



LPRO: Legislative Policy and Research Office

# FREIGHT AND PASSENGER RAIL

## BACKGROUND BRIEF

### HISTORY

Oregon's first north-south rail line required two decades to complete, beginning at Portland in 1869; it reached Salem in 1870 and Roseburg in 1872. Finally, extending to Ashland in 1884. Federal land grants financed this early track building. Construction continued over the Siskiyou Mountains into California and, by 1887, a continuous route existed between San Francisco and Portland. Meanwhile, in 1883, completion of a railroad along the Columbia River gave Oregon a transcontinental connection across the northern-tier states. Late in 1884, completion of a line from Umatilla over the Blue Mountains established a second transcontinental link through Idaho, Wyoming and Nebraska. Rail mileage in Oregon peaked in the 1930s at nearly 4,350 miles. More than 90 percent of the rail infrastructure in 1927 hosted both passenger and freight service, including more than a dozen daily passenger trains between Portland and Eugene via two routes. Passenger trains served the Rogue River Valley into the 1950s. Other milestones include the

formation of Amtrak in 1971, national deregulation of freight rates and routes in 1980, and acquisition of Southern Pacific by Union Pacific in 1996.

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### TODAY'S FREIGHT SYSTEM

Oregon currently has 2,342 route miles of track and 23 federally franchised freight railroads although not all are currently active. Union Pacific Railroad Co. (UP) and BNSF Railway Co. (BNSF) dominate rail transportation west of the Mississippi River. UP has rail lines extending from Portland into Washington State and east through Pendleton, La Grande and Ontario and north from Hermiston to Spokane and Canada. UP also has a rail line from Portland, south through Eugene and over the Cascade Range to Klamath Falls and into California.

BNSF track connects Portland and Seattle to Canada, and

another rail line along the north bank of the Columbia River links Portland to Spokane and beyond. A BNSF rail line to California diverges from the Columbia River line near Wishram, Washington and passes through Madras, Redmond, Bend and Klamath Falls



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into California. Between the Columbia River and Klamath Falls, BNSF and UP share 75 miles of UP track and 218 miles of BNSF rail line. Altogether, UP operates more than 1,085 miles of track in the state and BNSF operates 336 miles.

Oregon's 21 other freight railroads are regional and short line carriers. Collectively, Oregon's short lines operate more than half of the state's rail mileage, serving most of the Willamette Valley, the Oregon coast and the major communities along Interstate 5 between Eugene and the California border. Short lines serve the lower Columbia River basin and rural locations in Hood River, Gilliam, Union, Wallowa, Crook, Malheur and Lake Counties. Most of today's short line network, derived from former branch lines of major carriers, was spared the fate of other rail lines abandoned following mill closures and rail deregulation in 1980. Oregon's longest short lines today are the Portland & Western (PNWR), operating 558 miles, and Central Oregon & Pacific (CORP) with 251 miles of track in the state. While there are 23 railroads in Oregon, 75.9 percent of the state's rail network is controlled by just three companies: UP, BNSF and short line conglomerate Genesee & Wyoming.

According to the Association of American Railroads (AAR), total Oregon rail freight tonnage in 2012 was 54.4 million tons, up from 49.7 million tons in 2009. AAR indicated that railroads employed 2,026 Oregonians in 2012, and that those employees earned \$219.5 million in wages and benefits that year. Principal commodities carried by trains are wood and paper products, farm-related products and chemicals (largely soda ash or potash). Transportation equipment, petroleum, metals products, stone, scrap materials and varied wholesale and retail shipments also were hauled. For 2012,

Oregon led the country in originated rail tons of lumber and wood products. Exports, including large amounts of grain and fertilizers, accounted for 52 percent of rail traffic terminating in Oregon during 2012.

Condition of mainline track is generally good, but the number of trains that can be safely and efficiently carried depends on several factors, such as whether a signal system is present, the complexity of that system, and the length of and intervals between sidings. Sidings, where trains pull off to allow other trains to pass, are critical because the vast majority of Oregon's mainlines are single track. Some tunnels in Oregon won't allow passage of double stacked domestic containers, which are larger than containers utilized for international trade.

Until onset of the economic recession in 2008, traffic on short lines had grown substantially in prior years as operators improved service, upgraded track and equipment, and attracted new customers. However, some segments of Oregon's short line network will not allow freight speed of more than 25 miles per hour; the state's minimum goal for secondary line operation. Track conditions on a few short line segments necessitate lighter loads in addition to slower speeds. Since new rail cars can weigh up to 286,000 pounds (286K) when fully loaded, track incapable of hosting heavier vehicles discourages customers if they must load cars below capacity. The Oregon Department of Transportation (ODOT) estimates that the cost of upgrading deficient lines in the state to accommodate 286K cars is \$125 to \$150 million.

Additionally, a number of bridges and tunnels on the state's short line system are aging. Most short line bridges are timber trestles built between 1930 and 1950. Of 34 tunnels on the short line system, all but one was dug between



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### COAL AND OIL TRAFFIC

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1883 and 1916 and many contain significant portions of their original timber rib lining. Structural concerns within tunnels of CORP's Coquille-Eugene line were cited as the reason for the embargo of that line beginning in September 2007. The CORP embargo evolved into an abandonment application that was eventually resolved when the Surface Transportation Board ordered CORP to sell the line to the Oregon International Port of Coos Bay. Coos Bay Rail Link was hired to resume commercial freight train service over the line in October 2011. Port of Tillamook Bay's rail line was severely damaged by a storm in December 2007 and was abandoned in 2016 because the high estimated cost of repairs wasn't justifiable.

Most Oregon businesses that ship by rail, whether on a major railroad or short line, have access to only one of the state's two interstate railroads. This lack of competition is of concern to shippers and the short lines.

A 2004 study commissioned by the Port of Portland, [Freight Rail and the Oregon Economy](#), indicates that, although the rail industry is stable, productive, and competitive enough to increase business, railroads are not in the financial position to increase capacity quickly due to the industry's capital-intensive nature. On average, railroads reinvest 18 percent of revenues in improvements. With reasonable economic growth, freight volume is expected to increase by 80 percent over the next 20 years. The study notes that if railroads are not able to maintain their current share of that increase, additional tonnage will travel by truck, increasing public-sector costs for highways and private-sector transportation costs.

Since 1975, the only coal trains to be seen in Oregon were those destined to Portland General Electric's Boardman generating plant, which has been targeted for closure in 2020. While Oregon works to shut its only coal-fired generating station, and while utilities elsewhere in the U.S. have been switching from coal to natural gas, mining companies are looking at exporting coal through Pacific Northwest ports. In the fall of 2012 there were three active proposals for coal export terminals in Oregon, but by the end of 2014 all three had reached a dead end. Other coal export terminals proposed for Washington State are unlikely to generate coal trains passing through Oregon, although they would run along the Columbia River in Washington.

The North American oil boom that began in 2008 relies heavily upon freight trains to move crude oil to refineries on the East and West Coasts. In the U.S., rail shipments of crude oil saw a dramatic and rapid increase from 2008 through 2014, after which falling crude oil prices began to dampen demand. In Oregon, crude oil carloads increased fourteen-fold over seven years from 1,685 in 2008 to 24,199 in 2014, then dropped to 9,144 in 2015 due to market dynamics. One big factor driving Oregon's increase was establishment, in late 2012, of an oil transfer terminal at Port Westward near Clatskanie that previously was created as an ethanol production plant. Crude oil arriving by train was pumped into tanks and then transloaded to barges for movement to domestic refineries. Of the 24,199 oil carloads moved through Oregon in 2014, 14,227 terminated their trip in Oregon, 75 percent at Port Westward. However, beginning in the spring of 2016, the Port Westward facility was being converted back to



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ethanol, ending its short-lived existence as a crude oil transfer.

Starting in July 2013, there were several high-profile derailments in North America involving crude oil trains, resulting in explosions, fires and, in Canada, loss of life and destruction of a downtown. Those events resulted in nationwide attention about various aspects of shipping crude oil by rail, including tank car design, train speed and routes, and processes for notification to emergency agencies of significant crude oil shipments. Chemical analysis of crude oil produced from the Bakken shale formation suggests its volatility is higher than other crude oils.

The federal government is primarily responsible for regulation of railroad operations. A brief review by the Office of Legislative Counsel found that state and local governments are preempted from regulating railroads. There is a narrow exception for laws of general applicability that is intended to protect public health and safety, such as fire and building codes.

While there are several federal agencies and boards that have a regulatory role, the Federal Railroad Administration (**FRA**), a branch of the U.S. Department of Transportation, has primary responsibility. The FRA has delegated some of its authority to ODOT's Rail and Public Transit Division.

ODOT's Rail Safety Unit has responded to the growth in crude oil transport by focusing on increasing safety through prevention. ODOT's inspectors regularly monitor train speeds, track conditions, train car placement and tank car worthiness. They also walk track, inspect cars, review operating procedures, evaluate safety at crossings and check hazardous materials shipping documents for

accuracy. ODOT is also reviewing and revising Oregon Administrative Rules pertaining to requirements for railroads to report the types and quantities of dangerous commodities moving through Oregon communities. Increasing safety via prevention pays off: from 2004 through 2013, Oregon experienced an 81-percent reduction in derailments.

### FUNDING IMPROVEMENTS

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Except for two of five publicly owned short lines, Oregon's railroads are run by private companies that pay federal, state and local income taxes as well as property taxes assessed on their individual rights-of-way, buildings and locomotives. All railroads, whether public or private, maintain their own equipment, track, and right-of-way. They pay an annual fee based on gross revenue for state track and equipment safety inspections and for facilitating the regulation of public rail crossings. Both federal and state highway funds support rail crossing improvements, but very little federal money has been allocated to the states for other track improvements. The exception is a federal loan program, the Railroad Rehabilitation and Improvement Financing Program, and a capital grants Rail Line Relocation and Improvement Program. Both programs are administered by the FRA. In 2016, the latter program was inactive due to lack of funding.

Although federal rail programs are included in six-year transportation authorization bills, some significant Oregon rail projects have been accomplished in past years by Congressional earmarks. Earmarks stipulated in the 2004 federal appropriation measure included \$8 million for continued rehabilitation of the railroad draw span over the Coos Bay harbor entrance; \$7.5 million for replacing the trestle on the north approach



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to the Willamette River rail bridge at Albany; \$7.1 million for new rail yard capacity in Portland's Rivergate District; \$1 million for enhancements at Eugene's rail passenger station; and \$700,000 for upgrading a branch line serving Willamina. The Coos Bay drawbridge money later was redirected toward the Oregon International Port of Coos Bay's 2009 acquisition of the Eugene-Coquille rail line.

In 2001, Oregon started a \$2 million Short Line Credit Premium Account with lottery bond proceeds to fund short line infrastructure improvements and to pay the credit risk premium required for federal loans. Nine projects were funded and the Mount Hood Railroad obtained a \$2.6 million federal loan with state dollars paying the credit premium. The nine projects entailed replacement of ties and track, placement of ballast rock and repair of bridges. The short lines provided an average 67 percent match for the improvements.

The legislature in 2003 authorized another \$2 million for the short line rehabilitation program and funded a new \$8 million Industrial Rail Spur program to create or improve rail access to industrial sites.

In 2005, the legislature created the first of several successive multimodal *ConnectOregon* programs, authorizing \$100 million in lottery-backed bonds during each of the 2005, 2007 and 2009 sessions; \$40 million in the 2011 session; \$42 million in the 2013 session; and \$45 million in the 2015 session. *ConnectOregon* provides grants and loans for non-highway transportation projects, including aviation, marine, rail passenger and rail freight, public transit and bicycle/pedestrian projects. ODOT administers a competitive application process for *ConnectOregon*, and the Oregon

Transportation Commission selects projects for funding with input from modal and regional advisory committees and a final review committee.

The 2005 *ConnectOregon* I program funded 15 rail projects totaling \$39 million. Projects included short line improvements throughout the state, construction of new track, upgrades to passenger rail facilities and equipment purchases. Thirteen rail projects received a total of about \$56 million under the *ConnectOregon* II program. Projects included rail yard expansions, bridge upgrades and building an intermodal truck/rail grain transfer and a storage facility. Under *ConnectOregon* III, 16 rail projects totaling \$40 million were approved and for the \$40 million *ConnectOregon* IV there were 10 rail projects totaling \$12.6 million. Seven rail projects totaling \$13.2 million were awarded from the \$42 million available under *ConnectOregon* V. Of 75 applications currently being evaluated for the \$45 million *ConnectOregon* VI program, 14 are railroad-related. Project selection is scheduled to occur by summer 2016.

### **RAIL FUNDING TASK FORCE**

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Oregon's lack of dedicated, sustainable funding for rail investments is one of the primary challenges to maintaining a viable rail system for both passenger and freight in Oregon. Oregon does not have a dedicated revenue stream available to provide the required match for federal funds to improve passenger rail service or to maintain or operate the infrastructure once built.

In 2011, ODOT convened a Rail Funding Task Force made up of 14 diverse representatives of Oregon industries, passenger rail advocates, local governments and community leaders to identify a long-term



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sustainable funding source for passenger and freight rail in Oregon. The task force submitted its final report to the Oregon Transportation Commission in December 2011. The funding recommendation described in the report includes five components: the creation of a special district; allocation of lottery proceeds to rail; reallocation of railroad property taxes to rail; a telephone access fee; and a rail investment tax credit. These sources would generate an estimated \$75 - \$80 million annually for rail.

### TODAY'S PASSENGER SYSTEM

Oregon is currently served with passenger train service by the daily Amtrak *Coast Starlight* that runs between Seattle and Los Angeles, and by Amtrak's daily *Empire Builder* between Portland and Chicago. The states of Oregon and Washington cooperate to sponsor a regional passenger train service between Eugene and Vancouver, B.C., branded as Amtrak Cascades. Washington State supports two daily round trips between Vancouver, B.C. and Seattle, and four daily round trips between Seattle and Portland. ODOT contracts with Amtrak to operate two daily round trips between Portland and Eugene.

ODOT also contracts with Oregon bus companies to operate intercity service that operates under Amtrak's *Thruway* brand as well as a state-created Public Oregon Intercity Transit (**POINT**) branding. The program provides bus schedules that supplement Amtrak Cascades train service, but also includes routes connecting points in southwestern, central, eastern and north coast Oregon with Amtrak and Amtrak Cascades train service at Portland, Eugene, Chemult and Klamath Falls. Early in 2014, service frequencies in the Willamette Valley were increased to seven round trips per day

between Salem and Portland, and six daily round trips between Eugene and Portland. Two round trips are scheduled daily between Portland and Astoria via Seaside. Some of the *Thruway* buses in the Willamette Valley are designed as extensions of more frequent train service available between Portland and Seattle, and to generally offer Oregonians more options when making travel plans.

Early in 2012, Oregon and Washington recognized that continuation of the region's unique intercity Amtrak Cascades service faced significant future hurdles, especially with respect to funding. Forming a closer partnership, one that it is hoped eventually will include British Columbia, was seen as important to success of the corridor. As a first step, ODOT and the Washington State Department of Transportation (**WSDOT**) signed a Memorandum of Understanding March 7, 2012, which committed the two agencies to the concept of joint operation of the service as a single corridor. WSDOT and ODOT developed a Corridor Management work plan signed by the two agencies' directors January 31, 2013. This work plan provides a framework for the initial steps ODOT and WSDOT will follow in developing a single Cascades Rail Corridor.

The Vancouver, B.C.-to-Eugene rail corridor is one of 10 federally designated high-speed rail corridors. The FRA defines "high-speed" as speeds reasonably expected to achieve 110 miles per hour or more, though top speeds on the line today are 79 miles per hour. The locomotives and Talgo cars in operation today are designed to run at higher speeds, but the current track and signal system is not. The strategy to reduce run time, increase daily round trips and improve on-time performance between Eugene and Portland on the current freight system is estimated to cost



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approximately \$2 billion. The Pacific Northwest Rail Corridor received more than \$800 million out of \$8 billion allocated for “high-speed” rail as part of the federal American Recovery and Reinvestment Act (ARRA) of 2009, and all projects are scheduled for completion by fall of 2017. Oregon’s share was \$10.5 million to replace the roof at Portland’s Union Station and to conduct preliminary engineering for two rail projects in north Portland and another in Eugene. Another \$8.9 million in federal high-speed rail funds were allocated to Oregon for further planning and environmental work at Union Station, to help fund an update of the [Oregon State Rail Plan](#), and to assist creation of a Corridor Investment Plan (CIP) for Willamette Valley passenger service. The latter will incorporate a Tier 1 Environmental Impact Statement to analyze route options and produce a service development plan. The CIP is required to meet minimum federal planning requirements and to be eligible to apply for future federal dollars. The CIP and its recommendations are expected to be completed in 2018.

During the second half of 2013, ODOT took delivery of two new 13-car passenger trainsets manufactured by Talgo, the company that earlier built the five existing trains used for the Amtrak Cascades service since 1998. The new trains were purchased with federal ARRA highway funds saved when highway projects came in under bid. Oregon purchased the trainsets for several reasons, including wanting to increase its contribution to – and stature in – passenger rail service in the Pacific Northwest. The five trains operating in the Cascades corridor, prior to the addition of Oregon’s two new trains, were stretched to their limit covering existing service commitments. Any planned expansion would not be possible without additional equipment.

One specific expansion, required by funding awarded and scheduled for completion in 2017, requires Washington to add two additional round trips between Portland and Seattle. Because WSDOT owns three of the five older trains and Amtrak owns the other two, that expansion could have meant a disruption in or elimination of service between Portland and Eugene. To ensure equipment is available for Portland-Eugene service, Oregon opted to purchase trains that can be used cooperatively with the older fleet everywhere in the corridor. By owning equipment, Oregon now has a stronger role as a partner in the Cascades corridor, and ODOT gained the ability to implement schedule changes that were impossible to accomplish before the new trains joined the fleet. However, owning trainsets has presented new challenges, including the need for additional funding to maintain the assets.

In calendar year 2015, ridership on the Oregon-funded Amtrak Cascades trains and the Portland-Eugene segment of the *Coast Starlight* was 139,975 passengers. Another 88,967 persons traveled the Portland-Eugene corridor in 2015 aboard Amtrak *Thruway* ODOT POINT buses. From 1996 to 2012, the Oregon passenger rail system and its allied bus network have shown sustained ridership growth with the exception of 2009, a year hard-hit by the recession. In 2013, ridership began to decline because of a number of factors. A recent schedule change, improvements in on-time performance, completion of construction activities, and marketing efforts have resulted in a nine percent ridership increase on the Amtrak Cascades service for first quarter of 2016 as compared to the first quarter of 2015.



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### EXCURSION TRAINS

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Excursion trains are important to the financial future of some Oregon short lines and to the economies of regions in which they operate. Two small freight carriers that rely heavily on excursion revenue include Mount Hood Railroad and Willowa Union Railroad. Two other operators, Sumpter Valley Railroad and the Oregon Coast Scenic Railroad, run exclusively for tourists.

### AMTRAK, PRIIA AND FUTURE FUNDING

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Passenger rail funding discussions in Congress are inevitably tied to the discussion of Amtrak's future. In 2002, Amtrak was on the brink of closing lines. Missing congressional deadlines to be operationally self-sufficient, Amtrak reorganized and, in 2011, overhauled its accounting processes. With the exception of the Northeast Corridor, Amtrak's ticket revenue does not cover operating costs. The company's cross-country trains show the highest losses. Affected communities and states are urging Congress to more fully support the system in order to provide alternatives to crowded highways and airports.

Meanwhile, Congress put in motion changes to significantly shift the burden of funding regional services – those covering distances of less than 750 miles – to the states in which the services operate. Provisions of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA) set a deadline of October 2013 for states to begin paying fully allocated costs of state-supported passenger service run by Amtrak. During 2010 and 2011, representatives of the states and Amtrak worked to devise a fair method for apportioning costs between parties. At the

same time, Oregon and Washington reevaluated how to equitably share the cost of the Amtrak Cascades service. The net result of these congressionally mandated actions has been to substantially increase annual costs for both Oregon and Washington.

Funding sources used heretofore by Oregon to provide citizens with a passenger rail alternative do not generate sufficient revenue to cover the new and higher costs imposed by the federal government. As a result, a number of states, including Oregon, have been required to make funding decisions regarding continuation of intercity passenger rail service. In 2015, the legislature approved \$10.4 million in operating funds to continue passenger rail in Oregon.

### COMMUTER RAIL

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In February 2009, the Tri-County Metropolitan Transportation District (**TriMet**) began commuter rail service between Beaverton and Wilsonville, with three intermediate stations in Beaverton, Tigard and Tualatin. The service operates over upgraded freight rail tracks belonging to PNWR. The Westside Express Service (**WES**) uses three self-propelled diesel multiple-unit vehicles (**DMUs**) plus one non-powered trailer car. Early in 2010, TriMet acquired two used self-propelled rail diesel cars (**RDCs**) from the Alaska Railroad and overhauled them as standbys for the newer DMUs. WES trains average 37 miles per hour over the route and travel up to a maximum speed of 60 miles per hour. WES trains run every 30 minutes during the morning and afternoon rush hour on weekdays only. Ridership in calendar year 2013 grew to 478,766 from 433,861 in 2012. WES connects with TriMet's Westside MAX (light rail) and buses at the Beaverton Transit Center. At Wilsonville, the service interfaces





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with South Metro Area Regional Transit (SMART) transit buses and also buses operated by the Salem-Keizer transit district.

### OREGON RAIL AND PUBLIC TRANSIT DIVISION

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The Rail Division and Public Transit Division of ODOT were combined in June 2012. Within the enlarged division, specialists carry out programs in Rail Safety, Rail Employee Safety, Crossing Safety, Planning and Operations. Most division staff is involved in regulatory activities focusing on safety. They ensure compliance with federal and state regulations related to track, equipment, operating practices, railroad employee safety, highway-railroad crossings and hazardous materials handling. The division directly manages 155 miles of state-owned railroad right-of-way in six counties as well as federal and state-funded crossing improvement projects. Staff provides oversight and inspection of rail-related ConnectOregon projects. Finally, the division helps manage and market the Amtrak Cascades passenger service and connecting *Thruway* and POINT bus networks.

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