

**Oregon's Transportation Chokepoints:
The Top 50 Chokepoints and
Remedies for Relief**

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Founded in 1971, TRIP® of Washington, DC is a nonprofit organization that researches, evaluates and distributes condition, use and related information on surface transportation issues. TRIP is sponsored by insurance companies, equipment manufacturers, distributors and suppliers; businesses involved in highway and transit engineering, construction and finance; labor unions; and organizations concerned with an efficient and safe surface transportation network.

Executive Summary

The ease with which residents, visitors and businesses can access desired destinations has a significant impact on the quality of life enjoyed in a region. A reasonable level of mobility provides individuals and organizations with tremendous freedom in accessing activities and opportunities and provides significant freedom in choosing neighborhoods, employment, recreational activities, social and commercial opportunities.

When a transportation facility, including a roadway segment, an interchange, or a transit route, is not adequate to meet the demand for reliable mobility, the facility chokes local, regional or interstate travel, diminishing the quality of life of residents and visitors and reducing business productivity.

Oregon's network of roads, highways and public transit systems allows this fast-growing state to provide safe and efficient travel, while enabling businesses to conveniently serve their customers. However, continued growth in Oregon's population and travel is straining the capacity of the state's surface transportation system and impeding quality of life by constraining commuting, commerce and other travel.

In this report, TRIP looks at the impact of growth on the state's surface transportation system and the potential consequences if Oregon is unable to make needed improvements in its surface transportation system to provide an adequate level of mobility to meet the needs of a fast-growing state.

This report identifies the 50 worst surface transportation chokepoints in the state and the status of projects needed to relieve these chokepoints. Addressing these chokepoints will be critical in maintaining the high quality of life in the state by improving mobility, reducing delays, enhancing environmental quality and supporting economic growth.

The major findings of the report are:

Oregon's quality of life and economic productivity are being reduced by chokepoints in the state's surface transportation system. These chokepoints include major roads, highways and public transit routes that impede routine travel, commuting or commerce, or that place limits on economic development opportunities because of deficient design or a lack of adequate capacity.

- Two recent reports found that the state's businesses, particularly in the Portland area, were responding to increasing traffic congestion by increasing inventories, decentralizing operations to serve the same market, increasing the number of deliveries and drivers because of longer travel times and starting production shifts earlier in the day to avoid peak congestion periods.
- Oregon's top 50 surface transportation chokepoints include urban interchanges and highway segments, public transit routes and sections of rural highways that are unable to meet a region's need for adequate mobility. This constraint on reliable transportation harms business productivity and reduces access to housing, employment, recreation, entertainment and other social functions.

- The top five surface transportation chokepoints in Oregon are located in Portland and include the I-5 Columbia River Crossing, the I-5/I-84/I-405 Interchange, the OR 212/224 Corridor, the I-205/I-5 Interchange and the OR 217/I-5 Interchange. The following chart provides more details on these five chokepoints. Intermodal (roadway and transit) chokepoints are shaded in green, roadway chokepoints are shaded in yellow and transit chokepoints are shaded in purple.

Rank	Region/County	Bottleneck Name	Importance of Route to Transportation Patterns	Describe Chokepoint	Impact of Chokepoint
1	Portland	I-5 Columbia River Crossing, Lombard Int. to SR 500 Int..	Bridge is one of the nation's top freight routes and key regional commuting route. Few alternatives to this route.	Lack of auxiliary lanes, closely spaced interchanges, substandard interchange design and substandard freeway entrance and exit ramp, and substandard median and shoulder widths. Bridge is lift bridge, which causes significant congestion when opened once a day. No high-capacity transit, so buses are only transit option.	Chokepoint causes the worst congestion in the metro region, one of biggest bottlenecks on the I-5 trade corridor, congestion last 4-6 hours per day and is projected to increase to 15 hours by 2030. Reduces freight access to Port of Portland. 644,200 hours of freight delay per year. 300 accidents experienced annually.
2	Portland	I-5/I-84/I-405 Interchange	Connects three high-volume freeways.	I-5 is two lanes and ramp connections are one-lane. Several interchange ramps are too closely spaced. I-84 capacity is insufficient for traffic heading onto I-5.	Lack of adequate capacity and design flaws result in poor weaving and merging operations causing significant delays.
3	Portland	OR 212/224 Corridor	As Portland's only designated east-west state freight route south of I-84, OR212/224 provides a vital service for freight movement within the Portland metro area, as well as a principal route to central and eastern Oregon. This corridor is the primary access point to/from I-205 for the Clackamas Industrial Area, which is one of the state's busiest and most critical freight distribution centers.	Capacity constraints at the interchange and at nearby intersections on Highway 212/224 cause congestion on I-205 and on Highway 212/224.	Significant congestion on this corridor impedes commerce and fails to meet the transportation needs of a growing residential area.
4	Portland	I-205/I-5 Interchange	Interstate 5, the West Coast's main trade corridor, and I-205 are two of Oregon's busiest freeways and carry large volumes of freight to and through the Portland metro region.	I-205 southbound narrows from three lanes to a one lane on-ramp to I-5, and vehicles have an extremely short distance to merge onto I-5. The short merge distance also impacts southbound I-5, as traffic is forced to slow to allow vehicles merging from I-205 to join the travel lanes. The I-5 northbound to I-205 northbound connection also lacks extended dual exit lanes.	This lack of an adequate merge lane frequently overwhelms the interchange and contributes to lengthy backups on I-205. As a result of the lack of extended dual exit lanes on I-5 northbound onto I-205 northbound, vehicles exiting I-5 must wait in the right hand travel lane to exit, oftentimes in heavy traffic, rather than having a dedicated lane to ease their transition to I-205.
5	Portland	OR 217/I-5 Interchange	Important interchange serving significant regional travel	The southbound OR 217 to southbound I-5 and southbound I-5 to northbound OR 217 movements experience congestion and queuing from existing signalized ramp terminals.	Lack of adequate interchange capacity results in significant congestion.

- A list of Oregon's top 50 surface transportation chokepoints is included in the report. Additional information on the state's top 50 surface transportation chokepoints, including needed improvements and the funding status of needed improvements, can be found in the Appendix.

- Oregon's top 50 surface transportation chokepoints include 38 roadway segments or interchanges, nine transit routes or corridors and three multimodal segments, which include both a roadway and a transit chokepoint.
- TRIP ranked Oregon's top 50 surface transportation chokepoints by assigning each chokepoint an overall score based on the following factors: volume of daily travel or ridership; the severity of the congestion or crowding; the importance of the route or facility to local, regional and interstate travel; the cost of the needed improvement; whether a route or facility provided mobility to non-motorists; whether a transportation facility was intermodal; the impact of the chokepoint on the environment; and the level of difficulty in using an alternate route or facility.

The approval last year of a comprehensive state transportation funding program and the outcome of ongoing Congressional deliberations over a future federal surface transportation program will have a significant impact on Oregon's ability to relieve many of its surface transportation chokepoints.

- In 2009, the Oregon Legislature approved the Oregon Jobs and Transportation Act (HB 2001), which increased funding for local and state roads and highways and public transit systems, as a result of increased state registration fees, licensing fees and motor fuel taxes.
- The Act will provide \$100 million for non-road transportation improvements, including public transit and, by 2011, when all fee increases are implemented, will provide an additional \$300 million annually for local and state road and highway improvements.
- A number of the chokepoints identified in this report, including the I-5/I-205 Interchange, widening of US 26 from Cornell to 185th Avenue, Newberg-Dundee Bypass in Yamhill County, US 97/Murphy Road Interchange in Bend, I-5 Steep Grade Bottlenecks in southern Oregon, and I-84 Spring Creek section, may be significantly improved by funding allocated to specific projects under HB 2001.
- Federal spending levels for highways and public transit in Oregon are based on the current federal surface transportation program, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), which was approved by Congress in 2005. The SAFETEA-LU program expires on December 31, 2010.
- Congress is currently deliberating over a long-range federal surface transportation program to follow SAFETEA-LU. The level of funding and the provisions of a future federal surface transportation program will have a significant impact on Oregon's ability to address many of its surface transportation chokepoints.

Rapid increases in population, vehicle travel and economic activity in Oregon have outpaced improvements to the state's roadway and transit system, resulting in increased congestion. Reduced transportation reliability in the state may become an impediment to economic development and may reduce tourism.

- Between 1990 and 2008, vehicle travel in Oregon increased by 23 percent, from approximately 27 billion miles of travel to approximately 33 billion miles.
- Between 1990 and 2008, Oregon's population increased by 33 percent, from approximately 2.8 to 3.8 million. Oregon's rate of population growth during this period is the eleventh highest among all states and is significantly higher than the 22 percent national increase in population during this period.
- Population gains are expected to continue at a significant rate in Oregon, increasing 28 percent by 2030 to approximately 4.8 million people.
- Despite the nation's recent economic downturn, Oregon has experienced significant economic growth since 1990. From 1990 to 2008, Oregon's gross domestic product (GDP), increased by 71 percent, when adjusted for inflation. This rate of economic growth in Oregon from 1990 to 2008 was the 13th highest in the U.S. and higher than the national average of 52 percent.
- A report from the Reason Foundation found that traffic congestion in the Portland area is expected to more than double by 2030 unless the region's transportation system is improved.
- The Reason Foundation report found that trips in the Portland area take 29 percent longer to complete during rush hours, as compared to non-peak periods of the day. By 2030, the report found that unless major steps are taken to relieve traffic congestion in the Portland urban area, the average rush hour trip will take 75 percent longer to complete than during non-peak hours.
- The Reason Foundation report also found that traffic congestion delays in the Eugene and Salem areas will more than double by the year 2030, unless major steps are taken to relieve traffic congestion.

Relieving traffic congestion in Oregon will save time for travelers and businesses, provide additional employment in the state and increase the productivity of the state's businesses.

- A 2007 report found that if Oregon modernizes and expands key segments of its highway system that by 2025 it would result in an annual increase of \$1.7 billion in business output, would support an additional 16,300 jobs annually and in the Portland area would save the average household 28 hours of travel time annually.

Traffic congestion relief will require a comprehensive approach, which includes expanding the capacity of the state's transportation system, improving the efficiency of the existing system and offering alternatives for some peak-hour trips. In order to accommodate the continued growth in vehicle travel, without experiencing a significant increase in traffic congestion, Oregon will need to both expand the capacity of its roadway and transit systems and make further improvements in the efficiency of its transportation system. These plans should continue to include and enhance:

- Effectively increasing the transportation system through expanded road and highway capacity, improved freight movement corridors, improved public transit system and enhanced sidewalks and bike paths.
- Improving traffic flow and system efficiency through better traffic signalization, ramp metering, faster incident response times and driver information systems.
- Implementing programs to reduce the number of peak-hour vehicle trips, including telecommuting, flextime and ridesharing programs.

All data used in this report is the latest available. TRIP's report is based on information obtained from the Federal Highway Administration (FHWA), the Texas Transportation Institute (TTI), the Oregon Department of Transportation (ODOT), the U.S. Census Bureau and the Reason Foundation.

Introduction

Oregon's roads, highways and public transit are the backbone of the state's transportation system, providing mobility to the state's residents, visitors and businesses.

Oregon's surface transportation system allows Oregonians to travel to work and school and to access recreation, healthcare-related, social and commercial activities. But the state's system of roads, bridges and public transportation contains numerous "chokepoints," which reduce mobility and adversely affect quality of life and economic development in the state.

Oregon continues to experience significant population growth. However, without corresponding growth and expansion of the state's transportation system, Oregon's major roads, highways and public transit routes are becoming increasingly congested and unable to provide an adequate level of mobility to support the state's quality of life and economic aspirations. The improvements that have been made to allow Oregon's existing system of roads, highways and public transit to operate more efficiently have been helpful in relieving some traffic congestion. But, without the addition of some new roadway and transit capacity, operational improvements to the state's surface transportation system will be inadequate to prevent a worsening of traffic congestion. Long commutes and snarled traffic have long been the calling cards of the nation's largest urban areas, but congestion has increasingly spread to growing states such as Oregon, particularly in the Portland area.

Traffic congestion is more than a time-wasting nuisance to commuters. High levels of traffic congestion have been found to reduce worker productivity and increase shipment costs, which can impact a businesses' competitiveness by raising costs and slowing the delivery of goods and commodities. Increasing levels of traffic congestion on key routes may also hurt the region's economy by discouraging some local and out-of-state visitors from traveling to the area.

Two recent comprehensive reports looking at the impact of traffic congestion on Oregon economy and the Portland-area economy found that increasing traffic congestion was reducing the efficiency of businesses in the state. The reports released in 2005 and 2007 found that the state's businesses, particularly in the Portland area, were responding to increasing traffic congestion by increasing inventories, decentralizing operations to serve the same market, increasing the number of deliveries and drivers because of longer travel times, and starting production shifts earlier in the day to avoid peak congestion periods.¹

This report identifies the 50 worst surface transportation chokepoints in Oregon and provides information on how each chokepoint negatively impacts the region and the people who regularly travel on these routes. The report also provides information on the importance of these routes to local and regional transportation patterns and makes a set of recommendations for a comprehensive approach to improving mobility in Oregon and relieving surface transportation chokepoints.

Adequately addressing traffic congestion can have a significant impact on an area's livability. The Urban Land Institute notes that traffic congestion has the potential to hinder a region's ability to attract residents and businesses and degrades local quality of life.²

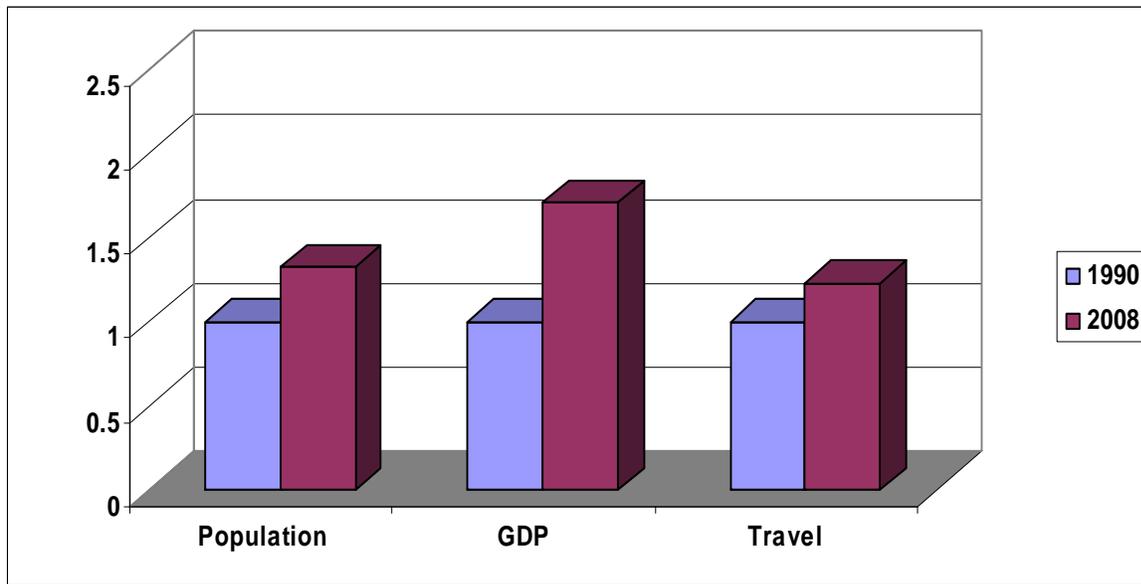
High levels of traffic congestion also have been found to result in diminished air quality. Conversely, steps that reduce congestion can result in improved air quality. The Transportation Research Board, an agency of the National Research Council, reports that strategies that reduce traffic congestion by improving traffic flow also reduce vehicle emissions, thus improving air quality.³

Population, Vehicle Travel and Economic Growth in Oregon

Congestion and crowding on many of Oregon's key streets, highways and transit routes, particularly during peak hours, continue to increase as population, vehicle travel and economic activity continue to increase. From 1990 to 2008, Oregon's population increased from approximately 2.8 million to approximately 3.8 million, an increase of 33 percent.⁴ Oregon's rate of population growth during this period is the eleventh highest in the U.S., and is significantly higher than the 22 percent national increase in population during this period.⁵ Population gains are expected to continue at a significant rate in Oregon, where the population is expected to increase by 28 percent by 2030 to approximately 4.8 million people.⁶

The significant increase in Oregon's population resulted in corresponding increases in vehicle travel and economic activity. From 1990 to 2008, vehicle travel in Oregon increased by 23 percent, increasing from approximately 27 billion miles of travel annually to approximately 33 billion miles.⁷ Despite the nation's recent economic downturn, Oregon experienced significant economic growth from 1990 to 2008 when the state's gross domestic product (GDP), a measure of the state's economic output, increased by 71 percent when adjusted for inflation. Oregon's rate of economic growth from 1990 to 2008 was the 13th highest in the U.S. and significantly above the national average of 52 percent.⁸

Chart 1: Population, GDP and Vehicle Travel increase in Oregon, 1990 to 2008, 1 = 1990 level



Source: TRIP analysis of Federal Highway Administration, Bureau of Economic Analysis and U.S. Census data

As a result of further increases in vehicle travel without a corresponding increase in highway capacity, traffic congestion in Oregon's largest urban areas (particularly Portland, Salem/Keizer, and Eugene/Springfield) is likely to get significantly worse unless roadway and public transit systems are improved. A recent report by the Reason Foundation concluded that traffic congestion levels in Oregon's largest urban areas are likely to increase significantly by 2030 unless roadway and public transit systems are expanded to accommodate surging demand for mobility. The report found that traffic congestion in the Portland area is expected to more than double by 2030 unless the region's transportation system is expanded. Portland has a travel time index (TTI) of 1.29, meaning that driving times during peak traffic hours are 29 percent longer than during off-peak times.⁹ Unless major steps are taken to relieve traffic congestion in the Portland area, the region's travel time index will increase to 1.75 by 2030.¹⁰

The Reason Foundation report also found that traffic congestion delays in the Eugene and Salem areas will more than double by 2030, unless these regions take major steps to relieve

traffic congestion. The current travel time index in the Eugene area is 1.08, while Salem's travel time index is 1.10.¹¹ But unless significant improvements are made to relieve traffic congestion, the travel time index in the Eugene area is expected to increase to 1.22 by 2030, while Salem's travel time index will increase to 1.23.¹²

Oregon's Transportation Chokepoints

Modern lifestyles and commerce depend on reliable transportation to provide timely access to a variety of destinations. When a personal or commercial trip is impeded by an inadequate transportation facility, both quality of life and the efficiency of local commerce are affected. Conversely, the provision of improved mobility increases personal choices for housing, work, recreation, entertainment and other social interaction and improves business productivity by reducing transport costs.

A transportation chokepoint constrains personal and commercial mobility and is a significant factor in a region's economic competitiveness and prosperity. TRIP defines a chokepoint as a transportation facility that is inadequate to provide a reasonable level of mobility and thus reduces both the reliability and the level of personal or commercial mobility in a region. When a portion of a region's highways, roadways or public transit facilities impedes routine travel, commuting or commerce, or limits economic development opportunities because of a lack of capacity or a design deficiency, it is a transportation chokepoint.

Transportation chokepoints can be a segment of a roadway, an interchange, a transit route, an intermodal facility or the current lack of a roadway segment or transit route that constrains mobility.

To prepare this report, TRIP asked the Oregon Department of Transportation (ODOT) to provide information on the state's most severe transportation chokepoints, including segments of roadways, interchanges and portions of the state's public transit system.

To rank the state's worst transportation chokepoints, TRIP assigned each transportation segment or facility an overall score, based on a scale that provided points for categories, including:

- ✓ volume of daily travel or ridership.
- ✓ the severity of the congestion, crowding or lack of adequate capacity to provide a reasonable level of mobility.
- ✓ the importance of the route or facility to regional, interstate or international travel.
- ✓ the cost to improve mobility on this facility or route.
- ✓ whether the facility or route serves non-motorists and segments of society that typically have less access to mobility, such as the elderly, the disabled and people with lower incomes.
- ✓ the level of difficulty of using an alternate transportation route or mode.
- ✓ whether the facility provides an intermodal connection.
- ✓ to what extent the deficiency had an impact on the environment.

Oregon's Top Transportation Chokepoints

The following table indicates the 50 road, highway or transit routes or corridors in Oregon that are the worst surface transportation chokepoints in the state because they impede routine travel, commuting or commerce or limit economic development opportunities because of a lack of capacity or a design deficiency. The worst chokepoints in the state include 38 segments of

roads or highways, nine transit routes or corridors and three multimodal segments that include both a roadway and a transit chokepoint. The state's worst chokepoints include urban highway and transit routes in the Portland area as well as sections of rural roadways that either lack adequate capacity to meet regional mobility needs or lack adequate design to efficiently accommodate freight delivery in a corridor.

Oregon's worst surface transportation chokepoints include the Interstate 5 Columbia River Crossing from Vancouver to Portland, which lacks both adequate highway and transit capacity; the I-5, I-84 and I-405 Interchange area in Portland, which causes significant travel delays; the frequently congested Oregon 99W Corridor, which serves as the most direct connection between the Portland area and the Oregon Coast and which lacks adequate highway and transit capacity; and portions of US 97, which serves as the most critical north-south trade corridor in Eastern Oregon, which is often congested. The top five surface transportation chokepoints in Oregon are:

1. The I-5 Columbia River Crossing from Vancouver to Portland. This bridge is one of the nation's top freight routes and a key regional commuting route. There are few alternatives to this route. The bridge causes the worst congestion in the Portland metro region, and is one of the biggest chokepoints on the I-5 trade corridor. This corridor is congested for 4-6 hours per day and could be congested for as many as 15 hours per day by 2030. This multimodal chokepoint also reduces freight access to the Port of Portland and Port of Vancouver. The limited public transportation service across the Columbia River serves only about 3,500 riders each weekday and does not provide a convenient alternative to driving. Buses get bogged down in congestion with everyone else. Local agencies have endorsed replacing the bridge with a new structure, which would include a light rail line from Portland to Vancouver.

2. The I-5, I-84, I-405 Interchange in the Portland area. Design flaws and a lack of adequate capacity at this set of interchanges, which connect three high-volume freeways, results in significant traffic congestion. Needed improvements to this interchange include braiding I-5 interchange ramps to and from I-84 with ramps to the local street system, adding a through lane in each direction on I-5, and creating a 4-lane approach to I-5 on westbound I-84, with two lanes each heading north and south to a widened I-5 cross section as well as widening I-5 southbound to three lanes approaching I-405.

3. The OR 212/214 Corridor in Clackamas County. As Portland's only designated east-west state freight route south of I-84, the OR212/224 corridor provides a vital service for freight movement within the Portland metro area, as well as a principal route to central and eastern Oregon. Significant congestion on this corridor, among the worst in the state, impedes commerce and fails to meet the transportation needs of a growing residential area. The needed improvement is the construction of a new highway to connect OR 212/224 to I-205, which would provide substantial congestion relief on the corridor..

4. The I-5 and I-205 Interchange in the Portland area. Interstate 5, the West Coast's main trade corridor, and I-205 are two of Oregon's busiest freeways and carry large volumes of freight to and through the Portland metro region. I-205 southbound narrows from three lanes to a one lane on-ramp to I-5, and vehicles have an extremely short distance to merge onto I-5. This lack of an adequate merge lane frequently overwhelms the interchange and contributes to lengthy backups on I-205. As a result of the lack of extended dual exit lanes on I-5 northbound onto I-205 northbound, vehicles exiting I-5 must wait in the right hand travel lane to exit, oftentimes in heavy traffic, rather than having a dedicated lane to ease their transition to I-205. The addition of added acceleration/auxiliary lanes and extended exit lanes could significantly improve traffic

flow and reduce congestion on I-5 and I-205 at a relatively small cost, and would also improve safety.

5. OR 217/I-5 Interchange in the Portland area. This interchange of two major regional transportation routes experiences significant congestion as a result of high traffic volume and inadequate design. Needed improvements include separation of the freeway to freeway movements from the local access movements with a number of improvements, including a southbound OR 217 to southbound I-5 flyover ramp, a southbound I-5 to northbound OR 217 free flow ramp and a southbound I-5 to eastbound Kruse Way loop.

The following is a list of the worst 50 surface transportation chokepoints in Oregon. Roadway chokepoints are colored yellow, transit chokepoints are colored purple and intermodal (roadway and transit) chokepoints are colored green. For additional information on each chokepoint, including needed improvements and the funding status of needed improvements, please see the Appendix.

Chart 2. Worst 50 Surface Transportation Chokepoints in Oregon

Rank	Region/County	Bottleneck Name	Importance of Route to Transportation Patterns	Describe Chokepoint	Impact of Chokepoint
1	Portland	I-5 Columbia River Crossing, Lombard Int. to SR 500 Int..	Bridge is one of the nation's top freight routes and key regional commuting route. Few alternatives to this route.	Lack of auxiliary lanes, closely spaced interchanges, substandard interchange design and substandard freeway entrance and exit ramp, and substandard median and shoulder widths. Bridge is lift bridge, which causes significant congestion when opened once a day. No high-capacity transit, so buses are only transit option.	Chokepoint causes the worst congestion in the metro region, one of biggest bottlenecks on the I-5 trade corridor, congestion last 4-6 hours per day and is projected to increase to 15 hours by 2030. Reduces freight access to Port of Portland. 644,200 hours of freight delay per year. 300 accidents experienced annually.
2	Portland	I-5/I-84/I-405 Interchange	Connects three high-volume freeways.	I-5 is two lanes and ramp connections are one-lane. Several interchange ramps are too closely spaced. I-84 capacity is insufficient for traffic heading onto I-5.	Lack of adequate capacity and design flaws result in poor weaving and merging operations causing significant delays.
3	Portland	OR 212/224 Corridor	As Portland's only designated east-west state freight route south of I-84, OR212/224 provides a vital service for freight movement within the Portland metro area, as well as a principal route to central and eastern Oregon. This corridor is the primary access point to/from I-205 for the Clackamas Industrial Area, which is one of the state's busiest and most critical freight distribution centers.	Capacity constraints at the interchange and at nearby intersections on Highway 212/224 cause congestion on I-205 and on Highway 212/224.	Significant congestion on this corridor impedes commerce and fails to meet the transportation needs of a growing residential area.
4	Portland	I-205/I-5 Interchange	Interstate 5, the West Coast's main trade corridor, and I-205 are two of Oregon's busiest freeways and carry large volumes of freight to and through the Portland metro region.	I-205 southbound narrows from three lanes to a one lane on-ramp to I-5, and vehicles have an extremely short distance to merge onto I-5. The short merge distance also impacts southbound I-5, as traffic is forced to slow to allow vehicles merging from I-205 to join the travel lanes. The I-5 northbound to I-205 northbound connection also lacks extended dual exit lanes.	This lack of an adequate merge lane frequently overwhelms the interchange and contributes to lengthy backups on I-205. As a result of the lack of extended dual exit lanes on I-5 northbound onto I-205 northbound, vehicles exiting I-5 must wait in the right hand travel lane to exit, oftentimes in heavy traffic, rather than having a dedicated lane to ease their transition to I-205.
5	Portland	OR 217/I-5 Interchange	Important interchange serving significant regional travel	The southbound OR 217 to southbound I-5 and southbound I-5 to northbound OR 217 movements experience congestion and queuing from existing signalized ramp terminals.	Lack of adequate interchange capacity results in significant congestion.

6	Newberg and Dundee	OR 99W Newberg-Dundee Bypass	OR99W serves as the “main street” for both Newberg and Dundee. OR99W connects Newberg and Dundee to the Portland metropolitan area to the northeast and to McMinville and the Oregon Coast to the west. Because this highway is the most direct route between the northern Willamette Valley and Oregon coastal communities, traffic has steadily increased as tourism and population have grown. Weekday commuters also use OR99W to travel between Yamhill County and the Portland metropolitan area.	Over the past decade, traffic on OR99W in downtown Newberg and Dundee has increased by about 40 percent resulting in significant levels of congestion. Traffic volumes are expected to continue to increase substantially over the next 20 years.	Long lines of traffic form at peak hours and on weekends, causing significant delays and impeding freight mobility on a designated freight corridor.
7	Portland	I-205/Airport Way Interchange	Provides critical access to Portland International Airport, an economic gateway to Oregon.	During evening rush hour, more northbound traffic gets on I-205 at Airport Way than any other interchange on I-205 in state.	Significant congestion results, lasting up to 45 minutes and stretching over a mile.
8	Portland	I-5 northbound: I-205 to Nyberg Interchange	Critical urban freeway section/interchanges	Heavy volume of traffic entering and exiting the freeway, particularly from I-205, in a short distance results in a congested weaving section.	Congestion causes significant delays.
9	Portland	US 26 Cornell Road to 185th Ave	Heavily traveled urban freeway	US 26 narrows from three lanes in each direction to two lanes at Cornell Road.	Chokepoint results in significant congestion.
10	Portland	OR 217 Corridor	Important commuting and commerce route.	OR 217 is just two lanes in each direction for most of its length, and heavy traffic volumes put the highway well over its capacity. Closely spaced interchanges—a dozen in just seven miles—cause operational problems associated with merging and weaving.	Heavy travel on the route results in a significant level of congestion.
11	Portland	OR 217/72nd Ave. Interchange	Important interchange serving significant regional travel	This interchange is too closely spaced to I-5, and with high volumes on the ramps, the queues extend into OR 217. Local streets on 72nd Avenue are too close to the ramp terminals to operate effectively, contributing to the queues.	Lack of adequate interchange capacity results in significant congestion.
12	Woodburn (Marion County)	I-5/OR 214 Woodburn Interchange	This interchange serves as a critical gateway to Woodburn, and I-5 is a key national trade corridor and connects the state’s largest urban areas.	The older rural interchange design (circa 1970) and crossing two-lane highway are no longer capable of handling the exchange of high traffic volumes between I-5 and the City of Woodburn. The interchange geometry is poor. Property damage crashes are frequent in the interchange area.	Queues on OR214/219 to the east of the interchange regularly reach or exceed ¼ mile in length. Congestion at the interchange often causes traffic to back up on I-5 and on numerous occasions when the area has special events, queues from the interchange ramps have extended for several miles on I-5 southbound. Shorter queuing from the ramps onto I-5 is a regular occurrence. Stacking of exiting vehicles onto I-5 creates a significant safety problem.
13	Bend (Deschutes County)	US 97 North Corridor (Bend Parkway)	US 97 is a designated freight route and the only major north-south route in Oregon east of the Cascade Mountains. US 97 plays a key role for travel to and within Central Oregon, and it also serves through traffic from California to Washington.	Improvements to US 97 have been unable to keep up with growing travel demand in this corridor. Intersections on the northern section of the Parkway are not adequately designed to handle current traffic loads.	Significant traffic congestion is occurring on the northern portion of the Bend Parkway, constraining personal and commercial travel.

14	Lane, Linn, Marion, Clackamas, Multnomah	I-5 corridor from Eugene to Portland	The I-5 corridor provides mobility between Oregon's three largest metropolitan areas: Portland, Salem/Keizer, and Eugene/Springfield. The corridor is facing increasing congestion due to rising volumes of freight and passenger travel. ODOT partners with Amtrak to offer two roundtrip passenger trains each day along the I-5 corridor between Eugene and Portland (with stops in Albany, Salem and Oregon City), and this train service is supplemented by three daily Amtrak Thruway bus roundtrips and a fourth roundtrip on Friday and Sunday.	Even with two trains and three buses each day there are still significant gaps in service on the corridor that could be filled with additional bus trips.	Inadequate public transportation service limits mobility options and increases congestion on I-5.
15	Portland	I-5 southbound from OR 217 entrance to Upper Boones Ferry/Carmen Drive Exit	Critical urban commuting and commerce route	Heavy volume of traffic entering I-5 southbound from OR 217 causes congestion. Long entrance ramps are underutilized due to one lane dropping at the Carmen exit.	Congestion causes significant delays.
16	Portland	I-84 eastbound to I-205 northbound	Interchange of two Interstate highways	I-84 eastbound approaches I-205 southbound with three lanes, but one lane drops at the Halsey Street exit, leaving just two lanes continuing to I-205 northbound exit.	Heavy volumes exiting to I-205 results in queuing onto mainline I-84.
17	Portland	I-205 Stafford Road to Abernathy Bridge in Oregon City	Important urban freeway	I-205 drops from three-lanes in each direction to two-lanes at the Stafford Road interchange.	The chokepoint is resulting in significant congestion in the area.
18	Eugene-Springfield	OR 569 (Beltline Highway)Delta Highway Interchange	Major urban interchange.	The dated, rural cloverleaf design of this interchange has trouble accommodating high volumes. Twin two-lane bridges over the Willamette River immediately to the west constrain options for remedies. Frequent crashes are noted.	Heavy travel and obsolete design are resulting in significant congestion.
19	Multnomah and Clackamas	OR 43 corridor from Portland to Lake Oswego	As the only direct route between Lake Oswego and downtown Portland, Highway 43 is already heavily traveled and forecasted to achieve high congestion levels throughout the entire corridor in 2030. Geographical barriers (steep hills to one side and Willamette River to the other) along with existing development abutting the right-of-way make widening of the highway cost prohibitive.	The existing bus service on Oregon 43 serves about 2300 riders on an average weekday and does not provide adequate capacity for commuters. Because public transportation doesn't operate on its own right of way, buses get stuck in traffic with other vehicles and don't provide travel time savings.	Inadequate public transportation limits mobility options and increases congestion on OR 43.
20	Multnomah and Clackamas	OR 99E corridor from Portland to Milwaukie	The area served by OR 99E is forecasted to see a 63 percent increase in residents (to 335,800 residents) and a 42 percent increase in jobs (to 335,800 jobs). Almost all of OR 99E, the only radial highway in the corridor, will operate at congested levels between Milwaukie and the Portland Central City in 2030. Congested lane miles in the corridor will more than double and vehicle miles traveled in the corridor will increase by 25 percent.	This is one of the few major highway corridors in the Portland metro region that does not include high-capacity transit. The existing bus service serves about 5500 riders each day, which is inadequate to serve long-term needs in the corridor.	Inadequate public transportation limits mobility options and increases congestion on OR 99E.

21	Marion/Polk counties/Salem-Keizer metro area	Highway 22/221: Salem Willamette River Bridges	Center and Marion Street bridges are only two significant connections between West Salem/Polk County and the rest of the Salem/Keizer metro area and face very high traffic volumes.	Bridges and Wallace Road (OR 221) do not have adequate capacity to handle traffic. Minimal transit service across bridge.	Significant delays are caused at morning and evening peak periods, and freight is delayed on this designated freight route.
22	Tigard	OR 99 W at Hall, Greenburg, and McDonald/Gaarde Intersections	OR 99W is a highway of statewide significance and designated freight route, but it also serves as the main street of Tigard. OR.	OR 99W has the highest traffic volume of any five lane state highway in Oregon and lacks capacity to handle these traffic volumes	Significant congestion occurs throughout the day (not just during peak hours) as well as on weekends.
23	Portland	I-205 Northbound: I-84 entrance to Columbia Boulevard exit ramp	Important urban freeway route	Traffic merging onto I-205 from the I-84 ramps has limited acceleration/merging distance and brings I-205 near capacity.	Queues from this congested area spill back onto I-84, particularly I-84 eastbound.
24	Albany (Linn County), Salem-Keizer (Marion County)	I-5: Kuebler Boulevard to OR 34	This section of freeway provides access to and from the Portland region to outlying communities	I-5 narrows from three lanes in each direction to 2 lanes at Kuebler Boulevard.	High volumes of truck and passenger vehicle traffic through the section impede travel at the posted speed. The lack of southbound truck climbing lanes and the single northbound climbing lane are inadequate for large vehicle travel needs. Existing interchanges contain unconventional designs and substandard ramp geometry. Ramps are too short to accommodate vehicle acceleration / deceleration and needed vehicle storage.
25	Douglas and Josephine Counties	I-5 Steep Grade Bottlenecks, from mil post 60 to 138	Interstate 5 is the West Coast's major trade corridor and one of the top freight routes in the nation.	As it passes through southern Oregon I-5 travels through rugged mountain terrain with steep grades. Four of the five highest elevations on I-5 between Canada and Mexico are on this stretch of highway, as are 5 of the top 25 steep-grade truck bottlenecks on the nation's freeways.	Trucks traveling on I-5 in southern Oregon are slowed down significantly as they travel up these steep grades, often to 20 miles per hour or less. Since this section of freeway only has two lanes in each direction, many trucks choose to use the shoulder to crawl up the mountains, which is not lawful and causes safety concerns. According to a recent report from the Federal Highway Administration, these steep grades together cause nearly 1.3 million annual hours of delay for trucks.
26	Redmond (Deschutes County)	US 97: South Redmond	US 97 is a designated freight route and the only major north-south route in Oregon east of the Cascade Mountains. US 97 plays a key role for travel to and within Central Oregon, and it also serves through traffic from California to Washington.	Rerouting portions of US 97 from downtown Redmond to a new alignment that creates a limited-access freeway, have reduced congestion on this portion, but significant congestion occurs on the portion of US 97 on the south half of US 97, which remains on its original alignment.	Significant congestion on the portion of US 97 in Redmond continues to occur, particularly at the intersections with Veterans Way and Odem Meadow.
27	Yamhill and Washington	OR 99W Corridor: Portland metro region to Yamhill County	The communities of Yamhill County, including Newberg and McMinville, are located near the Portland metropolitan region, and thousands of people commute each day from Yamhill County into the Portland area.	Unfortunately, OR 99W, the primary route from Yamhill County into Portland, is growing increasingly congested and there is extremely limited public transportation service connecting Yamhill County into the Portland metro region for commuters and those who need to get in to Portland for medical appointments and other needs.	Inadequate public transportation service limits mobility options for residents of Yamhill County and increases congestion on Oregon 99W.
28	Lane	West 11th/Highway 126, Garfield Street to Veneta	West 11th/Highway 126 is a highly traveled corridor that serves a variety of uses, but also serves as the primary connector between the City of Eugene (employment center) and City of Veneta (residential area).	The existing roadway, particularly two lane sections, does not have adequate capacity to serve existing and long-term needs. While transit serves this corridor, there is no high-capacity service on the corridor.	Congestion results from inadequate road capacity. A lack of dedicated right-of-way for transit means buses experience delays.

29	Multnomah and Washington	OR 99W corridor from Portland to Washington County	This corridor is the last remaining radial highway corridor in the Portland metropolitan region with very high transit demand but no rail. Current bus boardings on the two lines that are entirely on Barbur Boulevard/Pacific Highway are 7700. .	Inadequate public transportation limits mobility options and increases congestion on OR 99W and Interstate 5.	TriMet and Metro hope to begin planning work on a high-capacity transit project along the OR 99W corridor. A light rail or bus rapid transit project could serve the corridor in several ways that could include either in-street or on adjacent rights-of-way or a combination of both with park and rides at locations offering an alternative to using I-5 into downtown Portland and a terminus at any of several locations such as Tigard, King City, Tualatin or Sherwood.
30	Portland	I-5: Elligsen Road Interchange to Wilsonville Road Interchange	Critical urban freeway segment	Heavy volumes of traffic entering and exiting the freeway at the two Wilsonville Interchanges result in a congested weaving section	Congestion causes significant delays.
31	Portland	I-205 Sunnyside Road to Glisan Street	Important urban freeway route	Heavy volumes of traffic entering and exiting the freeway at a number of locations causing significant congestion.	Congestion causes significant delays.
32	Portland	US 26 Eastbound Approach to I-405 Interchange	Important urban interchange	US 26 approaches I-405 with three lanes. One lane goes to southbound I-405, one lane to northbound I-405 and one lane to downtown Portland.	Heavy volumes exiting to I-405 southbound result in long queues on US 26
33	Medford (Jackson County)	OR 62, from mile post 4 to 7.4	OR 62 serves as a major transportation route for personal and commercial travel in the Rogue Valley.	Urban development along this commercial and industrial corridor, with close proximity to Rogue Valley International - Medford Airport, is creating severe congestion and safety problems.	Congestion is constraining personal and commercial travel in this corridor.
34	Bend (Deschutes County)	US 97/Murphy Road interchange (South Bend Parkway)	US 97 is a designated freight route and the only major north-south route in Oregon east of the Cascade Mountains. US 97 plays a key role for travel to and within Central Oregon, and it also serves through traffic from California to Washington.	Improvements to US 97 have been unable to keep up with growing travel demand in this corridor. Intersections on the southern section of the Parkway are not adequately designed to handle current traffic loads.	Significant traffic congestion is occurring on the southern portion of the Bend Parkway, constraining personal and commercial travel.
35	Sherman County	I-84/US 97 Interchange	This interchange connects Oregon's main east/west freight route and US 97, the major north-south route on the east side of the Cascade Mountains.	There is a lack of ramp lane/ramp terminal and adjacent intersection capacity at this interchange.	The interchange has inadequate radius at ramp termini to accommodate trucks, particularly oversize loads transporting wind mill equipment.
36	Union County west of La Grande	I-84 Spring Creek section (Milepost 245-249)	As the major east-west route in Oregon, Interstate 84 is the most heavily traveled highway in the state outside the Willamette Valley. It is a designated freight route connecting the Portland metro region and interior parts of the state, as well as inland metro regions such as Boise, Idaho and Salt Lake City, Utah. More than 45% of the traffic on I-84's eastern portion is attributable to commercial trucking.	A steep grade on westbound I-84 through the Blue Mountains slows trucks.	During the winter months, trucks often lose traction and spin out, leading to closures of the highway's two lanes. With few alternative routes, closure of I-84 blocks travel through the region, and emergency response is problematic. During other times of the year, slow moving trucks often attempt to pass other trucks that are moving even slower. When this occurs, both lanes are tied up by slow moving commercial vehicles, causing slowdowns and safety issues for rapidly approaching passenger vehicles as well.

37	Deschutes, Jefferson, Crook	Central Oregon regional transit service	Central Oregon has been one of the fastest growing regions of the country, and high housing prices in Bend have forced many workers, particularly those in the service economy, to move to surrounding communities with more affordable housing, including Redmond, LaPine, and Prineville. Regional highways are becoming increasingly congested, particularly the US 97 corridor, and improved public transportation service could benefit residents of outlying communities as well as help address congestion.	There is very limited public transportation service within the greater Bend/Central Oregon region to serve those who commute to work into Bend from outlying communities as well as those who need to get to Bend for shopping, medical appointments, and other needs.	Inadequate public transportation service limits mobility options for residents of Central Oregon and increases congestion on regional highways, particularly US 97.
38	Roseburg (Douglas County)	Highway 138E	Highway 138E is a vital link between the I-5 corridor and greater Roseburg to key destinations in central Oregon and the Cascades, including Crater Lake National Park. Highway 138 flows through central Roseburg and also functions as a main street, providing access to local businesses and residential neighborhoods.	Roadway design and capacity is not adequate to accommodate current traffic level.	As the corridor has experienced continual increases in traffic volumes, these conflicting functions have led to inefficient travel for through traffic and congested and unsafe access for local businesses and pedestrians.
39	Coos and Douglas counties	OR 42 County Line Curves (Milepost 41 to 46)	Oregon 42 is a designated freight corridor and National Highway System route and has been designated a highway corridor of statewide significance. OR 42 is one of just two state highways in Oregon that cross the Coast Range and connect Oregon's southern coast to the communities along the I-5 corridor. OR 42 is the primary route for freight movement between the Port of Coos Bay and Douglas, Jackson and Josephine counties.	A five mile section of highway near the Douglas/Coos county line runs through a narrow canyon, bounded by the Middle Fork Coquille River and steep hillsides with exposed rock faces. Due to the mountainous terrain, there are several sharp curves through the segment, some signed as slow as 30 miles per hour, and there are 21 different locations with reduced posted speeds in this five mile section of road. Because of the physical constraints, portions of this section of highway are very narrow, with four foot paved shoulders and either guardrail or minimal gravel shoulders to the outside.	This narrow roadway leaves little room for drivers to avoid oncoming vehicles that have crossed the centerline, particularly in the curvy sections, and there is limited room for disabled vehicles to safely pull off the road. As a result, the crash rate for this segment of highway is more than twice the statewide average for rural highways and two to three times that of nearby segments of OR 42. Crashes over the last three years have included three fatalities and three serious injuries, and seventy percent of the crashes occurred in one of the curved sections.
40	Sisters (Deschutes County)	US 20 in Sisters	US 20 is a major freight and passenger route between the Willamette Valley and the communities of Central Oregon that passes through downtown Sisters.	Heavy volume of traffic results in significant traffic congestion in the downtown corridor.	Sisters, a charming small town that is a tourist destination, experiences significant congestion on the weekends, making walking through the business district more difficult and potentially discouraging tourism.
41	Umatilla County	I-82/US 730 Port of Entry	Interchange is a critical facility for freight movement.	Two substandard, signalized intersections in and out of Port of Entry operations creates a significant chokepoint.	Truck traffic coming in from Washington State on Interstate 82 exiting at US 730 are often backed up from the intersection leading to the Port of Entry. Traffic queues often back up onto I-82.
42	Eastern Oregon	Eastern Oregon chain-up areas	Highways play a critical role in providing mobility in eastern Oregon.	Significant congestion occurs at areas where trucks are installing or removing chains in snow zone areas. The number and size of the existing areas is inadequate to meet the needs of the increasing volume of truck traffic.	When trucks line-up to wait to install or remove chains, it leads to partial blockage of the highway for several hours at a time and introduces significant safety concerns for both the individual and traveling public. When these areas fill up the trucks begin chaining in the right lane of the interstate or choose to ignore the chain requirements. This results in trucks spinning-out and blocking the interstate.
43	Lincoln and Benton	OR 34/US 20 Albany to Corvallis	Albany and Corvallis, the home of Oregon State University, are located just a few miles apart and are connected by Oregon 34 and US 20. Large numbers of people travel between the two communities for work, school, and other reasons.	Bus service between Albany and Corvallis is not adequate to serve travel needs within the region. These improvements would provide additional transportation options and reduce congestion on OR 34 and US 20.	Inadequate public transportation between Albany and Corvallis limits mobility options, particularly for students without vehicles and increases congestion on US 20 and OR 34 (particularly at the Van Buren Bridge across the Willamette River at downtown Corvallis). Backs up over one mile when congested. Increased bus service is needed between Albany and Corvallis, and new park and ride lots are needed as well.

44	Lane	OR 99 (6th/7th), High Street to Garfield	OR99 is a highly traveled corridor that serves commercial uses. Also provides direct access to downtown core and multiple residential areas.	Transit serves this corridor. High traffic volumes, which either meets or exceeds capacity, and delays do not enhance transit service.	Transit uses the same route as other motorists, which means experiencing the same delays creating no additional incentive to use transit.
45	Josephine County	I-5/Merlin Interchange (Exit 61)	Important rural interchange.	Inadequate interchange design and poor alignment of Highland Road.	Currently the interchange operates at a service level "F" at peak hours and traffic backs up onto the Interstate and back into the intersection of Merlin-Galice Road and Monument Road.
46	Jackson County	OR 140 Freight Extension (Highway 62 to I-5)	Portions of Leigh Way, Agate Road, Avenue G, Kirtland Road and Blackwell Road carry significant large truck travel en route to I-5.	Local roads and intersections lack adequate capacity and appropriate design to carry significant levels of commercial travel.	Significant large truck travel on these local roads has created a freight transportation chokepoint, slowing the movement of commerce through this corridor.
47	Jefferson County	US 97/US 26	US 97 and US 26 share a corridor through Madras. The route is important to regional travel and as a freight corridor.	Intersections along portion of combined highway through Madras create significant traffic congestion.	Chokepoint on route slows personal and commercial travel in this corridor.
48	Klamath County	US 97 Lakeport Bridge to Link River Bridge	US 97 is a designated freight route and the only major north-south route in Oregon east of the Cascade Mountains. US 97 plays a key role for travel to and within Central Oregon, and it also serves through traffic from California to Washington.	Freeway alternates between two and four lanes in this section.	Freeway chokepoint results in traffic congestion.
49	Klamath/Lane Counties	OR 58 Willamette Pass, Oakridge to US 97	Freight is increasingly using OR 58 and US 97 as a viable alternative route to the I-5 corridor.	The steep grade along this route is resulting in a freight chokepoint as trucks travel at a slow speed and there are not adequate lanes for passing.	Steep grades on this route are resulting in increased congestion and queuing.
50	Josephine	US 199 Redwood Highway; city of Grants Pass to Community College	From downtown 6th St 2 lane one way and 7th return is heavily congested to Josephine Community College,	There is minimal transit service with insufficient frequencies and high latent demand for increased connections and service. More frequent schedules, commuter runs, and park and ride shuttles are not available.	Significant delay, limits freight passage, increases fuel use and carbon emissions..

Source: TRIP analysis of Oregon Department of Transportation Response to TRIP Survey

Surface Transportation Funding in Oregon

The approval last year of a comprehensive state transportation program and the outcome of ongoing Congressional deliberations over a future federal surface transportation program will have a significant impact on Oregon's ability to relieve many of its surface transportation chokepoints.

The construction, repair and upkeep of Oregon's surface transportation system, which includes roads, bridges, highways and public transit systems, is paid for by local, state and federal governments. Funds to pay for the improvement, maintenance and operation of the state's surface transportation system are raised through a combination of user fees, such as motor fuel taxes, registration fees, licensing fees, a weight-distance tax on heavy trucks and farebox charges as well as from general local and state taxes, such as property and income taxes.

In 2009, the Oregon legislature approved the Oregon Jobs and Transportation Act, which increased funding for local and state roads and highways and public transit systems, as a result of increased state registration fees, licensing fees and motor fuel taxes. The Act will provide \$100 million for non-road transportation improvements, including public transit. By 2011, when all fee increases are implemented, will provide an additional \$300 million for local and state road and highway improvements.

A number of the chokepoints identified in this report received significant allocations of funding under HB 2001 and may be significantly improved if additional federal and local resources come available. These chokepoints include:

- OR 212/224 corridor (#3)
- I-205/I-5 interchange (#4)
- OR 99W Newberg-Dundee Bypass (#6)
- US 26 Cornell Road to 185th Avenue (#9)
- I-5/OR 214 Woodburn interchange (#12)
- OR 569 (Beltline Highway)/Delta Highway interchange (#18)
- I-5 Steep Grade Bottlenecks (#25)
- OR 62 (#33)

- US 97/Murphy Road interchange (#34)
- I-84/US 97 interchange (#35)
- I-84 Spring Creek section (#36)
- OR 42 (#39)
- Eastern Oregon chain-up areas (#42)

A number of other projects may be funded through discretionary resources provided under the legislation. For example, the Oregon Transportation Commission recently allocated \$30 million in Jobs and Transportation Act resources to the I-5 Columbia River Crossing, the state's top transportation chokepoint.

Federal funding for Oregon's highways and bridges comes from the Federal Highway Trust Fund, under funding levels and formulas determined by Congress. The Federal surface transportation program is a critical source of transportation funding in Oregon. From 1998 to 2008, Oregon received approximately \$4.4 billion in federal funding for road, highway and bridge improvements, and \$1.4 billion for public transit, a total of approximately \$5.8 billion.

Federal spending levels for highways and public transit are based on the current federal surface transportation program, the Safe, Accountable, Flexible, and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU), which was approved by Congress in 2005. The SAFETEA-LU program expires on December 31, 2010.

Currently Congress is deliberating over a long-range federal surface transportation program to follow SAFETEA-LU. The level of funding and the provisions of a future federal surface transportation program will have a significant impact on Oregon's ability to address many of its surface transportation chokepoints.

Transportation Chokepoint Relief

Relieving travel chokepoints and improving mobility and access in Oregon will require a comprehensive approach that provides commuters and businesses with an integrated surface transportation system. This approach should include proportional strategies to increase the capacity of the state's surface transportation system, improve the efficiency of the existing system and reduce some travel demand, particularly during peak periods.

The Oregon Department of Transportation has taken steps that have been effective in providing some traffic congestion relief by increasing the efficiency of the state's highway and street network. But accommodating the continued significant growth in travel, without experiencing a significant increase in traffic congestion, will require that the state both expand the capacity of its roadway and transit systems as well as make further improvements in the efficiency of its surface transportation system.

The modernization and expansion of key highway segments in Oregon would result in a significant increase in employment and business activity in the state and would also save time for travelers as a result of reduced congestion. A 2007 report found that if Oregon modernizes and expands key segments of its highway system that by 2025 it would result in an annual increase of \$1.7 billion in business output, would support an additional 16,300 jobs annually and in the Portland area would save the average household 28 hours of travel time annually.¹³

Elements of a comprehensive approach to improving local and regional mobility should include the expansion of the capacity of a region's transportation system, improvements in the efficiency of the existing transportation system and the reduction of some travel demand during peak hours. Elements of such a plan should include:

Expand capacity of the transportation system

- **Additional traffic lanes, turn lanes and improved interchanges.** Expanding capacity, particularly on routes carrying significantly more travel than they were initially designed to carry, is a critical component of a traffic congestion relief program. Additional lanes or improved interchanges have been found to reduce congestion on nearby routes by drawing some of the traffic from these secondary roads.
- **Additional transit service.** Increasing transit ridership can help relieve congestion, particularly along heavily-traveled corridors. Investment in additional transit capacity can be an effective part of a congestion solution.
- **Install or improve sidewalks and bike paths.** Sidewalks and bike paths can provide an alternative to driving, particularly for shorter trips.

Improve the efficiency of the existing transportation system

- **Improved signalization.** Traffic speeds on congested routes can be increased by 12 to 25 percent by using coordinated traffic signalization, thus improving traffic flow.
- **Improved incident management program.** Officials in many areas are improving the speed with which they can detect and respond to congestion-causing accidents and breakdowns, thus reducing the time that traffic is delayed.
- **Improved driver information.** Regional transportation centers that provide drivers with current information on road conditions to help them make informed decisions on which routes to take are having some success in reducing congestion.
- **Ramp-metering.** Highway ramps can be metered to insure that cars enter freeways more smoothly.

Reduce travel demand during peak hours

- **Promote telecommuting, flex-time and ridesharing.** Recent improvements in technology have greatly increased the ability of workers to telecommute, which, along with the use of flex-time and promotion of ridesharing by large employers, can contribute to reductions in some peak-hour highway travel, thus reducing regional traffic congestion.

Conclusion

Oregon's system of roads, highways and public transit plays a critical role in supporting the high quality of life in the state by providing reliable mobility to the state's residents, visitors and businesses. But while the Beaver State has enjoyed significant population and economic growth over the past two decades, its transportation system has not been able to keep up with the growing demand for access.

Increasingly, Oregonians are finding their mobility constrained by congested and crowded roads, buses and rail cars, increasing personal delays and diminishing their access to recreation, social activities, employment and housing. Businesses in Oregon are also seeing their productivity threatened by increasing traffic congestion and constrained freight routes, which increases the cost and reduces the reliability of transport, harming their competitiveness.

Maintaining the high quality of life in Oregon and insuring future business competitiveness will require that Oregon make further improvements to its surface transportation system. Numerous surface transportation chokepoints in the state impede routine travel, commuting or commerce. Addressing these chokepoints will be critical in maintaining the high quality of life in Oregon by improving mobility, reducing delays, enhancing environmental quality and supporting economic growth.

Endnotes

¹ The Cost of Congestion to the Economy of the Portland Region, 2005. Economic Development Research Group, Portland Business Alliance, Metro, Port of Portland, Oregon Department of Transportation.

² Dunphy, R., "Moving Beyond Gridlock," Urban Land Institute. 1997.

³ Transportation Research Board, Special Report No. 245, "Expanding Metropolitan Highways: Implications for Air Quality and Energy Use", 1995. P. 217.

⁴ TRIP analysis of U.S. Census data.

⁵ Ibid.

⁶ The Oregon 2015 Transportation Alliance, "Accelerating Oregon Transportation Investments," 2006.

⁷ TRIP analysis of Federal Highway Administration data.

⁸ TRIP analysis of Bureau of Economic Analysis data.

⁹ Texas Transportation Institute. Urban Mobility Report 2009.

¹⁰ *Building Roads to Reduce Traffic Congestion in America's Cities: How Much and at What Cost?* Detailed State-by-State Analysis of Future Congestion and Capacity Needs. The Reason Foundation, 2006.

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¹² *Building Roads to Reduce Traffic Congestion in America's Cities: How Much and at What Cost?* Detailed State-by-State Analysis of Future Congestion and Capacity Needs. The Reason Foundation, 2006.

¹³ The Cost of Highway Limitations and Traffic Delay to Oregon's Economy (2007). Economic Development Research Group. Oregon Business Council and Portland Business Alliance.