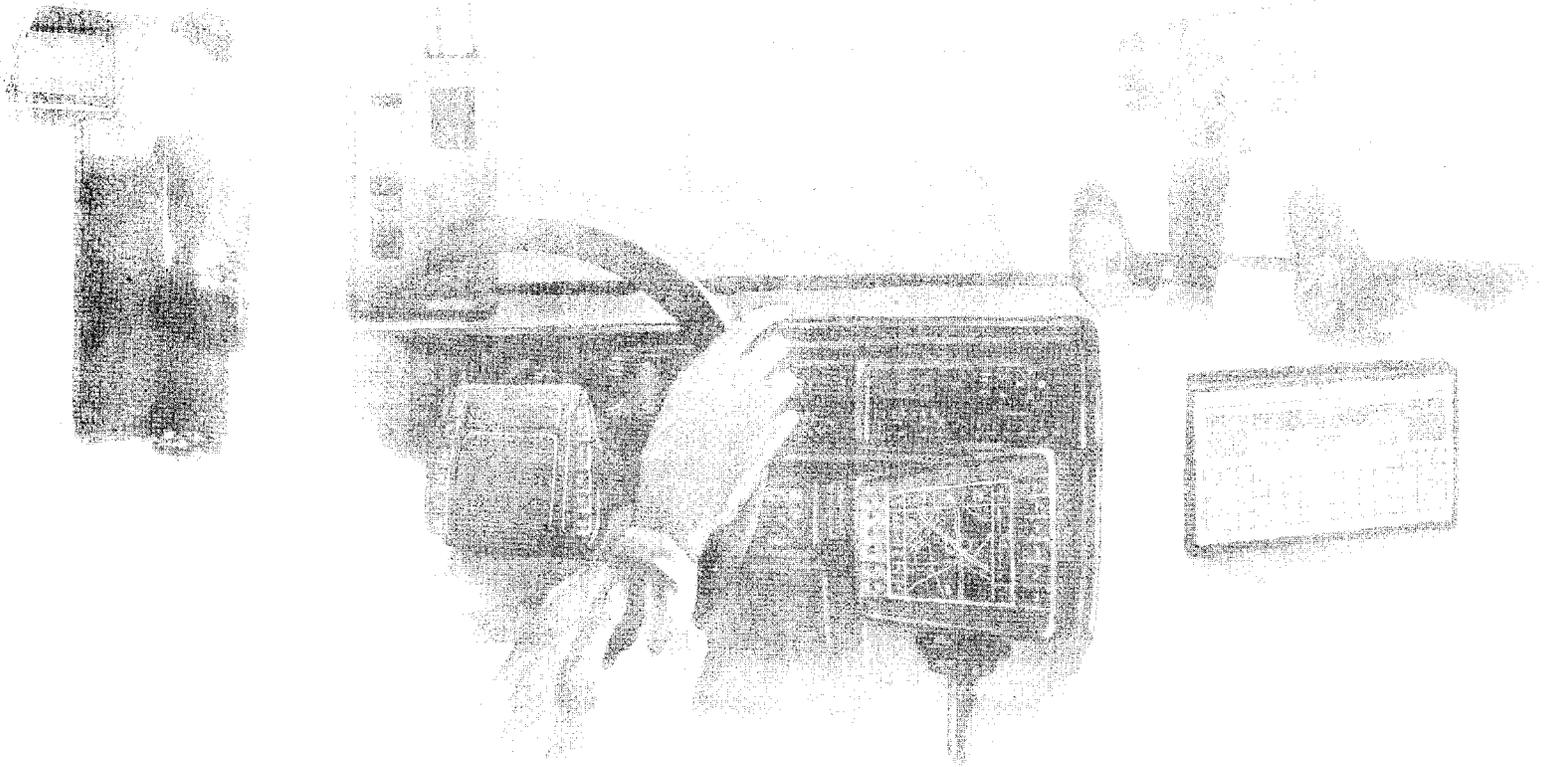




# THE VISION





# INTRODUCTION

The purpose of the Oregon Transportation Plan is to guide the development of a safe, convenient and efficient transportation system which promotes economic prosperity and livability for all Oregonians.

A strong, efficient transportation system has been crucial to Oregon's development. From the first pioneers to traverse the Oregon Trail to the early river boat service on the Willamette and Columbia Rivers, to the ports, railroads and highway system that link the state to the nation and the world, Oregon has relied upon its transportation system.

Today Oregon's local roads and urban transit systems are relatively efficient and uncongested by comparison to many other areas of the nation. A well-developed highway system provides efficient access to many areas of the state for residents, businesses and visitors. Competitive transcontinental rail service and an interstate highway system provide access to all parts of North America, while Oregon's waterways and marine ports and airports provide access to the nation and the world. This transportation system has served Oregon's economic objectives and has helped to contribute to the state's quality environment and lifestyle.

Today Oregonians are facing a crossroads with respect to our transportation systems. The interstate highway system has been completed. Transportation deregulation, begun in the 1970s, has eliminated most of the economic regulation from rail, trucking and aviation. The federal government no longer pays 100 percent of the costs associated with navigational projects. The 1991 federal transportation legislation—the Intermodal Surface Transportation Efficiency Act—is moving the country toward a more flexibly funded, multimodal transportation system.

Opportunities exist to improve the serviceability of our urban and rural transportation systems, to link transportation and land use planning more effectively, and to develop land use patterns that enhance the quality of life for the almost four million people who are projected to live in Oregon in 2030. Opportunities exist to further develop our rail, waterway and marine transportation, highways and aviation systems, to expand markets for Oregon products, to link all parts of the state more effectively, and to improve the efficiency with which goods and people move between Oregon and the nation and the world.

In addition to opportunities, Oregon faces serious threats to its quality of life and economic future if we do not continue to

develop and improve our transportation systems. Just the projected population growth, almost one million people by 2012, will further congest the highway system. Auto emissions already endanger air quality in metropolitan areas, and yet commuters have little choice for transportation except the use of private automobiles. Many rural areas lack adequate air, rail or intercity bus services. Current state and local funds for transportation facilities and service improvements are insufficient.

The basis of the Oregon Transportation Plan is that we can solve these problems and realize a new vision for transportation.

# A VISION TO GUIDE THE OREGON TRANSPORTATION PLAN

What kind of future do we want to build as a state and how can transportation contribute to that future?

**The Oregon Transportation Plan envisions a transportation system that moves people and goods in a way that provides for livability and economic prosperity for all Oregonians. The system provides Oregonians and visitors with access to goods, services, jobs and recreation, while providing Oregon industry access to national and international resources and markets. To most effectively meet the state's needs, the transportation system takes advantage of the inherent efficiencies of each transportation mode and encourages interconnection between modes.**

Transportation is a part of the vision for Oregon articulated in the Land Conservation and Development Commission's (LCDC) Statewide Planning Goals and Guidelines and in the Oregon Benchmarks. The statewide planning goals reflect the concerns of hundreds of citizens who participated in public meetings held throughout the state in the 1970s and who have participated in updating them since then. The Oregon Progress Board developed the Oregon Benchmarks in 1990 after a series of public meetings, and the legislature adopted them as state objectives in 1991.

The statewide planning goals directly relating to transportation envision a safe, convenient and economic transportation system that maintains and improves air and water quality, satisfies recreational needs, conserves energy, protects estuaries, protects natural and scenic resources, and provides adequate opportunities throughout the state for a variety of economic activities. The goals require planning and developing a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

The LCDC Goal 12 Transportation Planning Rule calls for developing land uses and transportation facilities that are mutually supportive. In urban areas, it relies on increased use of transit, bicycling and walking.

The Benchmarks envision Oregon as a place with an exceptional people, an outstanding quality of life and a diverse, robust economy: Oregon's natural environment is clean, beautiful and accessible. Oregon's communities are attractive, workable, affordable, safe and enriching places to live and work. The state is moving toward a diversified economy which generates productive jobs and higher incomes for all Oregonians. Some of the Benchmarks have specific implications for the OTP, especially the System Element, and are included in the analysis and development of the plan. (See Table 1, page 24.)

TABLE 1

## OREGON BENCHMARKS AFFECTING TRANSPORTATION

BENCHMARK	2010 TARGET
<b>Urban Mobility:</b> Percentage of Oregonians who commute to and from work during peak hours by means other than a single occupancy vehicle	60%*
<b>Air Quality:</b> Percentage of Oregonians living where the air meets government ambient air quality standards	100%
<b>LIVABILITY BENCHMARKS</b>	
Percentage of Oregonians who commute (one-way) within 30 minutes between where they live and where they work	88%
Percentage of miles of limited access highways in Oregon urban areas that are not heavily congested during peak hours	60%
Transit hours per capita per year in Oregon metropolitan areas	1.7 hours
<b>ECONOMIC PROSPERITY BENCHMARKS</b>	
Percentage of Access Oregon Highways built to handle traffic at a steady 55 mile-per-hour rate	90%
Percentage of Oregonians living in communities with daily scheduled intercity passenger bus, van or rail service	No target set
Percentage of Oregonians living within 50 miles of an airport with daily scheduled air passenger service	75%
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	26
Number of international cities of over one million population (outside of Canada and Mexico) served by direct and non-stop air service to and from any Oregon commercial airport	12
Backlog of city, county and state roads and bridges in need of repair and preservation	5%
Percentage of the 50 largest ports outside the United States served with direct service from the Port of Portland	80%

\* The severity of the measures required to achieve this target would defeat the achievement of other livability and economic development goals. ODOT has recommended a target consistent with the Transportation Planning Rule's 20 percent reduction of VMT/capita.

In working toward this vision of livable communities, economic prosperity and the transportation system that will serve them, we must consider where we are going and what the implications are for transportation.

## Population and Transportation Projections - Preparing for Changing Needs

Oregon's population will grow faster than the nation's for most of the next 40 years. According to the Oregon Department of Transportation forecasts, the state's population is projected to increase from 2.8 million in 1990 to 3.8 million in 2012 and to almost 4.0 million in 2030. Most of this growth will take place in the Willamette Valley, where population densities will approach those of more urban states. Much of the state's growth will take place in suburban areas.

At the same time, the declining population growth in eastern Oregon will be reversed, and eastern Oregon will have a healthy, more diverse economy. Growth pockets on the coast and in central and southern Oregon will occur outside of the Willamette Valley.

Within southern Oregon, the Medford metropolitan area will continue to lead population growth. Over the past 20 years, the area has developed as a metropolitan service center to become the state's newest metropolitan area and an increasingly important gateway between Oregon and California markets.

### TRANSPORTATION IMPLICATIONS

Increased demands for transportation services will be most prevalent in the Willamette Valley especially in the Portland metropolitan area and in the Medford metropolitan area of the Rogue Valley. Congestion will become an increasing problem in all metropolitan regions but especially in the Portland metropolitan area. Links to rural areas must be maintained and enhanced in order to serve the economy of regions outside of metropolitan areas and the Willamette Valley.

Nationally, personal transportation use—the number of private vehicle trips, vehicle miles traveled (VMT) and vehicles owned per household—has increased faster than population. If present VMT growth trends continue unchanged, VMT will double over the next 20 years. However, several factors could diminish this rapid growth: The boom in additional workers, especially the addition of women to the work force, is over. The possession of driver's licenses among adults is at saturation levels. The population is aging, and people over 45 traditionally drive less. Oregon's coordinated land use and transportation planning processes will have a positive impact on urban form and travel needs and patterns. In the Portland, Salem, Eugene and Medford metropolitan areas, the LCDC Transportation Planning Rule requires a 20 percent reduction in VMT per capita within the next 30 years.

# Economic Development - Expanding Access to a World Economy

During the next 40 years, the Oregon economy will continue to diversify. While the natural resource-based industries (particularly wood products and agriculture) will continue to be important, our economy will move toward greater reliance upon a more diversified mix of manufacturing industries and services. Agriculture and wood products will look far different than they do today, as higher value products are introduced. Tourism will continue to play an important economic role in many areas of the state.

One aspect of the Oregon economy that will not change is its dependence on distant markets to sell its products. The state's specialized wood and agricultural products are marketed throughout



*Refrigerated containers on barges carry agricultural products from inland growers to national and international markets. Photo: Jim Douglas, Port of Portland*

the world. These two industries will continue to foster close ties with the Pacific Rim nations. In the areas of professional services and tourism, Oregon could be a major beneficiary of open European markets.

## TRANSPORTATION IMPLICATIONS

All Oregon businesses need access to markets for buying and selling goods, but the connections of all modes to the international economy will be a major requirement of this vision of Oregon's economic future. The commodities that travel to other states and nations will be of higher value. Thus, they may need a different type of service and infrastructure from today's railway and marine transportation systems, which have been dominated by bulk commodities, agricultural and forest products. Air and intermodal freight services will become increasingly important. Local delivery of goods will still rely on trucks and the highway system, but rail, marine transportation and airport systems will become increasingly important because of their ability to link to distant markets.

To achieve a more diversified economy, the Benchmark objectives adopted by the 1991 Legislature direct us (1) to greatly increase the access of direct air and marine transportation to cities and ports nationwide and worldwide, (2) to maintain and improve our roads and bridges, and (3) to increase the availability of intercity transportation on highways, airports and public ground transportation.

## The Environment - Protecting Oregon's Quality of Life

Oregonians will continue to prize the beauty of the landscape and the quality of the environment. We respect the natural systems that make up the environment and are dedicated to their enhancement. We enjoy the state's natural and scenic resources including its waterways, recreational areas and historic sites. We want our communities to be attractive, secure places, accessible to the natural and cultural attractions of the state.

But, in spite of efforts to reduce air pollution, a number of areas in Oregon do not at all times meet federal air quality standards. While auto emission devices have decreased pollution levels, the increased use of automobiles and increased congestion in recent years are reversing the decline in carbon monoxide and ozone levels.

Concentrations in the atmosphere of certain gases, including carbon dioxide, are warming the Earth's surface, possibly resulting in changes to the climate. In Oregon, transportation contributes about 54 percent of the state's carbon dioxide emissions. The oil-dependent transportation system also makes the economy vulnerable to disruptions in the oil market and to long-term shortages in supply.

Protection of water quality, wetlands, estuaries and endangered species is becoming increasingly difficult as the population grows

and competition among land uses increases. Handling and disposal of hazardous materials is also growing more complex.

## TRANSPORTATION IMPLICATIONS

Transportation services and facilities will have to comply with an increasing number of federal and state statutes and regulations to protect environmental quality.

The 1990 Clean Air Act requires that areas in violation of federal air quality standards meet stringent emission reduction targets and prove that transportation plans and programs contribute to the attainment of air quality standards. The reduction of auto emissions, particularly in metropolitan areas, will require one or more of the following: reduction of travel, increased use of more fuel efficient modes, use of more fuel efficient vehicles, and/or substitution of petroleum with less polluting fuels.

The Benchmark objectives adopted by the 1991 Legislature also call for air quality to be improved, the use of single occupant vehicles reduced, and the use of transit increased. The objectives would greatly increase the number of commuters who travel to work by means other than single occupant vehicles, but maintain or reduce commuting time in urban areas.

The LCDC Transportation Rule likewise calls for Oregonians to use transit and other transportation alternatives increasingly as vehicle miles of travel per capita in metropolitan areas are reduced by 10 percent in the next 20 years and 20 percent in the next 30 years.

The Clean Water Act, the Endangered Species Act and other federal legislation and regulations protecting wetlands, historic sites, parks and recreational areas and game refuges will continue to be major factors in transportation planning and project development. State protection of estuaries will also continue to be important. Since highways, airports, railroads and marine traffic create a significant amount of noise, noise abatement will remain an important part of transportation-related pollution control.

## Land Use - Changing Development Patterns

Land use policy will continue to be the primary tool used by Oregonians to guide development of the state while protecting its resources and livability and developing its economy.

Although urban growth boundaries have discouraged urban development in rural areas, metropolitan areas have developed at a level of density and in patterns that often discourage the use of public transit, bicycles and pedestrian walkways. Low density development has resulted in the kind of sprawl that creates congestion and air pollution. Often transportation facilities have not supported local land use plans and vice versa.

*City of Ashland facilities welcome  
pedestrians and bicyclists.  
Photo: City of Ashland*



To create more livable communities and to encourage the use of transportation alternatives to the single occupant vehicle, land use policies are changing to support:

- Downtown cores that maintain healthy central hubs for commerce within an urban region.
- Increased density and in-fill development for efficient use of urban land balanced by open space areas and better residential site design for privacy and safety.
- Improved circulation systems for pedestrians, bicycles and transit that allow for their exclusive use in some areas and provide safety where they come into contact with autos.
- Mixed use developments where housing, daycare, schools, commercial areas and employment can be close together to minimize travel.

The vision is for compact cities surrounded by farm and forest land and open space. Even the so-called suburbs will have small city atmospheres with many more people living in the same suburb where they work.

In rural communities of the state, land use planning will become a tool to promote development through the logical planning and extension of public infrastructure and services necessary to support new industry and development. Scenic attractions will enhance the tourist industry.

## TRANSPORTATION IMPLICATIONS

For transportation, this view of land use has two significant implications. First, transportation policy should favor more compact, mixed use, pedestrian friendly developments, both because they

make transportation more efficient and because they accomplish a more desirable pattern of development. Designing land use and transportation patterns where conflicts among pedestrians, bicycles, automobiles and transit are minimized will also make the system safer. Second, facilities must be designed in such a way as to support locally adopted comprehensive plans.

In rural areas, enhanced levels of transportation and connections between modes will improve access and economic development. Concern for scenic vistas and access to outdoor recreation sites will enhance the tourist industry and the travel experiences of Oregonians and visitors to the state.

## Technology - Innovations for Use Today and Tomorrow

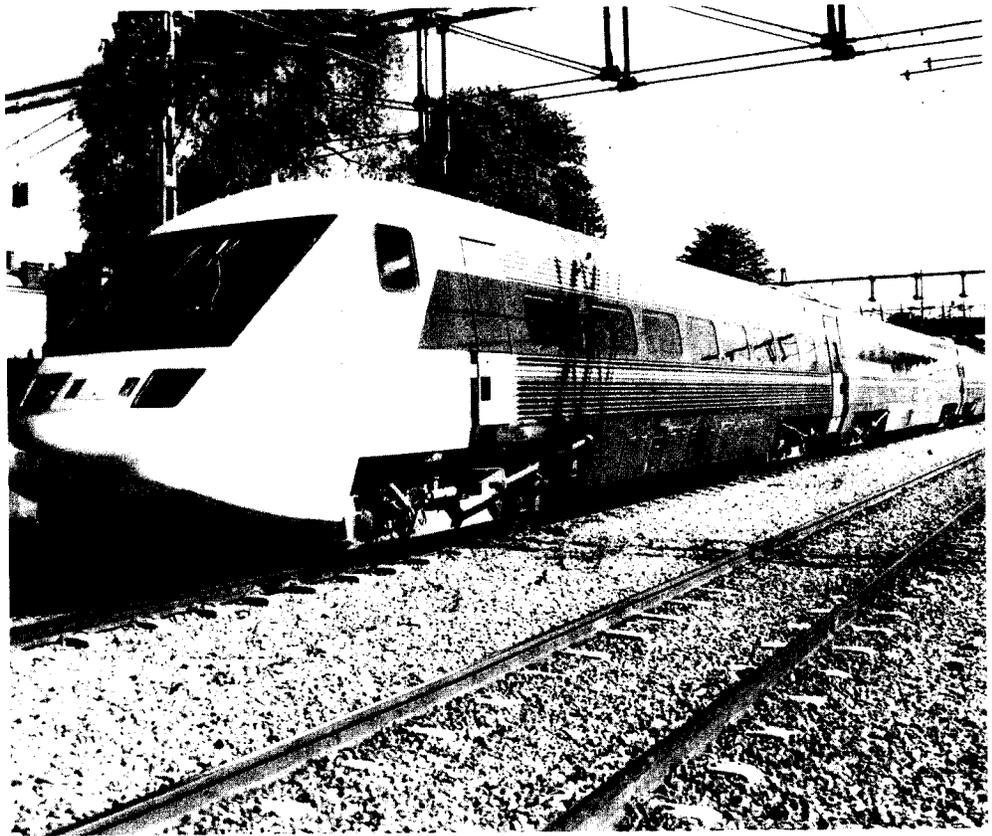
During most of the next 40 years, transportation facilities and equipment will appear surprisingly similar to the way they do today. However, on closer inspection, there will be some interesting differences.

Telecommunications, data processing and electronic control systems may have a tremendous impact on transportation in two ways. First, many jobs may be performed at home or in small local offices away from major office complexes. The ability to perform most non-manual functions from remote locations will give rise to small electronically sophisticated offices which will replace large centralized offices. This may affect transportation by reducing commuting distances for many people and by adding to the economic stability of some rural and suburban communities. However, those who work at home may make more day-time trips to run errands and provide transportation for children.

*Advanced Traveler Information Systems equipment in vehicles, homes, offices and sidewalk kiosks will provide transportation users with information on traffic conditions, routes, and schedules. Drawing courtesy of IVHS America*



*The Swedish X2000 is constructed to lean in the curves so that it can run at high speeds on existing, conventional track. The technology could be adapted for use in Oregon.*  
*Photo: ABB Traction Inc.*



Advanced electronics also will improve the efficiency and comfort of every type of transportation system. Automobiles may operate in self-guided modes on freeways, or "smart highways," while onboard computers do everything from adjusting engine performance to recommending travel routes based on information about road conditions and congestion.

Advances in fuel technology will make available alternatives to petroleum fuels. Fuels such as natural gas and electricity will find wider application for powering vehicles.

Another aspect of transportation technology that is expected to continue far into the next century is the gain in efficiency. This may be achieved without dramatic reduction in the size of passenger vehicles due to new lighter materials, improvements to fuels and ignition systems, and more efficient operation through the use of smart highways and better traffic control. Traffic management devices will be able to restrict vehicle use during peak periods and charge drivers according to the time and distance of their use.

These same factors will improve the operation of other modes as well. Advanced communications and control systems can improve the speed, capacity and safety of the rail and transit system. Improved vehicle designs will also increase efficiencies in air, land and water passenger transportation. These gains in efficiency will improve the prospect for high speed rail, although its use will continue to be limited to very high density corridors connecting major metropolitan areas.

Technology will also help improve traffic safety. Vehicle improvements that prevent crashes and injury in crashes, such as airbags, anti-roll devices and speed governors, are possible now. In the future, monitors similar to airline "black boxes" will be able to record and transmit vehicle operation patterns to police or others for review of driver behavior, particularly behavior related to speed or alcohol and other drug use.

The drive for greater productivity and fuel efficiency will not only improve performance of surface transportation vehicles but has already resulted in dramatic increases in the size and speed of aircraft and ocean vessels. These will add to the efficiency of international trade and travel but will require changes in marine transportation and airport infrastructure.

## TRANSPORTATION IMPLICATIONS

Although there does not appear to be anything on the horizon that will make a fundamental change in the basic kinds of transportation, Oregonians will experience a fundamental change in the way we use our transportation systems. Many of the most prominent innovations being considered, like self-guided cars and the use of new types of fuels, will have the effect of making existing modes of transportation, including highway travel, much more efficient and reduce many of the detrimental side effects. In the future, our transportation facilities will need to include the infrastructure necessary to support these innovations. A second implication of these technologies is that many of the most significant innovations will be introduced by the private sector. Government will have to work with the private sector to provide public infrastructure that captures the benefits of these innovations. It is the public that owns the airports, highways and marine ports but largely the private sector that operates the transportation equipment and services which use the facilities.

# THE PLANNING PROCESS

The planning process for the Oregon Transportation Plan (OTP) began in November 1990 when the Oregon Transportation Commission directed the Oregon Department of Transportation's strategists to "develop and maintain a state transportation policy and a comprehensive, long-range plan for a multimodal transportation system for the state," as required by Oregon statutes.

In the spring of 1991, five policy advisory committees met to develop goals, policies and actions focusing on urban mobility, rural accessibility, freight productivity, safety and finance. Each of the five committees was headed by a member of the Transportation Commission and assisted by consultants and ODOT staff members. Members represented public transportation agencies and users, private transportation providers and industry users, local governments,

special transit districts and state agencies. Each member brought a wide range of experience and expertise to the committee.

The Urban Mobility Committee was concerned with land use and transportation links and methods of dealing with congestion while the Rural Accessibility Committee wrestled with ways to assure minimum levels of service and encourage economic development in rural areas. The Freight Productivity Committee identified policies to make freight movement more efficient and improve access to national and international markets. The Safety Committee considered ways to make all transportation modes safer. The Finance Committee developed funding principles and is developing funding methods that will be proposed to the legislature. The committees' work was the basis of the Policy Element.

ODOT staff presented the Policy Element for review at 25 public meetings throughout the state in November and December 1991 as well as at numerous meetings with regional and local officials, business and civic organizations and others. The OTP's State Agency Technical Advisory Committee and Metro's transportation policy advisory committees also commented.

The revised Policy Element formed the basis for the System Element. The System Element implements the goals and policies by identifying a coordinated transportation system, a network of facilities and services for air, rail, highways, transit, pipeline, marine and waterways transportation, bikeways and other modes to be developed over the next 20 years. The OTP Steering Committee, made up of members of the Oregon Transportation Commission, the governor's office, state legislators and representatives of local governments, guided its development.

Both the Policy Element and the System Element are designed to implement the Oregon Benchmarks and the LCDC Goal 12 Transportation Planning Rule. Even though the plan was well underway prior to passage of the federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), it incorporates the Act's requirements for statewide planning.

The Steering Committee examined several alternative transportation systems and levels of funding and chose the Livability Approach. It calls for continued preservation and maintenance of the highway system and increased expenditures for other modes of transportation.

The Oregon Transportation Commission held a public hearing on the plan on August 25 in Bend and adopted the Policy and System Elements on September 15 in Roseburg. The financing program and legislation needed to implement the plan will be submitted to the 1993 Legislature.

The Transportation Commission views the policies and the preferred system as a whole as important to serve livability and economic development needs in both urban and rural areas. The commission, therefore, is not prioritizing goals, policies or transportation facilities and improvements.

