Notable results

- *The number of trucks crossing the Canadian border into Washington grew 3.3% in 2014, continuing an upward trend since 2009*
- *Interstate 5 near Tacoma had the highest observed daily truck volumes in Washington state in 2014*
- *Air cargo shipments in Washington state increased 9.7% between 2012 and 2013, the most recent year for which data is available*
- *Waterborne freight shipments in Washington state decreased 3% between 2012 and 2013*

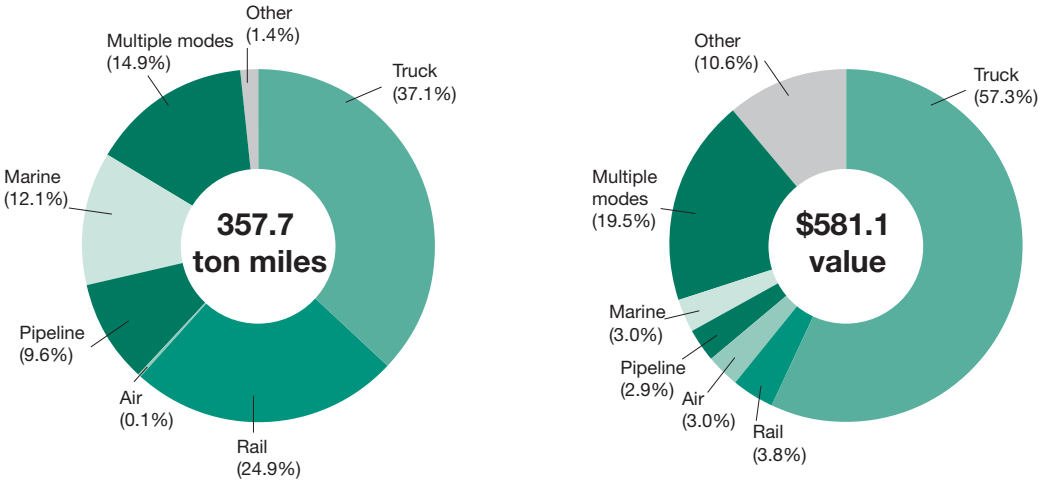
Trade dependence grows; more trucks on roads

On a per capita basis, Washington is the third most trade-dependent state in the nation (behind Louisiana and Texas) with total imports and exports valued at $142.7 billion and gross business income for freight-dependent industry sectors valued at $547.6 billion in 2014. This is up from its fourth-place position. This is due to import/export value and important because WSDOT supports freight systems and freight-dependent industries by directly managing the state's highway system, ferry system, a short line railroad and several freight rail programs.

Keeping freight moving contributes to Gov. Jay Inslee's statewide goals for improving travel and freight reliability on strategic corridors, part of his performance management efforts (see *Results Washington,* p. 7). The majority of freight in Washington is moved by truck, whether measured by tonnage or value. When measured in ton miles (a unit of freight transportation representing a ton of freight moved one mile), in 2012 (the most recent year for which data is available) trucks moved 37 percent of freight into, out of, within, and through Washington. This is due to the relative short distance of truck trips compared to other modes. By value, trucks move 57 percent of freight. Trucks also support first- and last-mile movements for freight moved on rail, marine, pipeline and air-freight systems. Rail, marine and pipeline systems typically carry heavier bulk freight of lower value (such as grain) greater distances; trucks, aircraft, and containerized freight generally is of higher value (such as machinery and electronics).

WSDOT also provides policy analysis and planning coordination for the state's interests in freight transportation systems. The state's multimodal freight system extends beyond the network of highways and local roads, mainline and short line railroads, and navigable waterways, to include the rail terminals, ports, air cargo facilities, weigh stations, border crossings and other infrastructure involved in the movement of commerce.

Most freight moves by truck or rail in Washington state
2012[1]; Percentages determined by ton miles[2] and value in millions



Data source: Freight Analysis Framework Data, Federal Highway Administration (FHWA).
Notes: Percentages may not add to 100 due to rounding. 1 The most recent year for which data is available. 2 A unit of freight transportation representing a ton of freight moved one mile.

Truck border crossings continue to trend upward

South Sound has highest truck traffic

South Puget Sound saw estimated average daily truck volumes of 12,249 on Interstate 5 (I-5) near Olympia (milepost 106), 15,226 near Tacoma (milepost 131), and 13,537 near Fife (milepost 136) in 2014. The site near Tacoma had the highest observed daily truck traffic in Washington state. On I-90, average daily truck volumes were 6,275 near North Bend (milepost 33) and 3,413 near Vantage (milepost 136). Average daily truck volumes on State Route 18 were 5,064 near Auburn (milepost 5) and 3,689 near Snoqualmie (milepost 27). An increase in truck traffic is due to a growing economy and is related to a reduction in container port activity in Portland, Ore.

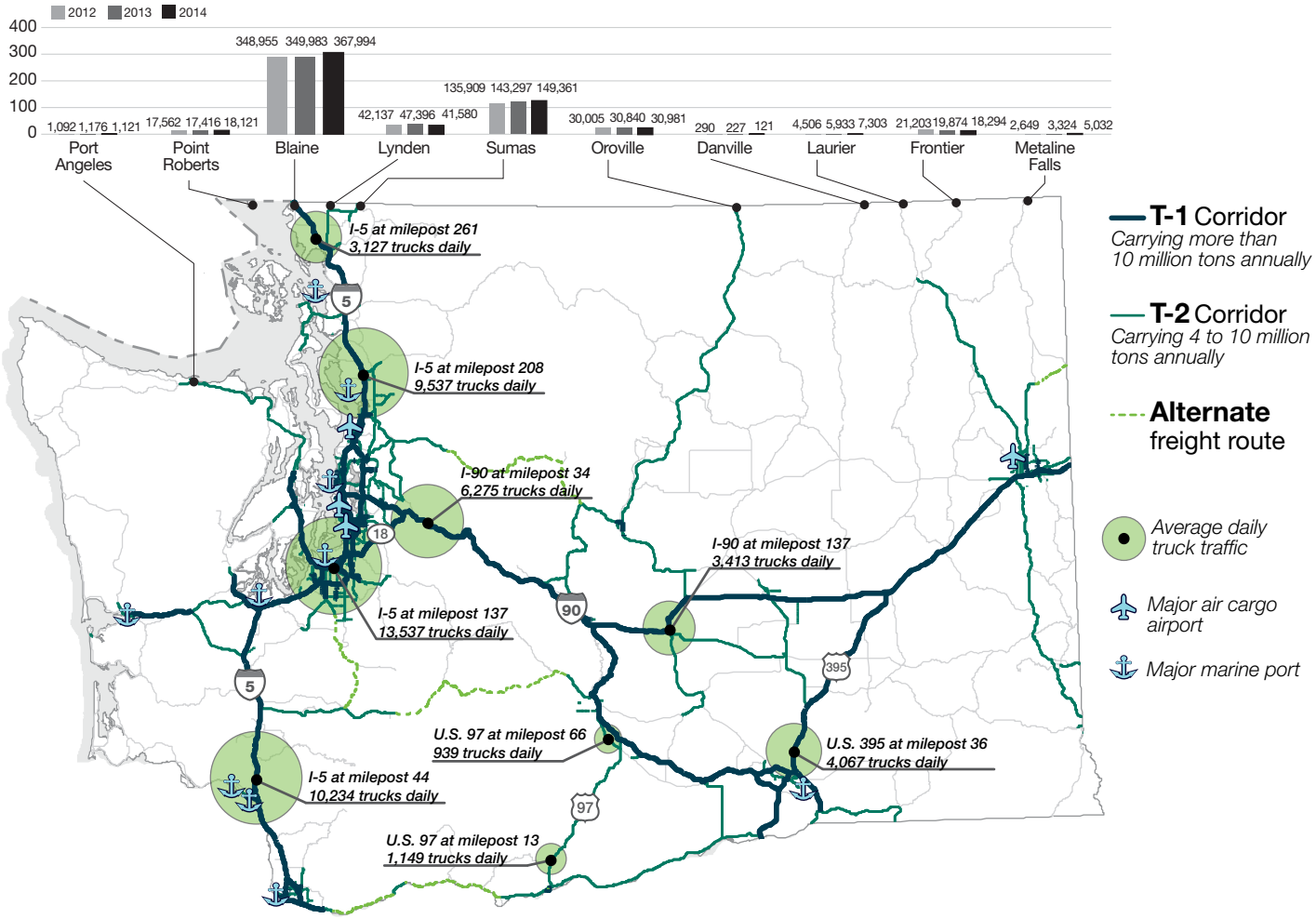
The 2014 average annual daily truck volume data is not comparable to previous years due to a change in the collection process. WSDOT updated the traffic counting equipment in 2013 to improve accuracy.

Number of trucks entering state from Canada up 3.3 percent

The total number of trucks entering Washington from Canada increased 3.3 percent, from 619,466 total truck crossings in 2013 to 639,908 total truck crossings in 2014. This continues the upward trend observed since 2009, with moderate annual increases. Since 2009, the annual number of trucks entering Washington from Canada has increased 14.5 percent.

The high volume border crossings of Blaine and Sumas carry more than 80 percent of total truck border crossings entering Washington from Canada. The border crossing in Blaine consistently has the most traffic. In 2014, 367,994 trucks entered Washington from Canada at the Blaine border crossing. The Sumas border crossing, with the second highest number of southbound truck crossings, saw 149,361 trucks entering Washington in 2014.

Trucks entering Washington from Canada and truck volumes on state roadways continue upward trends
2012 through 2014 border crossings and 2013 truck volumes



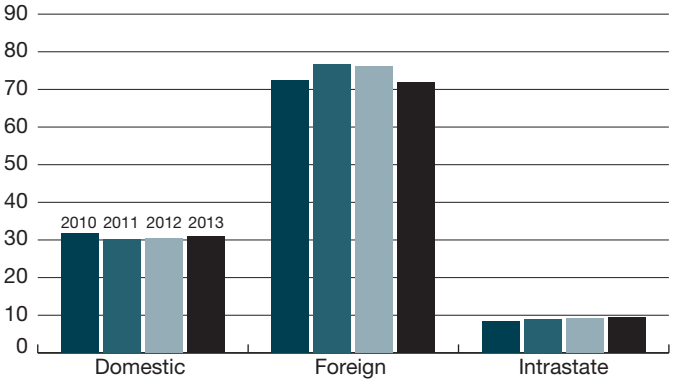
Waterborne freight activity down 3 percent in 2013

Washington's waterborne freight activity, measured in total tonnage, was 112.2 million tons in 2013 (the most recent year for which waterborne freight data is available). This was a 3 percent decrease from 2012 levels, when 115.6 million tons of waterborne freight shipped in Washington. Waterborne freight is categorized as foreign, domestic or intrastate depending on both the origin and destination. In 2013, 64 percent of waterborne freight was foreign, 27 percent was domestic, and the remaining 9 percent stayed within Washington state.

Waterborne freight activity in Washington continues to closely mirror national trends. The drop in marine freight tonnage is due to a decrease in foreign waterborne freight. This is influenced by a variety of factors, including: the U.S. dollar exchange rate, grain prices, shipping line consolidation and competition from Canadian and southwest U.S. ports.

Two-thirds of state's waterborne freight is foreign

2010 through 2013; Waterborne tonnage in millions of tons; Domestic, foreign and intrastate waterborne freight



Data source: U.S. Army Corps of Engineers, Navigation Data Center.

WSDOT works to designate Salish Sea as part of highways program

In 2015, WSDOT began working with the United States Maritime Administration to designate the Salish Sea as part of America's Marine Highway Program. This is intended to lead to the development and expansion of marine services and to facilitate their integration into the U.S. surface transportation system. The Pacific Ocean and the Columbia-Snake River System are currently recognized as part of the program.

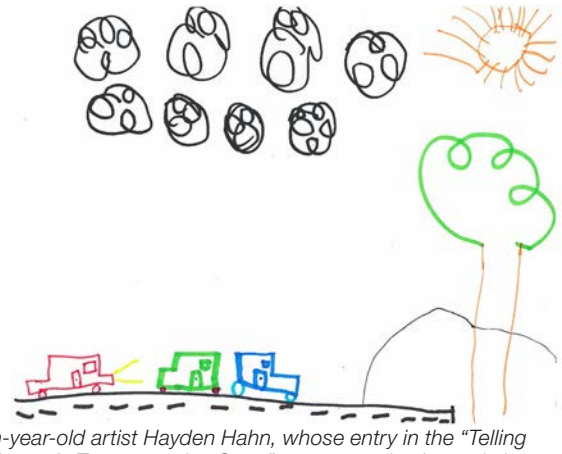
The Pacific Ocean is used to move waterborne freight to and from overseas markets along the U.S. west coast, including Alaska. The Salish Sea is composed of three large bodies of water (the Strait of Juan de Fuca, the Strait of Georgia, and Puget Sound), as well as several smaller bodies of water (such as Elliott Bay, Commencement Bay, Bellingham Bay, Hood Canal, Haro Strait and Rosario Strait) that are connecting channels and adjoining waters. Ports on the Puget Sound principally function as gateways for containerized commerce between North America and the rest of the world. The Columbia-Snake River System plays a critical role in the supply chain of agricultural commodities and other products between eastern Washington and seaports on the coast.

Delay, reliability measures studied as WSDOT preps to track performance

WSDOT is researching freight performance measures on truck delay and reliability on the Interstate Highway System. This research will enable WSDOT to track truck travel time, delay and reliability on Truck Freight Economic Corridors, which move the majority of freight in Washington state and are essential to the state's economic competitiveness.

WSDOT is working with stakeholders to update the designation of Truck Freight Economic Corridors. Projects identified on these corridors address performance needs for trucking, from pavement and bridge preservation to mobility. The update will be complete in 2015.

As illustrated on the map on p. 42, highway corridors carrying more than 10 million tons of freight per year are designated as T-1 and those carrying four to 10 million tons per year T-2 freight corridors. For a complete definition of the criteria used to classify Truck Freight Economic Corridors, see http://www.wsdot.wa.gov/Freight/EconCorridors.htm.



Seven-year-old artist Hayden Hahn, whose entry in the "Telling Washington's Transportation Story" art contest is pictured above, is the granddaughter of WSDOT Assistant Secretary for Strategic, Enterprise and Employee Services Katy Taylor.

Washington airports handle 1.38 million tons of cargo

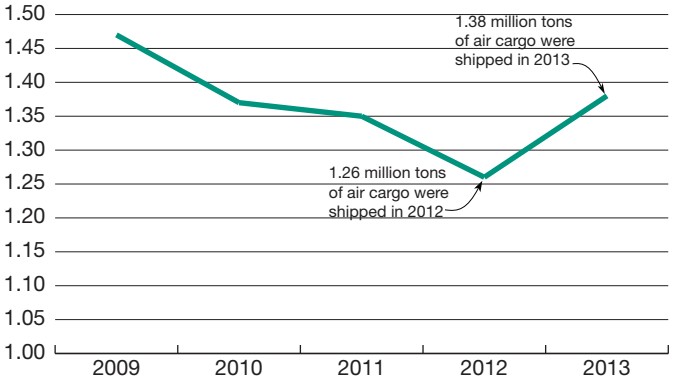
Washington airports handled 1.38 million tons of air cargo in 2013, measured in plane plus cargo weight as reported by the Federal Aviation Administration (FAA). This represents a 9.7 percent increase from 2012 air cargo levels of 1.26 million tons, and is the highest annual tonnage reported since 2009.

This is primarily due to a 3 percent increase in total air cargo tonnage for three major airports, Sea-Tac, Boeing Field and Spokane International, as well as the newly included tonnage from Paine Field airport in Snohomish County, which just met FAA's reporting threshold, moving more than 100 million pounds (50,000 tons) of cargo annually in 2013. In 2013, Sea-Tac handled more than 50 percent of all air freight in Washington state.

Few airports track and report on actual air cargo weight in freighter and passenger planes. In 2014, Sea-Tac handled 327,240 tons of cargo, up 12 percent from 292,709 in 2013. Sea-Tac Airport ranks 19th in terms of air cargo volume in North America, providing daily, non-stop service to 77 domestic and 19 international destinations and accounting for $13.6 billion in international commodity trade. The top commodities that Sea-Tac moved in 2014 were machinery, electrical machinery and fruit (cherries).

High-value and time-sensitive goods often move through airports, which play a key role in supporting manufacturing, agriculture and service sectors in the state.

Total Washington air cargo tonnage increases
2009 through 2013; Tonnage measured in millions; Plane plus cargo weight



Data source: Federal Aviation Administration.

Supply chain data collection underway

As reported in *Gray Notebook* 54, p. 30, WSDOT was awarded a competitive federal grant to support innovative local freight data collection in 2014. The agency is investigating how key state supply chains may respond to different policies aimed at reducing freight emissions and their impacts on the state freight system. Additionally, the research is investigating truck trip characteristics in the Seattle area. The research, which is being conducted by the University of Washington and Washington State University, is on schedule to be completed by March 2016.

Plan identifies performance measures

WSDOT completed its Freight Mobility Plan in October 2014 which will guide state and federal policies and investments in the multimodal freight system. The plan complies with the federal Moving Ahead for Progress in the 21st Century (MAP-21) Act guidance for state freight plans, as well as state requirements. Truck-related performance measures are focused on Truck Freight Economic Corridors. See the full version of the freight plan at http://www.wsdot.wa.gov/Freight/freightmobilityplan.

Short line rail inventory and needs assessment is complete

During its 2014 session, the Washington State Legislature directed WSDOT to develop an inventory of short line rail system infrastructure (state-owned and private) to support a data-driven approach to identifying system needs. The study, now complete, provides a framework for a data-based evaluation of the condition and capital needs of the entire short line rail system within the state.

The performance goal identified in the study is focused on system capacity and operational efficiency. The goal is for the system to be capable of handling 286,000-pound rail cars. The industry now uses these larger railcars to reduce capital, fuel and other costs, and to generate economic savings. To maintain compatibility with Class I lines, many short lines must be upgraded to handle the larger cars. Class I railroads are large, national railroad companies. More than 55 percent (740 miles) of the short line rail system in the state has not yet been upgraded to meet this current standard.

For the full version of the assessment, see http://www.wsdot.wa.gov/freight/publications.htm.

Contributors include Matthew Pahs, Wenjuan Zhao and Yvette Wixson