
Freight Modes

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Freight Transportation Overview

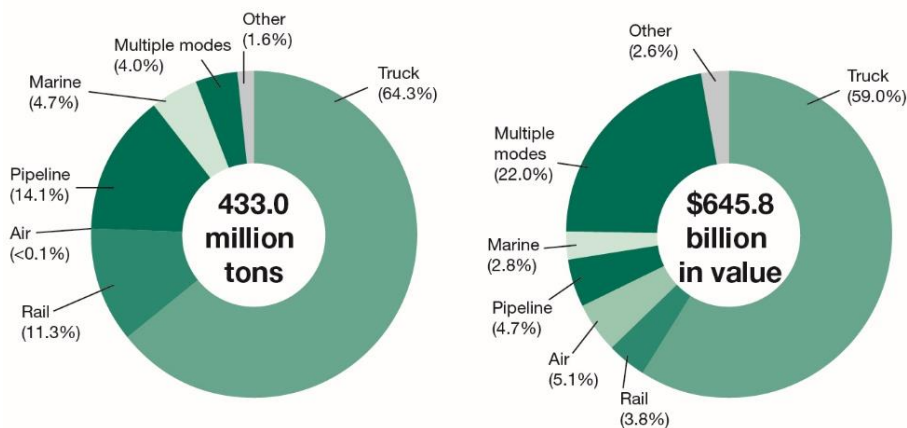
Washington State is the nation's most trade dependent state on a per capita basis. International imports and exports were valued at \$137.5 billion in 2015, and domestic freight moving through the state was valued at more than \$508 billion in 2015. Washington relies on an efficient multimodal freight transportation network, where goods are shipped into, out of, and around Washington by truck, rail, air, barge, and water.

In 2015, there were 1.36 million Washington jobs in freight-dependent industries (including wholesale, retail, manufacturing, construction, transportation, and agriculture/timber and wood products), and gross business income for freight dependent industries totaled \$550 billion.

How much freight is moved by mode?

WSDOT's Gray Notebook reports that the majority of freight is moved by truck, whether measured by tonnage or value. In 2015, when measured by weight, trucks moved 64 percent of freight; when measured by value, trucks moved 59 percent of freight.

Most freight moves by truck, pipeline or rail in Washington state
2015; Percentages determined by tons and value



Data source: Freight Analysis Framework Data, Federal Highway Administration.
Notes: Percentages may not add to 100 due to rounding.

Which parts of our transportation system carry the most freight?

In 2015, WSDOT, the Association of Washington Cities and the County Road Administration Board updated the state's Freight and Goods Transportation System (FGTS). The FGTS classifies roadways, railways and waterways according to the tonnage carried. More information and maps may be found on WSDOT's [FGTS webpage](#).

Sources:

[Washington State Freight Mobility Plan, 2014](#)

[Washington State Freight Trends and Policy Recommendations, May 2014](#)

[Gray Notebook, 62nd edition, June 30, 2016](#)

[Gray Notebook Index on Freight Subjects](#)

[U.S. Census Foreign Trade Division, State Trade Data](#)

Trucking

BACKGROUND

- In Washington State, a total of 285 million tons of freight worth \$381 billion was moved by truck in 2015, accounting for 64% of total freight shipment by weight in WA. (FHWA, [Freight Analysis Framework](#))
- In 2015, nearly 246,000 trucks were registered in Washington State to carry freight for business or commercial purposes.
- The highest truck volumes on Washington roadways are in the South Puget Sound area, with an estimated 2015 average daily truck volume of 15,793 on I-5, near Tacoma. On I-90, the average daily truck volume is 6,548 in North Bend. Trucks entering from Canada are estimated at 660,290 for 2015, with most crossings at Blaine and Sumas.
- Trucking relies on highway and roads for long-distance transport, as well as for urban goods “last mile” delivery (i.e. transport from warehouses or intermodal freight terminals to final destinations). There has been a significant increase in short truck trips in urban areas due to online shopping for various goods, this has resulted in increased trips to and from distribution centers as well as point-to-point shipments.
- The truck transportation sector employed 22,661 workers in the first quarter of 2015, accounting for about 0.7% of Washington’s workforce. Many local employers rely heavily on trucks to move goods. The [Washington State Freight Advisory Committee](#) provided these examples in 2014:
 - Boeing directly employs over 300 drivers who drive over 8.5 million miles a year in the Puget Sound Region (this figure does not include vendors). Boeing moves parts by water, rail and air, but all these modes require truck pick-ups.
 - PACCAR relies primarily on trucks for freight movement and moves less than 15% of its parts by rail.
 - SuperValue operates a 500,000 square foot grocery warehouse in Tacoma that makes deliveries to six states and overseas military bases.
 - Costco has 29 warehouses in Washington. In 2012, they had 130,000 forty-foot equivalent truckloads inbound to the state.

GOVERNANCE

- The Washington State Patrol enforces safety requirements and overweight limits on trucks (Chapters [46.32](#), [46.37](#), and [46.61](#) RCW).
- The Department of Licensing administers the Prorate/International Registration Plan (Chapters [46.85](#) and [46.87](#) RCW), an interstate compact that allows payment of license fees based on fleet miles operated in various jurisdictions. The license plate issued through this plan allows users to operate through other member jurisdictions and pay fees through their base jurisdiction.
- WSDOT provides overweight and overheight vehicle permits ([RCW 46.44.090](#)) and weigh station bypass capability via the Commercial Vehicle Information Systems and Networks (CVISN) program.

FUNDING

- In addition to providing funds for the regulatory programs identified above, the state transportation budget includes substantial investments in road maintenance, preservation and improvement projects. The most recent transportation project lists can be found at: [Leap.leg.wa.gov](#).

- Several user fees are imposed on commercial vehicles to pay for regulatory programs and roadway investments, including, but not limited to:
 - License fees by weight (formerly combined licensing fees) ([RCW 46.17.355](#), [46.68.035](#))
 - Combination Trailer License Plate ([RCW 46.17.250](#))
 - International Fuel Tax Agreement Decal ([RCW 82.38.110\(8\)](#))
 - Proportional Registration Plates ([Chapter 46.87 RCW](#))
 - Commercial vehicle safety enforcement ([RCW 46.17.315](#))
 - Commercial Driver Licensing ([RCW 46.20.049](#))
 - Monthly Declared Gross Weight Fee (formerly monthly combined licensing fee) ([RCW 46.17.360](#))
 - Special Permit for Oversize/Overweight Movements ([RCW 46.44.0941](#))
 - Temporary Additional Tonnage ([RCW 46.44.095](#))
 - Trip Permits ([RCW 46.17.400](#))

Resources:

[WSDOT, “Gray Notebook,” 62nd Edition](#)

[WSDOT Commercial Vehicle Services](#)

[WSP’s Commercial Vehicle Enforcement Bureau](#)

[DOL Commercial Vehicle Information](#)

[DOL Motor Vehicle Registration By Class and County Report 2015](#)

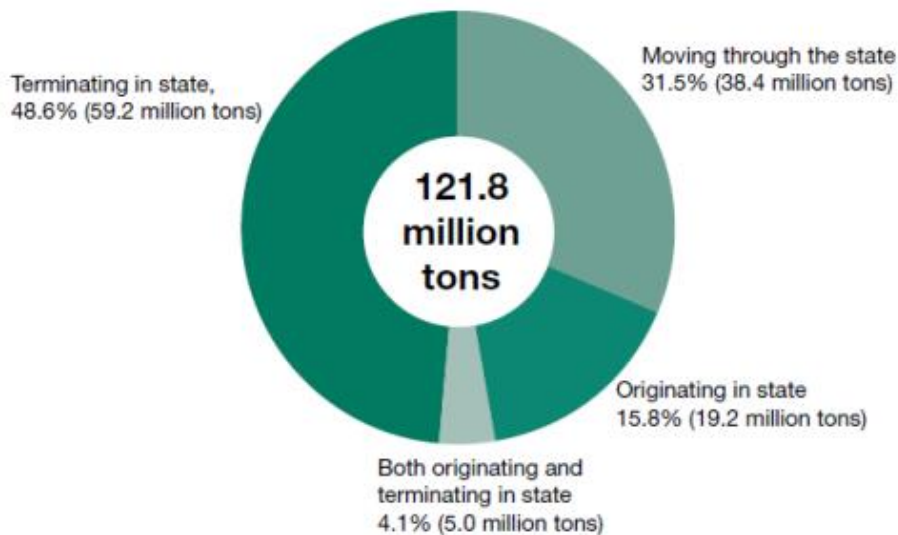
[Washington State Employment Security Department](#)

Freight Rail

BACKGROUND

Railroads in Washington state transported 121.8 million tons of freight in 2014. About half (48.6%) of freight moved by rail in Washington was shipped into the state and terminated here. Freight rail shipments moving through Washington (starting outside the state and not terminating here) accounted for 31.5% of total freight rail tonnage. ([2014 Surface Transportation Board Carload Waybill Data](#), analyzed by WSDOT).

Most rail freight is traveling in Washington is coming from outside the state and terminating here *2014; Percent and tons shipped by origin and destination*



Data source: WSDOT Freight, Rail and Ports Office, Surface Transportation Waybill Data.

The major rail corridors in Washington are:

- The north-south corridor that parallels I-5 from the Columbia River to Vancouver, BC
- The Columbia River Gorge route from Vancouver, WA to Pasco, Spokane and eastward
- Stevens Pass running from Everett to Spokane and east
- Stampede Pass from Auburn, Pasco, Spokane and east

Several modes operate on these corridors, including freight rail, inter-city passenger rail, and commuter rail services. The Surface Transportation Board classifies railroad carriers based on operating revenue and function. Each class of railroad is subject to a different degree of federal safety and labor regulation.

- **Class I Railroads.** Class I railroads are the largest rail carriers. There are two Class I railroads operating in Washington State: the BNSF Railway and the Union Pacific Railroad.
- **Class II Railroads.** There is one Class II railroad (Montana Rail Link) that operates in Washington State, but it does not own any railroad track in this state. It operates on the BNSF corridor between Spokane and Seattle.

- **Class III Railroads (Short-lines).** There are 23 short-line railroads and switching railroads operating within the state. These railroads serve the first and last mile segments connecting local shippers and communities to the large Class I railroads. In 2015, WSDOT completed a [Short-line Rail Inventory & Needs Assessment](#). The following rail companies operate short-line railroads in Washington:
 - *Eastern Washington* – Great Northwest, Palouse River and Coulee City, Kettle Falls International, Pend Oreille Valley, Eastern Washington Gateway, Port of Columbia, Eastside Community Rail, Kettle Falls International, and Washington & Idaho;
 - *Central Washington* – Cascade and Columbia River, Columbia Basin, Yakima Central Railway, Royal Slope, and Central Washington;
 - *Western Washington* – Columbia and Cowlitz, Chehalis Central, Puget Sound and Pacific, Clark County,
 - *Switching and terminal railroads* – Ballard Terminal, Longview Switching Co., Meeker Southern, Mount Vernon, Tacoma Rail, Kennewick Terminal, and Tri-Cities and Olympia.

GOVERNANCE

Railroads have traditionally been privately owned. Public ownership of short-line infrastructure has grown over the last several decades. The Palouse River and Coulee City, Eastern Washington Gateway, Washington & Idaho, Tri-City and Olympia, Central Washington, Pend Oreille Valley, and Tacoma Rail operate on rail infrastructure owned by the state, a county, a city, or a Port Authority.

The USDOT Surface Transportation Board, the successor agency to the Interstate Commerce Commission, has broad economic regulatory oversight over railroads, including rates, service, the construction, acquisition and abandonment of rail lines, carrier mergers and interchange of traffic among carriers.

The federal agency with primary responsibility for oversight of safety and security of railroads is the Federal Railroad Administration (FRA, also part of USDOT). Oversight of hazardous materials is jointly performed by FRA and the Pipeline and Hazardous Materials Safety Administration (PHMSA). Some rail safety regulation is delegated to the [Washington Utilities and Transportation Commission](#).

WSDOT's Rail, Freight, and Ports Division is responsible for developing and implementing the Washington State Rail Plan and managing all rail programs.

FUNDING

State funding was appropriated for the Freight Rail Capital Program in the 2016 Supplemental Budget at the following levels:

- \$13.8 million Multimodal Transportation Account —State;
- \$0.5 million Multimodal Transportation Account – Federal and Local;
- \$1.5 million Essential Rail Assistance Account--State; and
- \$7.2 million Transportation Infrastructure Account -- State.

WSDOT FREIGHT RAIL PROGRAMS

Freight Rail Assistance Program. This is a grant program available to both public and private sector rail applicants. Projects must pass certain evaluation criteria and be shown to maintain or improve the freight rail system in the state and benefit the state's interests.

Freight Rail Investment Bank Program. This is a loan program available to the public sector only (the state may not lend to the private sector). This program is intended for small projects (no more than \$250,000) or as a small part of a larger project, where state funds would enable the project to be completed. A 20 percent local match is required and the project must pass a cost/benefit analysis.

Washington State Grain Train. Operations of the Grain Train began in 1994 and the program has grown to a fleet of 100 grain cars. The state owns these grain cars and charges a fee for use which is deposited into the Grain Train Revolving Fund. Funds are used to manage, operate and sustain the program, including periodic replacement of the fleet. The program is financially self-sustaining and operates without taxpayer subsidy.

Produce Rail Car Program. Enacted in 2003, this program was modeled on the Grain Train program. Funded by \$2 million in federal funds, the program provided refrigerated rail cars for Washington farmers and agricultural shippers. Between 2005 and August 2014, a private company, Cold Train, offered a similar shipping service. The state program was suspended in 2012 but is now being reviewed in light of the cancellation of the [Cold Train](#) shipping service.

PCC Rail System. The Palouse River and Coulee City Rail System (PCC) is owned by the state. WSDOT contracts for operations and maintenance of the system with independent, private rail operators. This 297-mile rail line is made up of three separate branch lines spanning four eastern Washington counties. The PCC Rail System provides service to grain cooperatives and other shippers as well as manufacturers and farmers. Wheat, barley, peas, lentils, fertilizer, and lumber are among the products transported on the PCC. Washington's farmers shipped 20 percent of their wheat in 2013 on the PCC, removing close to 37,000 truckloads from state roadways.

In the 2015-2017 biennium, \$2.3 million has been appropriated for the PCC. [RCW 47.76.290](#) allows funds collected from leases or sales of property on the PCC line to be reinvested in the PCC line. In addition, [RCW 47.76.360](#) allows any funds collected through the Grain Train program, but deemed in excess of the needs of the grain train, to be invested in the PCC line.

Individual Capital Projects. Projects are added to the transportation budget as funds allow. The most recent project list may be found at: Leap.leg.wa.gov. Rail projects may be found on the "ALL PROJECTS" list.

Sources:

[WSDOT's Freight Rail website](#)

The [Integrated Freight and Passenger Rail Plan](#) was completed in 2013

[USDOT Surface Transportation Board](#)

Washington State [Short Line Rail Inventory and Needs Assessment](#)

[2015 Palouse and Coulee City Rail System Strategic Plan](#)

[2015 Washington State Rail System by Owner - MAP](#)

Marine Freight

BACKGROUND

There are 11 deep-draft public ports in Washington with commercial marine terminals capable of handling ocean going vessels. Seven of the deep-draft ports are located on the Puget Sound, one on the Pacific Coast and three deep-draft ports are on the Columbia River. Washington also has seven inland waterway barge ports located along the Columbia-Snake River System.

Total waterborne commerce moving within and through the state was 119 million short tons, according to the US Army Corp of Engineers, [2014 Waterborne Commerce of the U.S. Report](#). By this measure, the state's two largest ports, Tacoma and Seattle, were responsible for 48 million short tons.

In 2015, the ports of Seattle and Tacoma unified the management of marine cargo facilities under the [Northwest Seaport Alliance](#). The ports continue to be governed by separate port boards. In 2015, the Alliance handled more than 3.5 million 20-foot equivalent (TEU) containers, the third highest in the nation.

There are three commercially-navigable waterways serving Washington state: the Pacific Ocean, the [Salish Sea](#)¹, and the Columbia-Snake River System. The Pacific Ocean is used to move freight to and from overseas markets on a variety of ships and barges from ports along the U.S. coast (including in Alaska) and Hawaii. The Salish Sea includes Puget Sound and provides access for major ports in western Washington to the Pacific Ocean. The Columbia-Snake River system provides access for inland Washington ports to the Pacific Ocean.

Crude oil was the largest volume waterborne commodity imported into Washington in 2014, over 16 million tons, and the majority originated from Alaska. Manufactured goods were the second largest commodities entering Washington State by water, over 6 million tons in 2014, most arriving in containers that originated from the Pacific Rim.

Food and food products were the largest volume waterborne commodity exported from Washington State in 2014, around 37 million tons, and the majority was shipped to foreign countries. Petroleum products were the second largest commodities leaving Washington State by water, around 11 million tons in 2014, and mostly shipped to foreign countries and Oregon State.

The Columbia-Snake River System stretches 365 miles inland from the Pacific Ocean, and plays a critical role in transporting agricultural, potash, wind turbine components, and other products between Eastern Washington and the Lower Columbia Seaports, as well as between Eastern Washington and the Midwest. More than 35 different commodities move up and down the river system, with about three times as much headed for export as compared to import.

Columbia River seaports, especially the Ports of Vancouver, Kalama, and Longview, play major roles in the movement of exported agricultural products, including being the largest grain export gateway for wheat and second largest soybean export gateway. In 2011, these three ports had 861 vessel calls and shipped 20.2 million metric tons of commodities between them.

¹ The name Salish Sea was formally adopted by both Washington State and British Columbia in 2009 to describe the waterways that encompass the Puget Sound, the Strait of Juan de Fuca, and the Strait of Georgia

Major Ports Serving Waterborne Trade

<u>Columbia Deep-Draft Ports</u> Port of Kalama Port of Longview Port of Vancouver	<u>Pacific Coast Ports</u> Port of Grays Harbor
<u>Columbia/Snake River Ports</u> Port of Benton Port of Clarkston Port of Kennewick Port of Klickitat Port of Pasco Port of Walla Walla Port of Whitman County	<u>Puget Sound/Salish Sea Ports</u> Port of Anacortes Port of Bellingham Port of Everett Port of Olympia Port of Port Angeles Port of Seattle Port of Tacoma

GOVERNANCE AND FUNDING

- Commercial shipping is primarily conducted by private interests.
- Washington State authorizes public ports dedicated to building and operating facilities to foster trade and economic development, including marine shipping. (For more information on ports, see the *Local/Regional Jurisdictions* section on page 363.)
- Ports are funded by user fees, property lease and rental fees, property tax levies, grants, and bond proceeds ([Chapter 53.36 RCW](#)).
- The United States Coast Guard regulates navigation and surface water transportation.
- The [United State Maritime Administration \(MARAD\)](#) oversees many port security issues, including licensing deep water ports for oil receiving ports and offshore liquid natural gas facilities. MARAD also administers the America’s Marine Highways program
- The Washington Board of Pilotage Commissioners is responsible for maintaining pilotage services on the Puget Sound and the coastal estuaries.
- The Oregon Board of Pilotage governs pilotage services on the Columbia River.

Sources:

[WSDOT Marine Freight](#)

[Washington State Freight Mobility Plan](#)

[Northwest Seaport Alliance, Year-end cargo report, 2015](#)

[Washington State Freight Advisory Committee, Washington State Freight Trends and Policy Recommendations, May, 2014](#)

[America’s Marine Highways program](#)

[U.S. Army Corps of Engineers, Waterborne Commerce Statistics Center, Commodity Movements from the Public Domain Database](#)

Air Cargo

BACKGROUND

The aviation system in Washington is an important player in freight movement. High-value, time-sensitive, and perishable goods depend on transport through Washington's airports. Air cargo moves by truck between airports and warehouses, making an efficient road system integral to the timely integration of cargo and aircraft. Air Cargo includes both air freight and air mail. Air cargo may be hauled in planes dedicated to freight or in the belly of passenger planes. (For more information on Air Transportation, see *Passenger Modes* on page 416.)

The major air cargo centers in Washington and their 2015 tonnage rates are as follows:

- SeaTac (785,006 tons)
- Boeing Field/ King County International Airport (416,738 tons)
- Spokane International Airport (231,264 tons)
- Paine Field (130,414 tons).

More than 175,000 jobs in Washington are connected to air cargo at Sea-Tac International Airport alone, producing \$6.1 billion in wages and salaries.

GOVERNANCE

Public-use airports are operated by port districts, cities, counties, and private interests. Public-owned facilities use several different funding mechanisms, including user fees (such as landing fees and passenger facility charges), voter-approved property tax levies, interest income, federal and state grants, and bond proceeds.

FUNDING

The federal Airport Improvement Program (AIP) is a principle source of funding for capital improvements at airports. A portion of AIP funding is reserved for projects that enhance air cargo facilities at qualified airports. AIP expenditures are drawn from the Airport and Airway Trust Fund, which is supported by taxes on air freight, passenger ticket taxes, fuel taxes, and other fees.

Resources:

[WSDOT Aviation](#)

WSDOT Freight Systems Division, [Washington State Freight Mobility Plan, 2014](#)

Washington State Freight Advisory Committee, convened by FMSIB, [Washington State Freight Trends and Policy Recommendations, May, 2014](#)

The [2015 Aviation System Plan Update](#) is currently underway

Washington's [2012 WSDOT Aviation Economic Impact Study](#)

For more airport data, see FAA's [Airport Program Statistics](#) and [Airport Operations and Ranking Reports](#).

Economic Impact of Air Cargo at Seattle-Tacoma International Airport, prepared for the Port of Seattle by Martin Associates of Lancaster, PA (copy available upon request)