial zones to reflect the effects of various commercial 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.3

To implement state access management standards and policies, work with local governments to develop an access management plan or access management component in comprehensive plans, corridor plans and/or transportation system plans involving the state and local system.

Action 1B.4

Work with local governments to maintain the ~~level of service~~highway mobility standards on state highways by limiting the expansion of development along the highway through the following means:

- Developing an adequate local network of arterials, collectors, and local streets to limit the use of the state highway or interchanges for local trips;
- Reducing 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;
- Clustering development off of state highways in compact development patterns; and
- Avoiding the expansion of urban growth boundaries along major highways and around interchanges unless ODOT and the appropriate local governments agree to an interchange management plan to protect interchange operation.

Action 1B.5

Work with local governments to develop corridor and transportation system plans that protect existing limited access interchanges according to the following functional priorities:

- At all existing limited access highway interchanges, ~~the first priority is to~~ provide safe egress from freeways and ~~limited access highways~~Expressways as the first priority. This priority must be met.
- When an interchange connects a ~~limited access highway~~ freeway or an Expressway to an Interstate, Statewide or Regional Highway, provide regional access to freeways and ~~limited access highways~~Expressways as the second highest priority.

- Establish the priority for travel across freeways and ~~limited access highways~~Expressways and the priority for access to property in the vicinity of the interchange ~~will be established~~ consistently in both the local transportation system plan and the corridor plan.

- When an interchange connects a ~~limited access highway~~freeway or an Expressway to a District or Local Interest Road, establish the priority for travel across freeways and ~~limited access highways~~Expressways and the priority for access to property in the vicinity of the interchange ~~will be established~~ consistently in both the local transportation system plan and the corridor plan.

Action 1B.6

Develop ~~and provide to local jurisdictions~~ 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.7

Use the following designations and objectives to guide planning and management decisions for state highways. Use the designations to guide ODOT's position on local land use planning and development standards and actions and to define the application of access management standards and broad types of highway facility design. Work with local governments to apply these designations to segments of the state highway consistent with the local acknowledged comprehensive plan and/or transportation system plan. In plans and projects, work toward achieving specific objectives for each designation as listed in Table II.1 (page 57).

Within Urban Growth Boundaries (UGBs)

~~Special Transportation Area[2]: The primary objective of managing highway facilities in an existing or future Special Transportation Area is to provide access to community activities, businesses, and residences and to accommodate pedestrian movement along and across the highway in a downtown, business district and/or community center. An STA is a designation that may be applied to a short highway segment, generally about one-half mile in length, when a downtown or community center straddles the state highway. Direct street connections and shared on-street parking are encouraged. Direct property access is very limited in an STA. Local auto, pedestrian, bicycle and transit movements to the business district or community center are generally more important than the through movement of traffic. Traffic speeds are slow, generally 25 miles per hour (40 kilometers per hour) or less.~~

[2] Metro concepts for Town Center and Main Streets are consistent with STAs.

- **Expressways:** The primary objective of Expressways is to provide for safe and efficient high speed and high volume traffic movements 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. Expressways have minimal or no private access and highly controlled public road connections. Parking is prohibited. 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.

- **Urban Arterials:** In urban areas, those state highways that are not Interstates or Expressways (including freeways) are Urban Arterials. The objective of Urban Arterials 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 Arterial, but the strong preference is to limit such access, providing it instead on connecting local roads and streets. Traffic speeds are low to moderate, 25 to 45 miles per hour (40 to 70 kilometers per hour). Transit turnouts, sidewalks, and bicycle lanes are accommodated.

- **Commercial Center:** The primary objective of the state highway adjacent to Commercial Centers is to maintain through traffic mobility in accordance with its function. Commercial Centers generally have 400,000 square feet (37,000 square meters) or more of gross leasable area or public buildings. The majority of the average daily trips to the center originate in the community in which the center is located. The buildings are clustered with limited access to the state highway to reduce the number of vehicle trips and to reduce conflicts with through traffic. They may be located on Statewide, Regional or District Highways. They include a high level of regional accessibility and connections to a local road network. The center accommodates pedestrian and bicycle access and circulation and, where appropriate, transit movements.

- **Urban Business Area:** The primary objective of the state highway in an Urban Business Area (UBA) is to maintain existing speeds while balancing the access needs of abutting properties with the need to move through traffic. A UBA is a designation that may apply to an existing or future center of commercial activity in a community located on a District Highway Urban Arterial where speeds are 35 miles per hour (55 kilometers per hour) or less. UBAs may vary in size and include commercial centers, community centers and commercial nodes. Auto accessibility is often as important as pedestrian, bicycle and transit accessibility. Safe and regular street connections are encouraged. Transit turnouts, sidewalks, and bicycle lanes are accommodated.

- **Special Transportation Area**[3]: The primary objective of managing highway facilities in an existing or future Special Transportation Area is to provide access to community activities, businesses, and residences and to accommodate pedestrian movement along and across the highway in a downtown, business district and/or community center. An STA is a designation that may be applied to a short highway segment, when a downtown, business district or community center straddles the state highway. Direct street connections and shared on-street parking are encouraged. Direct property access is very limited in an STA. Local auto, pedestrian, bicycle and transit movements to the business district or community center are generally more important than the through movement of traffic. Traffic speeds are slow, generally 25 miles per hour (40 kilometers per hour) or less.

~~- **Developed Area:** State highways in Developed Areas outside of Special Transportation Areas strive to balance accessibility with inter-city and inter-community movements, dependent on the highway classification. A Developed Area is one in which most of the land is developed at planned urban densities, and few parcels are vacant. Safe and regular street connections are encouraged. Direct property access is allowed but balanced against the roadway classification. Through traffic speeds are moderately low, generally 40 to 55 kilometers per hour (25 to 35 miles per hour) where land uses are intense and moderate, 55 to 70 kilometers per hour (35 to 45 miles per hour) where land uses are less intensive. Transit turnouts, sidewalks, and bicycle lanes are accommodated.~~

~~- **Urbanizable Area:** The major objective of state highways in Urbanizable Areas is to connect regions, cities, and communities. Urbanizable includes all other urban and suburban areas within the urban growth boundary that are not STAs or Developed Areas. Limited local community access is provided through street connections. Direct property access to the highway is allowed only where alternative access is not available. Traffic speeds are moderate, 70 kilometers per hour (45 miles per hour) or less. Bicycle and pedestrian travel is accommodated on bicycle lanes, sidewalks, or the highway shoulder.~~

Outside Urban Growth Boundaries

~~- **Unincorporated Communities:** The major objective of state highways in unincorporated communities~~ outside of urban growth boundaries and ~~defined in OAR 660-22 is to connect regions, cities, and communities while providing limited direct property access in the community center. Traffic speeds are moderate to moderately high, generally 45 miles per hour (70 kilometers per hour) or less. Bicycle travel is accommodated on bicycle lanes and shoulders. Pedestrian travel is usually accommodated on sidewalks. Where densities are very low, shoulders may provide an adequate pedestrian~~

[3] Metro concepts for Town Center and Main Streets are consistent with STAs.

~~facility. The central business/commercial district of some established unincorporated communities may be appropriate for the STA designation.~~

- **Rural Lands:** The major objective of state highways in rural lands is to connect regions, cities, and communities. Traffic speeds are high, generally 55 miles per hour (90 kilometers per hour) or more. Bicycle and pedestrian traffic may be accommodated on the highway shoulder.

- Unincorporated Communities: The major objective of state highways in unincorporated communities outside of urban growth boundaries and defined in OAR 660-22 is to connect regions, cities, and communities while providing limited direct property access in the community center. Traffic speeds are moderate to moderately high, generally 45 miles per hour (70 kilometers per hour) or less. Bicycle travel is accommodated on bicycle lanes and shoulders. Pedestrian travel is usually accommodated on sidewalks. Where densities are very low, shoulders may provide an adequate pedestrian facility. The central business/commercial district of some established unincorporated communities may be appropriate for the STA designation.

Action 1B.~~7~~8

Use the designations and the objectives in Action 1B.6 in planning and decision making involving:

- Access management planning and permitting;
- Development and review of corridor plans;
- Review of Metropolitan Planning Organization and local transportation system plans;
- Periodic review of local comprehensive plans;
- Review of local plan and zoning amendments;
- Review of major development designs within adopted comprehensive plans for commercial/industrial and subdivision development that has a significant impact on a state highway;
- Review of site acquisition and construction of proposed public facilities;
- Review of urban growth boundary amendments;
- Development of major investment studies; and
- Highway facility design and project development.

~~***Action 1B.8***~~

~~Based on a local transportation system plan or comprehensive plan, ODOT and a local government may agree in writing to manage a traditional downtown, central business district, or community center as a Special Transportation Area (STA).~~

An STA has the following characteristics:

- An STA is a designated existing compact district located on a state highway within an urban growth boundary in which the need for appropriate local access accessibility outweighs the considerations of highway mobility.
- 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 have a plan for an interconnected local street network to facilitate local automobile and pedestrian circulation except where topography severely constrains the potential for street connections. Speed typically do not exceed 25 miles per hour (40 kilometers per hour).
- People who arrive by car or transit find it convenient to walk from place to place within the area.

Larger communities may have more than one STA.

- An STA has the majority, if not all, of the following atttributes, either as existing or planned uses and infrastructure through an adopted management plan (see Action 1B.10) A traditional downtown, central business district or community center proposed to be an STA includes, the majority if not all of the following, either in an adopted plan or on the ground:
- Mixed uses;
- Buildings spaced close together and located adjacent to the street with little or no setback;
- Sidewalks with ample width which are located adjacent to the highway and the buildings;
- Interconnected local street networks to facilitate local automobile and pedestrian circulation except where topography severely constrains the potential for street connections;
- On street parking and shared or general purpose parking lots which are located behind or to the side of buildings; and
- Convenient automobile and pedestrian circulation within the center and off the state highway.

An STA does not apply to an entire city or the majority of a city or to strip development areas along individual highway corridors. STAs are not located on freeways or Limited Access highways. STAs may be located within established city limits or within an area between a city limit and an urban growth boundary where such a designation would result in redevelopment to eliminate an existing pattern of strip development.

~~*An existing central business/commercial district in an unincorporated community as defined by OAR 660-22 that meets the definition of an STA may also be designated an STA.*~~

Action 1B.9

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

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 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 minimal or would be eliminated over time;
- Public road connections are highly controlled;
- Traffic signals are discouraged in rural areas;
- Nontraversible medians are encouraged; and
- Parking is prohibited.

Designation. Initiation of the process to designate 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 Commission will make designations of new Expressways as a subset of National Highway System (Interstate and Statewide) highways in consultation with local governments.

The Transportation Commission will make designations of 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 designated 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.

Criteria. Highways proposed to be Expressways will be designated 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 designating segments as Expressways will first focus on highway segments where posted speeds are 50 mph or greater.

Those Statewide, Regional and District Highways and Local Interest Roads within a city's urban growth boundaries which are not designated Expressways will be called Urban Arterials.

Action 1B.10

Based on a local transportation system plan or comprehensive plan, ODOT and a local government may agree in writing to manage a downtown, business district, or community center inside an urban growth boundary or rural community as a Special Transportation Area (STA).

An STA has the following characteristics:

- An STA is a designated compact district located on a state highway within an urban growth boundary in which the need for appropriate local access ~~accessibility~~ outweighs the considerations of highway mobility.
- 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 have a plan for an interconnected local street network to facilitate local automobile and pedestrian circulation except where topography severely constrains the potential for street connections. Speed typically do not exceed 25 miles per hour (40 kilometers per hour).
- People who arrive by car or transit find it convenient to walk from place to place within the area.

Larger communities may have more than one STA.

An STA has the majority, if not all, of the following attributes, either as existing or planned uses and infrastructure through an adopted management plan (see Action 1B.10) ~~A traditional downtown, central business district or community center proposed to be an STA includes, the majority if not all of the following, either in an adopted plan or on the ground:~~

- Mixed uses;
- Buildings spaced close together and located adjacent to the street with little or no setback;
- Sidewalks with ample width which are located adjacent to the highway and the buildings;
- Interconnected local street networks to facilitate local automobile and pedestrian circulation except where topography severely constrains the potential for street connections;

- On street parking and shared or general purpose parking lots which are located behind or to the side of buildings; and
- Convenient automobile and pedestrian circulation within the center and off the state highway.

An STA does not apply to an entire city or the majority of a city or to strip development areas along individual highway corridors. STAs are not located on freeways or Expressways. STAs may be located within established city limits or within an area between a city limit and an urban growth boundary where such a designation would result in redevelopment to eliminate an existing pattern of strip development.

An existing central business/commercial district in an unincorporated community as defined by OAR 660-22 that meets the definition of an STA may also be designated an STA.

Action 1B.9A11

Consider a proposal to establish a Special Transportation Area where compact development did not exist at the adoption of this Highway Plan only if the STA is part of a local or regional comprehensive plan. Through transportation system plans, corridor plans and/or off-system improvements, encourage any new development in an area proposed as an STA to be developed off of the highway or only on one side of the highway.

~~***Action 1B.9B***~~

- A proposal for a future, planned STA on a Statewide Highway must demonstrate a corollary benefit for through traffic by enhancing mobility outside the defined STA area while not decreasing safety for pedestrians.

Action 1B.1012

Work cooperatively with local governments to designate existing and future Special Transportation Areas (STAs). The first step is to identify potential STAs in a corridor plan or local transportation system plan. ~~through a management plan that becomes part of and implements the local transportation system plan. The STA management plan may include less restrictive mobility performance measure (see Table H.3) and may use flexible street designs in order to improve local access and community functions.~~

The second step is for ODOT and the local jurisdiction ~~must~~ to mutually develop and agree to the management plan, within an Intergovernmental Agreement or Memorandum of Understanding. The agreement for an STA in an unincorporated community shall be with the affected county government. The STA management plan may include less restrictive highway mobility standards (see Policy 1F) and may use flexible streetscape designs in order to improve local access and community functions. The agreement will be in effect when the STA is adopted as part of a local transportation system plan

and comprehensive plan and in the corresponding corridor plan where a corridor plan exists.

The management plan for each STA in the local transportation system plan shall include:

- Goals and objectives;
- Clearly defined STA boundaries;
- Design standards that are to be applied to the STA to improve local access and community functions. These may include highway mobility standards, street spacing standards, signal spacing standards, and street treatments and must be reviewed by the State Engineer or his/her designee;
- 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 on and off street and shared parking;
- Provisions for a network of local traffic, transit, pedestrian, and bicycle circulation;
- An analysis of the regional and local operational, ~~and~~ traffic, and safety impacts of the STA to determine the effects of the STA designation. All parties must agree to the analysis methodology, and it must be consistent with regional plans and ODOT analysis methods ~~national standards~~;
- Identification of needed improvements within the STA or improvements that will support access to the STA and designation of the party responsible for implementation, likely funding source and anticipated time frame; and
- Identification of maintenance and operational strategies to be employed; ~~and~~.

~~Access management standards relating to direct driveways and intersection spacing.~~

~~Action 1B.11~~

~~Develop and provide to local jurisdictions 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.~~~~12~~~~13~~

Whether an area qualifies for STA designation or not, encourage local governments to cluster commercial development in community centers or ~~Regional~~ Commercial Centers with limited access to the state highway to

reduce the number of vehicle trips and to reduce conflicts with through traffic.

Encourage a ~~Regional~~ Commercial Center[4] 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 in the community in which the ~~regional~~ commercial center is located. Generally these centers have 400,000 square feet (37,000 square meters) or more of gross leasable area or public buildings. These centers include regional malls retail spaces in excess of 50,000 square feet (4,600 square meters) that have associated commercial uses and industrial and public uses where appropriate. 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 ~~regional~~ commercial centers.

~~Regional~~ Commercial Centers must have clearly defined boundaries and include the following, or have a plan adopted by the affected local government(s) to provide the following, before the site is fully developed:

- ~~Pedestrian access to multiple businesses~~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; ~~This may mean location in the vicinity of an interchange to a freeway or limited access highway~~
- Accessibility by a variety of routes and modes and a local road network so that the most traffic circulation may occur off of the state highway; and
- Compact development patterns.

In return for having the above characteristics, the State will provide assistance to the affected local government(s) for planning, locating and serving the Commercial Center. This may involve the use of Immediate Opportunity Funds or other development assistance.

~~In return for having the above characteristics and adhering strictly to access management spacing standards as provided in Policies 3A and 3C, consider allowing the level of service standard to be the same as that for Special Transportation Areas at the point of access to the state highway. The level of service of any affected freeway interchange may not decline below the level of service standard for the interchange designated by Policy 1F (Table H.3, page 62, and Table H.4, page~~

[4] Metro's concept for a Regional Center is consistent with a ~~Regional~~ Commercial Center.

Action 1B.14

Work cooperatively with local governments to designate existing and future Urban Business Areas (UBAs) through a corridor plan and/or local transportation system plan. A UBA is a designation that may apply to an existing or future center of commercial activity in a community located on a District Highway within an urban growth boundary where speeds are 35 miles per hour (55 kilometers per hour) or less.

The designation must be made through a corridor plan and/or local transportation system plan with the agreement of both ODOT and the affected local government.

The designation provisions in the corridor plan and/or local transportation system plan shall include an interconnected local street and private drive network to facilitate local automobile and pedestrian circulation except where topography severely constrains the potential for street connections. New buildings in a UBA should be clustered in centers or nodes so that the facilities encourage people who arrive by car or transit to find it convenient to walk from place to place within the area.

Table II.1A

Location of Land Use Overlays[5]

Type of Highway	STA	Commercial Center/UBA
Interstate	None	None
Statewide Highway		
Urban (Within UGBs)		
Expressway	None	Commercial Center
Arterial	Yes	Commercial Center
Rural (Outside UGBs)		
Expressway	None	None
Other	Yes	None
Regional Highway		
Urban (Within UGBs)		
Expressway	None	Commercial Center
Arterial	Yes	Commercial Center
Rural (Outside UGBs)		
Expressway	None	None
Other	Yes	None
District Highway/Local Interest Road		
Urban (Within UGBs)		
Expressway	None	Commercial Center
Arterial	Yes	Commercial Center/UBAs (where speeds are 35 mph or less)
Rural (Outside UGBs)		
Expressway	None	None
Other	Yes	None

[5] The location criteria assume there is direct access to the highway facility. An STA or Commercial Center, for example, can be adjacent to an Interstate Highway, but the direct access to highway facilities will be to an Urban Arterial.

Table II.1B

Designations and Designating Process

Designation	Designation Process	Designating Body
Expressway	Corridor plan ODOT special study OTC action	OTC
Urban Arterial	Automatic	None
Commercial Center	Corridor plan	ODOT & local government
Urban Business Area	Corridor plan Local transportation system plan	ODOT & local government in a plan
Special Transportation Area	Corridor plan Local transportation system plan	ODOT & local government in an IGA/MOU & plan

Table II.1C: Elements of Strategies to meet the Objectives of the Land Use and Transportation Policy

Land Use Type	Elements of Strategy			
	Land Use	Alternative Modes	Traffic Management	Access Management
Expressways		• Bicycle lanes, if any, accommodated on shoulders or separated facilities.	• Traffic signals discouraged. • An efficient, parallel local street system.	• Strategy to eliminate private access and existing road approaches. • Public road connections controlled. • Nontraversible medians considered on multi-lane highways with traversible medians.
Urban Arterials		• Bicycle lanes and sidewalks and other pedestrian accommodations, especially in commercial centers and community use areas. • Convenient pedestrian crossings, especially at transit stops and other high-use generators. • Intersections designed to address the needs of pedestrians and bicyclists.	• An efficient, parallel local street system where arterials and collectors connect to the state highway. • Improvement of signalization and turning lanes to help improve the progression of traffic. • Improved traffic management strategies such as Advanced Traffic Management Systems.	• Strategy to consolidate existing driveway spacing to meet spacing standards. • Local ordinances that support shared driveway approaches and inter-parcel circulation.
~~Regional~~ Commercial Center	• ~~(Elements to be developed)~~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.
~~Urbanizable Areas~~Urban Business Areas	• Businesses and buildings clustered in centers or nodes.	• Bicycle lanes and sidewalks and other pedestrian accommodations, especially in commercial centers and community use areas. • Convenient and safe	• Development of a strategy for good traffic progression. • ~~A plan and implementation strategy to establish an~~An efficient parallel local street system where	~~• An access management strategy that may include acquisition of access rights and adherence to spacing standards or a combination of the two. Employment of protective measures to ensure that access spacing can be met at full build-out.~~ ~~• Local ordinances which address access~~

Land Use Type	Elements of Strategy			
	Land Use	Alternative Modes	Traffic Management	Access Management
		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.	arterials and collectors connect to the state highway. • Improved traffic management strategies such as Advanced Traffic Management Systems.	~~consolidation requirements regarding land partitions and subdivisions.~~ ~~- Full access control on any new highways.~~ ~~- Construction of nontraversible medians when adding new travel lanes to National Highway System or Regional Highways.~~ ~~- Adherence to an access management plan and spacing standards around interchanges.~~ • Local ordinances that support shared driveway approaches and inter-parcel circulation.
STA	• 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, 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, preferably on-street parking and shared parking lots. • Streets designed for ease of crossing by pedestrians. • ~~Speed reduction through traffic calming.~~	

Land Use Type	Elements of Strategy			
	Land Use	Alternative Modes	Traffic Management	Access Management
Highways in Rural Lands	• Provision of Green Corridor agreements between ODOT, MPOs, cities and counties to control access and development adjacent to rural highways.		• Rural Intelligent Transportation system strategies that improve safety and efficiency, such as Traveler Information Systems.	• Development of an access management strategy that may include acquisition of access rights and adherence to spacing standards or a combination of access management techniques to protect the through function of the highway. • Full access control on any new highways. • Construction of nontraversible medians when adding new travel lanes to Expressways. • Turn lanes to improve intersection safety.
Unincorporated Communities	• Development of a strategy to contain development and direct new development away from the highway facility. Where existing conflicts occur, the transportation system plan shall address safety issues until alternative access can be provided.	• Measures for addressing pedestrian crossing safety. These may traffic signals and medians designed to serve as pedestrian refuges.	• Development of a strategy to build or improve a parallel local street system.	• Development of an access management strategy that may include acquisition of access rights and adherence to spacing standards or a combination of ~~the two~~access management techniques to protect the through function of the highway. • Development of local ordinances which address access consolidation requirements regarding land partitions and subdivisions. • Full access control on any new highways. • Construction of nontraversible medians when adding new travel lanes to ~~National Highway System or Regional Highways~~Expressways.

State Highway Freight System

Background

According to the 1993 Commodity Flow Study, most freight shipments originating in Oregon are moved by truck (64 percent of the value and 76 percent of the weight of commodities). To ensure that freight is able to move efficiently on the state's major trucking routes, this plan designates a state highway freight system (Figure II.1~~Figure II.1~~, page 5148, and Table II.2~~Table II.2~~, page 5249), using freight volume, tonnage, connectivity, and linkages to National Highway System intermodal facilities as the key criteria. This freight system, made up of the Interstate Highways and certain Statewide Highways 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 supercedes and replaces the designation of primary freight corridors in the Oregon Transportation Plan.

Freight depends upon timely and dependable movement of goods over the system; some industries structure their facilities and processes on just-in-time deliveries.

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. In such cases, system investment decisions and local land use planning should recognize the special significance of the designated statewide freight system and balance freight needs with local circulation and access needs. Local jurisdictions may designate their own freight route systems, but these designations ~~will not affect~~should be compatible with or complementary to the designation of routes in the State Highway Freight System.

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.

The state highway freight system is intended to facilitate ~~through~~ interstate, intrastate, and regional movements of trucks. This designation does not guarantee additional state investment in these routes. However, the freight system can apply three special management strategies:

- Highways included in this designation have higher levels of service 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 ~~limited access highways~~Expressways outside of urban growth boundaries and unincorporated communities. (See Action 1C.3 and the definition of ~~limited access highways~~Expressways in Appendix D, page 148.)

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

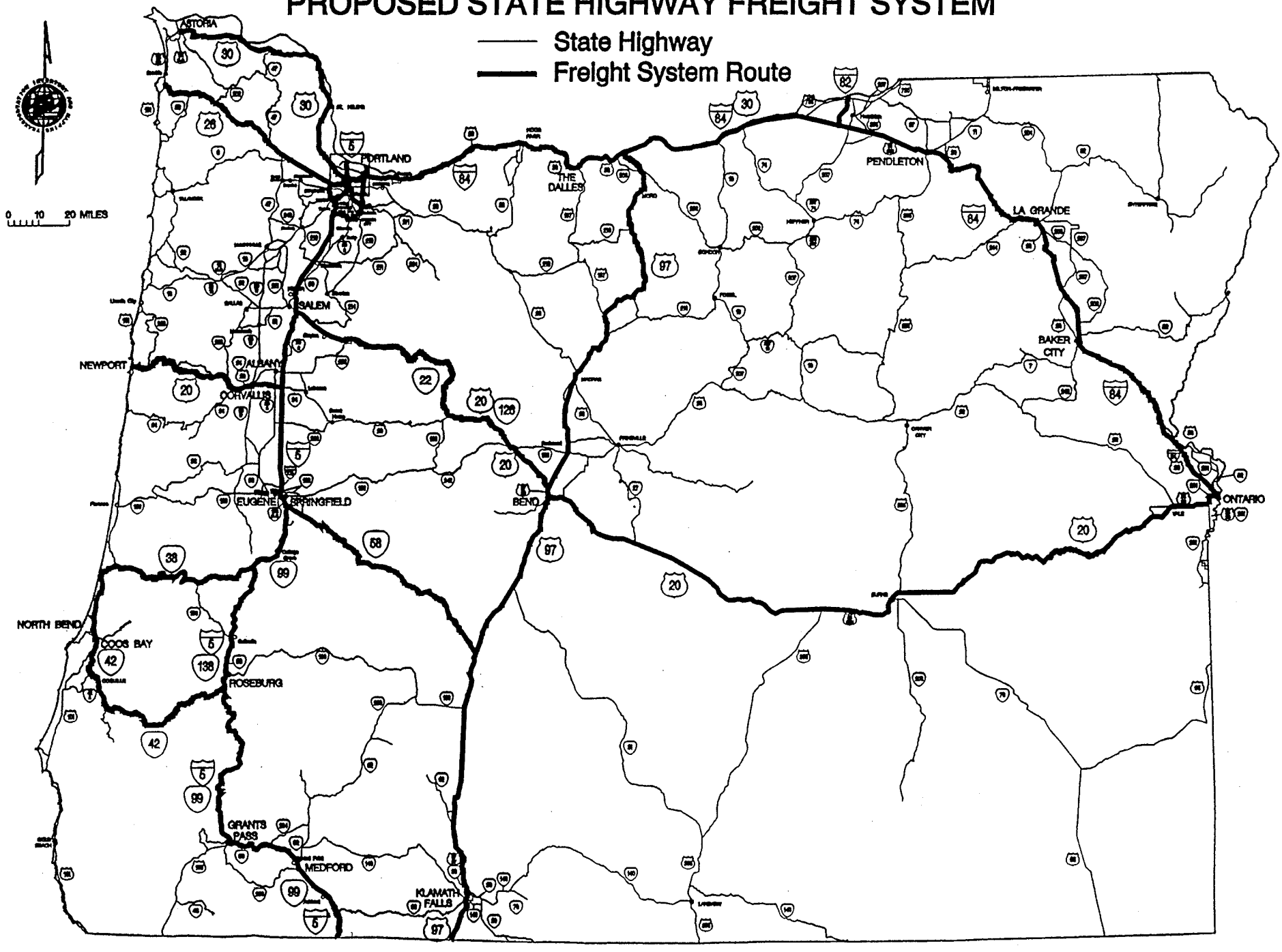
In the development of corridor plans, work with local governments to examine options to:

- Treat designated freight routes as ~~limited access highways~~Expressways (as defined under Access Management policies) where the routes are outside of urban growth boundaries and unincorporated communities. Continue to treat freight routes as ~~limited access highways~~Expressways within urban growth boundaries where existing facilities are limited access or where corridor or transportation system plans indicate limited access.
- 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.

PROPOSED STATE HIGHWAY FREIGHT SYSTEM



ODOT MAPPING PROJECT NO. 443

AUGUST 1998

Table II.2: Designated Freight Routes

Route	Description of highway or segment included
I-5	California State Line to Washington State Line
I-82	I-84 to Washington State Line
I-84	I-5 (Portland) to Idaho State Line
I-105	Jct. OR 99 (Eugene) to I-5 (Eugene)
I-205	I-5 (Portland) to Washington State Line
I-405	I-5 (Portland) to I-5 (Portland)
US 20/OR 34	Jct. US 101 (Newport) to I-5
US 20	Jct. OR 22 (Santiam Jct.) to Jct. OR 201 (Cairo Jct.)
US 26	I-405 (Portland) to Jct. US 101
US 30	I-405 (Portland) to Jct. US 101 (Astoria)
US 30 BUS	Jct. OR 201 (Ontario) to I-84 (Ontario)
US 97	Washington State Line to California State Line
US 101	Jct. OR 38 (Reedsport) to Jct. OR 42 (Coos Bay)
OR 22	I-5 (Salem) to Jct. US 20 (Santiam Jct.)
OR 38	Jct. US 101 (Reedsport) to I-5
OR 42/44	Jct. US 101 (Coos Bay) to I-5
OR 58	I-5 (Eugene) to Jct. US 97
OR 99E	I-5 (Portland) to Jct. OR 224 (Milwaukie)
OR 126	I-105/OR 99 Jct. (Eugene) to West Eugene City Limits (Richmond St.)
OR 201	Jct. US 20 (Cairo Jct.) to Jct. US 30 BUS (Ontario)
OR 217	Jct. US 26 (Beaverton) to I-5 (Tigard)
OR 224/212	Jct. OR 99E (Milwaukie) to Jct. OR 212 with OR 224 (Rock Creek Corner)

■ Scenic Byways

Background

While every state highway has certain scenic attributes (see Policy 5B), the Oregon Transportation Commission has designated 12 Scenic Byways throughout the state on federal, state, and local roads which have exceptional scenic value (see map, Figure II.2, page 46). 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 turn-outs, overlooks, signage, and visual treatment of the highway infrastructure.

Action 1D.2

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

Action 1D.3

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

■ 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 ~~Level of Service~~ Mobility Standards

Background

~~Highway levels of service mobility standards (LOS HMS) are an important element of a transportation plan that joins land use and transportation considerations into a coherent strategy the Highway Plan that complements the plan's approach to integrating land use and transportation planning (Policy 1B) and the plan's approach to prioritizing highway management and improvement actions (Policy 1G). Although policies 1B and 1G concern management of the transportation and land use to maintain mobility on the highway system, neither policy identifies what levels of mobility are acceptable. This is the function of the Highway Mobility Standards included in this policy.~~

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 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 specifically identifies what levels of mobility are acceptable.

It is the function of the Highway Mobility Standards Policy to establish standards for mobility that are reasonable and consistent with the directions of other Highway Plan policies. This policy carries out the directions of Policies 1A and 1C by establishing higher mobility standards for Interstate highways, freight routes and other Statewide highways than for Regional or District highways. Policy 1B is carried out by establishing lower mobility standards for Special Transportation Areas (STAs) and more highly developed urban areas than in less developed areas and rural areas. The lowest standards for mobility are for Regional and District highways in STAs where traffic congestion will be allowed to reach levels where peak hour traffic flow is highly unstable and traffic queues will form on a regular basis. The levels of mobility established for Statewide highways in STAs will avoid high levels of traffic instability (except where accidents or other incidents disrupt traffic). A larger cushion of reserve capacity is established for freight routes than for other Statewide

highways to provide steady flow conditions, although traffic will be slowed in STAs to accommodate pedestrians. (Interstate highways may not be incorporated into an STA.)

The mobility standards are contained in Tables II.3 and II.4 ~~describe how vehicle mobility may vary by highway classification and general land use characteristics~~and in Actions 1F.1 and 1F.5. While state highways are often important routes for pedestrians and bicyclists, Tables II.3 and II.4 refer only to vehicle mobility.

The policy identifies three uses for the ~~level of service~~ highway mobility standards:

1. Planning: identifying ~~transportation needs~~ state highway mobility performance expectations for planning and plan implementation;
2. Review of amendments to comprehensive plans and land use regulations: maintaining consistency between desired highway performance and the ~~intensity~~ type of land use development; and
3. 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 acceptable levels of highway system mobility, the policy provides direction for identifying highway system deficiencies. The policy does not, however, determine what actions should be taken to address the deficiencies. The highway mobility standards in the policy (volume to capacity ratio or V/C) are neutral regarding whether solutions to mobility deficiencies should be addressed by actions that reduce highway volumes or increase highway capacities. The Major Improvements Policy, not the Highway Mobility Policy, establishes priorities for actions to address deficiencies.

The Highway Mobility Policy will primarily affect land use decisions through the requirements of the Transportation Planning Rule (TPR). The TPR requires that regional and local transportation system plans be consistent with plans adopted by the Transportation Commission. The TPR also requires that comprehensive plan amendments and zone changes which significantly affect a transportation facility be consistent with the adopted function, capacity and performance measures for the affected facility. The Highway Mobility Policy establishes ODOT's mobility performance measures for state highways.

Policy 1F does not apply to highway design. Separate design standards are contained in ODOT's Highway Design Manual. ~~Level of service standards~~ Mobility performance standards for highway design are generally equal to or higher than the standards contained in this policy.

ODOT's intention is that the ~~level of service~~ highway mobility standards not be exceeded over the course of reasonable planning horizon. The planning horizon shall be: ~~a 20-year timeline, for example, 20 years after a comprehensive plan amendment is adopted.~~

- 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.

~~Special standards are provided for areas where highways, other than Interstate Highways, pass through Special Transportation Areas. Other allowances are made for highway sections that are severely constrained by intensive land use development or major environmental limitations.~~

In the 1991 Highway Plan, levels of service were defined by a letter grade from A-F, with each grade representing a range of volume to capacity ratios. A level of service of A represented virtually free flow traffic with few or no interruptions while level of service F indicated bumper-to-bumper, stop-and-go traffic. However, each letter grade actually represented a range of traffic conditions, which made the policy difficult to implement. This Highway Plan maintains a similar concept for measuring highway performance, but represents levels of service by specific volume to capacity ratios to improve clarity and ease of implementation. ~~Appendix C contains a correlation of volume to capacity ratios with the letter grades used in the 1991 Highway Plan, as well as answers to some of the most common questions about this policy.~~

A volume to capacity ratio (V/C) is the peak hour traffic volume (vehicles/hour) on a highway section divided by the maximum volume that the highway section can handle. For example, when V/C equals 0.85, peak hour traffic uses 85 percent of a highway's capacity; 15 percent of the capacity is not used. If the traffic volume entering a highway section exceeds the section's capacity, traffic queues will form and lengthen for as long as there is excessive demand. When V/C is less than but close to 1.0 (e.g., 0.95), traffic flow becomes very unstable. Small disruptions can cause traffic flow to break down and long traffic queues to form. This is a particular concern for freeways because the capacity of a freeway under stop-and-go traffic conditions is lower than the capacity when traffic is flowing smoothly.

This policy uses two ~~level of service~~ tables of volume to capacity ratios. Table II.3 sets ~~level of service~~ highway mobility standards for all state highways outside of the Portland metropolitan area, while Table II.4 applies only within the Portland metropolitan area urban growth boundary. The ~~LOS~~ highway mobility standards for the Portland area are adopted with an understanding of the unique context and policy choices that have been made by local governments in that area, including:

- A legally enforceable regional plan prescribing minimum densities, mixed use development and multi-modal transportation options;
- Primary reliance on high capacity transit to provide additional capacity in the radial freeway corridors serving the central city;
- Implementation of an Advanced Traffic Management System including freeway ramp meters, real time traffic monitoring and incident response to maintain adequate traffic flow; and
- An air quality attainment plan that relies heavily on reducing auto trips through land use changes and increases in transit service.

The alternative standards are granted to the Portland metropolitan area with a mutual understanding that reduced mobility standards will result in congestion that will not be reduced by state highway improvements. ~~fewer capacity improvement projects on these state highways. As stated in Action 1F.3, ODOT will consider allowing other metropolitan planning~~

~~organizations to make this tradeoff if all of their local jurisdictions adopt enforceable plans similar to those described above.~~

Action 1F.3 of this policy provides for Commission adoption of alternative standards in instances where practical difficulties make it infeasible to meet the standards contained in Table II.3. The policy recognizes that in metropolitan areas it may be infeasible to develop compact (higher density) centers and meet the standards in the policy because:

- Metropolitan areas have large population and employment bases that generate and attract large volumes of traffic;
- Although compact development is associated with an increase in the percentage of travelers using alternative modes, the total amount of vehicle travel is greater in an area where development is compact rather than dispersed; and,
- Intensive use of land can make development of a road network more costly and difficult if rights-of-way are not planned and reserved ahead of time.

Therefore, the Commission may adopt alternate standards within metropolitan areas or portions of metropolitan areas to support integrated land use and transportation plans for promoting compact development. This has been done for the Portland metropolitan area in Table II.4 to implement the 2040 growth concept.

Although non-metropolitan areas do not face the same magnitude of traffic and land use pressures as do metropolitan areas, they may nevertheless face environmental or land use constraints that make it infeasible to provide an adequate road network to serve planned development. For example, in a number of coastal cities, highway and other road improvements are severely limited by the presence of unstable terrain and the coast, sensitive wetlands and endangered plants and animals. In these places it may not be feasible to improve the transportation system to the degree necessary to accommodate the reasonable use of properties in accordance with acknowledged comprehensive plans. In such circumstances, the standards in Table II.3 might also preclude comprehensive plan changes that carry out the Land Use and Transportation Policy (1B). Therefore, the Commission may adopt alternate standards to accommodate development where practical difficulties make conformance with the highway mobility standards infeasible.

Local governments may adopt higher operating standards if desired, but the standards in Tables II.3 and II.4 must be used for deficiency analyses of state highways.

The policy also anticipates that there will be instances where the standards are exceeded and the deficiencies are correctable but the necessary transportation improvements are not planned. This may be due to environmental or land use constraints or to a lack of adequate funding. In these circumstances, the Department's objective is to improve highway performance as much as possible and to avoid further degradation of performance where improvements are not possible. Action 1F.5 gives examples of actions that may be undertaken to improve performance.

~~The volume to capacity ratios in the policy reflect two hierarchies. The first is the hierarchy of national and statewide mobility function reflected in the highway classification system. A higher volume to capacity ratio is acceptable for highways that serve a less significant role in national or statewide mobility. The second hierarchy is one of development density. A~~

~~higher volume to capacity ratio is acceptable for highways that serve more densely developed areas. The reasons for this are to:~~

- ~~Tolerate higher levels of congestion in established downtowns and other centers to avoid the harm that would come from highway widening. Some of these impacts include, but are not limited to, reduced air quality, loss of historic or necessary commercial and residential buildings, and loss of walking and bicycling facilities.~~
- ~~Encourage additional development to occur within existing developed areas where highway speeds are already lowered.~~
- ~~Preserve highway performance on higher speed portions of the highway system (e.g. speeds 45 mph or greater).~~

~~Members of the Transportation Commission have expressed concerns that the volume to capacity standards in the policy may inadvertently discourage development in community centers and may encourage development in urban fringe areas. They have directed ODOT staff to evaluate alternative measures.~~

Policy 1F: ~~Level of Service~~ Highway Mobility Standards

It is the policy of the State of Oregon to use ~~level of service~~ highway mobility standards to maintain acceptable and reliable levels of mobility on the state highway system. These standards shall be used for

- ***Identifying state highway mobility performance expectations for planning and plan implementation;***
- ***Evaluating the impacts on state highways~~, over a 20-year horizon,~~ of amendments to ~~functional~~ transportation plans, acknowledged comprehensive plans and land use regulations pursuant to the Transportation Planning Rule (OAR 660-12-060);***
- ***~~ODOT will also use these level of service standards to identify transportation needs and guide~~ Guiding operations decisions such as managing access and traffic control systems to maintain acceptable highway performance.***

Action 1F.1

Apply the ~~level of service~~ highway mobility standards below and in Table II.3 to all state highway sections located outside of the Portland metropolitan area urban growth boundary and the standards below and in Table II.4 to all state highway sections located within the Portland metropolitan area urban growth boundary.

- On portions of highways where there are no intersections, the volume to capacity ratios in the table shall not be exceeded for either direction of travel on the highway. ~~[The volume to capacity ratios for freeways shall also~~

~~apply to freeway ramps except that the volume to capacity ratio for metered on-ramps may be higher to maintain efficient operation of the freeway through the interchange area.]~~

- At unsignalized intersections and road approaches, the volume to capacity ratios in Tables II.3 and II.4 shall not be exceeded for either of the state highway approaches that are not stopped. Approaches at which traffic must stop or otherwise yield the right of way, ~~shall not be required to meet the volume to capacity ratios in the table but~~ shall be operated to maintain safe operation of the intersection and all of its ~~approaches and not exceed the highway mobility standards in this policy. Outside the Portland metropolitan area, approaches at which traffic must stop or otherwise yield the right of way, including local roads and private road approaches, shall not exceed a volume to capacity ratio of 0.95 within a Special Transportation Area and 0.90 elsewhere. Inside the Portland metropolitan area, approaches at which traffic must stop or otherwise yield the right of way, including local roads and private road approaches,~~ shall not exceed the volume to capacity ratios for District/Local Interest Roads in Table II.4.

- At signalized intersections other than crossroads of freeway ramps (see below), the total volume to capacity ratio for the intersection considering all critical movements shall not exceed the volume to capacity ratios in Tables II.3 and II.4 ~~(see below), the volume to capacity ratios in Tables II.3 and II.4 shall not be exceeded for the critical movements of the approaches to the intersection~~. Where two state highways of different classifications intersect, the lower 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. ~~Where a freeway ramp intersects with another state highway or a local road or street, the volume to capacity ratio for the freeway shall apply.~~

- Although a freeway interchange serves both the freeway and the crossroad to which it connects, it is important that the interchange be managed to maintain safe and efficient operation of the freeway through the interchange area. The main problem to avoid is the formation of traffic queues on freeway off-ramps which back up ~~onto~~ into the portions of the ramps needed for safe deceleration from freeway speeds~~the freeway~~. This is a significant traffic safety concern. The primary cause of traffic queuing at freeway off-ramps is inadequate capacity at the intersections of the freeway ramps with the crossroad. These intersections are referred to as ~~the "crossroad terminals" of the ramps~~ramp terminals. In many instances where ~~crossroad~~ ramp terminals connect with another state highway, the volume to capacity standard for the connecting highway will generally be adequate to avoid traffic backups onto the freeway. However, in some instances where the crossroad is another state highway or a local road, the standards will not be sufficient to avoid this problem. Therefore, the maximum volume to capacity ratio for the ~~crossroad~~ ramp terminals of interchange ramps shall be the smaller of the values of the volume to

capacity ratio for the crossroad, or 0.85 ~~(0.90 in 2040 concept areas) or a value necessary to prevent backup of ramp traffic onto a freeway~~.

At an interchange within a metropolitan area where a majority of the interchange access management area (Policy 3C) of the interchange is developed, the maximum volume to capacity ratio may be increased to as much as 0.90, but no higher than the standard 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 into the portion of the ramp needed to accommodate deceleration from freeway speed; and
2. The interchange access for management area is retrofitted to comply, as much as possible, with the standards contained in Policy 3C of this plan.

For the purposes of this policy, the portion of the freeway ramp needed to accommodate deceleration shall be the distance, along the centerline of the ramp, needed to bring a vehicle to a full stop from the posted freeway speed at a deceleration rate of 6.5 feet/second^2 (two meters/second^2).

- Because the freeway ramps serve as an area where vehicles accelerate or decelerate to or from freeway speeds, the maximum volume to capacity ratio for the interchange ramps exclusive of the crossroad terminals shall be the standard for the freeway with the following exception. For freeway on-ramps where entering traffic is metered to maintain efficient operation of the freeway through the interchange area, the maximum volume to capacity ratio may be lower.
- The Director of the Department or his/her delegate shall have the authority to adopt methods for calculating and applying the volume to capacity ratio standards in this policy or any alternative standards adopted pursuant to this policy. ~~Alternate methods of calculating and applying volume to capacity ratios may be used only if ODOT agrees to them in writing.~~

Action 1F.2

~~Use a 20-year horizon from the proposed date of adoption of the functional plan, comprehensive plan or land use regulation amendment when evaluating levels of service for amendments to functional plans, acknowledged comprehensive plans and land use regulations. In air quality non-attainment areas, the long-term horizon used for the most recent air quality analysis may be acceptable if it is within three years of the 20-year horizon.~~

Apply the highway mobility standards over 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 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. Anticipated growth of traffic on state highways due to regional and intercity travel and to full development[6] according to acknowledged comprehensive plans shall be included in all evaluations of amendments to transportation plans, acknowledged comprehensive plans and land use regulations.

Action 1F.3

~~Consider adopting alternative level of service standards for other metropolitan planning organizations in which every affected city and county has adopted enforceable plans designed to prescribe minimum densities, mixed use development and multimodal transportation options, and to meet the objectives of the Transportation Planning Rule and the requirements of the federal Clean Air Act. Use the alternative level of service standards only after the Oregon Transportation Commission adopts them.~~

Where it would be infeasible to meet the standards in this policy, consider adopting alternate highway mobility standards for:

- Metropolitan areas or portions[7] thereof to support an 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, and improving air quality;
- Special Transportation Areas (STAs), and
- Areas where severe environmental or land use constraints[8] make infeasible the transportation improvements necessary to accommodate reasonable use of properties in accordance with acknowledged comprehensive plans or to accommodate comprehensive plan changes that carry out the Land Use and Transportation Policy (1B).

The alternative standards shall be clear and objective and shall be related to V/C (e.g. corridor-average V/C, network-average V/C, and the ratio of average daily traffic and hourly capacity (ADT/C)). The standards shall be adopted as part of metropolitan transportation plan and/or local comprehensive plan. The plan shall demonstrate that it would be infeasible to

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[6] Full 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 Transportation Commission encourages communities to consider and adopt land use plan amendments that would reallocate expected population and employment growth to designated community centers to reduce reliance on state highways.

[7] This policy does not prescribe minimum or maximum sizes for portions of metropolitan areas that would qualify for alternative standards. Nevertheless, the area must be of the size necessary to support compact development, reduce the use of automobiles and increase the use of other modes of transportation, promote efficient use of transportation infrastructure, and improve air quality.

[8] Examples of severe environmental and land use constraints include endangered species, sensitive wetlands, and historic districts.

meet the highway mobility standards in this policy. In addition, the plan shall include all 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 freeway ramps, and make the most efficient use of highway capacity;
- Managing traffic demand where feasible to manage peak hour traffic loads on state highways;
- Providing alternative modes of transportation; and
- Managing land use to limit vehicular demand on state highways.

The plan shall include a financially feasible implementation program and shall demonstrate strong public and private commitment to carry out the identified improvements and other actions.

In metropolitan areas, the alternate highway mobility standards will become effective only after the standards have been approved by the metropolitan planning organization and adopted by the Transportation Commission.

Outside of metropolitan areas, the alternate highway mobility standards will become effective only after the Transportation Commission has adopted them in a corridor plan or in a portion of a corridor plan.

Action 1F.4

~~Consider adopting alternative level of service standards for interstate highways, other freeways and NHS freight routes in the Portland metropolitan area as part of a detailed plan for a circumferential NHS system which assures effective operations for through travel movements. Replace the standards in Table H.4 when the Oregon Transportation Commission approves this plan.~~

Develop corridor plans for interstate highways, other freeways and NHS freight routes in the Portland metropolitan area that are important for through travel. Develop standards for those routes to provide adequate levels of highway mobility.

Action 1F.5

Where the volume to capacity segment is substandard and transportation improvements are not planned within the planning horizon to bring performance up to standard because of severe environmental, land use or financial constraints, the standard for the highway segment shall be to improve performance as much as feasible and to avoid further degradation of performance where no performance improvements are feasible. Examples of actions that might improve performance include the following:

- Reconfigure highway and sidestreet accesses to minimize traffic conflicts at intersections;
- Limit parking near signalized intersections to increase intersection capacity;
- Coordinate and operate traffic signals to improve traffic progression;
- Relocate driveways and improve local road connections to direct traffic away from overburdened intersections and intersections where side-street capacity is limited in order to optimize traffic progression on the state highway;
- Improve turning-radii at intersections that are heavily used by trucks to avoid lane blockages;
- Install raised medians to reduce traffic conflicts;
- Improve accesses so that traffic can enter or exit the highway with minimal disruptions of flow; and
- Manage land uses to favor types of uses that generate less traffic or traffic peaks which don't coincide with traffic peaks on the highway. This might be done by making appropriate plan amendments or changes to zoning ordinances.

Local governments may also request that the Transportation Commission adopt alternate standards in accordance with Action 1F.3.

Table II.3

Maximum Volume to Capacity Ratios for Peak Hour Operating Conditions Through a Planning Horizon for State Highway Sections Located Outside the Portland Metropolitan Area Urban Growth Boundary

Highway Category	Land Use Type/Speed Limits					
	Inside Urban Growth Boundary				Outside Urban Growth Boundary	
	STAs	MPO outside of STAs ~~where non-freeway speed limit<45 mph; freeway speed limit = 55~~	Non-MPO outside of STAs where non-freeway speed limit<45 mph; ~~freeway speed limit = 55~~	~~MPO~~/Non-MPO where non-freeway speed limit >=45 mph; ~~freeway speed limit > 55~~	Unincorporated Communities	Rural Lands
Interstate Highways and NHS freight routes that are freeways.	N/A	0.80	~~0.75~~ 0.70	~~0.65~~ 0.70	~~0.60~~0.70	~~0.60~~0.70
Statewide (NHS):						
• Freight Route	0.85	0.80	0.75	~~0.65~~ 0.70	~~0.65~~0.70	~~0.60~~0.70
• Non-Freight Route Statewide	0.90	0.85	0.80	~~0.70~~ 0.75	~~0.70~~0.75	~~0.60~~0.70
Regional	0.95	0.85	0.80	0.75	0.75	~~0.60~~0.70
District/Local Interest Roads	0.95	0.90	0.85	0.80	0.80	~~0.60~~0.75

Table II.3 Notes:

- Interstates and other freeways shall not be identified as Special Transportation Areas (STAs).
- 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.
- For the purposes of Policy 1G and Table II.3, the MPO category includes areas within the planning boundaries of the Eugene/Springfield, Medford and Salem/Keizer Metropolitan Planning Organizations, and any other MPO areas that are designated after the adoption of this plan.

~~Where service levels are substandard but highway improvements are impractical because a highway section is severely constrained by intensive land use or other physical or environmental limitations, ODOT's objective will be to maintain and, to the extent possible, improve the existing levels of service within the planning horizon. Constrained highway segments shall be identified in corridor plans and planned for accordingly.~~

Table II.4

Maximum Volume to Capacity Ratios for Two Hour Peak Operating Conditions Through a 20-Year Horizon for State Highway Sections within the Portland Metropolitan Area

Highway Category	Land Use Type	
	2040 Concept Area	Non-Concept Area
Interstate	0.90/0.90	0.85/0.85
Statewide (NHS): • Freight Route	0.95/0.90	~~0.95~~0.90/0.90
• Non-Freight Route Statewide	0.95/0.95	0.95/0.90
Regional	1.0/0.95	0.95/0.95
District/Local Interest Roads	1.0/0.95	0.95/0.95

Table II.4 Notes:

- The volume to capacity ratios in the table are for the highest two consecutive hours of weekday traffic volumes. The leftmost number in each cell is the maximum volume to capacity ratio for the highest hour. The rightmost number in each cell is the maximum volume to capacity ratio for the second highest hour.

- ~~Where service levels are substandard but highway improvements are impractical because a highway section is severely constrained by intensive land use or other physical or environmental limitations, ODOT's objective will be to maintain and, to the extent possible, improve the existing levels of service within the planning horizon. Constrained highway segments shall be identified in corridor plans and planned for accordingly.~~

- 2040 Concept Areas include the Central City, Regional Centers, Town Centers, Station Communities, and Main Streets identified in Metro's adopted Region 2040 Growth Concept.

- Alternate standards may be developed in corridor plans for interstate highways, other freeways and NHS freight routes to provide adequate levels of highway mobility for through travel.

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.1—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~~lanes~~.

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

~~Approve~~ Support any major improvements to state highway facilities in local comprehensive plans and transportation system plans only if ~~any major improvements to state highway facilities in the local plan~~the improvements meet all of the following conditions~~, even if the project is already listed in a state or regional plan~~:

- 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.
- ~~Transportation management~~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 be reasonably expected at the time the project is ready for development and construction;
- The local government ~~commits to~~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 measures to effectively manage the existing transportation infrastructure and services in accordance with Policy 4G of the Oregon Transportation Plan which says, "Manage effectively existing transportation infrastructure and services before adding new facilities;" 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.~~if findings are adopted that identify the transportation need and demonstrate why information required to make these final determinations cannot reasonably be made available within the time allowed for preparing their transportation system plans.~~

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 ~~as appropriate,~~ in locations where projects will be necessary in the future.

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:

- 1) creation of cooperative partnerships;
- 2) funding of off-system improvements; and
- 3) inter-jurisdictional 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. Increasingly, partnership opportunities between ODOT, local jurisdictions, and federal agencies will be 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 conditions 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.

With limited funding, ODOT recognizes that segments of state highways that do not serve state 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. The State sees its role as serving mainly regional and statewide interests. To ~~allow~~ appropriately align responsibilities for these state-owned Local Interest Roads, ~~to receive adequate attention,~~ 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 OTP 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. 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 the limited resources to develop, operate, and maintain the highway and road system. These partnerships are relationships among ODOT and federal agencies, cities, counties, tribal governments, and the private sector.

Action 2A.1

Support planning and development of highway and local road projects which 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.4

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

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, levels of service, 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 ~~interests~~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, 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, level of service, or other standards resulting from the transfer should not negatively impact the functioning 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 local jurisdiction.

Action 2C.3

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

- 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, 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 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 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 provide detection of 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 courses and volume of traffic along a facility.
- 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 I-84 without stopping at the weigh station.
- Traveler information, including traffic, construction information, 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 ~~call-boxes,~~ 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 estimated 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 ITS 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 the Oregon Department of Transportation 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.

Action 2E.3

Expand incident management capabilities in metropolitan ~~planning organizations~~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 ~~planning organization~~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 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 "the policy of the State of Oregon 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 Commission established safety priorities to carry out this policy when it approved the *Oregon Transportation Safety Action Plan.* Three of the performance measures included in the OTSAP are directly related to state highway travel:~~

~~1.To 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.To increase the percentage of occupants using vehicle safety restraints from 83 percent in 1996 to 90 percent by the year 2010.~~

~~3.To reduce the number of deaths due to alcohol and drug related motor vehicle crashes from .72 per 100 million VMT in 1996 to .58 per 100 million VMT by the year 2010.~~

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 ~~speed limits~~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.

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
- ~~Assessing speed limits; and~~
- Developing driver information systems.

Action 2F.4

Continue to use the Safety Priority Indexing System (SPIS) to identify traffic hazard locations. Encourage local governments to adopt a SPIS program.

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 Section. The Rail Section 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 Oregon Department of Transportation Rail Section 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, 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 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, because 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 provide for ease of access through slow speeds and numerous driveways which serve a diverse group of users from pedestrians to garbage collectors and emergency response vehicles.

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 roadway. The challenge is to determine how to best apply techniques on Oregon's state highway system that will 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. The amount of access allowed to a state highway is one of the most critical factors in determining how long the facility can remain functional, and is the single largest contributor to safety. An unlimited number of driveways to a highway will cause it to be very unsafe, and the highway will cease to function as a state highway is intended, to carry people, freight, and goods throughout the state. Implementation can also reduce air pollution and energy consumption.

Background

Most properties that are located adjacent to a public road have the right to access that road. In Oregon, prior to 1949, a property owner could build a road approach (driveway) to a highway at any location without obtaining permission. These were often placed in unsafe locations and the driveway design was often inadequate. 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 statute 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 a road approach permit when reasonable access to a city street or county road is available.

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 deed 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 "reservation 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 highways 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. 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 road approach 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, ODOT may be required to purchase the right to the landlocked property.

Scope of the Policies

The standards and criteria in the access management policies shall be applied to the development of all Department highway construction, reconstruction or modernization projects, road approach permits, and incorporated into all Department planning processes, including corridor studies, refinement plans, and state and local transportation system plans, as well as local comprehensive plans.

(Note: Policy detail and definition of terms can be found in the complete Access Management Policy Document, Appendix D.)

Policy 3A: Classification and Spacing Standards

It is the policy of the State of Oregon to manage the location, spacing, and type of street intersections, and approach roads on state highways.

Action 3A.1

Manage access to state highways based on the following access management classifications:

- Interstate Freeways (NHS)
- Statewide Highways (NHS)
  - Non-Interstate Freeways (NHS)
  - Limited Access HighwaysExpressways (NHS)
  - Other Statewide Highways (NHS)
- Regional Highways
- District Highways
- Local Interest Roads

Action 3A.2

Establish spacing standards on state highways based on highway classification, type of area and speed.

Action 3A.3

Establish non-Interstate freeways and limited access highways after the Transportation Commission adopts them.

Policy 3B: Medians

It is the policy of the State of Oregon to 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 transportation system plans.

Action 3B.1

Design and construct nontraversible medians for:

- All new multi-lane highways;
- Modernization of multi-lane highways which are:
  - Statewide Limited Access (NHS)
  - Statewide Other (NHS) highways; and

- Regional highways where posted speeds are 70 kilometers/h (45 mph) or greater.

Action 3B.2

Consider construction of nontraversible medians on highways not undergoing modernization where a median could improve safety.

Action 3B.3

Restrict full median openings and directional median openings to locations that conform to ODOT's spacing standards.

Action 3B.4

Except on freeways, consider using raised median pedestrian refuge islands and signalized 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 manage grade-separated interchange areas to ensure safe and efficient operation between connecting highways.

Action 3C.1

Improve an existing interchange or construct a new interchange only when necessary supporting improvements, such as road networks, channelization, medians, and access control, in the interchange management area are identified in the local comprehensive plan and are committed with an identified funding source or in place.

Action 3C.2

Consider the need for transit and park-and-ride facilities, along with the effect on pedestrian and bicycle traffic, in the design of urban interchanges.

Action 3C.3

Control the access to cross streets consistent with established standards for a distance on either side of the ramp connections so as to reduce conflicts and manage ramp operations.

Action 3C.4

Connect interchanges to major or minor arterials, supported by adequate street networks with the necessary frontage roads, cross streets, channelization, traffic controls, and access control to ensure the longevity and efficiency of the interchange.

Action 3C.5

Use grade-separated crossings without connecting ramps to provide crossing corridors that relieve traffic crossing demands through interchanges.

Policy 3D: Variance Policy and Procedures

It is the policy of the State of Oregon to manage requests for deviations from adopted access management standards and policies through an application and appeals process to ensure statewide consistency.

Action 3D.1

Implement a variance procedure by which an applicant may request consideration of a deviation from access management standards and policies.

Action 3D.2

Establish Region Access Management Engineers for the review and action on variance requests for deviations from access management standards and policies.

Action 3D.3

Establish the use of a technical group in an advisory capacity to assist the Region Access Management Engineer in the review of requests for deviations from access management standards and policies.

Action 3D.4

Outline the criteria which the Region Access Management Engineers shall consider when reviewing variance requests.

Action 3D.5

Implement an appeals process by which an applicant may request further consideration of a variance request denied by Region Access Management Engineer through ODOT's Administrative Hearings Procedure.

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.

Overview

Access Management is balancing access to developed land 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 provide for ease of access through slow speeds and numerous driveways which serve a diverse group of users from pedestrians to garbage collectors and emergency response vehicles.

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 and how access 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 wise access management techniques produces a more constant traffic flow, which helps to limit congestion, reduce fuel consumption and reduce air pollution.

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 when reasonable access is available, such as to a city street or a county road.

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 deed 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. 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.

Scope of the Policies

The standards and criteria in the Access Management Policies 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 studies, refinement plans, state and local transportation system plans and local comprehensive plans.

- All highway plans, including corridor studies, state and local transportation system 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.
- 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 Policy and Procedures for Deviations portion of the Access Management Policies applies to local governments, private applicants, and state agencies, including the ODOT, where there is a desire to apply standards and criteria different than those outlined in the Access Management Policies, for 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.

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 of the highways.

Action 3A.1

Manage access to state highways based on the access management classifications as defined below:

- Freeways (NHS)
  - Interstate
  - Non-Interstate

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

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

- Statewide Highways (NHS)
  - Rural
    - Expressways

1. Expressways are to be designated by action of the Oregon Transportation Commission. (See Action 1B.9.)
2. Expressways are multi-lane highways that provide for safe and efficient high speed and high volume traffic movements.
3. Private access is minimal, and,
   a. Future requests for private access will not be approved.
   b. There is a strategy/plan to eliminate existing road approaches as opportunity occurs or alternate access becomes available.
   c. Access rights will be purchased and a local road network may be developed consistent with the function of the roadway.
4. 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.
5. 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.
6. Nontraversible medians must be considered on all multi-lane Expressways that have traversible medians.
7. Parking is prohibited.
8. The primary function of Expressways is to provide connections to larger urban areas, ports and major recreation areas with minimal interruptions.

    - Other

1. Highways that provide for high speed, continuous flow operation in rural areas, and high to moderate speed operations with limited interruptions in traffic flow in urban areas.
2. Other Statewide highways provide for through traffic movement.
3. Direct access to the abutting property is a minor objective.
4. The function of the highway is consistent with purchasing access rights. Thus, as the opportunity arises, access rights should be

purchased. Preference is to purchase access rights in full, without leaving a reservation of access.

5. 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.

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

- Urban
  - Expressways (See Expressways above.)
  - Arterials (See Statewide Rural Other above.)
  - Special Transportation Areas

1. STAs must be designated in a corridor plan and/or local transportation system plan and agreed upon in writing by ODOT and the local government.
2. STAs apply to a short highway segment.
3. Direct street connections and shared on-street parking are encouraged.
4. Direct property access is limited.
5. Local auto, pedestrian, bicycle and transit movements to the area are generally given more importance than the through movement of traffic.

(See Policy 1B.)

- Regional Highways
  - Rural
    - Expressways (See Statewide Expressways above.)
    - Other

1. Other Regional Rural Highways provide for efficient and safe medium to high speed and medium to high volume traffic movements.
2. Other Regional Rural Highways serve as routes passing through areas which have moderate dependence on the highway to serve land access.
3. The function of the highway precludes purchasing access rights in most locations. Where it is beneficial, purchasing access rights should be considered, e.g., along a crossroad in the area surrounding an interchange.
4. 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.

(Examples: Oregon Route 99E, Oregon Route 62, Oregon Route 31, and Oregon Route 207)

- Urban
  - Expressways (See Statewide Expressways above.)
  - Arterials (See Other Regional Rural above.)
  - Special Transportation Areas (See Statewide Special Transportation Areas above.)

- District Highways and Local Interest Roads
  - Rural
    - Expressways (See Statewide Expressways above.)
    - Other

1. These highways provide for safe and efficient medium speed and medium to high volume traffic movements.
2. Traffic movement demands and access needs are more evenly balanced, with reasonable access to abutting property.
3. The function of the highway precludes purchasing access rights in most locations. Where it is beneficial, purchasing access rights should be considered, e.g., along a crossroad in the area surrounding an interchange.
4. The primary function of these highways is to provide connections and links to intercity, inter-community and intracity movements.

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

- Urban
  - Expressways (See Statewide Expressways above.)
  - Arterials (See Other District Rural above.)
  - Urban Business Areas

1. UBAs must be designated in a corridor plan and/or local transportation system plan and agreed upon by ODOT and the local government.
2. Direct property access is less limited than on Urban Arterials.

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

(See Policy 1B.)

– Special Transportation Areas (See Statewide Special Transportation Area above.

Action 3A.2

Establish spacing standards on state highways based on highway classification, type of area and speed. The following tables show the access spacing standards for the access management classifications listed in Action 3A.1 above.

Table 3A.1: Interchange Spacing for Freeways*

Access Management Classification	Area	Interchange Spacing
Interstate and Non-Interstate Freeways (NHS)	Urban	3 miles (5 kilometers)
	Rural	6 miles (10 kilometers)
All Expressways (NHS)	Urban	1.9 miles (3 kilometers)
	Rural	3 miles (5 kilometers)

* In conformance with federal policy.

Table 3A.2: Access Management Spacing Standards for Statewide ~~Other and Expressways~~Highways①②
(Measurement is in Feet)*

Posted Speed③	Rural		Urban		
	Expressways	Other	Expressways	Arterial	STA
≥55	5280	1320	2640	1320	
50	5280	1100	2640	1100	
40 & 45	5280	990	2640	990	
30 & 35		770		770	④
≤25		550		550	④

NOTE: The numbers in circles (②) refer to explanatory notes that follow tables.

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

Table 3A.3: Access Management Spacing Standards for Regional ~~Other and Expressways~~Highways①②
(Measurement is in Feet)*

Posted Speed③	Rural		Urban		
	Expressways	Other	Expressways	Arterial	STA
≥55	5280	990	2640	990	
50	5280	830	2640	830	
40 & 45	5280	750	2640	750	
30 & 35		600		600	④
≤25		450		450	④

NOTE: The numbers in circles (②) refer to explanatory notes that follow tables.

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

Table 3A.4: Access Management Spacing Standards for District ~~Other and Expressways~~Highways①②
(Measurement is in Feet)*

Posted Speed③	Rural		Urban			
	Expressways	Other	Expressways	Arterial	UBA	STA
≥55	5280	700	2640	700		
50	5280	550	2640	550		
40 & 45	5280	500	2640	500		
30 & 35		400		400	350	④
≤25		400		400	350	④

NOTE: The numbers in circles (②) refer to explanatory notes that follow tables.

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

Notes on Tables 3A.2, 3A.3 and 3A.4:

①Where a right of access exists, access will be allowed to a property at less than the designated spacing standard only if that property does not have reasonable access and the designated spacing cannot be accomplished. If possible, other options should be considered, such as joint access.

Where the right of access exists, the number of approach roads (driveways) to a single property shall be limited to one, even when the property frontage exceeds the spacing standards. More than one approach road may be considered if, in the judgment of the Region Access Management Engineer additional approach roads are necessary to accommodate and service the traffic to a property, and additional approach roads will not interfere with driver expectancy and the safety of the through traffic on the highway.

Approach roads shall be located where they do not create undue interference or hazard to the free movement of normal highway or pedestrian traffic. Locations on sharp curves, steep grades, areas of restricted sight distance or at points which interfere with the placement and proper functioning of traffic control signs, signals, lighting or other devices that affect traffic operation will not be permitted.

If a property becomes landlocked (no reasonable access exists) because an approach road cannot be safely constructed and operated, and all other alternatives have been explored and rejected, the Department might be required to purchase the property. (Note: if a hardship is self-inflicted, such as by partitioning or subdividing a property, the Department does not have responsibility for purchasing the property.)

(Note ① has precedence over notes ②, ③ and ④.)

②These standards are for unsignalized access points only. Signal spacing standards supercede spacing standards for approaches.

③Posted (or Desirable) Speed: NOTE: 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 spacing accordingly. A determination can be made to go to longer spacing standards as appropriate for a higher speed. A speed study will need to be conducted to determine the correct speed.

④Minimum 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 spacing for driveways is 55 meters (175 feet), or mid-block if the current city block spacing is less than 110 meters (350 feet).

Action 3A.3

Signal spacing criteria will be established.

Action 3A.4

When considering spacing of approaches and signalization the following must be considered:

- Generally, no signals will be allowed at private access points.
- If warrants are met, prior to deciding on a signal, other alternatives should be examined (e.g., median closings).
- Signals are to be spaced to minimize delay and disruptions to through traffic by establishing spacing to optimize progression.
- If it is anticipated that an intersection may be signalized in the future (i.e., over the next 20 years), appropriate spacing to ensure traffic progression at the designated operating speed must be provided.
- A plan that addresses signal spacing for an entire highway segment is needed for consideration of a new signal.

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 transportation system plans.

Action 3B.1

Plan for a level of median control for the safe and efficient operation of state highways, consistent with the classification of the highway. Corridor plans shall identify planned median treatments.

Action 3B.2

Design and construct nontraversible medians for:

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

Action 3B.3

Nontraversible medians must be considered 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 could improve safety.

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.
- 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.

Reasons for not using nontraversible medians when these criteria are present must be documented and reviewed and approved by the Region Manager.

Action 3B.4

Full and directional median openings shall:

- Be restricted to locations that conform to ODOT's spacing standards.
- Be 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 (CTWLTLs) are primarily used on urban highways. On Expressways, CTWLTLs 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 CTWLTLs 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 highways.

Action 3C.1

Develop interchange area management plans to protect the function of interchanges to provide safe and efficient operations between connecting highways and to minimize the need for major improvements of existing interchanges.

Action 3C.2

When new approach roads or intersections are planned or constructed near existing interchanges, property is redeveloped or there is a change of use, the following access spacing and operational standards should be applied within the Interchange Access Management Area (measurements are from a ramp intersection or the end of a free flow ramp terminal merge lane taper):

- Approach roads on the crossroads shall be no closer than 750 feet (230 meters), and between 750 feet (230 meters) and 1320 feet (400 meters), shall be limited to right-in/right-out. This may require construction of a nontraversible median or a median barrier.
- The first full intersection on a crossroad shall be no closer than 1320 feet (400 meters).

Action 3C.3

Access control shall be purchased on crossroads around existing interchanges as opportunities arise. At a minimum, this protective buying should be for a distance of 1320 feet (400 meters) on the crossroads.

Action 3C.4

To improve an existing interchange or construct a new interchange:

- 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 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 supercede the Access Management Classification and Spacing Standards (Policy 3A), unless the latter distance standards are greater. (See Tables 3C.1, 3C.2, 3C.3 and 3C.4 below.)
- Interchanges shall connect to major or minor arterials.
- 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.
- 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.5

Plan for and operate traffic controls within the Interchange Access Management Area with a priority of moving traffic off the main highway or freeway and away from the interchange area.

Action 3C.6

Use grade-separated crossings without connecting ramps to provide crossing corridors that relieve traffic crossing demands through interchanges.

TABLE 3C.1

Minimum Spacing Standards Applicable to Freeway Interchanges with Two-Lane Cross Roads

Category of Mainline	Type of Area	Spacing Dimension			
		A	X	Y	Z
FREEWAY	Fully Developed Urban	1.6 km (1 mi.)	230 m (750 ft.)	400 m (1320 ft.)	230 m (750 ft.)
	Urban	1.6 km (1 mi.)	400 m (1320 ft.)	400 m (1320 ft.)	300 m (990 ft.)
	Rural	3.2 km (2 mi.)	400 m (1320 ft.)	400 m (1320 ft.)	400 m (1320 ft.)

Notes: 1) If the cross street is a state highway, these distances may be superseded by the Access Management Classification and Spacing Standards Policy, 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.

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 major intersection; no left turns allowed in this roadway section

Z = Distance between the last right in/out approach road and the start of the taper for the on-ramp

FIGURE 3C.1. Measurement of Spacing Standards for Table 3C.1

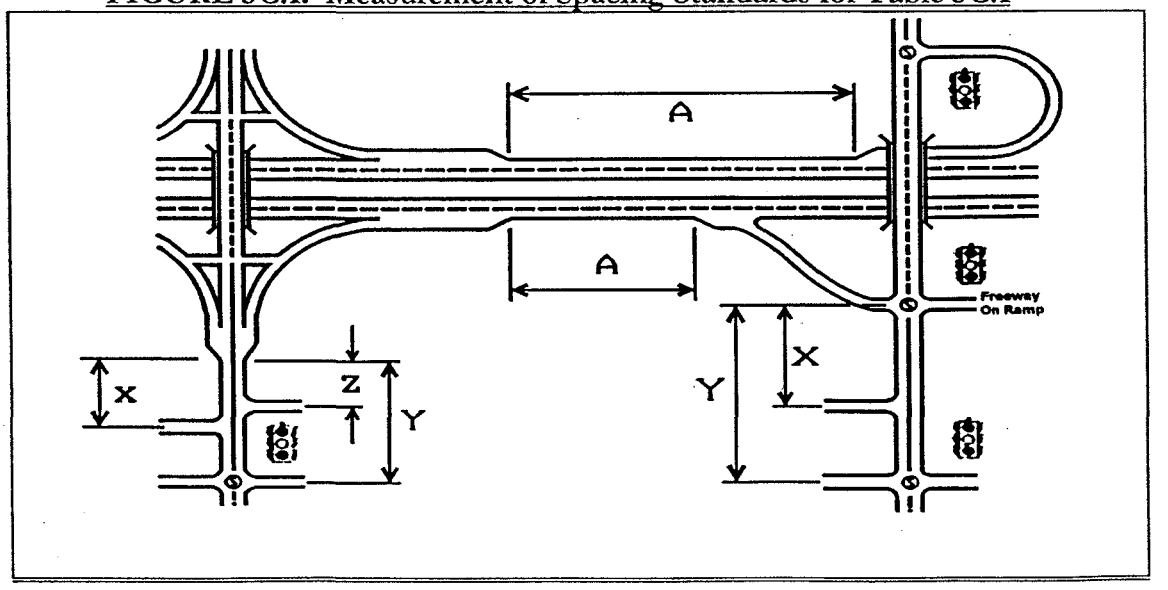


TABLE 3C.2

Minimum Spacing Standards Applicable to Freeway Interchanges with Four-Lane Cross Roads

Category of Mainline	Type of Area	Spacing Dimension				
		A	X	Y	Z	M
FREEWAY	Fully Developed Urban	1.6 km (1 mi.)	230 m (750 ft.)	400 m (1320 ft.)	300 m (990 ft.)	400 m (1320 ft.)
	Urban	1.6 km (1 mi.)	400 m (1320 ft.)	400 m (1320 ft.)	400 m (1320 ft.)	400 m (1320 ft.)
	Rural	3.2 km (2 mi.)	400 m (1320 ft.)	400 m (1320 ft.)	400 m (1320 ft.)	400 m (1320 ft.)

Notes: 1) If the cross street is a state highway, these distances may be superseded by the Access Management Classification and Spacing Standards Policy, 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.

A = Distance between the start and end of tapers of adjacent interchanges

X = Distance to first approach on the right, right in/right out only

Y = Distance to first major intersection

Z = Distance between the last approach road and the start of the taper for the on-ramp

M = Distance to first directional median opening. No full median openings are allowed in non-traversible medians to the first major intersection.

FIGURE 3C.2: Measurement of Spacing Standards for Table 3C.2.

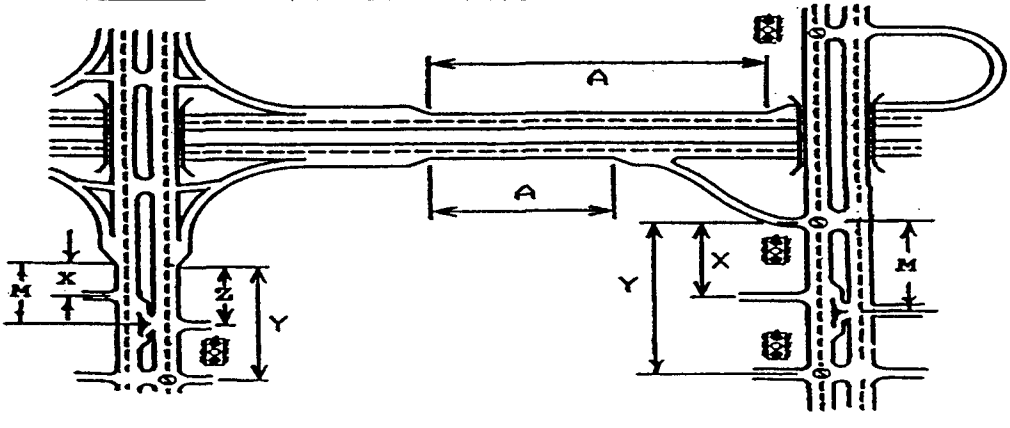


TABLE 3C.3

Minimum Spacing Standards Applicable to Non-Freeway Interchanges with Two-Lane Cross Roads

Category of Mainline	Type of Area	Speed of Mainline	Spacing Dimension				
			B	C	X	Y	Z
EXPRESSWAY	Fully Developed Urban	70 kph (45 mph)	800 m (2640 ft.)	1.6 km (1 mi.)	230 m (750 ft.)	400 m (1320 ft.)	230 m (750 ft.)
	Urban	70 kph (45 mph)	800 m (2640 ft.)	1.6 km (1 mi.)	400 m (1320 ft.)	400 m (1320 ft.)	300 m (990 ft.)
	Rural	90 kph (55 mph)	1.6 km (1 mi.)	3.2 km (2 mi.)	400 m (1320 ft.)	400 m (1320 ft.)	400 m (1320 ft.)

Notes: 1) If the cross street is a state highway, these distances may be superseded by the Access Management Classification and Spacing Standards Policy, 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.

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 major intersection.

Z = Distance between the last right in/out approach road and the start of the taper for the on-ramp.

FIGURE 3C.3. Measurement of Spacing Standards for Table 3C.3.

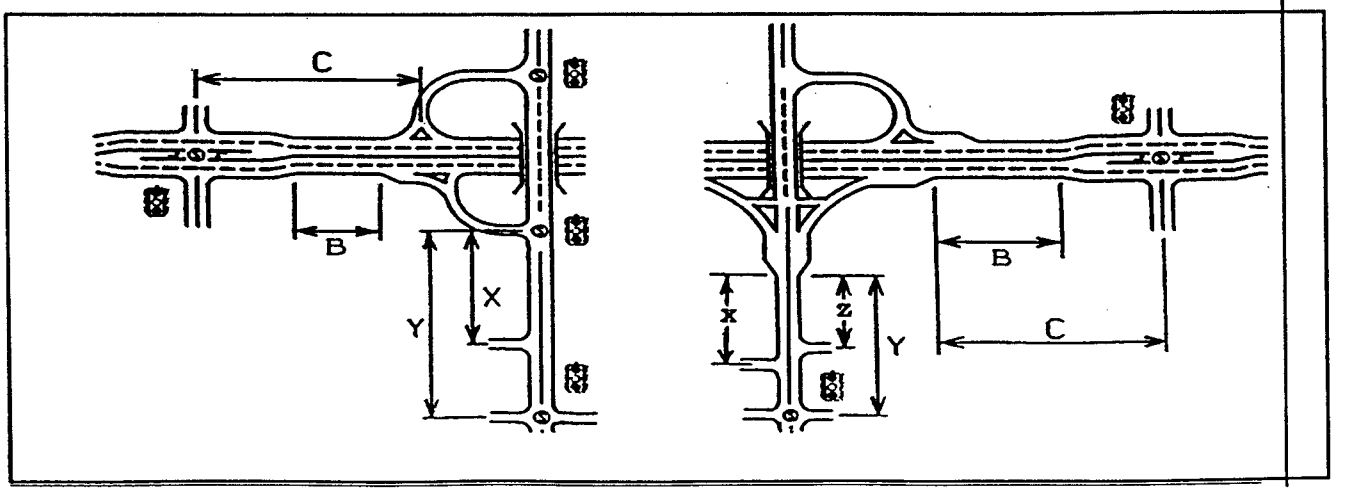


TABLE 3C.4

Minimum Spacing Standards Applicable to Non-Freeway Interchanges with Two-Lane Cross Roads

Category of Mainline	Type of Area	Speed of Mainline	Spacing Dimension					
			B	C	X	Y	Z	M
EXPRESSWAY	Fully Developed Urban	70 kph (45 mph)	800 m (2640 ft.)	1.6 km (1 mi.)	230 m (750 ft.)	400 m (1320 ft.)	300 m (990 ft.)	400 m (1320 ft.)
	Urban	70 kph (45 mph)	800 m (2640 ft.)	1.6 km (1 mi.)	400 m (1320 ft.)	400 m (1320 ft.)	400 m (1320 ft.)	400 m (1320 ft.)
	Rural	90 kph (55 mph)	1.6 km (1 mi.)	3.2 km (2 mi.)	400 m (1320 ft.)	400 m (1320 ft.)	400 m (1320 ft.)	400 m (1320 ft.)

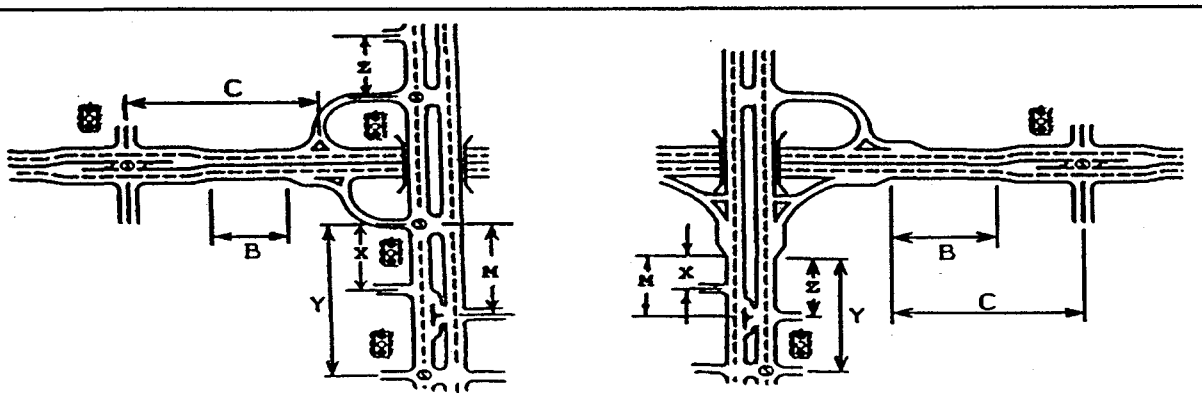
Notes: 1) If the cross street is a state highway, these distances may be superseded by the Access Management Classification and Spacing Standards Policy, providing the distances are greater than the distances listed in the above table.

2) No four-legged intersections may be placed between ramp terminals and the first major intersection.

3) No at-grade intersections are permitted between interchanges less than 5 miles apart.

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 major intersection
Z = Distance between the last approach road and the start of the taper for the on-ramp
M = Distance to first directional median opening. No full median openings are allowed in non-traversible medians to the first major intersection.

FIGURE 3C.4: Measurement of Spacing Standards for Table 3C.4.



Policy 3D: Policy and Procedures for Deviations

It is the policy of the State of Oregon to manage requests for deviations from adopted access management standards and policies through an application process to ensure statewide consistency.

Action 3D.1

Implement a procedure by which an applicant may request consideration of a deviation from access management standards and policies.

Action 3D.2

Establish Region Access Management Engineers to review and act on requests for deviations from access management standards and policies.

Action 3D.3

Establish the use of a technical group to assist the Region Access Management Engineer in an advisory capacity in the review of requests for major deviations from access management standards and policies. Members of the technical group shall have expertise in access management policies, roadway design standards, and traffic engineering, and may include technical persons who are not Department employees.

Action 3D.4

Establish the criteria which the Region Access Management Engineers shall consider when reviewing requests for deviations from access management standards and policies.

Table 3D.1: Access Management Spacing Standard Minor Deviation Limits for Statewide Highways①②

(Measurement is in Feet)*

Posted Speed⑥	Rural		Urban		
	Expressways	Other	Expressways	Arterial	STA
≥55	(none)	950	(none)	(870)	
	[none]	[1150]	[none]	[1000]	
50	(none)	700	(none)	(640)	
	[none]	[900]	[none]	[810]	
40 & 45	(none)	560	(none)	(530)	
	[none]	[810]	[none]	[740]	
30 & 35		(400)		(350)	④
		[675]		[600]	
≤25		(280)		(250)	④
		[525]		[400]	

NOTE: The numbers in circles (②) refer to explanatory notes that follow tables.

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

( ) = Driveway Spacing Minor Deviation Limit.

[ ] = Public Street Spacing Minor Deviation Limit.

Table 3D.2: Access Management Spacing Standard Minor Deviation Limits for Regional Highways①②

(Measurement is in Feet)*

Posted Speed③	Rural		Urban			
	Expressways	Other	Expressways	Arterial	STA	
≥55	(none)	(700)	(none)	(700)		
	[none]	[870]	[none]	[870]		
50	(none)	[540]	(none)	[540]		
	[none]	[640]	[none]	[640]		
40 & 45	(none)	(460)	(none)	(460)		
	[none]	[550]	[none]	[550]		
30 & 35		(300)		(300)	④	
		[375]		[375]		
≤25		(220)		(220)	④	
		[275]		[275]		

NOTE: The numbers in circles (②) refer to explanatory notes that follow tables.

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

( ) = Driveway Spacing Minor Deviation Limit.

[ ] = Public Street Spacing Minor Deviation Limit.

Table 3D.3: Access Management Spacing Standards for District Highways①②
(Measurement is in Feet)*

Posted Speed③	Rural		Urban			
	Expressways	Other	Expressways	Arterial	UBA	SPA
≥55	(none)	(650)	(none)	(650)		
	[none]	[660]	[none]	[660]		
50	(none)	(475)	(none)	(475)		
	[none]	[525]	[none]	[525]		
40 & 45	(none)	(400)	(none)	(400)		
	[none]	[475]	[none]	[475]		
30 & 35		(275)		(275)	(250)	④
		[325]		[325]	[300]	
≤25		(200)		(200)	(175)	④
		[245]		[245]	[200]	

NOTE: The numbers in circles (②) refer to explanatory notes that follow tables.
* Measurement of the approach road spacing is from center to center on the same side of the roadway.
( ) = Driveway Spacing Minor Deviation Limit.
[ ] = Public Street Spacing Minor Deviation Limit.

Notes on Tables 3D.1, 3D.2 and 3D.3:

①Where a right of access exists, access will be allowed to a property at less than minor deviation limits only if that property does not have reasonable access and the minor deviation limits cannot be accomplished. If possible, other options should be considered, such as joint access.

Where the right of access exists, the number of approach roads (driveways) to a single property shall be limited to one, even when the property frontage exceeds the spacing standards. More than one approach road may be considered if, in the judgment of the Region Access Management Engineer additional approach roads are necessary to accommodate and service the traffic to a property, and additional approach roads will not interfere with driver expectancy and the safety of the through traffic on the highway.

Approach roads shall be located where they do not create undue interference or hazard to the free movement of normal highway or pedestrian traffic. Locations on sharp curves, steep grades, areas of

restricted sight distance or at points which interfere with the placement and proper functioning of traffic control signs, signals, lighting or other devices that affect traffic operation will not be permitted.

If a property becomes landlocked (no reasonable access exists) because an approach road cannot be safely constructed and operated, and all other alternatives have been explored and rejected, the Department might be required to purchase the property. (Note: if a hardship is self-inflicted, such as by partitioning or subdividing a property, the Department does not have responsibility for purchasing the property.)

(Note ① has precedence over notes ②, ③ and ④.)

②These standards are for unsignalized access points only. Signal spacing standards supercede spacing standards for approaches.

③Posted (or Desirable) Speed: NOTE: 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 spacing accordingly. A determination can be made to go to longer spacing standards as appropriate for a higher speed. A speed study will need to be conducted to determine the correct speed.

④Minimum 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 spacing for driveways is 55 meters (175 feet), or mid-block if the current city block spacing is less than 110 meters (350 feet).

Action 3D.5

Establish criteria for when minor deviations may be allowed. 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.

Any requests for spacing at less than the minimum deviation limits shall be considered a major deviation from the spacing standards. (Except as stated in Note ① above.)

Policy 3E: Policy and Procedures for Appeals

It is the policy of the State of Oregon to manage appeals of both 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.

Action 3E.1

Implement an appeals process by which an applicant may request further consideration of a deviation request denied by a Region Access Management Engineer through ODOT's Administrative Hearings Procedure.

Action 3E.2

Implement an appeals process by which an applicant may request consideration of a denied approach road request (not requiring a deviation).

- Establish Region Review committees to include members with expertise in access management policies, roadway design standards, right-of-way, and traffic engineering to make a recommendation to the Region Manager.
- Establish criteria which the Region Review committees shall consider when reviewing denied approach road requests.
- Implement a process where the Region Manager will review and act on the Region Review committee's recommendation.

Action 3E.3

Implement an appeals process by which an applicant may request further consideration of a approach road request denied by the Region Manager through ODOT's Administrative Hearings Procedure.

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 the areas 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 p. 12) is a key part of tracking the need for improvements to intermodal ~~facilities~~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.

Policy 4A: Efficiency of Freight Movement

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. 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.

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.

Action 4A.5

Support the establishment of stable funding or financing sources for transportation 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.

■ 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.

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. First 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 the incremental construction of individual HOV facilities, but rather suggests that the individual elements should be part of a well thought out plan.

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 or reversible lanes where the proposed HOV facility would close specific gaps in the HOV network, such as bridges, toll plazas, tunnels, etc., or where peak demand is concentrated strongly by direction of travel.

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 the broad group of 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 I-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

Ensure that park-and-ride facilities located in urban areas are safely accessible by pedestrians, bicyclists, and transit users as appropriate. 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 Policy

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 1969 as amended (NEPA)
- 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 - 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 E.)

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 roadway 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.

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 organizations, 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 use of native plants along roadsides.

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 resources 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 to ~~minimize~~ meet traffic noise ~~impacts~~standards.

Action 5A.14

Increase ODOT employees' knowledge about the effects of planning, design, development, construction, and maintenance activities on environmental and scenic resources and about 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 play 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 in 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 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 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 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

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.

Action 5B.8

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.9

In project designs, include aesthetic elements that enhance the quality of system improvements. Examples of aesthetic elements might include plantings and attractive finishes on poured concrete structures.