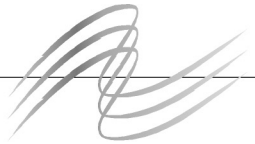
1999
OREGON
HIGHWAY
PLAN



The Vision

The Vision

Introduction

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

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

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

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

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

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

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

Vision Statement

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

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

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

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

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

Transportation Forecasts

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

1. **Population growth.** From 1940 to 1995 Oregon's population growth rate was double that of the nation as a whole.[2] While this gap is expected to narrow over time, forecasts suggest that Oregon will be growing 29 percent faster than the nation as a whole in the year 2020. Oregon is expected to grow by some 1.2 million people by 2020, at an annual growth rate of approximately 1.3 percent (Figure 1). Twenty-seven percent of the state's growth will be due to natural population increase, while 73 percent will be from in-migration.

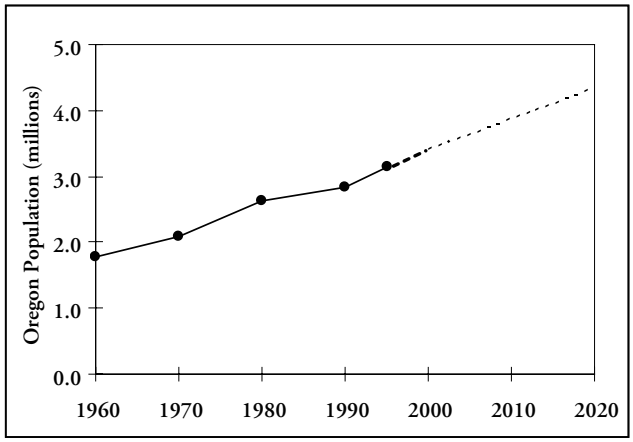


Figure 1: Oregon population trends

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

2. **The economy.** The economy plays a major role in transportation demand. When employment is high, for example, work-related trips increase. People can also afford to buy automobiles and travel 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 mid 1980s, travel increased dramatically because people went back to work and their incomes increased. It is difficult to predict the economy over a 20-year stretch of the future, so forecasts in this plan are made assuming a steady-state economy. Based on population forecasts, the size

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

of Oregon's workforce is expected to increase to over 2.16 million by 2020 (see Table 1, page 19). This growth will contribute to higher total VMT and will mean more traffic on the roads at peak commute hours.

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

Table 1: US and Oregon population and employment, 1980-2020

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

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

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

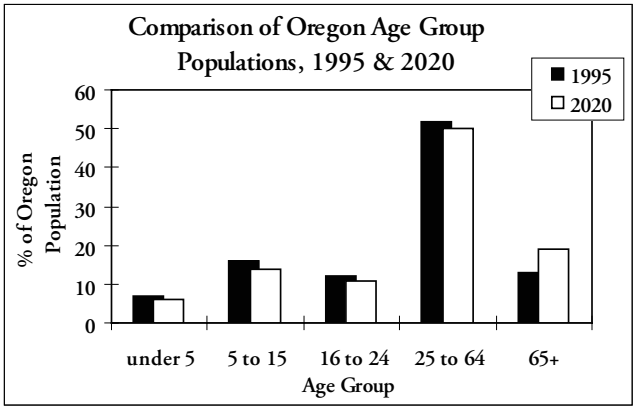


Figure 2: Age distribution in Oregon, 1995 and 2020

Impacts: People over the age of 65 tend to drive fewer vehicle miles and drive less at peak hours than younger people do. As the older population increases, these characteristics may help moderate the overall rise in total VMT and peak

hour congestion. The growth of the elderly population will also increase demand for accessible travel alternatives as well as elderly friendly roadway designs.

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

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

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

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

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

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

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

Future Technologies

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

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

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

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

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

   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 being developed mainly by private companies.

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

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

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

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

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

Policy and Legal Context

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

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

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

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

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

Statewide Planning Goals and the Transportation Planning Rule

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

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

State Agency Coordination Program

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

Oregon Benchmarks

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

OREGON BENCHMARKS AFFECTING TRANSPORTATION (1997)

BENCHMARK	1997 STATUS	2010 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	29% (1998)	38%
Vehicle miles traveled per capita in Oregon metropolitan areas (per year)	8,085	7,938
Percentage of Oregonians living where the air meets government ambient air quality standards	100%	100%
Carbon dioxide emissions as a percentage of 1990 emissions	122% (1994)	100%

Developmental Benchmarks

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

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

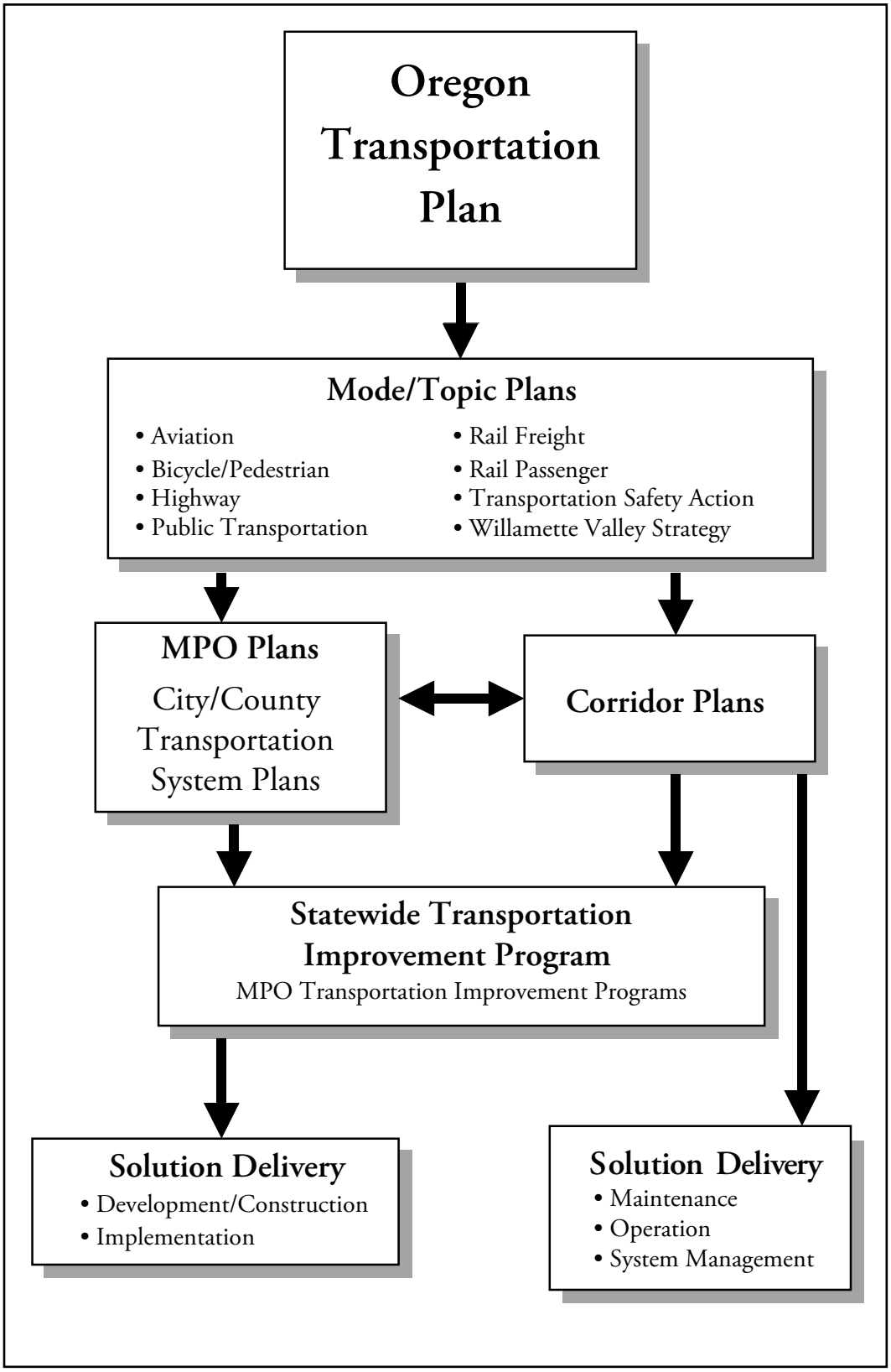


Figure 3: Integrated Transportation Planning

Oregon Transportation Plan and the Modal/Topic Plans

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

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

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

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

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

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

several modes of transportation. Goals, policies, and actions in the Highway Plan complement those in previously adopted modal plans.

Corridor Plans

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

Statewide Transportation Improvement Program

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

Oregon Transportation Initiative and the Quality Development Objectives

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

QUALITY DEVELOPMENT OBJECTIVES

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

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

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

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

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

6. Support development that provides for a balance of jobs and affordable housing within a community to reduce the need to commute long distances between home and work, thereby minimizing personal commuting costs as well as the public and societal costs of expanding the transportation infrastructure.

Local Comprehensive Plans and Transportation System Plans

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

Applicability of this Plan

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

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

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

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

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

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

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

The Planning Process

Policy Element

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

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

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

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

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

System Element

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

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

Description of the Highway System

Introduction

Oregon has over 83,600 miles (134,500 kilometers) of public roads. These roads are owned by the federal government, the State of Oregon, counties, and cities (Figure 4). The 1999 Oregon Highway Plan sets policy for the state highway system: 7,483 miles (12,040 kilometers) of roads owned and operated by the State of Oregon through the Oregon Department of Transportation (ODOT). Although the State of Oregon owns a total of 11,201 miles (18,022 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 of highways is provided in Appendix D.)

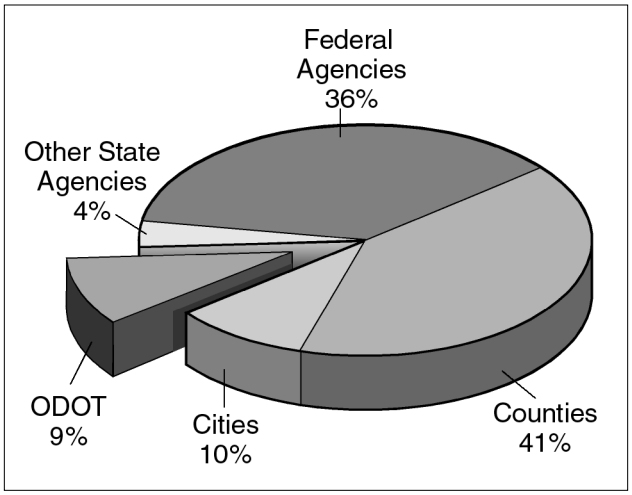


Figure 4: Public road jurisdiction in Oregon, 1997

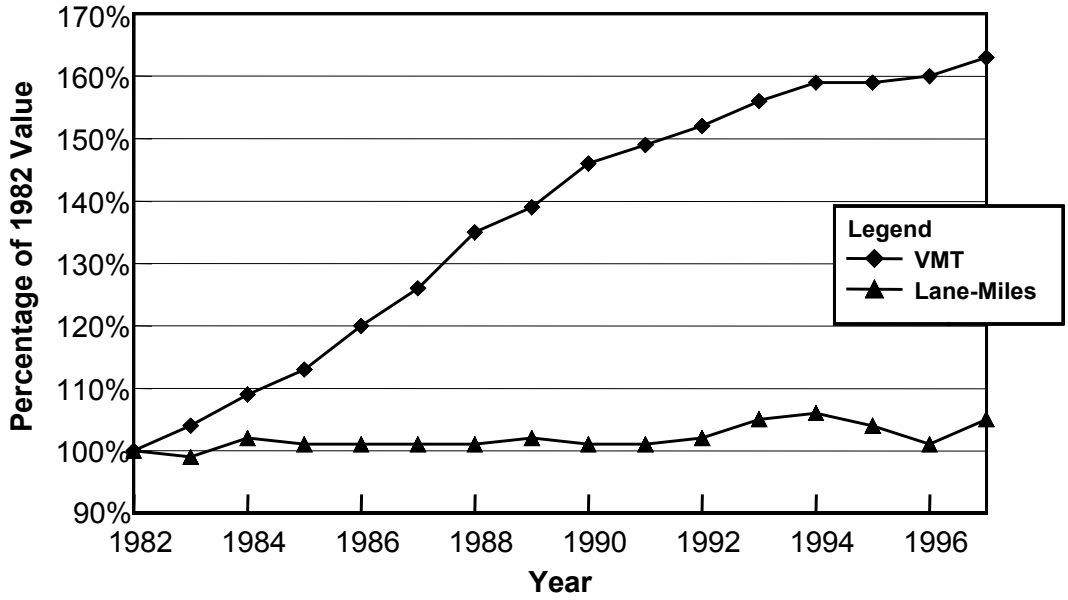
The state highway system ranges from eight-lane freeways to two-lane gravel roads. More than 99.6 percent of state highway mileage is paved. The system also includes 4,800 major structures including bridges and viaducts.

Highway Usage

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

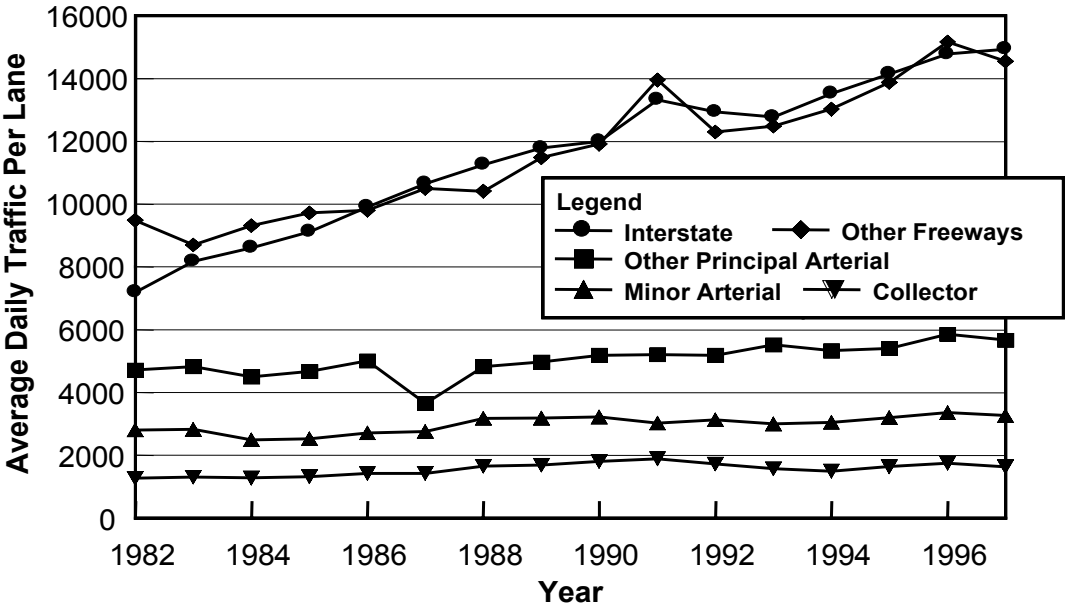
Highway travel has increased much faster than highway capacity over the past 15 years (Figure 5, page 35). This means that there are many more cars on the same amount of roadway, a trend most noticeable on freeways in urban areas (Figure 6, page 35).

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



Source: ODOT Transportation Planning and Data Sections

Figure 5: Trends in VMT and lane miles in Oregon (all jurisdictions).
In the past 15 years, the vehicle miles traveled on Oregon's main roads have increased over 60 percent while miles of road lanes have increased no more than 5 percent. Both VMT and lane miles are charted as a percentage of 1982 levels.



Source: ODOT Transportation Planning and Data Sections

Figure 6: Average daily traffic on Oregon's urban roadways (all jurisdictions).
In the past 15 years, urban freeways have become much more congested. The chart shows the average amount of traffic in each road lane for each class of road.

Commuting

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

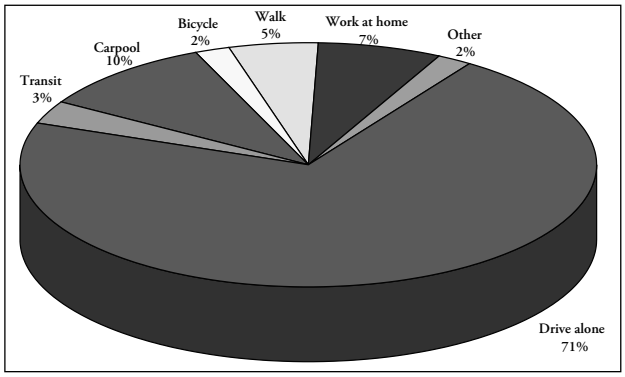


Figure 7: Means of transportation to work in Oregon

Freight Movements

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

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

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

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

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

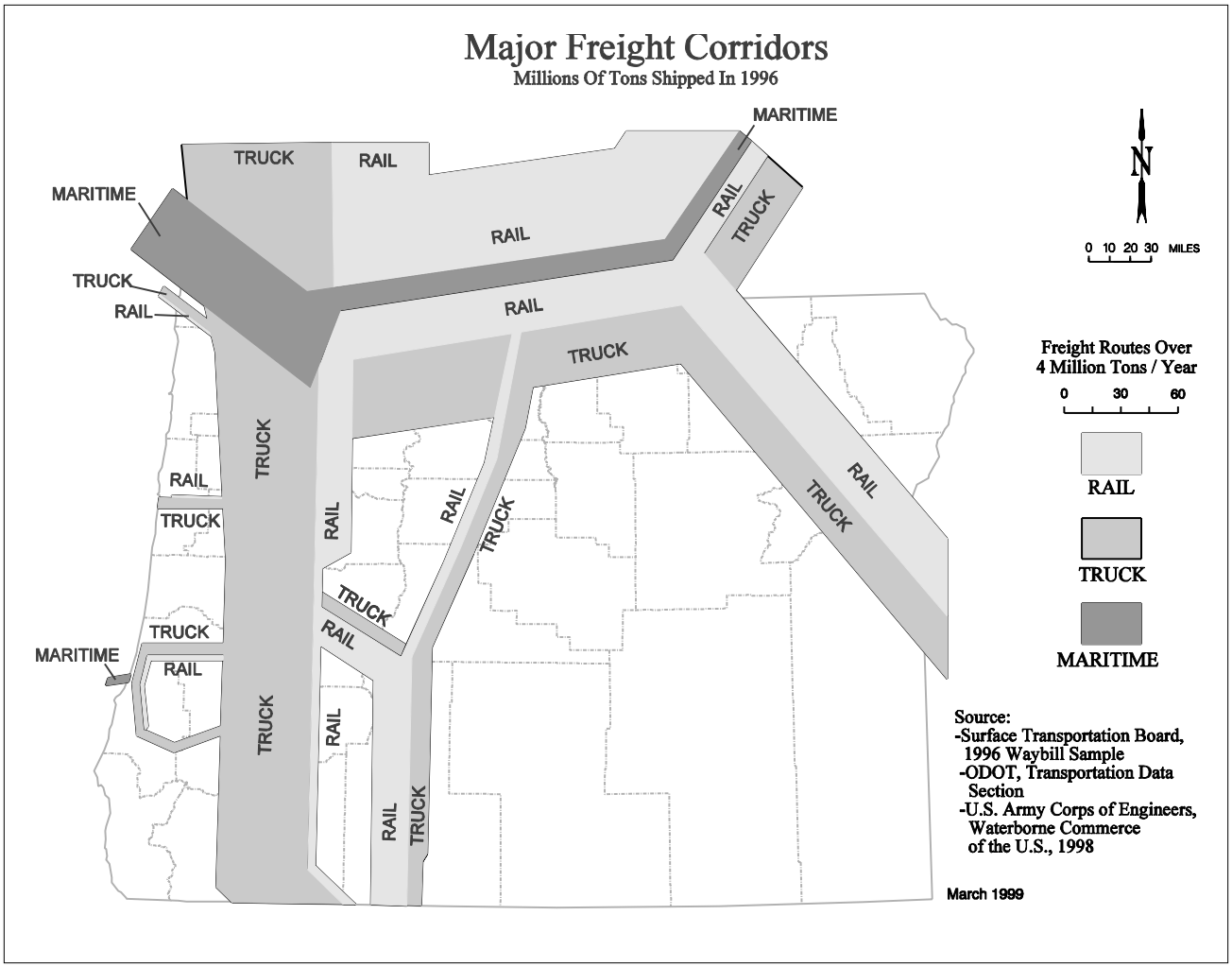


Figure 8: Major multimodal commodity flow corridors in Oregon

Alternative Mode Facilities

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

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