



STATE OF THE SYSTEM

2014 REPORT ON OREGON'S
TRANSPORTATION SYSTEM

PHOTO CREDITS

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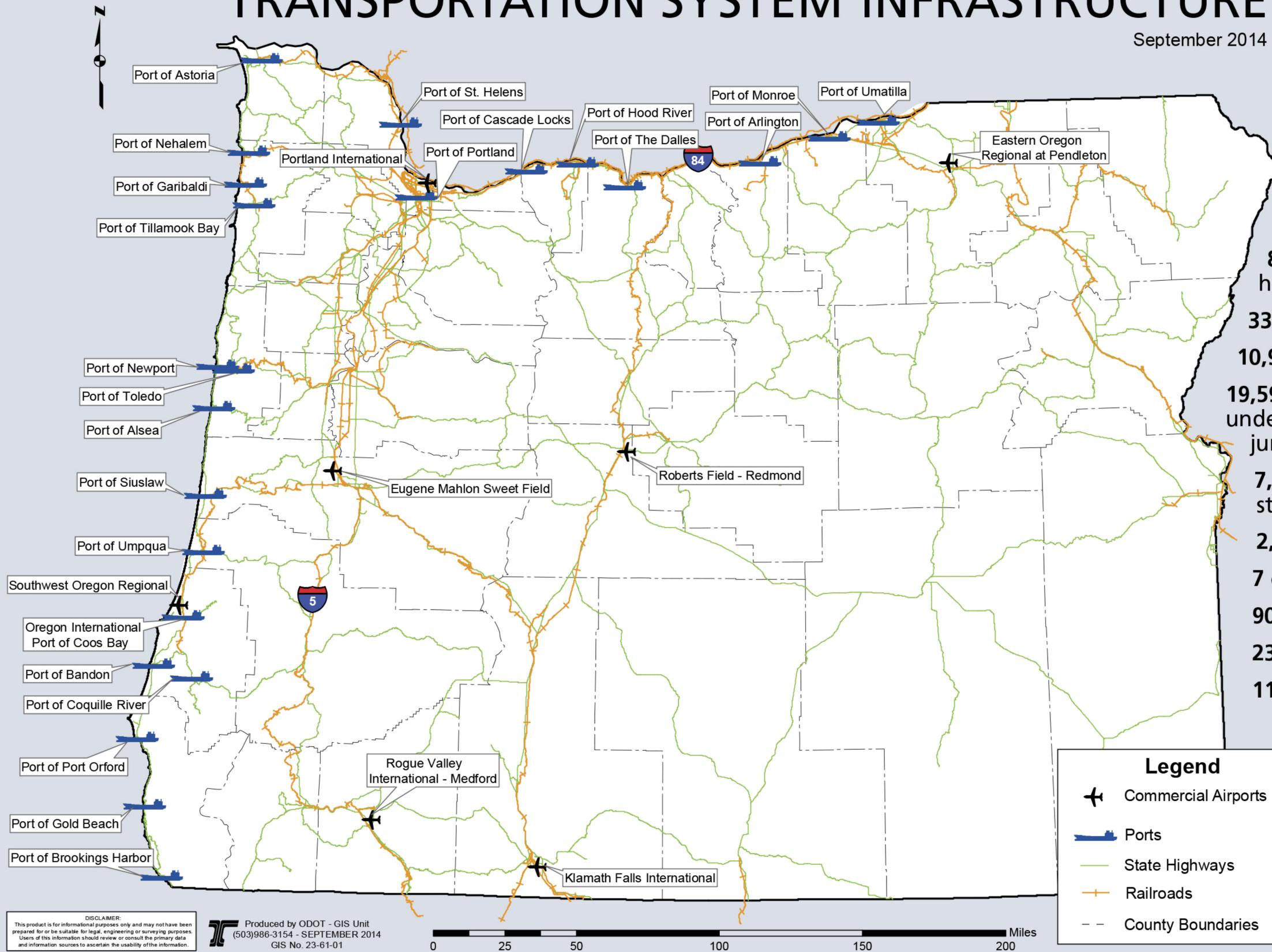
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STATE OF OREGON TRANSPORTATION SYSTEM INFRASTRUCTURE

September 2014



THE NUMBERS

- 71,671** total miles of highways, streets and roads
- 8,029** miles of state highways
- 33,117** miles of county roads
- 10,934** miles of city streets
- 19,591** miles of "other roads" under other state and federal jurisdictions
- 7,656** total bridges statewide
- 2,369** miles of rail track
- 7** commercial airports
- 90** public use airports
- 23** marine ports
- 11,000+** public transit stops

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0 25 50 100 150 200 Miles

Legend

- Commercial Airports
- Ports
- State Highways
- Railroads
- County Boundaries

Due to space and scale limitations, only some transportation system infrastructure is shown. Many other important transportation facilities play critical roles at local and regional levels.

Sources: ODOT Transportation Data Section, 2013 Oregon Mileage Report; FHWA; ODOT Rail Division; ODOT Public Transit Division

INTRODUCTION

AN OVERVIEW OF OREGON'S TRANSPORTATION SYSTEM AND WHY IT'S IMPORTANT FOR OREGON

Oregon's transportation system is a multibillion dollar collection of public and private assets that facilitates the safe and efficient movement of people and goods into, out of and around the state. The system includes airports, freight and passenger rail, public transportation, marine ports, state highways, county roads, local streets, bridges, pedestrian walkways, bicycle paths and other facilities. The transportation system serves important functions for all Oregonians and visitors – employees commuting to work, children going to and from school, farmers shipping crops to market, businesses receiving materials for use in manufacturing, high-tech manufacturers sending their products across the globe, consumers buying groceries at the local market – it touches all of our lives. The better the transportation system works, the better it supports Oregon's economy and livability.

PURPOSE OF THE STATE OF THE SYSTEM REPORT

Every two years the State of the System report provides key information about how Oregon's transportation system is performing in relation to the seven goals of the Oregon Transportation Plan (OTP). The report aims to increase awareness of the state's transportation assets and the significant trends and challenges affecting the system. The

report provides a statewide high level look with emphasis on the portion of the system managed by the Oregon Department of Transportation (ODOT).

THE OREGON DEPARTMENT OF TRANSPORTATION AND ITS ROLE IN THE SYSTEM

ODOT, known until 1969 as the State Highway Department, began in 1913. In 1919, Oregon became the first state to enact a tax on fuel to fund road building, so the agency could "get Oregon out of the mud." Today the agency is organized to better address an intermodal transportation system. ODOT's mission, "to provide a safe, efficient transportation system that supports economic opportunity and livable communities for Oregonians," guides the agency's work. That mission encompasses transportation planning, developing, managing and maintaining the state highway system, transportation safety, rail safety, licensing and regulation of drivers, motor vehicles and motor carriers, assistance to public transportation providers and more.

Local governments and other transportation providers have an equally important role in Oregon's transportation system through the development and management of county roads and city streets, bicycle and pedestrian facilities, public transportation services, airport, rail and port infrastructure, forest service roads and other services.

*ODOT's Mission:
to provide a
safe, efficient
transportation
system that
supports economic
opportunity and
livable communities
for Oregonians.*



TRENDS AFFECTING OREGON AND ITS TRANSPORTATION SYSTEM

A number of major trends and issues are impacting state agencies, counties, cities and other transportation providers across Oregon. Some of these are long-term trends introduced in earlier editions of the State of the System report, while others are new conditions that significantly impact transportation in Oregon.

→ Economic trends

Oregon's economy relies on technology-based businesses, service-related industries, forest products, agriculture, manufacturing and other sectors, all of which require a range of transportation services for workers, products and service delivery. Initial economic recovery from the recession was characterized by slow progress both in Oregon and nationwide. The state experienced improving economic growth in 2013 that has continued through 2014. The Oregon Office of Economic Analysis expects "stronger job growth in the state coupled with stronger population gains" to result in faster rates of labor market improvement in Oregon than expected nationally. In addition to providing a framework to support economic activity, transportation investments help spur job creation and retention through construction and infrastructure projects.

→ Aging infrastructure

Oregon's transportation infrastructure is getting older and more expensive to maintain, preserve and expand. Many important structures such as bridges, interchanges, locks and jetties are between 50 and 80 years old. Increased maintenance investments are necessary to keep older facilities safe and operational. Because there are so many structures, Oregon needs to invest a significant portion of resources in maintenance and preservation of facilities to avoid more costly reconstruction later on.

→ Aging population

Oregon has proportionally more Baby Boomers than U.S. states on average and continues to be an attractive destination for retirees. While retirement is associated with lower levels of travel than earlier life phases, Boomers are expected to be more active as they age than their predecessors. However, in Oregon less of this activity is likely to be associated with work, since Boomers here have a lower labor force participation rate than the national average for that age cohort. Geographic differences within the state also appear when looking at this group. The U.S. Census Bureau American Community Survey shows that in 2012 those aged 65 and older represented a larger share of rural populations in Oregon (21 percent) than urban populations (under 14 percent).

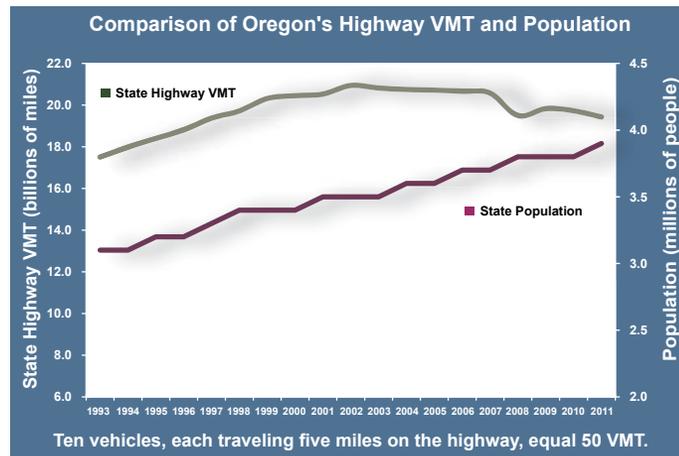
→ Increasing population

Oregon's population growth is starting to recover from its recessionary slump. Much of the upswing in population growth comes from in-migration. Net in-migration accounted for approximately two-thirds of the state's population growth in 2013, and is expected to account for most of Oregon's growth in the next twenty years. Oregon's population is expected to increase over 27 percent between 2013 and 2035, creating new and continuing challenges for the transportation system. Most of the growth will take place in the urban areas of the Willamette Valley, Bend and Medford.

Since 1990 the population of Oregon's urban areas has increased 54 percent compared with an increase in rural areas of 11 percent. Nearly two-thirds of the population growth in rural areas occurred in Washington County.

→ Changes in vehicle miles traveled

The total number of vehicle miles traveled (VMT) is one measure of demand on the highway system. For decades, VMT numbers were on an upward trend due to increasing population and increasing participation of women in the labor force. Beginning in 2003, state highway VMT began to decline slightly, with a more pronounced decline occurring in conjunction with the recent recession. Nationally, total VMT started to grow again in 2012, albeit slowly. Oregon highway VMT was essentially flat in 2012 and began to increase slowly again in 2013, growing at a rate similar to population growth.



→ Active transportation and public health

Increasingly people are making the connection between the built environment, transportation options and public health. The phrase “active transportation” refers to sustainable, multimodal transportation solutions that connect people to where they need to go, such as work, school and essential services, using “active” modes such as walking and bicycling. Increasingly, communities are interested in providing active transportation options

to support healthy lifestyles, fight obesity and provide opportunities for those who choose not to or cannot drive a car.

ODOT and the Oregon Health Authority (OHA) are working together to encourage and support communication and planning, encourage safe and active transportation, collaborate on research and data analysis and leverage opportunities as they arise. The two agencies are also working together to expand understanding of the interactions between health and transportation by coordinating discussions between ODOT’s local Area Commissions on Transportation and the OHA Healthy Community Coalitions.

→ Concern about climate change and the environment

The travel of Oregonians and the movement of goods consumed by Oregon households and businesses produce about a third of all greenhouse gas (GHG) emissions in the state. Reducing emissions from transportation sources can make a sizable contribution to reducing climate change impacts in Oregon. In response to concern about climate change the legislature took action. ODOT and the Department of Land Conservation and Development (DLCD) are helping metropolitan areas explore methods of transportation GHG emissions reduction at the local level. Beyond reducing GHG emissions, these strategies appear to lead to other benefits, including improved health, cleaner air and a more efficient transportation system. Oregonians are also concerned about other impacts on the environment. This includes protecting wetlands, waterways and air quality and inhibiting invasive species. Transportation projects have to address all of these considerations on an ongoing basis.

Trends that may impact future travel behavior...

Many interacting elements reflect the difficulty of predicting the potential impacts on travel patterns and demand:

- Baby Boomers are aging, with Oregon Economic Analysis forecasts predicting that those over 65 years old will increase from 14 percent to 23 percent of Oregon’s population between 2010 and 2050.
- Many in the Millennial generation have delayed getting driver’s licenses.
- National studies suggest that climate change could impact future population growth such as in-migration to Oregon, particularly the Willamette Valley, as a result of more severe weather and drought in other areas of the country.



→ **Expanding safety and security objectives**

Because the transportation system is critical to the movement of people, goods and emergency services, adequate protections need to be in place to ensure that the system will function given potential natural or manmade hazards. Ideally, Oregon needs to be able to respond to emerging safety and security issues and be prepared for sudden events so that safety and mobility are managed effectively. Oregon continues to make strides in traffic safety as measured in reduced injuries and fatalities.



THE OREGON TRANSPORTATION PLAN AND ITS IMPLEMENTATION

In 2006, the Oregon Transportation Commission (OTC) adopted an updated Oregon Transportation Plan (OTP), the state's long-range multimodal transportation plan. ODOT and others have been implementing the OTP since that time. The State of the System report is based on the OTP as the Plan provides a vision for the future of Oregon's transportation system.

The OTP considers all modes and jurisdictions of Oregon's transportation system as one integrated system and addresses the future needs of transportation in Oregon through 2030. The seven goals of the OTP (with associated policies and strategies) are aimed at guiding the actions, investments and other key decisions of state and local agencies, regional and local governments and transportation providers.

THE SEVEN OTP GOALS

Goal 1 – Mobility and Accessibility: Providing an integrated multimodal transportation system that ensures the ability to move into, out of and throughout the state with connections between modes of transportation.

Goal 2 – Management of the System: Managing transportation infrastructure and its operation efficiently.

Goal 3 – Economic Vitality: Promoting Oregon's economy through an efficient and effective transportation system.

Goal 4 – Sustainability: Providing a transportation system that balances environmental, economic and community objectives now and in the future.

Goal 5 – Safety and Security: Protecting Oregonians and the system from natural and manmade hazards.

Goal 6 – Funding the Transportation System: Striving toward a flexible funding structure that meets needs.

Goal 7 – Coordination, Communication and Cooperation: Working effectively with all parties.

In this report, the core section headings match the seven OTP goals. Each section begins with the summarized OTP goal. To find the complete goal language as well as the supporting policies and strategies, please refer to the OTP website: www.oregon.gov/ODOT/TD/TP/pages/otp.aspx



GOAL 1

MOBILITY AND ACCESSIBILITY

Provide a balanced, efficient and integrated transportation system that ensures interconnected access to all areas of the state, the nation and the world. Promote transportation choices that are reliable, accessible and cost-effective.

An effective transportation system provides for the safe and reliable movement of people, services and goods. This section primarily addresses the movement of people in Oregon; freight mobility is discussed in greater detail in Goal 3, “Economic Vitality.”

Mobility is the ability of people to travel from one place to another safely and efficiently. Accessibility means ensuring that Oregonians can reach their destinations and that they have choices for their means of transportation whenever possible. Accessibility is more than being able to drive a vehicle. It includes availability of public transportation by bus or rail within cities, alternatives for travel between cities and special transportation services for senior citizens and people with disabilities. It also includes access to facilities supporting travel by foot, bicycle, wheelchair, scooter or other means.

An integrated transportation system with diverse options and seamless transfers between modes is important for Oregon’s future – both to facilitate travel choices and economic activity in the good times and to foster economic recovery in the bad times. Oregon’s current transportation infrastructure has inadequate capacity and the system often lacks the transportation options that Oregonians need today. With Oregon’s population expected to increase by over 27 percent from 2013 to 2035, the demands on this system will only increase.

CHALLENGES TO MOBILITY AND ACCESSIBILITY

- Highway congestion continues to increase and last for longer periods of time.
- Funds for expansion and maintenance of roadways have been decreasing relative to real dollars.
- Oregon’s goal of a seamless network of walking and bicycling routes within cities and urban areas remains incomplete;

almost 40 percent of urban highways still lack basic walking and biking facilities.

- The economic recession that gripped the nation after 2009 caused a 25 percent decrease in freight traffic on Oregon's main north-south rail line; as the economy rebounds freight train numbers have been increasing, causing increasing passenger train delays.
- Travelers between cities often lack travel options beyond a private automobile. This limits mobility for Oregonians. Choices are improving but continued investment in connectivity and travel choices is needed.
- Local communities and transit districts provide public transportation services but have difficulty securing adequate funding to replace vehicles in a timely manner. Over half of Oregon's 2,000 public transit vehicles will need replacement over the next five years to bring the fleet within the federal replacement standard.
- Access to commercial air service remains a challenge in many of Oregon's rural areas.

Responses to these issues, trends and conditions must be managed on several fronts and require innovative decisions. These decisions must prepare Oregon for the future, balancing the use of limited funds on solutions for urban, rural and freight mobility needs while also addressing mode choices for Oregonians.

HIGHWAY CONGESTION

Improvements to Oregon's highway infrastructure are expensive, and given limited resources it is necessary to be strategic in all investment decisions. There are alternatives to consider to help address highway congestion, especially in urban areas. These include improvements to public

transportation services and technologies, bicycle and pedestrian facilities, as well as increased rates of carpooling, vanpooling and telecommuting. Measures that reduce single-occupancy auto trips are often less expensive and can be as effective at reducing congestion as roadway expansions, but these approaches also have limitations.

TRANSPORTATION OPTIONS

Transportation options strategies, programs and investments enhance the choices available to travelers to take transit, share rides, bike, walk or telecommute. Such strategies can lead to benefits such as more efficient use of the existing transportation infrastructure, more choices for those unable or who choose not to drive and more support for community health goals – such as through increased opportunities for physical activity and decreased emissions. Reducing trips can help save both traveler and taxpayer dollars.

WALKING AND BICYCLING

Oregon continues to be a leader in bicycling and walking, and is consistently listed as one of the most bicycle and walking friendly states in the nation. Ten Oregon cities have been named as bicycle friendly communities by the League of American Bicyclists. The US Census 2011 American Community Survey reports that Oregon has the highest mode share of bicycle commuters in the nation, with 2.3 percent of commuters traveling by bicycle, and Oregon is eighth in the nation for mode share of walking commuters with 3.9 percent of commuters traveling by walking.

In 2011, ODOT published a Bicycle and Pedestrian Design Guide. The Guide takes into consideration the importance of good design, location and context, recognizing that inadequate or poorly sited facilities discourage use. The



Continued investment in connectivity and travel choices is needed.



guidelines apply to all state highway projects and can also be used at the local level. ODOT is currently updating the long range Oregon Bicycle and Pedestrian Plan which will provide a vision and a policy framework for decision making and investment strategies within the context of the transportation system as a whole.

PUBLIC TRANSPORTATION

Oregon's public transportation system providers, both large and small, deliver over 141 million annual trips across the state. A fleet of more than 2,000 publically owned transit vehicles serve Oregon; about 800 in the Portland Metro area, 400 in other urban systems and 800 around the state in rural communities. ODOT resources helped purchase about half of the vehicles. The lack of stable funding means that existing transit service cannot grow to address demand in terms of hours of service, frequency of service or additional routes. Transit systems in Oregon increased their ridership each year until 2012 when large systems had to constrict services due to reductions in local tax revenue and exhaustion of capital reserves caused by the recession. Even though the recession has caused cuts in public transportation services, important new urban and rural investments are being made in public transportation infrastructure through federal and state resources, including the *ConnectOregon* multimodal investment program.

Public transportation trip planning information has become more readily available in Oregon. TriMet has been a world leader in the development of the multimodal open source Open Trip Planner. ODOT and transit agencies around the state have been creating and maintaining General Transit Feed Specification (GTFS) data for Oregon fixed route transit service. GTFS combines information on regularly scheduled public transportation services, allowing data to be shared

and integrated in multiple ways. As of spring 2014 there were 43 Oregon transit services with publicly available GTFS data. This data allows applications like Google Transit to provide useful transit itinerary planning services and information to the public.

INTERMODAL CONNECTIONS

Integrated hubs that serve more than one mode can contribute to linking services for passengers. About a year ago the Salem train depot developed into an intermodal hub. This depot now serves rail as well as three intercity bus providers and links to Salem's local public transportation service, provides bicycle facilities and has improved pedestrian access.

In Bend, Hawthorne Station is a new intermodal center that helps people figure out how to get to where they want to go. The station provides access to several fixed route intercity bus services, one of which can take a person to Amtrak service in Chemult, the community college in Bend as well as intracity transit services.

PASSENGER RAIL

Passenger rail service in the Pacific Northwest has been growing in popularity, fueled in part by cooperative efforts of Oregon and Washington.

Oregon purchased two new passenger train sets that began service in January 2014. The addition of the new train sets enables Oregon to keep schedule commitments and take a more active role in shaping passenger rail service in Oregon.



GOAL

MANAGEMENT
OF THE SYSTEM

2

→ Improve the efficiency of the transportation system by optimizing operations and management. Manage transportation assets to extend their life and reduce maintenance costs. ←

Stewards of Oregon's transportation system continually look for ways to improve effective management of the system on a day-to-day basis as well as for the long term. Efforts to improve operations aim at getting the most out of existing transportation infrastructure in Oregon. These include operational efficiencies that help traffic move more smoothly, and asset management to prolong the life of the infrastructure. Preservation of existing infrastructure is the highest funding priority in order to protect the significant investments that built the transportation network.

SYSTEM OPERATIONAL EFFICIENCIES

Highway system operations encompass many different activities that inform the traveler, improve traffic flow and provide information regarding travel alternatives. Tools used on Oregon highways such as ramp metering, traffic signal coordination, variable speed limits, the Green Light preclearance program for weighing trucks in motion, incident management programs and traveler information services, among many others, make the existing system safer and more efficient. These tools also help reduce congestion, improve travel times, reduce emissions and fuel use and provide other system and traveler benefits.

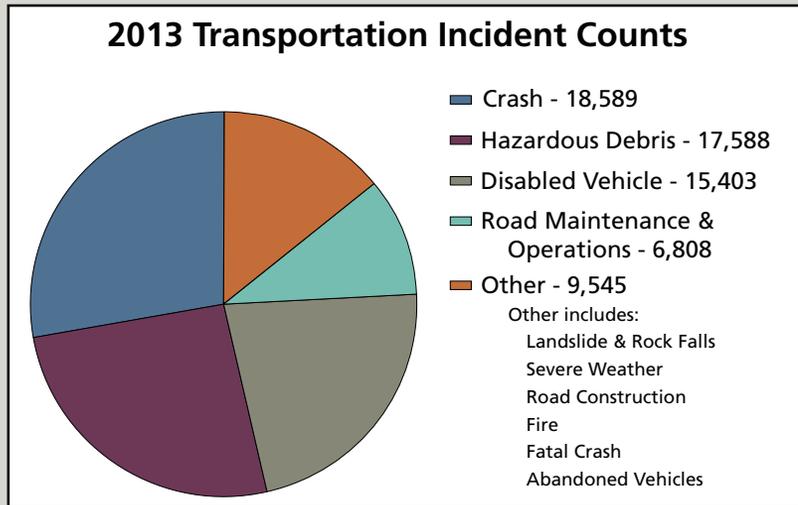
One strategy for congestion relief is real time information. This is "decision quality" information that transportation system users can access, understand and act on to choose the most efficient modes and routes. Timely and detailed information about traffic incidents, weather, construction activities, transit and special events all aid in improving travel time predictability, enable better travel choices and reduce congestion.

Another strategy for congestion relief is to provide travel choices or to shift travel to less congested times of the day. ODOT encourages the use of carpools, vanpools, park-and-ride facilities, telecommuting, flexible work schedules, public transportation, bicycling and walking to carry out this strategy.

Traffic Incident Management (TIM) is a multi-disciplinary process to detect and clear traffic incidents, restoring traffic flow as safely and quickly as possible. The effectiveness of TIM response directly impacts roadway reliability and the safety of motorists, crash victims and emergency responders.

ODOT REALTIME

Oregon Highway 217 currently experiences traffic congestion during peak commute times because of high density traffic and crashes. Frequent merging and exit patterns and high traffic volumes on OR 217 contribute to higher than normal crash rates and delays.



Tracking events and responses is an important aspect of managing system operations when you consider that such non-recurring events cause about 50 percent of total traffic delay. With the exception of "Road Construction" all events shown are responded to by ODOT Maintenance personnel, including but not limited to, Incident Response staff.

OR 217 is one of the first roads in Oregon to receive ODOT RealTime signs, part of an ODOT program that uses the latest information technology to keep everyone moving safely. The ODOT RealTime signs have been installed throughout the OR 217 corridor and on key local streets. When in use, information on ODOT RealTime signs will be updated every 20 seconds, providing information for motorists as conditions change.

TRAVEL INFORMATION SYSTEMS

TripCheck, a travel information system, provides a means for delivering critical information to travelers. People can make better traveling choices based on information from ODOT's website, TripCheck.com, or use the site to select safer routes and avoid adverse weather and road conditions. The same information is available via the 511 phone system and Cable TV systems in various locations across the state. Variable Message Signs and Highway Advisory Radio are also used to deliver information to travelers en route. The *TripCheck* website provides comprehensive information about public transportation options and travel services. ODOT's *TripCheck* system had over 22 million visits in 2013, an average of 1.8 million visits a month. *TripCheck* helps travelers "know before they go," so they can make informed travel choices based on the most current information. And with *TripCheck* Mobile people can have traveler information at their fingertips via handheld devices.

Oregon public transportation providers are making progress in providing information that can help people travel by bus, bicycle, carpool, rideshare and on foot as easily as using a handheld device. Today people can plan trips across more than 40 public transportation services using their internet connected device. Oregon partnered with Washington and



Travel time signs, which display estimated travel times to key destinations so that drivers can plan their arrival time or consider taking an alternate route.

Advisory speed signs, display speeds based on the traffic ahead. The advisory speeds will change as real-time conditions change. These signs give drivers



a heads-up to slow down before they reach a problem area – helping reduce rear-end crashes and the congestion they cause.



Traveler information signs, which alert drivers about crashes, congestion, road conditions, closures and other traffic-related information, giving drivers the ability to make travel decisions in real time.

Green Light Preclearance

Green Light precleared its 18 millionth truck since its beginning 14 years ago. It is estimated that the program has saved truckers 1.5 million hours of travel time and \$175 million in operating costs as they cleared Oregon weigh stations without having to slow or stop. Moreover, according to emission tests, the system has reduced truck emissions, in and around weigh stations. This resulted in trucks emitting:

11,901 pounds less particulate matter,

23,783 pounds less hydrocarbons,

57,095 pounds less carbon monoxide,

190,321 pounds less nitrogen oxides, and

34,096,194 pounds less carbon dioxide.

The program is currently serving 4,192 trucking companies with 33,730 trucks equipped with transponders.

Idaho on a tri-state rideshare matching and trip logging system called, in Oregon, "DriveLessConnect." More than 7,000 users actively participate in the program delivering seven million miles of non-SOV travel in one year.

GREEN LIGHT PRECLEARANCE

The Green Light truck preclearance system uses a combination of high speed weigh-in-motion, an automated vehicle identification device (transponder) and a computer system to weigh trucks at highway speeds. A computer takes in the information, verifies the truck size and weight, checks the carrier's registration and safety records and sends a green light back to the vehicle if the truck is good to go past the weigh station.

ASSET MANAGEMENT, SYSTEM PRESERVATION AND MAINTENANCE

Life cycle management, through maintenance, preservation and replacement of assets, is an essential focus for organizations serving as stewards of Oregon's transportation system. Timely maintenance and preservation activities extend a facility's useful life and help avoid more expensive repairs or reconstruction. An asset management program guides proactive and strategic decision making, looking at specific assets in the context of the system as a whole.

The aging of the transportation infrastructure remains a key factor for management of the system. Significant aspects of Oregon's highway infrastructure assets are near or beyond their expected useful life. These assets include bridges, pavement, tunnels and culverts. Oregon's local jurisdictions and ODOT must navigate the increasing needs of the aging infrastructure while serving an increasing population and more vehicles. Transit fleets and private rail tracks suffer from

similar strains of aging infrastructure and limited resources and also use asset management data to maximize the value of their investments.

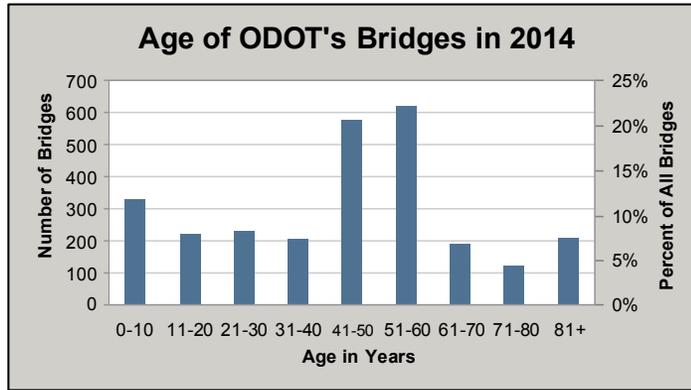
PAVEMENT

The cost for a typical lane mile of highway pavement receiving preservation, rehabilitation or reconstruction treatment ranges from \$200,000 to \$1.5 million. Timely treatments reduce life cycle costs, but when funds do not meet needs, treatment must be deferred. This results in higher costs for repairs when pavement conditions decline.

The gap between pavement needs and what can presently be funded means that increasing miles of pavement will slip from good condition to fair or poor condition, resulting in higher costs per lane mile to rehabilitate or reconstruct the pavement. Since this pattern is expected to continue for the foreseeable future, managers are making strategic choices about where to invest in pavement and other infrastructure with data from asset management systems.

BRIDGES

Due to the age of Oregon's bridge inventory, a disproportionately large group of bridges will require major rehabilitation and replacement within a relatively short period in the coming decades. With limited funding for repair and replacement, some bridges will face weight restrictions or temporary lane closures. These conditions can negatively affect Oregon's economy and inconvenience highway users. The Oregon Transportation Investment Acts (OTIA) enabled Oregon to reduce backlogs in bridge and pavement needs, but the needs continue to multiply. The waves of significant additional infrastructure construction that occurred 50-80 years ago mean a disproportionately large number of bridges



will require replacement or major rehabilitation work to keep them fully functional. Oregon has benefitted from increased investments in critical repairs and improvements to aging transportation infrastructure funded through bonding allowed by the OTIAs and the Jobs and Transportation Act (JTA), but bonds must be repaid. This repayment will further reduce the funding available over the next two decades. The average annual Bridge Program budget will be less than \$50 million as compared to \$80 or \$90 million in the past. Charts on page 32 show the projected trends for state highway pavement conditions and also for the bridge performance measure – number of distressed bridges.

MAINTENANCE

Maintenance includes a variety of important activities that enable safe travel and extend the useful life of highway related assets. Examples of typical maintenance activities and programs include installing or repairing guardrails, maintaining bridges and pavements, improving drainage, managing roadside vegetation, maintaining traffic signals, providing snow removal, sanding roads, providing traffic incident management and responding to emergencies.

When proactive asset management and preservation activities cannot happen under ideal timing, maintenance, activities become paramount. In this circumstance, maintenance activities provide a temporary stop gap and serve to manage the decline of infrastructure. However, funding for maintenance activities is also constrained and impacts levels of service.

RAILROADS

The Federal Railroad Administration established nine levels of track maintenance standards that prescribe the maximum speed for freight and passenger trains across the U.S. Oregon Class I carriers, BNSF Railway and Union Pacific Railroad lines are well maintained. The network of short line railroads faces challenges brought on by aging infrastructure and constrained resources. Short line railroads run on about 1,258 miles of the 2,369 miles of track in Oregon.

AIRPORTS

The Oregon Department of Aviation administers and coordinates a fund known as the Airport Pavement Maintenance Program (PMP). Funds for PMP are derived from aviation gas and jet fuel fees and are dedicated to the evaluation, preservation and maintenance of airfield pavements on public-use airports. Based on a three year cycle for three geographic regions, the department administers all aspects of pavement maintenance work at participating airports. In addition to savings realized from reduced mobilization costs, PMP also saves costs by extending pavement life, thus, extending the time intervals between pavement rehabilitations.

Bicycle and Pedestrian Asset Inventory

Sidewalk ramps on existing state highway facilities were evaluated on whether they met American with Disabilities Act (ADA) requirements. The ramp project found that, primarily due to new increased requirements, there are nearly 17,000 warranted ramps along state highways and that nearly 75 percent of those ramps are in poor condition or missing.

Status of Sidewalks and Bike Facilities along state highways in Oregon

2012

Sidewalk Need	Existing Sidewalks	Sidewalks Complete
1,005 miles	634 miles	63%

Sidewalks are considered necessary along highways with roadside development and not necessary on rural highways.

Bike Facility Need	Existing Bike Facilities	Bike Facilities Complete
1,589 miles	958 miles	60%

Bike facilities include bike lanes, multi-use paths and, under certain conditions, shoulders and shared travel lanes.

Source: ODOT's Bike/Ped Program

GOAL

3

ECONOMIC
VITALITY

Expand and diversify Oregon's economy by transporting people, goods, services and information in safe, energy-efficient and environmentally sound ways. Provide Oregon with a competitive advantage by promoting an integrated freight system.

Oregon's economy is diverse, relying on forest products, agriculture, manufacturing and technology-based industries. Exports led the state toward recovery from the Great Recession, reaching nearly 98 percent of their 2008 value by mid-2014. Over the past year, exports have increased to all but five of Oregon's top 25 destination markets, and exports to Canada are currently at an all-time high. This underscores the importance of maintaining and improving transportation facilities and services to help Oregon businesses reach markets and conduct business nationally and internationally in a competitive manner.

Oregon's reliance on trade has declined somewhat, with exports now accounting for just under 8.5 percent of state Gross Domestic Product (GDP). This has occurred because other parts of the economy have grown faster than export sectors. Service sector jobs have led recent growth, including professional and business services, health services and leisure and hospitality industries. In Oregon, these three industries gained 21,100 jobs in the past year, accounting for 50 percent of all job gains in the state during this period. Transportation investments help create and maintain a competitive economic environment for all types of industries and jobs by providing an efficient and reliable system necessary for long term productivity growth and access to labor and customers.





AN INTEGRATED AND EFFICIENT FREIGHT SYSTEM

The movement of freight is vitally important to the economic health of Oregon and the rest of the nation. In 2010, roughly 403 million tons of freight worth about \$253 billion moved on Oregon's transportation system.

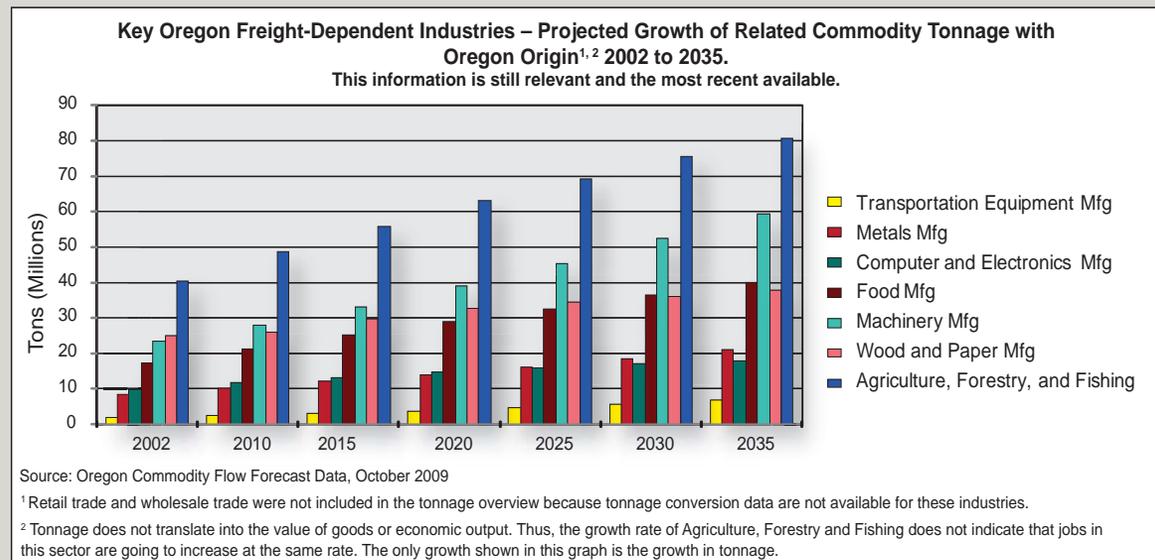
Freight movement relies on an integrated system that takes best advantage of the relative efficiencies of different modes. The choice of mode depends on availability, reliability, cost, the value and weight of the product and many other factors. Oregon's high-value industries tend to have long distance supply chains that require materials from all over the world, and they tend to sell the products globally. They depend on smooth functioning marine, air, highway and, to a lesser extent, on rail. Resource dependent industries, including agriculture, wood and paper manufacturers and mining, rely heavily on trucks, rail and marine transportation and, for perishable goods, on air.

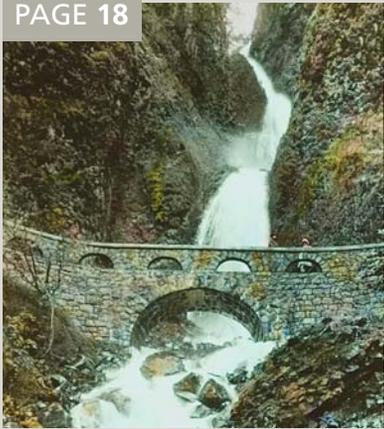
Trucking currently handles the majority of the freight moved to, from, and within Oregon, and the volume of freight transported by truck will continue to grow. Since "just-in-time" delivery requires that few goods be stored on site, shippers need reliable and predictable travel time.

They also need to be able to transfer freight seamlessly between distant areas and different modes of transportation. Constraints for one mode or facility mean additional pressures on all the others.

The Oregon Freight Plan brings together issues affecting all freight modes of transportation and proposes strategies to maximize the efficiency of the system. The plan describes a 25 year vision of a freight system that supports diverse industrial sectors, including traditional resource based industries as well as the newer high-tech sectors. ODOT is currently implementing various elements of the Oregon Freight Plan including development of freight performance measures, identification of highway bottleneck locations, review of oversize load permit projects and consideration of intermodal connector needs.

Please refer to the Freight Plan at: <http://www.oregon.gov/ODOT/ITD/TP/pages/ofp.aspx>





Historic Columbia River Highway – ‘King of the Roads’

The Historic Columbia River Highway, which turns 100 in 2016, is one of the most significant and iconic historic roads in the nation. The highway was celebrated as much for its engineering accomplishments as for its incomparable beauty. It was the first major paved highway in the Pacific Northwest, and it was later designated as a National Historic Landmark. It was the first scenic highway in the United States. It is a top tourist attraction in Oregon.

Replaced by what is now I-84 as the main auto route in the 1950s; several sections of the Historic Highway were destroyed, leaving the remaining sections disconnected and abandoned. Efforts since that time have gone into restoring the historic highway for use by bike, foot and/or car.

OREGON STATE RAIL PLAN

The Oregon State Rail Plan was adopted by the Oregon Transportation Commission in September 2014. The plan was built from the information and findings in the 2010 Oregon Rail Study, a statewide assessment of passenger and freight rail conditions that documented infrastructure, operations, corridors at risk of abandonment, future commodity flow projections and the freight and passenger outlook for the next 20 years. A public process was used to develop a comprehensive State Rail Plan that sets forth policy for freight and passenger rail, including commuter rail. The plan also identifies statewide rail goals and policies and presents strategies to enhance rail service in Oregon that benefits the public, including improved connectivity to other modes of transportation. The plan provides an investment decision making framework to help identify and prioritize projects that benefit the public, while also keeping in mind other rail stakeholder interests and relative contribution. This is particularly important because the majority of rail lines are in private ownership, except several short lines that are owned by cities, counties or port authorities in Oregon.

MARINE PORTS

Oregon’s location along the Pacific Ocean and the Columbia-Snake-Willamette River system provides valuable links for waterborne freight movement and commerce. There are 23 ports, which includes 5 deep-draft marine ports and 4 shallow-draft marine ports. Marine ports face a number of challenges that need to be addressed. Of particular importance is maintaining appropriate depths via dredging that will ensure sufficient vessel accessibility. The current trend of increased vessel size will necessitate multiple improvements at Oregon’s ports such as: dock improvements at both public and private terminals, additional anchorage capacity and stern buoys,

and channel width improvements and radii changes. Further information on this can be found in the 2010 Statewide Port Strategic Plan, developed by the Oregon Business Development Department. 2010 Statewide Port Strategic Plan: <http://www.oregon4biz.com/assets/docs/IFA/2010PortPlan.pdf>

COMMUTERS AND LOCAL BUSINESSES

Individuals and businesses value travel time reliability and predictability. Slow commute times and congestion impact economic vitality. It is critical to businesses and consumers that the costs associated with moving commodities and delivering services are kept as affordable as possible. Increased population and economic growth will increase infrastructure needs and congestion. Increased congestion may slow the movement of goods and decrease reliability, affecting Oregon businesses, residents and visitors to the state.

TRANSPORTATION AND TOURISM

Transportation and tourism are natural partners in the state’s economic vitality. Oregon’s tourism industry is one of the state’s largest industries contributing \$3.5 billion to the state’s GDP. This GDP level ranks tourism in the top three export-oriented industries in Oregon’s rural areas. Total direct travel spending in Oregon was \$9.6 billion in 2013. This represents a 4.1 percent increase over the preceding year. In 2013, the travel industry supported nearly 94,000 jobs with earnings of \$2.3 billion. This equates to a 2.9 percent increase in jobs and a 4.5 percent increase in earnings over 2012.

Passenger air travel represents an important mode for those visiting Oregon and is vital to the state’s tourism industry. Recent data suggests a rebound to pre-recession levels in passenger air travel with U.S. Domestic air arrivals of 2.9 million passengers in 2013; a 4.9 percent increase over the 2012 visitor total.

Many visitors travel throughout Oregon to enjoy its natural beauty. Oregon has more National Scenic Byways, All-American Roads and State Tour Routes than any other state in the nation. Recent Travel Oregon research shows “taking a scenic drive” as the second most popular activity among Oregon overnight visitors; overnight travelers spend an average of \$252 per person per trip while in Oregon. Money spent on tourism directly benefits businesses and the communities along the route, often in rural areas.

The Oregon Bicycle Tourism Partnership is a public-private partnership that shares information and resources to support bicycle tourism in Oregon. Activities that have grown out of the partnership include the Oregon Parks and Recreation Department’s Oregon Scenic Bikeway Program, which assesses, designates, signs and supports the best bike rides in Oregon. To date, twelve Oregon Scenic Bikeways have been designated, totaling over 860 miles.

OTIA III BRIDGE PROGRAM

In 2003, with the passage of the third Oregon Transportation Investment Act (OTIA III), the Oregon Department of Transportation was tasked with delivering a \$1.3 billion program to repair or replace hundreds of aging highway bridges statewide.

The last bridge in the OTIA III State Delivery Program was opened to traffic in late 2014, marking the completion of one of ODOT’s largest undertakings. In just over a decade, 149 bridges were replaced and 122 bridges were repaired. Motorists throughout Oregon, on interstates and state highways, now enjoy a safer, unrestricted drive because of the updates to aging bridges. These 271 bridges are just 10 percent of ODOT’s total bridges.

ODOT’s philosophy for the bridge program was based on stewardship: Take care of what you have so current and future generations can prosper. The improved network of bridges spurred job growth during design and construction, and helped preserve the highway infrastructure fundamental to Oregon’s economy.

ODOT used innovative methods and processes to deliver the OTIA III State Bridge Delivery Program, such as bundling nearby projects so local firms across the state could compete for contracts. Bridge program spending kept Oregonians employed and dollars local:

- \$1 billion earned by Oregon businesses and individuals after taxes
- 22,000 jobs created or sustained over the life of the program
- More than 4.5 million total workforce hours
- 75 percent of design consultants were Oregon residents
- 85 percent of the construction workforce were Oregonians
- \$147 million paid to disadvantaged, minority-owned, woman-owned and emerging small business construction and design firms

At peak construction in 2012, there was 14 percent workforce participation for minorities and 11 percent for women, a substantial advance over previous numbers.

2009 JOBS AND TRANSPORTATION ACT

The 2009 Oregon Jobs and Transportation Act (JTA) represents the state’s largest recent long-term investment in transportation infrastructure, putting Oregonians to work while making investments in all sectors of Oregon’s transportation system. The Oregon Legislature increased



Based on recent estimates, about 11.8 family-wage jobs are sustained for every \$1 million spent on transportation construction in Oregon (2012 dollars).



Highway Construction Workforce Development and Diversity

ODOT is striving to meet the needs of the transportation and construction industries by delivering three regional sessions of a Construction and Civil Pre-engineering Technology course for young adults. Particular strategies will be used to recruit and retain underserved and underrepresented populations (e.g. women, Hispanics, African Americans).

At the end of the course students will have additional engineering technology skills as well as an understanding of construction and civil engineering technology occupations, roles and responsibilities, education and work experience requirements and typical career pathways.

vehicle registration and title fees, commercial vehicle registration fees and weight-mile taxes, other vehicle related fees and the gas tax, intending to raise about \$300 million a year in funds for investments in highway safety, congestion reduction, mobility, preservation and more, across all parts of the state. Revenue from the tax and fee increases has so far fallen short of these predictions, thereby reducing currently available funds.

The JTA provides the following allocation of funds:

- Fifty percent a year for Oregon cities and counties to maintain and improve local street systems.
- Fifty percent a year to maintain and improve the state highway system. A portion of this money finances \$960.3 million in bond proceeds for 37 state highway projects to relieve key bottlenecks and address safety concerns and allocations to 14 local government projects in eastern Oregon.

When complete, projects funded by the JTA will improve economic development opportunities, reduce congestion and enhance the movement of freight, and support more livable communities. Twenty-three projects are complete. The remaining projects are underway and are expected to be completed over the next four years. The JTA invests in all transportation sectors including airports, bridges, city streets, county roads, marine ports, mass transit, railroads and state highways.

HIGHWAY CONSTRUCTION LEVELS DROP

As OTIA and the federal American Recovery and Reinvestment Act projects come to completion, the number of state highway related construction projects open to bid has declined. However, JTA construction projects are still active as some of the major projects in the JTA move from design to construction. This construction activity is expected to diminish after 2017.



CONNECTOREGION - MAKING MULTIMODAL IMPROVEMENTS

The Oregon Legislature approved a fifth round of the *ConnectOregon* program in 2013. *ConnectOregon* is aimed at improving transportation connections around the state by investing in rail, marine ports, aviation, public transit and, new in 2013, bicycle and pedestrian projects. The overall investment in *ConnectOregon* leverages over half a billion dollars in other funds and supports multimodal connections and better integrated transportation system components; this in turn improves the flow of commerce and promotes economic development.



ConnectOregon I – V Funding Breakdown			
Mode	Projects Awarded	Funds Awarded	% Funds by Mode
Aviation	60	\$88.7	23.9%
Marine	29	\$62.0	16.8%
Rail	59	\$159.8	43.0%
Transit	27	\$41.6	11.2%
Bike/Pedestrian	4	\$7.3	2.0%
Multimodal*	3	\$11.5	3.1%
	182	\$370.9	100%



The chart total does not include rural airport funds and administrative costs.

*Multimodal projects were identified as proposing specific connections between eligible modes. The funds were utilized to construct facilities for two or more different modes of transportation.

GOAL 4

SUSTAINABILITY

Meet present needs without compromising the ability of future generations to meet their needs from the joint perspective of the environment, economy and communities. Encourage conservation and communities that integrate land use and transportation choices.

Transportation is relevant to many issues that sustainable practices aim to address, such as climate change, environmental stewardship and energy conservation. A sustainable transportation system considers the joint perspective of environmental, economic and community objectives in its development, operation and management. Transportation of all kinds is responsible for more than a third of greenhouse gas emissions.

SUSTAINABILITY, CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS REDUCTION

Oregon's legislature and governors have taken significant actions in response to climate change concerns. The Oregon Sustainability Act (ORS 184.423) passed by the 2001 State Legislature established the state's overall sustainability policy and several subsequent Bills have established greenhouse gas (GHG) reduction targets and actions. In response to legislation passed in 2009 and 2010, the Oregon Sustainable Transportation Initiative (OSTI) was created. OSTI is an integrated statewide effort led by ODOT and the Department of Land Conservation and Development (DLCD) to reduce transportation related GHG while considering ways to improve the built environment for healthier, more livable communities. OSTI also aims to position Oregon to be more resilient and better compete in a changing global economy. The Agencies have collaboratively developed a GHG Reduction Toolkit for local jurisdictions and Scenario Planning Guidelines. As directed by the Legislature, ODOT also developed a Statewide Transportation Strategy, (STS) which was accepted by the Oregon Transportation Commission in 2013. This strategy describes what it would take for the transportation sector to get as close to the legislatively established goal of reducing GHG emissions by 75 percent below 1990 levels by 2050 as is plausible. The STS examines all aspects of the

transportation system including the movement of people and goods on all modes and identifies transportation and related land use strategies effective at reducing emissions. The STS is flexible to allow for solutions that work best for communities, businesses and individuals. It is neither directive nor regulatory.

The STS aligns with the Oregon Transportation Plan and its considerations support planning at the local level. The OTC reviewed and supported a Short-Term (0-5 year) STS Implementation Plan, which supports many of the efforts already underway, and prioritizes the following seven actions:

- Electric Vehicles and Low Emission Fuels
- EcoDriving
- Road User Charge
- Scenario Planning and Strategic Assessments
- Intelligent Transportation Systems
- Transportation Planning and Project Selection
- Stakeholder Coordination

ADAPTING TO A CHANGING ENVIRONMENT

In order to prepare for impacts like sea level rise, flooding, and landslides, ODOT prepared a Climate Change Adaptation Strategy (April 2012). The strategy provides a preliminary assessment of climate change impacts to ODOT's assets and system operations, and underlines the need for vulnerability and risk assessments. ODOT is conducting a regional climate change vulnerability assessment and adaptation options study. This pilot will:

- Assess the vulnerability of highway infrastructure to extreme weather events and higher sea levels
- Inventory and prioritize hazard areas

- Develop a range of options to address potential hazard sites

ODOT's goal is to begin work on a statewide vulnerability assessment in 2015. Lessons learned from the current regional pilot will be instrumental in how the agency conducts this future work.

ODOT's long-term goal is to develop an agency wide Adaptation Plan that will strategically guide the agency's planning, project development, maintenance, operations and emergency response efforts so that the transportation system is better prepared for the impacts of climate change.

CONSTRUCTION AND MAINTENANCE

ODOT utilizes a wide-range of sustainable practices related to materials and management of the transportation system. ODOT is working hard to reduce the need for raw materials, increase recycling, minimize greenhouse gas emissions and promote the use of cleaner technologies. Several standards used in ODOT's innovative Context Sensitive and Sustainable Solutions approach to the OTIA III Bridge Program supported sustainability. One of the standards limited truck idling except in extreme cold weather or when needed for other reasons. A materials standard required contractors to use ultra-low sulfur fuel, bio-diesel, or EPA-verified fuel additives in vehicles and equipment where possible and available. A third standard required tracking of the reuse and recycling of bridge materials. These practices saved money and reduced waste and emissions and have become standard practice for ODOT construction projects.

ODOT continues to successfully implement the award winning Environmental Management Program for its maintenance yards. Average overall compliance for 2013 was 98 percent meeting regulatory requirements for 7 priority 'procedures'. These procedures include fuel, oil, pesticides,



EcoDriving

ODOT developed an EcoDrive education campaign and toolbox. The campaign toolbox contains a suite of materials designed for use by businesses, individuals and local governments to help educate their employees or customers about EcoDriving. EcoDriving is a method of driving which results in improved fuel economy, lower vehicle emissions, less vehicle wear and tear and safer driving. Initial distribution of the materials included printed materials available in all Oregon Les Schwab tire locations, selected Oil Can Henry's locations and offices of AAA of Oregon/Idaho.

COMPRESSED NATURAL GAS PROJECTS

Compressed natural gas (CNG) offers lower greenhouse gas emissions than gasoline or diesel. Five projects located along the I-5 corridor from Portland to Sutherlin will provide CNG fueling stations for a variety of businesses located throughout Oregon. The stations will serve public transit, public fleets and waste haulers.

MORE PROGRAMS SUPPORTING SUSTAINABILITY

An important part of a sustainable transportation system is providing choice and good community access. The Transportation and Growth Management (TGM) Program continues to support community efforts to expand transportation choices for people. By linking land use and transportation planning, TGM works in partnership with local governments to create vibrant, livable communities in which people can walk, bike, take transit or drive where they want to go.

Transit services across the state provide a safe and efficient travel option for Oregonians. For fiscal year 2012, transit ridership increased 3 percent over 2010 numbers. Transit ridership decreased slightly in 2013 because of service reductions due to constrained revenue during the recession. Larger providers are starting to add service back as tax revenues increase.

Historically, Transportation Options (TO) were primarily referred to as Transportation Demand Management (TDM) implementing strategies, policies, and programs with a focus on commute trips and system management. While these elements remain a key part of TO strategies, policies and programs, recent work has expanded the definition of TO to recognize the value of facilitating opportunities to choose

different travel options and meet diverse travel needs. Examples of TO activities include carpooling, vanpooling, park and rides, parking management, traveler information and outreach programs, and “soft” infrastructure investments such as bike racks. Reducing trips reduces GHG emissions and congestion, and providing options typically saves both traveler and taxpayer dollars.

Online services support reductions in GHG emissions by reducing vehicle miles of travel. The Driver and Motor Vehicle Services Division (DMV) promotes such services, particularly vehicle registration renewals. DMV processed nearly 290,000 vehicle registrations online during 2013 – nearly 800 per day. About 20 percent of registration renewals are now done online.



GOAL

5

SAFETY
AND SECURITY

Build, operate and maintain the transportation system so that it is safe and secure. Take into account the needs of all users: operators, passengers, pedestrians and property owners.

Although the definitions of safety and security are closely related, safety within the context of transportation means reducing the risk of transportation related crashes or incidents. Security means reducing exposure to dangers including natural disasters such as earthquakes and floods as well as criminal and terrorist activity. Both safety and security measures include planning, education, engineering, enforcement and emergency responses, and ODOT has a role in each of these areas.

SAFETY

Since 1999, Oregon rates for fatal crashes have been lower than the national average. Based on the most recent published data (2013) the number of fatal crashes continues to decline.

Reducing crashes saves lives and prevents injuries, and also spares families and society needless economic burdens. It is estimated that each traffic fatality costs an average of \$1 million in lost wages, lost productivity and expenses associated with the crashes and death. Each traffic crash injury costs an average of \$50,000 in lost productivity, medical bills, rehabilitation and other expenses.

Transportation safety is a major catalyst for many infrastructure improvements, including ramp meters, variable message signs, rumble strips, crash barriers, new guardrails, left turn lanes and traffic-calming devices like traffic circles and speed bumps. One example of this kind of improvement is connecting automatic rail crossing signals to roadway traffic signals.

As part of its Intelligent Transportation System operations, ODOT maintains electronic systems to monitor a variety of road conditions including high winds, flooding, ice and snow. Road Weather Information Systems (RWIS) are weather stations that use sensors to provide data such as air and pavement temperatures, wind speed and direction, visibility, humidity and precipitation. Maintenance crews use RWIS data to make

winter road decisions, and the data is also shared with the public through TripCheck.com, ODOT's incident and road conditions website.

ODOT works with law enforcement and the entire legal system to make safety a top priority. Regulation of the users of the highway system serves to increase safety and preserve the system. Driver regulation is primarily safety focused - whether via provisional licensing for teen drivers, medical referrals for those that may be driving impaired due to medical conditions or the laws and rules that govern commercial drivers. Work is done to educate Oregon's youth through driver education, community education and training.

Inexperienced drivers are linked to higher rates of crashes and traffic citations. Combining driver education and the graduated driver license program has reduced by almost 57 percent the number of 16-year-old drivers in fatal and injury crashes.

TRANSPORTATION SAFETY IS MULTIMODAL

Railroad Safety

Achieving railroad safety is a cooperative endeavor between the states, the federal government and private rail operators. The Rail Safety Program uses a combination of inspections, enforcement and industry education. It aims to reduce the potential for train derailments and the release of hazardous materials. It also funds the construction of rail crossing safety projects. In recent years, derailments and crossing incidents have declined.

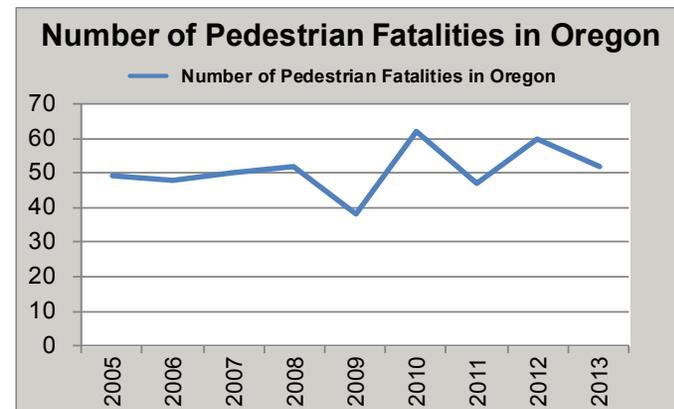
Motor Carrier and Bus Safety

Identifying unsafe vehicles and drivers contributes to the goal of reducing bus and truck-at-fault crashes in Oregon. These crashes tend to have many causes associated with

them. Safe equipment and drivers are just two. The state performed over 52,000 motor carrier inspections in 2013. Most of these inspections were of trucks which resulted in a vehicle out-of-service rate of 20 percent and a driver out-of-service rate of 16 percent. There were over 400 bus inspections; which resulted in a 12 percent vehicle out-of-service rate and a driver out-of-service rate of 7 percent.

Pedestrian Fatalities in Oregon

A record low number of pedestrian deaths occurred in 2009 and a record high for the decade in 2010. Although declines were seen in 2011, pedestrian fatalities were on the rise again in 2012 with 60 deaths, then down to 52 deaths for 2013.



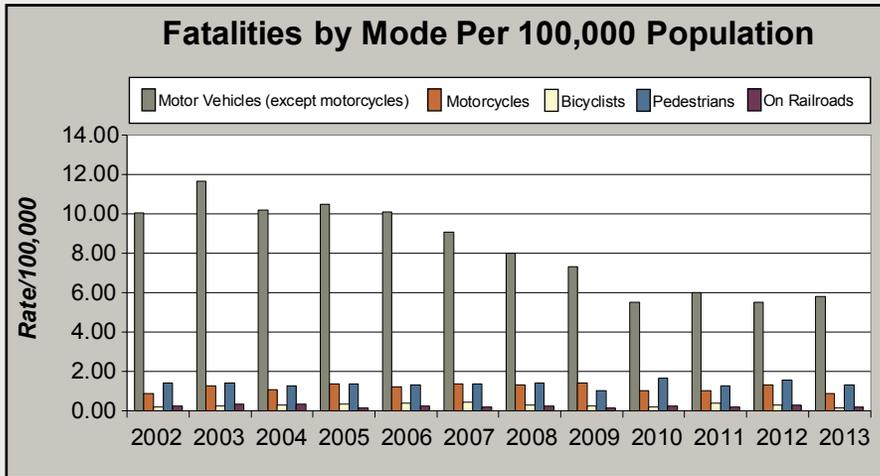
CONTINUING PROBLEMS

While Oregon has made incredible strides in reducing the number and severity of motor vehicle crashes, these crashes continue to inflict a terrible toll. In 2012, 337 people lost their lives, and 36,085 people were injured while on the road. Continued vigilance is necessary:

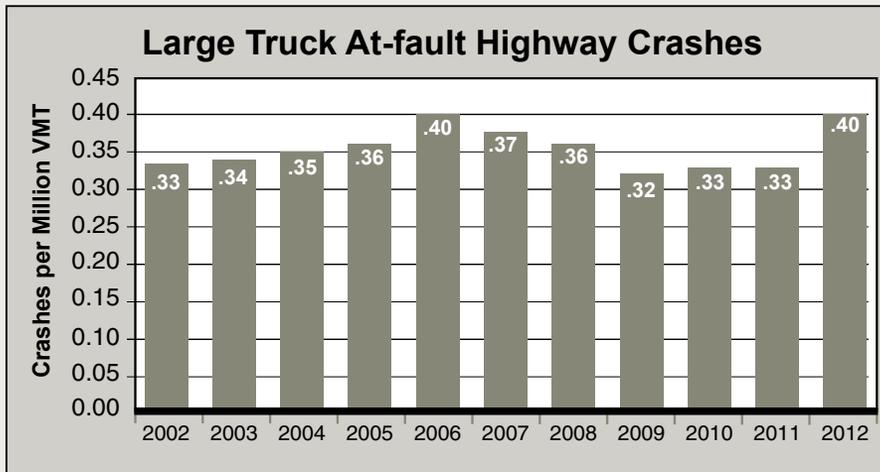
- ◆ Impaired drivers continue to be a menace on the road, contributing to 75 fatalities – 22 percent of the overall total fatalities.

Did you know?

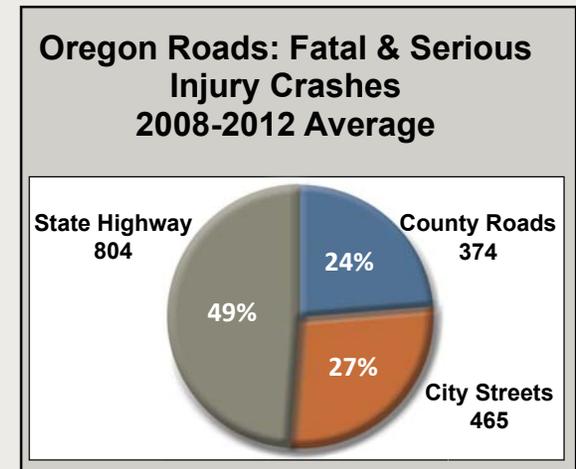
- ◆ In Oregon during the last 10 years, there has been an average of:
 - 510 work zone related crashes
 - 19 work zone related serious injury crashes
 - 9 work zone related fatal crashes
- ◆ Oregon work zone fatalities
 - 2013 – 6
 - 2012 – 6
 - 2011 – 11
- ◆ National work zone fatalities
 - 2012 – 609
 - 2011 – 590
 - 2010 – 576
- ◆ In 2012 work zone fatalities were 2 percent of all roadway fatalities
- ◆ Work zone crashes tend to be more severe than other types of crashes
- ◆ The situation is serious for both drivers and workers
- ◆ Nationally and in Oregon more drivers and their passengers are killed and injured in roadway zone crashes in comparison to workers
- ◆ Four out of five roadway work zone fatalities are drivers and their passengers



Traffic fatalities continue a general decline in recent years. Motor vehicle and motorcycle fatalities were at lowest rates in recent years in 2010. Bicyclist fatalities have followed the same trend over the past four years, but jumped in 2011. Pedestrian fatalities have hovered around 50 per year over the last few years, but dropped significantly in 2009, and then increased to an average of 56 for the 2010-2012 period. Railroads continue low fatality rates.



In 2012, there were 1,248 crashes involving trucks, a 22% increase over 2011, but just one more than 2007. Of these, it was determined that the truck was at-fault in 690 of the crashes, a 27 percent increase. The number of people injured increased by 107 to 534. The number of people killed in these crashes decreased by 7 to a total of 37.



- Speed is indicated as a contributor in 34 percent of all fatal crashes and 16 percent of all injury crashes.
- Unbelted drivers represent typically less than 5 percent of all drivers, but are disproportionately over-represented in fatalities on Oregon roadways.
- Driver education is proven to lower teen crashes and fatalities; a new law, passed in 2013, aims to increase availability of training in underserved areas.

SECURITY

Local, state and federal agencies work together to prepare emergency response plans to effectively respond to a wide variety of emergency scenarios. Driven by a rapid increase in movement of crude oil by rail, in 2014, the Oregon Hazardous Materials By Rail Rulemaking Advisory Committee began meeting to evaluate potential changes to rules and regulations surrounding the issue. A goal of this committee is to increase the availability of information to emergency responders in case of an incident.

IDENTIFICATION SECURITY AND FRAUD PREVENTION

Driver licenses are the most common form of identification requested by businesses and government agencies. DMV helps prevent fraud and identity theft with electronic verification of data presented by applicants for licenses and ID cards, facial recognition software, a fraud prevention and investigation program and security features on license and ID cards.

OREGON TRANSPORTATION SEISMIC VULNERABILITY

In the event of an earthquake and tsunami, a resilient transportation network is necessary for re-establishing critical connections for emergency response, medical and shelter facilities, population centers, energy and communications facilities and freight needs for response and economic recovery. The Oregon Resilience Plan, assessed the seismic integrity of Oregon's multimodal transportation system and characterized the work considered necessary to restore and maintain transportation lifeline routes after a Cascadia earthquake and tsunami. The Oregon Resilience Plan emphasizes the physical infrastructure needed to support business and community continuity. The policy recommendations, if implemented over the next 50 years, will enhance infrastructure reliability, help preserve communities and protect the state economy.

As part of this work, ODOT assessed the vulnerabilities of the highway system, considered links to critical facilities and prioritized routes for investments in improved resilience. The focus of the effort was on preparation for response and recovery from a major Cascadia Subduction Zone earthquake and related events. The result was a recommended "Backbone" system of lifeline routes. The findings were incorporated into an Oregon Highway Seismic PLUS Report that describes the types of retrofits required to address bridge, landslide and other hazards that can be mitigated. Implementation of the Seismic PLUS program would make the state highway system resilient in the face of an earthquake, allowing more effective response and reducing economic impact.

New Safety Laws and Programs

The law banning texting and hand-held cell phone use while driving was modified as of January 1, 2014. Oregon lawmakers increased the penalty for the offense from a Class D (\$250 maximum fine) traffic violation to a Class C (\$500 maximum fine).



In addition to work zone fines being significantly increased 24/7, Oregon enhanced its photo radar law to allow photo radar in ODOT work zones on state highways including interstates. Use of photo radar in ODOT work zones is allowed where workers are present or where the configuration of the roadway has temporarily changed in order to perform the work. Photo radar in work zones has proven to be an effective safety enforcement tool for Oregon.

GOAL

FUNDING THE TRANSPORTATION SYSTEM

Create sources of revenue that will support a viable transportation system today and in the future. Expand ways to fund the system that are fair and fiscally responsible.

The many and diverse elements of Oregon's transportation system are funded through local, state and federal programs, private investments and sometimes a combination of all these sources. Oregon relies heavily on highway user fees to fund highway, road and street improvements across the state. These fees include fuel taxes, vehicle registration and title fees and weight-mile taxes. There is limited funding for non-highway projects.

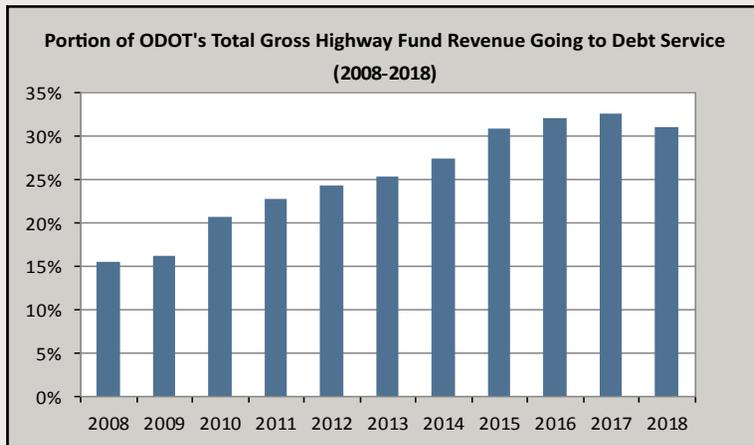
TRANSPORTATION FUNDING TRENDS

The Oregon Legislature and Congress have made significant investments in the state's transportation system in recent years through the three Oregon Transportation Investment Acts (OTIA), *ConnectOregon*, the American Recovery and Reinvestment Act (ARRA), and the Jobs and Transportation Act (JTA). Under these programs ODOT and local governments have completed hundreds of important projects that have improved safety, created a more efficient freight transportation system, preserved critical transportation assets and improved the livability of Oregon's communities.

However, most of these investment packages were one-time infusions rather than long term sustainable funding. ODOT faces long term funding challenges. Growing debt service on bonds, rising construction costs, uncertain federal funding, and growing fuel efficiency in vehicles—all of these forces combine to reduce the resources ODOT will have to preserve and improve the transportation system in coming years. Over the next several years, as the JTA projects reach completion, the agency's construction program will drop off significantly. In the long term the condition and performance of the transportation system will be diminished without a source of significant, sustainable revenue.

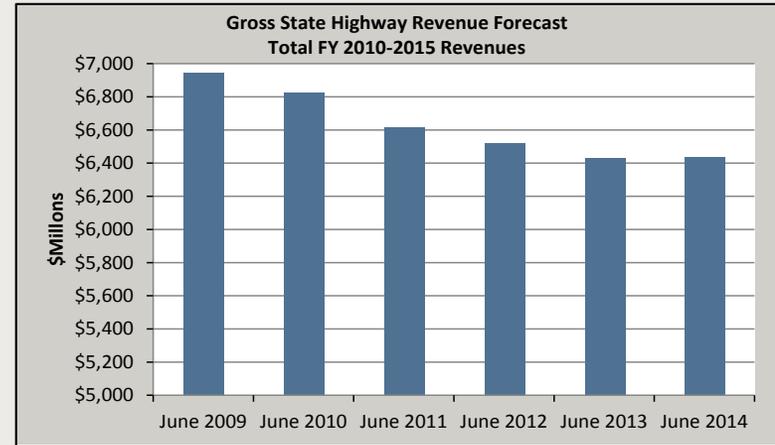
→ **Increasing debt service**

Starting in 2001, ODOT sold bonds to kick off three installments of the Oregon Transportation Investment Act. These investment packages were one-time infusions of spending frontloaded through bonding. A larger amount and share of ODOT funds are now going to debt service which will constrain future spending — reaching over \$180 million annually (about one-third of funds), by 2017. This level of debt service will continue through 2036, reducing funds available for new projects for decades.



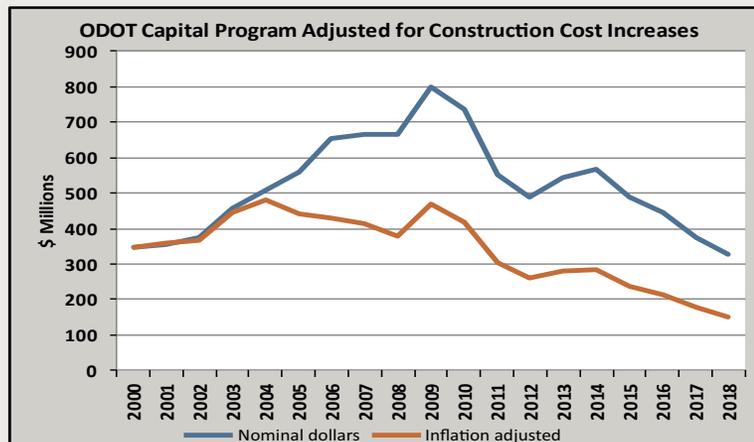
→ **Reduced state revenue projections**

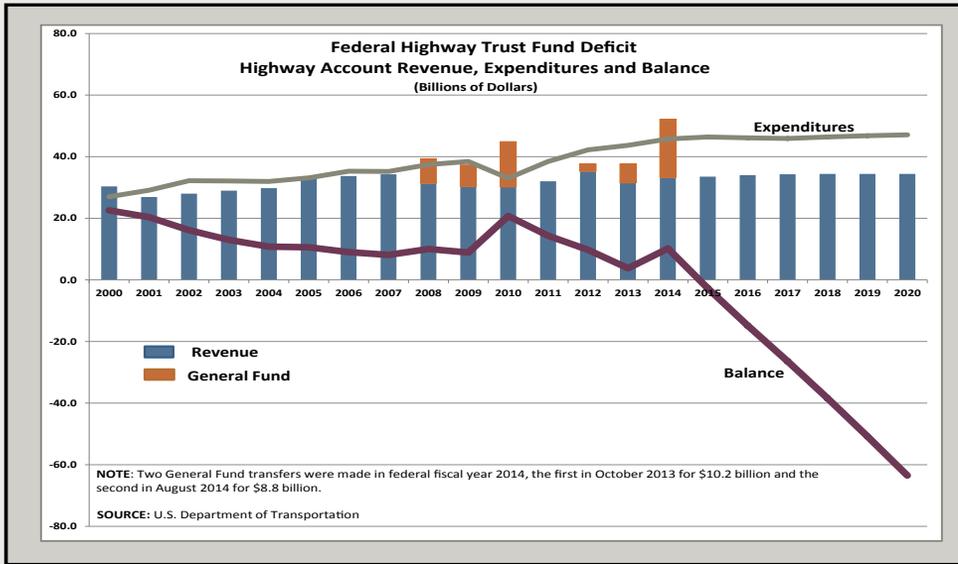
In the past five years, the State Highway Fund has experienced a significant decline in projected revenues because of more fuel efficient vehicles, less driving and slower than expected economic growth. ODOT's revenue forecast in June 2009 projected \$6.9 billion in State Highway Fund revenue from 2010 - 15. The June 2014 forecast showed slight improvement but overall it projects \$507 million less for that same period. The fund is essentially fully committed to debt service, highway maintenance work and agency operations. That means federal money is the main source of funding for highway construction projects.



→ **Increased construction costs**

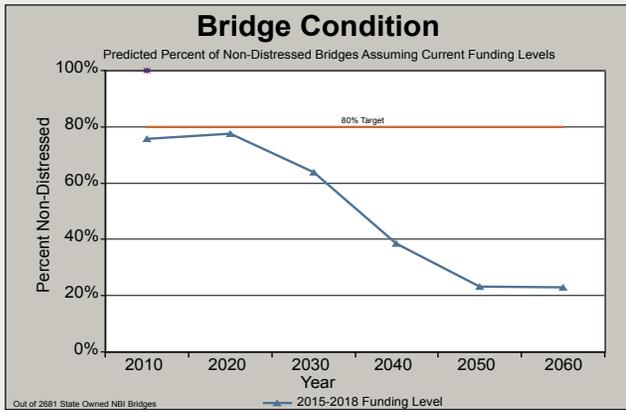
Over the last decade, construction costs have surged; in 2014 costs were nearly 90 percent higher than they were in 2004. Each dollar ODOT spends buys less construction activity than it did a decade ago.





→ **Uncertain Federal funding**

Because Congress increased spending from the federal Highway Trust Fund without increasing its revenues, the Trust Fund is taking in less than it is paying out, thus running a significant deficit. Unless Congress takes action to find additional long-term revenue, federal highway revenue is at risk of being cut by upwards of 30 percent and federal transit revenue being cut more than 60 percent once the surface transportation authorizing bill, MAP-21, expires in spring of 2015. The uncertainty of funding levels beyond the expiration date of this bill impacts state and local plans and programs for future transportation investments.

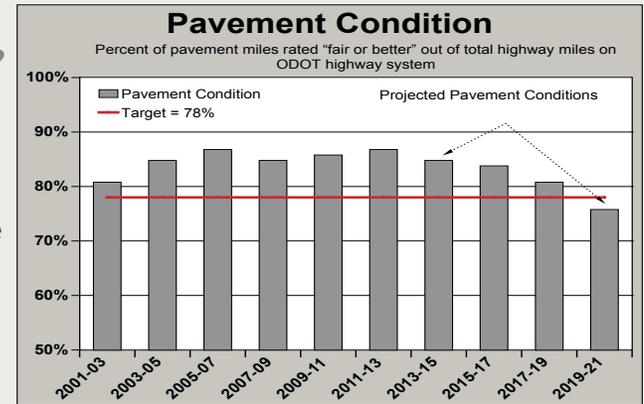


WHAT DOES THIS MEAN FOR OREGON'S TRANSPORTATION SYSTEM?

Higher = Better



These charts show the projected trends for state highway pavement conditions and also for the bridge performance measure – number of distressed bridges. A distressed bridge is a bridge that has deteriorated or has reduced functionality that compromises mobility or safety. Bridges built during earlier decades are a significant part of the inventory and create a bubble of aging infrastructure in need of repair or replacement from 2030 to 2050.



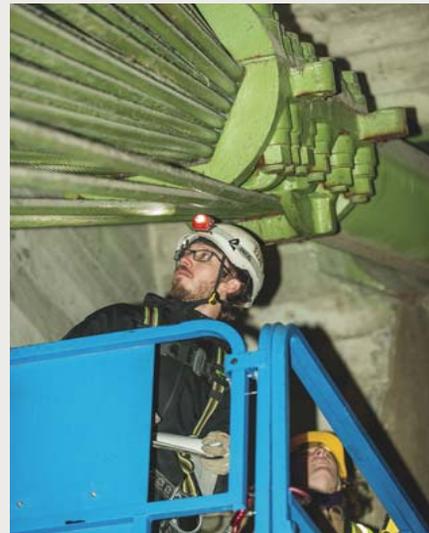
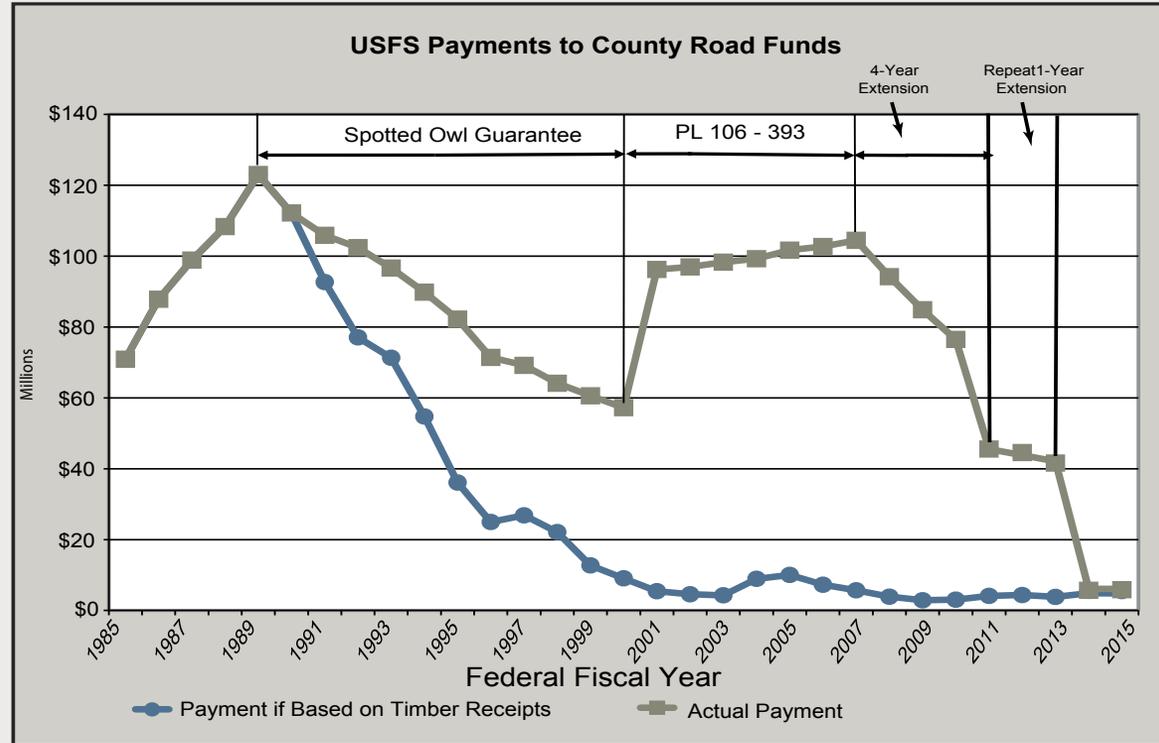
Although pavement and bridges represent some of the most important elements of transportation infrastructure, inadequate funding will impact the condition and performance of the entire transportation system – from culverts and intelligent transportation systems to public transportation and pedestrian and bicycle facilities as well as safety and much more.

FUNDING ISSUES ALSO IMPACT LOCAL GOVERNMENTS

Cities and counties are also seriously impacted by these trends as they receive funds from the same resources as ODOT as well as local revenues and other federal funds. Transportation funding for cities and counties is not keeping pace with maintenance and preservation needs. A 2014 survey, conducted by the League of Oregon Cities found that over the next five years, on average, cities have funding for about 30 percent of their maintenance needs.

A similar survey, conducted by the Association of Oregon Counties, found that over a five year period (2014 - 2018), counties have funding for about 64 percent of their maintenance, repairs, operations and pavement preservation needs. Overall, county transportation is about 46 percent funded.

Of particular note for counties are the payments they have received for most of the last century from the U.S. Forest Service and the Bureau of Land Management which are based on timber receipts. As shown in the graph, due to the rapid decline in timber harvest, the timber receipts to counties dropped to less than 10 percent of previous levels. To compensate the counties, Congress passed legislation providing temporary funds to counties and schools. Unless further legislation is passed, payments to counties will return to 25 percent of timber receipts, a loss of over 90 percent, a major impact on the counties' ability to fund road maintenance and improvements.



Oregon needs to invest a significant portion of resources in maintenance and preservation to avoid more costly reconstruction in the future.



→ Funding for non-highway modes

Funding for rail, public transportation, ports and non-roadway bicycle paths and walkway projects has been intermittent. There is no adequate, sustainable, long term dedicated funding for non-highway projects. The five legislative packages which make up the *ConnectOregon* program, have provided significant investments in non-highway modes. Competition for these Oregon lottery-backed bond funds has been robust. As a result, investments in non-highway modes have been made on a one time, episodic basis, making it difficult to plan for the future or leverage federal investments.

→ Fuel efficient and alternative fuel vehicles

Gas sales have been flat or falling for about a decade, in part because new vehicles are becoming more fuel-efficient. This spells trouble for both Oregon and the federal government, which will collect less in gas taxes. In the long term, the gas tax will not be viable as transportation's major revenue source. The gas tax provides just under half of the money in Oregon's State Highway Fund and the majority of the money in the federal Highway Trust Fund, of which Oregon receives a portion. Federal fuel efficiency standards are scheduled to rise significantly by 2025 when requirements for new vehicles will average over 50 miles per gallon.

DMV SERVICE TRANSFORMATION

The current Driver and Motor Vehicle Services (DMV) mainframe system, which was considered leading-edge in its time, was designed decades before the introduction of the internet, smart phones and online payment options. These legacy systems cannot be adapted to meet many of the expectations of today's customers. DMV is developing a Service Transformation Program plan that, if implemented, will provide improved efficiencies such

as internet based forms and services and digital records access. The goal is to build a system that is less expensive to maintain and update, offering better service and more flexibility and convenience.



OREGON'S ROAD USAGE CHARGE PROGRAM

In 2001, state legislators recognized that hybrid and all-electric vehicles would pay less or no fuel tax, and these vehicles would see increasing adoption. Given this trend, they also recognized that the gas tax was no longer equitable nor a sustainable means of raising revenue for road building and maintenance. A distance-based per-mile charge posed a more viable alternative. The Legislature established an independent Road User Fee Task Force that year to develop recommendations and ultimately design a system for revenue collection to support Oregon's roads and highways.

Oregon tests an alternative funding model

In 2012-2013, ODOT embarked on the Road Usage Charge Pilot Program. It built on lessons learned in the state's first pilot (2007), particularly by addressing the public's privacy concerns, and incorporated the most current technologies for reporting mileage and administering payments.

ODOT will implement the nation's first per-mile charging system

Drawing on the success of Oregon's Road Usage Charge Pilot Program, the state passed legislation (Senate Bill 810) in July 2013 establishing the nation's first mileage-based revenue program for light vehicles. The program, slated for launch July 1, 2015, will engage up to 5,000 volunteers who will elect to be charged 1.5 cents per mile driven in lieu of the state gas tax.

ODOT's implementation of Senate Bill 810 is organized around three primary, interrelated areas:

- Procurement of private sector partners for account management services and technology.
- Recruitment of volunteers for the program.

- Establishment of the internal ODOT organizational systems, processes and framework necessary to work with private sector partners to administer the program and ODOT account management functions to assure the availability of the program elements required by Senate Bill 810.

Going operational in 2015 is not the final goal for the Road Usage Charge Program. The initial cap of 5,000 volunteers will not allow an adequate market opportunity to fully achieve the advantages of an open architecture platform. When sufficient numbers of road usage charge payers enter the program—whether by action of the Oregon Legislature or when other states adopt Oregon's open system platform for their own programs—the market will come alive, reducing system costs and providing competitive services for participants.



GOAL 7

COORDINATION, COMMUNICATION AND COOPERATION

Foster coordination, communication and cooperation between transportation users and providers so various means of transportation function as an integrated system. Work to help all parties align interests, remove barriers and offer innovative, equitable solutions.

Effective coordination, communication and cooperation are critical to the delivery of an efficient transportation system. This includes effective planning and institutional relationships among public and private transportation service providers and those most affected by transportation activities, collectively referred to as stakeholders.

Oregon transportation jurisdictions include:

- 9 metropolitan planning organizations
- 9 federally recognized tribal governments
- 36 counties
- 242 incorporated cities

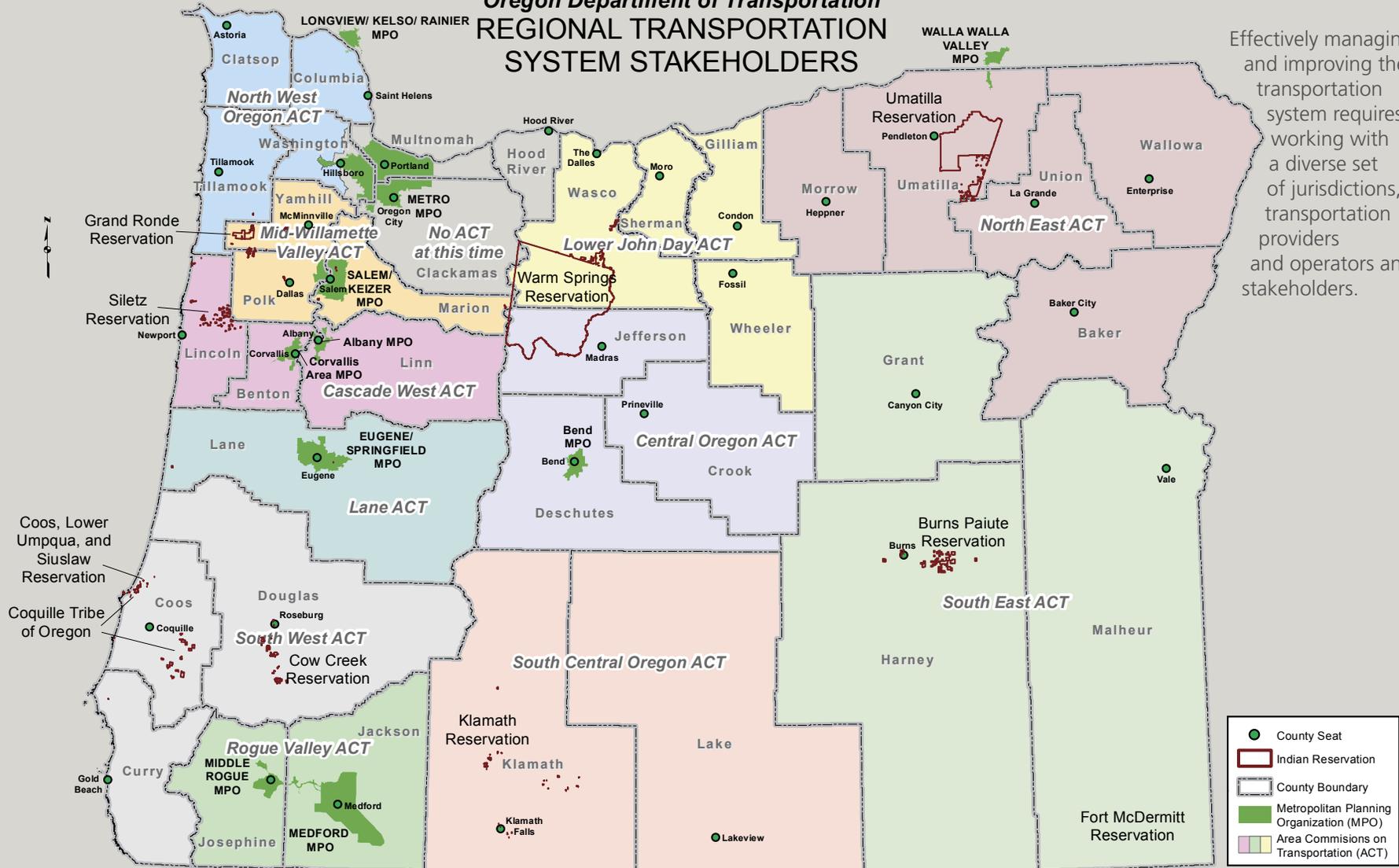
Stakeholder groups include:

- 11 Area Commissions on Transportation (ACTs)
- Business, industry and interest groups
- Community groups and the general public
- Federal regulators and authorities
- Organizations representing local jurisdictions
- Standing advisory committees
- State and Federal agencies
- Special advisory committees to address specific modes, issues and initiatives

Advisory committees and stakeholder groups provide insight, advice and recommendations to ODOT and the Oregon Transportation Commission about the diverse aspects of the transportation system. Typically, committee members represent a wide array of transportation stakeholders including business, special interest groups, local jurisdictions, other state and federal agencies and other parties.

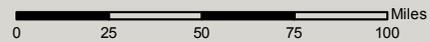
Oregon Department of Transportation REGIONAL TRANSPORTATION SYSTEM STAKEHOLDERS

Effectively managing and improving the transportation system requires working with a diverse set of jurisdictions, transportation providers and operators and stakeholders.



- County Seat
- Indian Reservation
- County Boundary
- Metropolitan Planning Organization (MPO)
- Area Commissions on Transportation (ACT)

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The Oregon Transportation Commission's public involvement policy provides a framework for statewide transportation planning to meaningfully involve the public by providing for early, open, continuous and effective participation in key planning and project decision making processes.

Task or topic specific special advisory committees are used to help develop long range transportation plans. ODOT is currently in the process of developing three statewide long range plans. These plans provide a vision, broad policy, a framework for decision making and prioritization considerations around the particular mode or topic. These plans become elements of the Oregon Transportation Plan.

- Transportation Safety Action Plan – This update will identify a safety agenda with action items that will lead to a safer travel environment. Transportation Safety Action Plan: <http://www.oregon.gov/ODOT/TD/TP/Pages/tsap.aspx>
- Bicycle and Pedestrian Plan – This update will describe the system and consider how to better integrate and balance the objectives of the bicycle and pedestrian systems with other modes. Bicycle and Pedestrian Plan: <http://www.oregon.gov/ODOT/TD/TP/Pages/bikepedplan.aspx>
- Transportation Options Plan – This is ODOT's first plan on this topic and will consider strategies, programs and investments to enhance traveler opportunities and choices to bike, walk, take transit, share rides and telecommute. Transportation Options Plan: <http://www.oregon.gov/ODOT/TD/TP/Pages/toplan.aspx>

WHAT COORDINATION, COMMUNICATION AND COOPERATION CAN LOOK LIKE AND ACHIEVE

Following are some recent examples of stakeholders working together:

- The "Quail Trail" is a unique rural transit service created in partnership with the Klamath Tribes and Basin Transit Service. This service provides both Chiloquin residents and Tribal members in Klamath County access to jobs, shopping and medical services, as well as social and

recreation opportunities. Begun in April of 2013, this unique partnership has leveraged federal and state program funds and provides 1,000 rides a month.

- ODOT works cooperatively with the over 150 public road authorities and Oregon's 25 railroads and three fixed rail transportation providers, to promote and enhance safety at highway and railroad crossings. Through this cooperation, crossing incidents have steadily decreased over the last 45 years, from 313 incidents in 1968 to 9 incidents in 2013.
- Highway 101, just south of Seaside, gets flooded by the Necanicum River several times each winter, frequently closing the highway. ODOT was looking for a way to alleviate the flooding and found help in partnership with the North Coast Land Conservancy (NCLC), Clatsop County, the Port of Astoria and local cities. NCLC owns 364 acres along U.S. 101 and was planning to restore it to natural habitat. By digging away all or parts of berms surrounding most of the property the high water in the river flows more easily on to the land, limiting the amount of water on the highway. ODOT achieved two things; addressed the highway flooding and obtained wetland mitigation credit for future road projects in the area. The project benefited NCLC by restoring a historic Spruce forest wetland and ODOT's maintenance and operations costs benefited by averting road closures caused by heavy rain events in 2013 and 2014. Engineers and road officials



say the newly restored wetland will reduce and possibly eliminate the frequency and severity of flooding.

- The Oregon Trusted Carrier Partner Program (TCP), established 15 years ago, recognizes motor carriers with exemplary records of compliance with registration, tax and safety requirements. This program was recently expanded to include passenger-carrying motor carriers. Passenger-carrying motor carriers in the TCP also agree to periodic inspections of their buses and motor coaches.
- Responding to traffic incidents is a joint effort by ODOT, local public works departments, Oregon State Police, local police, fire and rescue responders and towing companies.
- ODOT partnered with public and private sector organizations to bring FHWA National Traffic Incident Management (TIM) training to Oregon. The National TIM Responder training brought police, firefighters, DOT, towing, medical personnel and other incident responders together to engage in interactive, hands-on incident response exercises. Learning to coordinate response activities and optimize operations is vital to responding effectively in the field.
- DMV works with diverse stakeholders on a number of important subjects. DMV partners with representatives of law enforcement associations and the Department of Justice to discuss issues of common interest, such as preventing fraud. DMV also works with the Department of Environmental Quality in enforcement of vehicle emissions standards, the Department of Veterans Affairs on military-related license plates, vehicle dealers and dismantlers, insurance companies and other public and private organizations as well as citizen groups.
- ODOT continues its strong relationship with the American Council of Engineering Companies of Oregon (ACEC)

in order to build relationships and improve processes between ODOT and private sector firms.

- ODOT is coordinating with federal, state and local agencies and sharing its work on climate change adaptation planning. As part of its regional adaptation pilot, ODOT is participating in a Federal Highway Administration (FHWA) peer exchange program with 18 other state and local transportation agencies. In this relatively new area of study, coordination and sharing lessons learned among the participants is of significant value to all participants.
- In 2014, ODOT entered into an agreement with the Confederated Tribes of Grand Ronde on implementation of a Tribal Employment Rights Ordinance (TERO). TERO is a sovereign government-to-government agreement that requires that employers engaged in business on reservations give preference to qualified Indians in all aspects of employment, contracting, and all other business or economic development activities. This agreement, as well as the one that has been in place over a decade with the Confederated Tribes of Umatilla Indian Reservation in La Grande, enables ODOT to partner with the tribes in providing employment opportunities on ODOT contracts.
- In April 2014, ODOT, in partnership with the Portland Community College CLIMB Center for Advancement, and the Oregon Small Business Development Center, launched a Disadvantaged Business Enterprise (DBE) business development program, dubbed DBE Boot Camp. The program is open to qualified DBE contractors and professional services firms seeking to increase capacity to successfully perform on ODOT projects; build a profitable business with a strong foundation in customer service, project management, human resource practices and financial management.

Traffic Incident Management

Efforts by ODOT and partners support:

- Improved motorist safety
- Improved responder safety
- Quicker incident clearance

ODOT helps firefighters

When wildfires burn across the state, ODOT employees provide a helping hand by dispatching personnel, removing hazardous trees, closing highways and more.



MOVING FORWARD

The challenges facing jurisdictions and transportation providers in the state are significant and the transportation system is growing more complex. It is critical that we effectively monitor the system so we can best manage, maintain and improve the transportation system to meet these challenges. The Oregon Transportation Plan provides a framework for making decisions to efficiently and effectively provide a transportation system that meets Oregon's diverse needs.

Publishing the State of the System provides an opportunity to report on how Oregon is doing in key areas. Future editions of the State of the System report will continue to discuss trends in many of these areas and introduce new information as additional data becomes available.

Where to Find Additional Information

You can find this State of the System report, additional information and links on the ODOT Website at: <http://www.oregon.gov/ODOT/TD/Pages/stateofthesystem.aspx>. Information includes links to videos, reports, publications and organizations.

Thank you for your interest. Your ideas, questions and comments are welcome in making the State of the System report more informative and valuable.

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