

---

# Freight Modes

## Table of Contents

Freight Modes .....423

    Freight Transportation Overview .....424

    Trucking .....425

    Freight Rail.....427

    Marine Freight.....430

    Air Cargo.....432

## Freight Transportation Overview

Washington relies on an efficient multimodal freight transportation network, where shipped goods move into, out of, and around Washington by truck, rail, air, barge, and water.

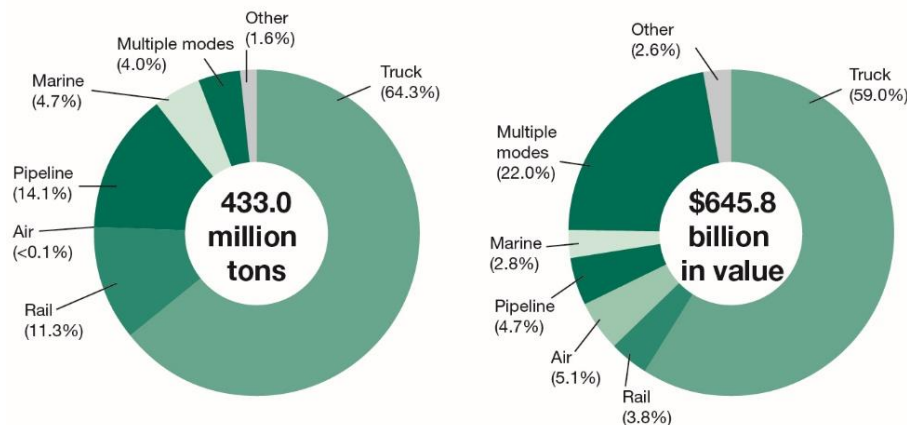
Washington had total imports and exports valued at \$126.3 billion in 2017, down slightly (0.2%) from \$126.6 billion in 2016. It was the fifth most trade-dependent state in the country in 2017, behind Louisiana, Michigan, Texas and Kentucky.

In 2017, gross business income for freight-dependent industry sectors was \$595 billion. There were more than 1.4 million Washington jobs in freight-dependent industries (including wholesale, retail, manufacturing, construction, transportation, and agriculture/timber and wood products).

### 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 2017, 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:

[2017 Washington State Freight System Plan](#)

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

[Gray Notebook, 70th edition, Freight Semi-Annual Report](#)

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

---

# Trucking

## BACKGROUND

- In Washington State, a total of 288 million tons of freight worth \$378 billion was moved by truck in 2016, accounting for 64% of total freight shipment by weight in WA. (FHWA, [Freight Analysis Framework](#))
- In FY 2018, about 263,000 of the 1.6 million trucks registered in Washington state 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.

## 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 state 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:**

[Gray Notebook, 66th edition, Freight Semi-Annual Report, June 2017](#)

[Gray Notebook, 70<sup>th</sup> edition, Freight Semi-Annual Report, June 2018](#)

[Gray Notebook Index on Truck Freight Subjects](#)

[WSDOT Commercial Vehicle Services](#)

[WSP's Commercial Vehicle & Driver webpage](#)

[DOL Commercial Vehicle Information](#)

---

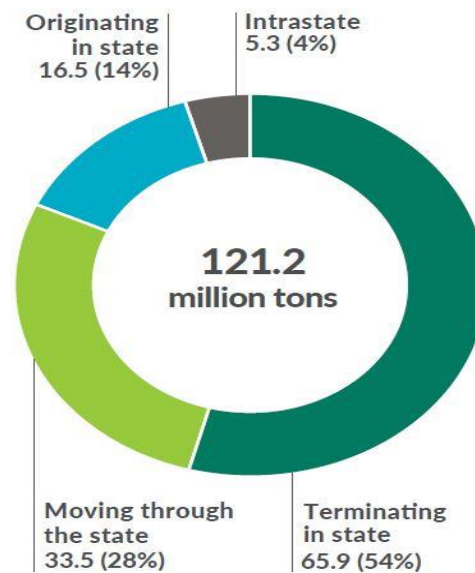
## Freight Rail

### BACKGROUND

Railroads in Washington state transported 121.2 million tons of freight in 2016. More than half (54%) 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 33.5% of total freight rail tonnage. (WSDOT Gray Notebook #70)

#### Most rail freight in Washington comes from outside the state

2016; Tons in millions; Percent of total tonnage shipped by origin and destination



Data Source: WSDOT Rail, Freight and Ports Division.

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 freight rail grant and loan programs.

## FUNDING

State funding was appropriated for the Freight Rail Capital Program in the 2018 Supplemental Budget at the following levels:

- \$47.2 million Multimodal Transportation Account —State
- \$0.9 million Multimodal Transportation Account – Federal
- \$0.9 million Essential Rail Assistance Account--State
- \$7.6 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.

**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. In 2016, the PCC enabled the movement of over 33 million bushels to market, representing a value of \$139 million and 21 percent of the wheat crop of the entire state.

In the 2017-2019 biennium, \$8.04 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 [Washington State Rail Plan, March 2014](#) was completed in 2013

[USDOT Surface Transportation Board](#)

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

[PCC Rail System webpage](#)

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

[Gray Notebook, 70<sup>th</sup> edition, Freight Semi-Annual Report, June 2018](#)

---

## 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 122.9 million tons in 2016. 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 2017, the Alliance handled more than 3.7 million 20-foot equivalent (TEU) containers, the fourth largest container gateway in North America. There are three commercially navigable waterways serving Washington state: the Pacific Ocean, the Salish Sea<sup>1</sup>, 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.

---

<sup>1</sup> 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

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

### 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 369.)
- 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](#)

[Northwest Seaport Alliance 2017 Annual Report](#)

[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 420.)

The major air cargo centers in Washington and their 2016 tonnage rates are as follows:

- SeaTac (939,458 tons)
- Boeing Field/ King County International Airport (396,571 tons)
- Spokane International Airport (228,124 tons)
- Paine Field (117,411 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](#)

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

[Washington Aviation System Plan \(WASP\)](#)

[WSDOT Gray Notebook #70](#)

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

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

[Sea-Tac's Air Cargo webpage](#)

[JTC Air Cargo Study webpage](#)