

Washington State Freight Advisory Committee

Washington State Freight Trends & Policy Recommendations for Air Cargo, Freight Rail, Ports & Inland Waterways, & Trucking



May 2014

Washington State Freight Advisory Committee

The Freight Mobility Strategic Investment Board (FMSIB) was created by the Legislature in 1998 (RCW 47.06A.030) to identify and recommend investments that improve freight movement and mitigate barriers on strategic state corridors, grow jobs and the economy, and bolster Washington as a leader in international trade.

In January 2013, FMSIB created the Washington State Freight Advisory Committee (WAFAC) as directed by Section 1117 in MAP-21. The WAFAC is responsible for advising the Washington State Department of Transportation (WSDOT) on its *State Freight Plan* that will be submitted to the U.S. Department of Transportation (USDOT). This document will also be submitted to the Washington State Transportation Commission in support of the Washington Transportation Plan update.

Section 1117 recommends the Advisory Committee include representatives from a cross-section of public and private sector freight stakeholders, including ports, shippers, carriers, freight-related associations, the freight industry workforce, the state transportation department, and local governments. Members of this broad-based Advisory are listed to the right.

The WAFAC also actively sought input from retail, wholesale, service industry, manufacturing, agricultural, and environmental stakeholders. These stakeholders helped inform and shape the Committee's understanding of the issues and recommendations.

At regular meetings throughout 2013 and into 2014, the WAFAC and freight stakeholders presented and discussed industry trends, challenges, and the needs facing their constituents at the international, national, state, and local levels.

Washington State Freight Advisory Committee

Private Sector: Chair Dan Gatchet (FMSIB Chair)

Aerotropolis: Lawrence Krauter (Spokane International Airport)

Cities: Pat Hulcey (Fife); Tom Trulove (Cheney - alternate)

Counties: Dave Gossett (Snohomish); Al French (Spokane - alternate)

Maritime: Mike Moore (Pacific Merchant Shipping Association); Jordan Royer (alternate)

Metropolitan Planning

Organizations: Charlie Howard (Puget Sound Regional Council)

Ports: John Creighton (Seattle); Don Meyer (Tacoma)

Rail: Terry Finn (BNSF)

River Commerce: Larry Paulson (former CEO, Port of Vancouver)

Regional Transportation Planning

Organizations: Mark Kushner (Benton-Franklin Council of Governments)

Tribal: Chad Wright (Marine View Ventures, the economic development arm of the Puyallup Tribe of Indians)

Trucking: Sheri Call (Washington Trucking Association)

Workforce: Dan McKisson (ILWU Puget Sound District Council)

WSDOT: Katy Taylor

Freight Folios

The WAFAC determined that the compilation of the identified trends, challenges, recommendations, and freight inventory presented in these folios has multiple benefits: it meets the requirements of advising the State Freight Plan, and it provides valuable information to inform and advise Washington State policymakers at the national, state, and local levels.

This information is captured in the folios that follow, beginning with **Washington: The State of Freight**, which discusses the importance of trade to the state and the need for continued mobility and an integrated, well-maintained transportation system. There are also folios specific to the following:

- **Air Freight**
- **Ports and Inland Waterways**
- **Rail**
- **Trucking**

Each folio presents findings and recommended policy actions. However, not every finding has a specific action. There are several identified trends or challenges for which recommended solutions have not yet been identified.

Road, Waterway, & Rail Freight Project Inventory

The WAFAC also coordinated and conducted a first ever inventory of rail, waterway, and road freight projects. Because this is a first of its kind, future updates of the State Freight Plan will provide more detailed information. A significant challenge in reviewing road projects was determining which projects primarily benefit freight in comparison to projects that primarily benefit general purpose mobility.

This inventory was conducted in partnership with WSDOT, Metropolitan Planning Organizations (MPO), Regional Transportation Planning Organizations (RTPO), the Washington Public Ports Association, the Washington Trucking Associations, and the Pacific Northwest Waterways Association.

Other Participants

The Boeing Company: Panel

FedEx: Jeff Greer, Regulatory Affairs

Futurewise: Tim Trohimovich
Director of Planning & Law

The Nature Conservancy (Washington): Mo McBroom, Director of Government Relations, Bill Robinson, State Government Relations Director

Paccar, Inc.: Paul McCormick, Director of Logistics

Pacific Northwest Waterways Association: Kristin Meira, Executive Director

SuperValu: Chris Rucker, Transportation Manager

Washington Public Ports Association: Eric Johnson, Executive Director

Washington State University (Agricultural Trends): Dr. Peter Tozer, Research Associate

Whatcom Council of Governments (Border Crossing): Gordon Rogers

Washington: The State of Freight

Overview

As one of the most trade dependent states in the nation per capita, Washington relies on an efficient freight transportation network. In 2013, Washington exported merchandise worth \$82 billion¹ and it is estimated that \$37 million of freight moves on Washington roadways every hour of every day.² Our freight transportation system plays a critical role in fostering economic vitality and competitiveness in regional and global markets.

Mobility of people and goods is critical to our economy. A reliable and well-functioning transportation system provides return on investment through job creation, shared prosperity, and enhanced competitiveness. Given the global nature of today's world, continuous investment in the transportation system is a critical requirement for retaining and attracting companies to locate in Washington.

Goods are shipped into, out of, and around Washington by truck, rail, air, barge, and water. Manufacturers such as The Boeing Company and our state's agricultural producers require an effectively networked system to get their goods to market.

This folio presents key findings and policy recommendations that address all modes and owners of the transportation system. The accompanying folios provide additional information and policy recommendations by transportation mode.

Washington State is a Major Exporter

In 2012, Washington surpassed California as the nation's top exporting partner with China (\$14.1 billion versus \$13.9 billion in total merchandise).

In 2013, Washington exported \$16.7 billion of merchandise to China. Transportation equipment made up 48.7%, followed by agricultural products at 31.9%.

Washington exported \$8.9 billion to Canada and \$7 billion to Japan.

Source: <http://tse.export.gov/>

¹ Exports of NAICS Total All Merchandise from Washington, Foreign Trade Division, U.S. Census Bureau.

² WSDOT, Washington State Freight Plan, Presentation to the Transportation Improvement Board, January 30, 2014. <http://www.wsdot.wa.gov/NR/rdonlyres/2C300370-AC1B-41FF-83A3-ECACF47E8842/0/WASfFtPlanbriefingtoTIB114.pdf>

Key Findings

1. All modes are part of the global freight supply chain, which is critical to Washington's economy.

- Regulations should not interfere with modal competition.
 - Government policy that favors modes is detrimental to freight supply chain requirements. Markets determine the mode used.
- Maintaining and increasing the national and international share of freight moving through Washington is important to the economy, and requires investment in all modes.

2. Washington State's population is expected to increase by over 2 million people (for a total of 8.8 million) by 2040, which will put pressure on all existing transportation facilities.

- Congestion has a direct and adverse impact on the freight supply chain.
 - Regional distribution centers have been relocated or divided in order to service urban areas.
 - Unpredictable congestion means scheduling more time (and added cost) for deliveries.
 - Employing drivers is more difficult because they are typically paid for deliveries, not wait times.
- Roadway capacity along I-5 from Snohomish County south to Pierce County and in Clark County near the Columbia River Crossing is already constrained and will face increased congestion and delays.

3. Consistent and stable federal and state funding is necessary to address freight infrastructure needs and broader transportation investments.

- The federal Highway Trust Fund is forecasted to be negative in 2014, creating an investment crisis for both freight and other federally funded transportation projects.
- The federal Harbor Maintenance Trust Fund and Airport Improvement Program (AIP) are examples of programs where funding has been diverted to support other federal uses.
- The federal Inland Waterways Trust Fund will need additional funding in order to maintain an aging infrastructure.
- Section 214 of the federal Water Resources Development Act of 2000 allows the Secretary of the Army Corps of Engineers to accept and expend funds contributed by non-Federal public entities. This has reduced permit wait times and backlogs for US Army Corps projects because it allows ports to fund additional Corps staff. However, it is not a permanent authorization.

- Freight projects have benefited from federal TIGER grants. However, the program is subject to funding uncertainty.
- The federal Airport Improvement Program (AIP) is a principle source of funding for capital improvements at airports and is drawn from the Airport and Airway Trust Fund. By 2015, the program is projected to be nearly 27% lower in constant dollars than the 2006 peak year. Another setback occurred in 2013 when Congress diverted \$253 million from the AIP to pay for FAA operations and to mitigate FAA furloughs. Continued funding uncertainty for AIP in annual Congressional appropriations bills makes planning and project development difficult.
- Federal Section 130 of the Highway Safety Improvement program is valuable, but there are limited sources of funds to address road and rail safety conflicts.
- The federal Short-line Tax Credit, which provides significant relief for short-line railroad companies, has not been reauthorized. Effective capital spending and planning requires a multi-year horizon to be effective and efficient.

In Washington State:

- A well-maintained road transportation system is important for all users, including freight movement, especially when shipping perishable agricultural products. The last two state transportation funding packages have funded new projects without commensurate preservation and maintenance funding.
- More funding is needed for at-grade rail crossing improvements and “first and last mile” projects that target system gaps and reduce increasing traffic delays in communities throughout the state. For example, FMSIB receives \$12 million per biennium to fund freight projects, yet addressing at-grade rail crossings can easily cost \$15 million to \$30 million per crossing.
- Heavy haul industrial corridors are defined in state law and have limited application for the purposes of moving freight over certain weight limits within or adjacent to port properties or on certain state highways. Additional resources are needed to maintain these corridors.
- Freight must compete with other transportation projects and modes for funding and right of way.

4. Many freight industries are both price sensitive and mobile. New or increased taxes or fees (user fees, congestion pricing, etc.) that add to the cost of doing business could divert business away from the state.

- At a minimum, any new fees or taxes should be reinvested in state transportation infrastructure to ensure the state remains competitive.
- New tax or fee proposals should demonstrate the value and benefit of the proposed infrastructure for freight.

5. Market and regulatory forces are producing shifts to greener technology. These shifts produce costs, some of which will be passed on to consumers.

- Each new generation of clean-diesel locomotives purchased by Class I railroads is 15 percent more efficient than the previous generation. Class I railroads also have instituted pilot programs to test alternative fuels, such as ultra-low-sulfur, biodiesel, and liquid natural gas. BNSF, for example, has introduced all-electric, emissionless gantry cranes in select yard locations in its system.
- Trucks are using ultra low sulfur diesel and the latest generation diesel engines are the cleanest burning in trucking history. The liquid natural gas (LNG)/compressed natural gas (CNG) fueling network is experiencing growth nationwide. Portions of the trucking industry are converting to natural gas either by retrofitting their current engines or by purchasing natural gas engines during normal fleet replacement.
- Ocean carriers are reducing emissions through slow steaming which burns 40% less fuel, use of higher capacity vessels, better hull coatings which improve movement through the water, and by phasing in cleaner engines and order of magnitude cleaner fuels. Ports have helped vessel operations reduce dockside emissions by using cleaner fuels or providing plug-in technology and terminal operators are implementing emissions reduction measures for cargo handling equipment on marine terminals. In addition, vessels are exchanging ballast water, installing ballast water treatment, and minimizing discharges in port — all to reduce chances of invasive species introduction. Lastly, oil spill prevention through international, national, and local and industry best practice efforts have led to a zero spills record from cargo ships transiting in and out of Puget Sound ports.
- Ports continue to make investments to reduce their impact on the environment.
 - With the support of a federal grant, The Port of Tacoma is partnering with Tacoma Rail to repower or replace a locomotive with a cleaner engine and idle-reduction technology to reduce emissions by more than 50%.
 - The Port of Seattle has a Clean Truck Program and is systematically replacing older heavy-duty drayage trucks with trucks powered by 2010 or newer certified engines.
 - Other investments include at berth clean fuels, and switching to electrical power when a ship is at berth.
- SeaTac Airport has created the Voluntary Airport Low Emissions Program (VALE). VALE will allow aircraft to hook up to pre-conditioned air provided by the airport at each gate. Instead of aircraft running their engines for air circulation, this new system will utilize electric heating and cooling for the airplane cabin.

6. Freight provisions in MAP-21 (and its reauthorization) can be improved to better recognize the intermodal nature of freight mobility and international trade.

- Currently MAP-21 requires the establishment of new freight provisions, but these remain unfunded programs.
- MAP-21 includes a Priority Freight Network (PFN) capped at 27,000 centerline miles, which has resulted in USDOT releasing a draft network that is disconnected and excludes much of the nation's surface transportation system that should be considered of primary freight importance.
- The draft PFN as proposed by USDOT is limited to roadways, despite widespread acknowledgment that the nation's freight and goods transportation system is a multimodal integration of international and national trade corridors, air cargo, roads and highways, rail, marine cargo facilities, and inland waterways.
- The PFN needs to be defined so that it ensures future inclusion of the other freight modes that comprise the nation's freight and goods transportation system.

7. Cities and counties have inadequate revenue sources to keep up with need for investment.

- Freight investments tend to be of national, state, or regional economic significance, yet funding for freight infrastructure other than for railroads relies heavily on city and county budgets.
- Jurisdictions may be reluctant to fund freight projects that primarily benefit freight products headed to other destinations.
- An inventory of first priority and emerging at grade priorities has identified \$1 billion in at-grade rail crossing needs in urban areas. Costs to address at-grade crossings exceed many city and county budgets.
- Local jurisdictions are sales tax dependent which has implications for freight because it tends to favor commercial over industrial zoning.
- Counties have even fewer revenue options than cities.
- Transportation taxes related to trucking go to the state; there is limited assistance for truck impact mitigation at the city level, except through programs like FMSIB.

8. There is a gap in Washington state tax policy to support the efficient movement of freight at a regional or state level.

- There are inadequate incentives or mandates for cities and counties to preserve critical industrial properties. For example, the state sales tax structure makes a car dealership more attractive to a jurisdiction than an industrial use that would be subject to a property tax cap.
- The legislature typically has not provided cities and counties with the authority to levy taxes or fees to help fund transportation investments.

9. There is inadequate land use policy to protect strategic freight corridors, industrial lands, and port districts, and additionally a need to protect economic interests of the entire state.

- Counties and cities that plan under The Growth Management Act (GMA) are required to balance industrial land uses with multiple elements such as parks and housing in their comprehensive plans. Limited right of way and decreasing developable land in some urban areas can produce conflicts about its highest and best use. These conflicts are most acute with industrial, water-dependent freight terminals.
- GMA requires comprehensive plans for cities to include a container port element if the marine container port in their jurisdiction exceeds \$60 million in operating revenues. It is optional for cities that have container ports with annual operating revenues over \$20 million (RCW 37.70A.085).
- Inconsistent zoning from jurisdiction to jurisdiction impedes freight movement. For example, local regulations that prevent large trucks from entering urban areas at certain hours of the day hinder efficient freight movement.
- First and last mile connectors are vital to the freight supply chain, but are not defined in state or federal law.
- State law defines strategic freight corridors by tonnage volume: highways – 4M tons annually; rail – 5M tons annually; waterways – 2.5 M tons annually (RCW 47.06A.010). This is the FMSIB investment criteria, but it is limited in the context of freight corridor preservation.
- State law defines transportation facilities of statewide significance, which includes a subset of the state-owned highway transportation system, interstate, freight railroad system, the Columbia/Snake navigable river system, marine port facilities and services related to marine activities affecting international and national trade, including key freight transportation corridors serving these marine port facilities. (RCW 47.06.140).

10. There are 29 federally recognized tribes in Washington with a variety of interests and local agreements; many have land near major interstates and state highways.

- Many tribes continue to be successful in economic development activities allowing them to engage in other activities including land acquisition.
- Marine View Ventures (Economic Development arm of the Puyallup Tribe) and their business partners SSA have a partnership to develop a future freight terminal on Indian lands for a 200 acre facility.
- Many tribes have a strong preservation predilection to protect cultural and natural resources and may oppose large infrastructure investments due to these reasons.

11. Routing, queuing, and other changes have improved the flow of freight, but border gateways still need attention to further facilitate goods movement.

- The International Mobility & Trade Corridor Program (IMTC), a U.S.-Canadian coalition of government and business entities, identified and promoted improvements to mobility and security for the four border crossings that connect Whatcom County, Washington State, and the Lower Mainland of British Columbia. Together, these four crossings are called the Cascade Gateway.
- Cascade Gateway truck volumes have increased after declines during the recession, but have not returned to early 2000s volumes.
- The U.S. Customs and Border Protection's Vehicle and Cargo Inspection System (VACIS) screening facility impedes movement in Blaine, Washington. Trains are over one mile long and when stopped they block traffic at several intersections.

12. Growth in air freight is fueled by increased aerospace production, high-tech and bio-tech production, and specific agricultural products from Central and Eastern Washington.

- Boeing expects air cargo growth to triple over the next 20 years.
- Routes associated with Asia will experience the highest growth rates over the next twenty years: China, Taiwan, Japan, Hong Kong, and South Korea are major export markets.
- Road feeder service into the airport is important to Washington airports; air freight arrives by aircraft feeder service or is trucked between the airport and communities.

13. Increased rules and regulations can add costs and hinder competitiveness.

- Federal law prohibits states from increasing the size and weight of combination vehicles beyond that allowed in 1991. In Washington, combination vehicles are limited to two trailers, but three are allowed in Idaho and Oregon. Drivers entering Washington must stop and break down the freight, which takes time and reduces delivery efficiency.
- Truck trailer length is limited to 28 feet in Washington, with larger combinations limited to intrastate travel and short connections from off-ramps. Other states allow 33 feet, which results in greater utilization and fewer trucks.
- Better coordination among and between state and federal agencies is needed on multiple issues, including environment, dredging, and construction:
 - Federal agencies such as FHWA, FAA, and HUD require their own NEPA process. This can lead to project delays or cancelling of state tax funded projects.
 - Projects requiring both state SEPA and federal NEPA reviews are time consuming and costly.

- Some regulations redirect capital away from terminal efficiency improvements, such as investing in at-grade separations and port terminals. This is an especially acute issue with the Industrial Stormwater General Permit (ISWGP), which is challenging for port tenants and creates an impact on port competitiveness:
 - Washington's ISWGP is more stringent than other west coast states.
 - Washington's ISWGP corrective actions escalate more rapidly than other west coast states.
 - Marine Terminal Operator tenants face immediate and uncertain capital outlay for Best Management Practices and Treatment Technologies yet it is unclear if the proposed treatment devices will reduce pollutant levels below required benchmarks.
 - Marine terminals as a sector are unable to fully comply with current stormwater benchmarks jeopardizing the ability to continue operations without reasonable compliance options. This threat to the ability to move imports and exports on and off ships is compounded by the additional uncertainty of a new five-year permit due to be implemented in 2015. If efforts to obtain reasonable compliance options fail, then marine terminals will either shut down or be subject to significant daily penalties and citizen lawsuits.
- Recent use of SEPA to include environmental impacts beyond the jurisdiction of the project site is a significant departure from standard planning and policy work in Washington. The expanded scope of review is creating uncertainty when considering expanding existing infrastructure or when proposing new projects.

Freight Produces Jobs

Washington's transportation industry supports 1 million plus jobs in freight dependent sectors such as agriculture, forestry, construction, and manufacturing – producing nearly \$434 billion in gross business income.

Source: Association of Washington Businesses 2013 report.

Policy Recommendations

Federal Government

1. The next authorization of the Federal Transportation Act should include dedicated freight transportation funding.
 - a. Dedicated transportation funding should not come at the expense of current programs.
 - i. Consistent, stable federal funding is needed and is preferable to increased federal match dollars as an incentive. For freight projects, an increase of 5% for federal matching funds is often insignificant relative to overall project funding.
 - ii. Federal match percentage increases for one program typically result in a commensurate reduction in percentage match (or available Federal funds) at the state level for a different transportation program.
 - b. Work with Congress and USDOT to improve the freight provisions in MAP-21 by raising the 27,000 mile threshold in the Primary Freight Network (PFN). In the designation of the PFN and in National Strategic Freight Planning, require USDOT to use multimodal methodology and assign higher priority to international trade corridor gateways (including ports, first/last mile connectors, and recognize multimodal hubs and intermodal connectors).
 - c. Work with Congress to support funding streams for dedicated freight-related programs such as TIGER, Projects of Regional and National Significance, and other programs dedicated to the multimodal-multi-jurisdictional freight mobility improvements.
 - d. Work with Congress to re-authorize the Short-line Tax Credit on a minimum of a five-year cycle to ensure short-line capital programs can be properly developed and efficiently administered.
 - e. Work with Congress to expand Section 130 of the Highway Safety Improvement program for grade crossing improvements and separations.
2. Pass the Maritime Goods Movement Act to strengthen the competitiveness of American ports and address issues with the Harbor Maintenance Tax.
3. Increase revenue to the Inland Waterways Trust Fund so it can adequately pay for major construction and rehabilitation projects. This could be done by increasing the existing diesel tax, imposing lockage or towboat fees, or revising the cost share formula.
4. Work with Congress to make Section 214 of the Water Resources Development Act of 2000 permanent to address ongoing permit wait times and backlogs.
5. Work with the FAA and Congress to allow Airport Improvement Program (AIP) grants to be available to air cargo airports for intermodal projects that meet regional freight mobility objectives that support air freight activity. AIP grant spending levels should be protected and used only for aviation-related purposes.
6. The U.S. Customs and Border Protection's Vehicle and Cargo Inspection System screening facility should pursue new technology, such as "Rapiscan," which can allow up to 35 mph scanning speed.

7. Create an Office of Freight Mobility and Federal Compliance within USDOT to facilitate prioritization of freight projects of national significance and to expedite NEPA permitting.
8. Work with federal agencies for standard regulations for trailer size and weight limits.
9. Work with Congress to revise the definition of interstate travel to allow 18-20 year old drivers to drive the in-state leg of an interstate shipment. This would help alleviate the state and national driver shortage and create a career path.

State Government

1. Enact a state transportation package with significant increases in:
 - Preservation and maintenance;
 - Dedicated freight funding to address at-grade rail crossings, first and last mile connectors, and heavy haul corridors.
2. Stormwater Recommendations:
 - Clarify compliance and cost requirements through reasonable application of an all known and reasonable technologies (AKART) approach matched to marine terminals to allow for cost effective mitigation while providing for continued operations of marine terminals.
 - Synchronize permit requirements with west coast states, and with west coast Canadian ports to better address competitive disadvantages.
 - Compare permit requirements with east coast and Gulf states with marine terminals to better address competitive advantages.
 - Compare with municipal stormwater requirements to avoid dramatically different requirements for waterways.
 - Ensure state funding, such as Model Toxics Control Act, remains available to help address stormwater permit requirements.
 - Place a reasonable maximum cap on private sector stormwater investments based on cost effective proven and readily available technologies.
3. Work with the Department of Ecology to create a parallel review process with NEPA, and limit a project's impact area to the location of the project.
4. SEPA categorical exemptions should be routinely updated to better match with NEPA categorical exclusions. (The Department of Ecology is undertaking rulemaking at the time of this publication.)
5. Change state tax policy to level revenue playing field between sales tax and property tax to incentivize protection of industrial lands.
6. Use the Port Element of City Comprehensive Plans (RCW 36.70A.085) to help define and protect the core area of port and port-related industrial uses within the city and ensure efficient freight access.
 - Ensure that the Port Element is reviewed regularly (every 2-3 years) and updated as needed.

Air Freight



Overview

The state's aviation system is critical for freight movement. High-value, time-sensitive goods move through Washington's airports, which play a key role in the state's service sector. Air cargo moves by truck between airports and warehouses, making an efficient road system integral to the timely integration of cargo and aircraft.

Washington exports more than any other state, and nationally, air freight accounts for about 24% of U.S. international merchandise trade by value. It is particularly essential for shipping high-value and perishable products and is supporting the remarkable growth of e-commerce.

Despite the short-term outlook being relatively low-growth, the forecasts made by industry analysts generally agree that worldwide air cargo will grow 3% to 5% per year over the next 20 years and that Asia will continue to lead the world in air cargo volumes. The FAA's forecast for domestic growth is less than 1% per year.

More than 160,000 jobs in the state are in some way connected to air cargo, producing approximately \$8 billion in wages. Although eight airports in Washington reported cargo activity in 2012, nearly all of the activity is concentrated at three: Seattle-Tacoma International Airport (51% of air cargo in 2011), Boeing Field/King County International Airport (31%), and Spokane International Airport (18%).³ Other airports handling air cargo included: Bellingham International, Grant County International, Pangborn Memorial, Tri Cities, and William R. Fairchild International.

Sea-Tac Airport 2012 Activity Report

Sea-Tac averages 10-12 freighter flights to Asia per week on three foreign flag freighter operators (Korean, China Airlines, EVA). Cargo is also flown in the belly of passenger planes. The Airport has approximately 680,000 SF of leasable space in 15 buildings and over 3 million SF of aircraft ramp space.

- Sea-Tac handled 237,211 metric tons of air freight
- FedEx carried 42.5% of all air freight, followed by Alaska Airlines at 10.5% and Delta Airlines at 9.5%
- 56.7% of air freight was destined for the contiguous U.S., followed by 20.5% to Asia, and 14.4% to Europe

Source:
www.portseattle.org/About/Publications/Statistics/Airport-Statistics/Documents/2012-Airport-Activity-Report.pdf

³ WSDOT Washington State Freight Mobility Plan: Task 2 Interim Data Report. January 2014.
<http://www.wsdot.wa.gov/NR/rdonlyres/881F4A29-E45A-46F6-85E2-D5B1B7510EB3/0/WashingtonStateFreightMobilityPlanTask2InterimDataReport.pdf>

Key Findings

- 1. 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.**
 - The AIP funds general airport infrastructure on which passenger and cargo flights depend.
 - AIP expenditures are drawn from the Airport and Airway Trust Fund, which is supported by taxes on air freight, as well as passenger ticket taxes, fuel taxes, and other fees.
 - Maintaining the integrity of the AIP program for airport infrastructure use has been a top priority for airports. The 2012 FAA reauthorization bill continued a downward trend in funding, and by 2015 the program is projected to be nearly 27% lower in constant dollars than the 2006 peak year.
 - Another setback occurred in 2013 when Congress diverted \$253 million from the AIP to pay for FAA operations and to mitigate FAA furloughs. This was at the expense of needed airport improvements.
 - Continued uncertainty of the funding level provided for AIP in annual appropriations bills passed by Congress makes planning and project development difficult.

 - 2. Safety and security are top priorities for aviation; stringent security requirements govern the movement of air freight.**
 - One hundred percent of belly cargo must be screened before loading on passenger planes. Congress is contemplating similar measures for cargo moved on freighter aircraft.
 - Maximizing the efficiency of air cargo networks requires greater consideration of security issues than is necessary for other transportation modes.
 - There is a need for TSA and CBP efforts to harmonize international air cargo security without disrupting the global air cargo supply chain.

 - 3. Air Cargo is an important component of freight movement.**
 - Boeing expects air cargo growth to triple over the next 20 years.
 - Routes associated with Asia will experience the highest growth rates over the next 20 years.
 - Currently at Sea-Tac, there are 10 to 12 freighter flights to Asia each week in addition to cargo carried by passenger planes, which accounts for over half of Sea-Tac's Asia trade volumes.
 - Belly cargo on passenger planes is provided by eight airlines flying to seven destinations in the Middle East and Asia.
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- Currently, there is surplus capacity (in freighter aircraft and in the belly holds of passenger aircraft) and lower demand. While experts see the air cargo market recovering in the next five years, they also point out that the excess capacity is forcing down pricing and the yields will not be sufficient to be profitable.
- Air freight capacity issues are most pronounced when there is a short shipping window and insufficient equipment assigned to the routes. For example, there is an inability to meet demand to ship Washington cherries to Asia due to the three week shipping window.
- The cost of security screening, personnel and facilities favors major air gateways due to economies of scale.
- For airports to accommodate passenger and air cargo growth they need a certain amount of capacity available for immediate use in terms of aircraft parking apron, passenger, and air cargo facilities.
- Road feeder service into the airport is important to Washington airports; air freight arrives by aircraft feeder service or is trucked between airport and communities.

4. WSDOT Aviation has been historically and chronically underfunded for planning, development and infrastructure investment, even for state-owned facilities.

- WSDOT is actively engaged in shaping an economic development program.
 - In April 2012, WSDOT Aviation, in partnership with the FAA, began aggressively implementing a new program, the Statewide Capital Improvement Program (SCIP), which targets state and federal resources in a more strategic way by better identifying and prioritizing aviation related projects.
 - In March 2013, WSDOT Aviation Division began a series of visits to commercial service, air cargo capable airports to better understand their programs, challenges and opportunities.
 - In January 2014, as part of the WSDOT Aviation Airport Investment Study, WSDOT has been able to clarify the need at airports across the state for investment in economic development projects.
 - This series of events, and subsequent partnering and stakeholder outreach, will lead to policy and programmatic changes to address airport revenue-generating infrastructure needs currently ineligible for FAA and WSDOT Aviation grant funds.
- The WSDOT Aviation System Plan examines airports across the state, as nodes of the state's air transportation system, to identify inventory and capacity challenges and aviation issues, and to develop system-wide forecasts, policies, and projects. The plan addresses three primary components; Commercial Passenger Service, Air Cargo, and General Aviation. Examining modal connections is part of the plan and ties to other modal system plans such as freight, rail, public transit and highways is a standard project work element, as outlined in FAA Advisory Circular 150/5070-7.

5. Growth in air freight in Washington State is fueled by increased aerospace production, high-tech and bio-tech production, and specific agricultural products from Central and Eastern Washington.

- Air cargo is used extensively to move high-value products used in high value manufacturing in aerospace, high tech, and bio-tech products in Washington State.
- Air freight is also used for perishable agricultural crops with limited storage life and a built-in market.
- In 2012, more than \$114 million worth of perishable fruit and vegetables weighing approximately 18,000 metric tons was shipped by air.
 - China, Taiwan, Japan, Hong Kong, and South Korea are major export markets.
- Fuel prices and facility costs affect competitive pricing as goods need to get to market; as prices become less competitive, producers may exit production.

Policy Recommendations

Federal Government

1. Air freight movement by surface transportation to and from air cargo airports should be considered as part of the Transportation Plans (or equivalent) that are developed at the metro and regional levels as encouraged in MAP-21. MPOs/ RTPOs should consult with airports in their air cargo-related planning activities.
2. Encourage air cargo airports to address intermodal planning that includes freight movement by surface transportation to and from their facilities as part of airport master plans as they are updated.
3. Work with FAA and Congress to allow AIP grants to be available to air cargo airports for intermodal projects that meet regional freight mobility objectives that support air freight activity.
4. Encourage Congress to protect AIP grant spending levels and ensure AIP is used only for aviation-related purposes.
5. Encourage the FAA to measure all air cargo activity, including cargo transported in passenger planes.
6. Congress should strive to achieve a balance between safety and security and an efficient supply chain. Goods movement should not be a secondary priority in this discussion.

Potential JTC Briefing Topics

a. What is the role of the State Aviation System Plan regarding the movement of air freight at the intrastate, interstate, and international market level, including land side connections?

- Is the Aviation System Plan sufficiently definitive about economic benefit and freight mobility?

b. What is the future for air cargo and how do we position the state's aviation facilities to increase opportunities for growth?

c. Beyond capital funding, are there other impediments identified by the market to consider, including taxes, incentives or other issues?

d. What is the most effective way to ensure that intermodal objectives, including intermodal transfer, involving air freight are factored into transportation investments?

7. The NEPA or environmental clearance process should be streamlined and a common environmental clearance process should be adopted across federal agencies with overlapping jurisdiction or funding stakes in aviation projects and intermodal projects in which aviation is involved either directly or indirectly. Having to develop multiple documents for different agencies delays projects and increases costs.

Federal and State Government

1. Treat aviation capacity as a resource and preserve, protect, and enhance it through strategies focusing on airport operations, technology, safety, and land use.
2. Develop comprehensive policies and investment strategies related to freight and aviation to allocate funding in a more efficient way by emphasizing economic corridors.

State Government

1. Convene Joint Transportation Committee (JTC) briefings on Washington State Air Freight needs and how state agencies play a leading role in strategic aviation economic development centered on air freight cargo development and intermodal opportunities.
 - Ensure that the JTC evaluates investment, both public and private, that first supports economic corridors outlined in the 2012 Connecting Washington work.

State Government with local support

1. Identify the need for additional financial resources from the State to be allocated for strategic aviation economic development projects, including those projects that contribute to freight mobility objectives based on a list of projects submitted by local government, airports or through MPOs/RTPOs.
2. Ensure that Airport operators are brought into the membership of the MPO/RTPO as independent subject matter experts on aviation and air freight mobility. If the form of government will not allow the Airport representative to have an independent voting membership, the Airport should at minimum be included on the Technical Committee of the MPO/RTPO.

Potential JTC Work Products

- a. Review primary air freight airport plans to see how air freight moves through airports and identify strengths, weaknesses, and opportunities.
- b. Review the PSRC 2006 'Regional Air Cargo Study' and the 2012 Spokane 'Inland Pacific Hub Transportation Study' that examined the feasibility of establishing the Inland Pacific region as a multi-modal gateway to increase domestic and international commerce.
- c. Identify gaps where traditional local, state, and federal transportation programs which could improve air freight growth in the state do not apply or are multi-jurisdictional and involve challenges created by overlapping agencies, municipalities, programs, and approvals.
- d. Explore the potential for Intermodal Transfer points at or near airports to provide efficient connection opportunities for air freight to surface (rail or truck) transportation.

Ports & Inland Waterways



Overview

Washington has 75 port districts within the state. There are 11 deep-draft ports; seven are located in the Puget Sound, three on the Columbia River and one in Grays Harbor. There are two primary economic waterways in the state, the Puget Sound and the Columbia-Snake River System. The largest ports are the ports of Seattle and Tacoma, which together comprise the second largest load center on the U.S. west coast.

Compared to many other ports in the U.S., several Washington ports have significant advantages, including natural deep water harbors that do not require dredging, a west coast location that is well-situated for trade with Asian markets, and strong connections to the state's truck and rail economic freight corridors. The ports ship cargo in containers, bulk (unpacked bulk cargo includes grains, ore, and cement transported in cargo holds), and break-bulk (non-containerized cargo transported as individual pieces, such as cars).

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 compared to import.

Trade with Asia

Many of the state's key trading partners are in Asia. Washington plays a critical role in connecting Asian trade to the U.S. economy.

Washington's 2012 exports to Asia were valued at over \$37 billion.

The Ports of Seattle and Tacoma handle the majority of Washington's international container exports and imports, while our rail corridors, highways, and waterways transport those goods to locations in Washington and beyond.

Key Findings

1. Despite a need for dredging, Harbor Maintenance Trust Fund monies are not fully distributed.

- The Harbor Maintenance Trust Fund (HMTF) is funded by a tax on the value of imports and domestic cargo. It is intended to fund 100% of deep draft and coastal operations and maintenance dredging of designated channels. Since 2003, nationwide, despite unmet dredging needs at ports, only about half of collections have been spent for the intended purpose and the remaining \$8 billion has been redirected to non-transportation federal purposes.
- The HMTF does not provide equitable infrastructure investment at all ports, particularly naturally deep water ports. The Ports of Seattle and Tacoma, which handle large amounts of imported cargo but require little maintenance dredging, receive only a penny for every HMT dollar imposed on shippers moving goods through their port terminals.

Columbia Snake River System

The Columbia Snake River System includes a 110 mile 40-foot deep draft channel that carries 30 million tons of foreign cargo valued at \$15 billion and a 360 mile, 14 foot deep inland navigation channel that carries about 10 million tons of commercial cargo each year valued at \$3 billion.

2. The Harbor Maintenance Tax (HMT) adds to the cost of each container, imported through a U.S. port. In contrast, U.S. imports moving through Canadian ports do not pay the tax.

- An Economic Impact analysis by John Martin & Associates shows that approximately 10,000 jobs in the Puget Sound region are at risk due to cargo diversion to Canadian ports.
- The Federal Maritime Commission found that if the HMT were removed (an average of \$109 per FEU^[2] import container), half of the U.S. cargo that passes through Canadian ports would revert to U.S. ports.
- Canadian government investment and other assistance have redirected U.S. cargo to the Ports of Prince Rupert and Metro Vancouver. These ports are landing a greater market share and a higher percentage of first port calls.
- Some shipping lines have shifted a significant volume of U.S. destination intermodal cargo from Puget Sound ports to Canadian ports. In 1995 Seattle/Tacoma combined had five times the Canadian Gateway west coast market share. Now, they are nearly equal.
- Cargo diversion from U.S. ports reduces HMT collections and threatens the stability of the existing trust fund.

^[2] A 40-foot container, which equals one forty-foot equivalent unit (FEU).

3. The Maritime Goods Movement Act needs approval. Sponsored by Senators Murray and Cantwell and by Congressman Jim McDermott, it would reform the Harbor Maintenance Tax and strengthen the competitiveness of American ports.

- The Act significantly reinvests in port-related maritime-infrastructure and adds more equity to the system, by:
 - Providing for full use of funds collected, increasing investments in the maritime infrastructure and freight mobility
 - Creating a level-playing field and promoting competition
 - Providing return-on-investment for all import cargo, regardless of water or land gateway of entry
 - Replacing the HMT with a Maritime Goods Movement Fee

4. Section 214 of the Water Resources Development Act of 2000 allows the Secretary of the Army Corps of Engineers to accept and expend funds contributed by non-Federal public entities. However, it is not a permanent authorization.

- Since its enactment, Section 214 has reduced permit wait times and backlogs for U.S. Army Corps projects because it allows ports to fund additional Corps staff.
- Both the House and Senate have included language to make Section 214 permanent in the Water Resources Development Act Reauthorization of 2014.

5. Ports are currently competing to get 13,000 TEU vessel calls now and plan to compete for larger capacity vessels of up to 19,000 TEUs in the future. These “mega vessels” create surges in container movements further emphasizing the need for efficient freight mobility infrastructure supporting transportation of our containerized exports and imports.

- Bigger vessels are expected to unload and load more containers during a single port call resulting in longer time in port. This increases pressure on terminal infrastructure, truck and rail networks, and intermodal load centers to handle higher volumes in a more compressed time period.
- Carriers will continue to push for efficient terminal operations to reduce cost and improve throughput. It costs roughly \$61,000/day for a ship to stay in port⁴ depending on size and other factors. Overall port call costs, daily vessel operations costs and turn-around times are all keys to being competitive.

Wood Exports

In 2013, Washington exported \$1.1 billion of untreated coniferous wood.

Almost 729,000 metric tons of paper and 243,000 metric tons of logs, lumber, and wood were exported through the Port of Seattle in 2012.

Sources: www.census.gov/foreign-trade/statistics/state/data/wa.html

[/www.portseattle.org/Cargo/SeaCargo/Pages/Exports.aspx](http://www.portseattle.org/Cargo/SeaCargo/Pages/Exports.aspx)

⁴ Transportation Issues Daily, Three Trends that Will Impact the Future of Puget Sound Ports, March 27, 2013

6. The Inland Waterways Trust Fund (IWTF) is underfunded, causing delays in the maintenance, repair, and improvement of our waterways.

- The IWTF is a 20 cent/gallon diesel tax collected from towboats and intended to fund 50% of inland construction and major rehabilitations. The current tax is insufficient to make needed repairs and investments and collections are expected to remain below needs for the foreseeable future.
- The depth and orientation of the Columbia Snake River navigation channel needs to be maintained and aging jetties require major maintenance.
- Pacific Northwest Waterways Association is working with Portland and Walla Walla Districts to anticipate repair needs, protect system reliability, and minimize the need to draw on the IWTF.
- There is concern that the federal permitting process is too slow to keep up with the needs of the Columbia Snake River system.

7. Bulk freight is growing and Washington ports and their supporting landside infrastructure needs to be ready for it.

- Agricultural production in the Pacific Northwest is healthy and growing in several areas.
- The Columbia Snake River System is the third largest grain export gateway in the world. It is the #1 U.S. wheat export gateway and #1 for west coast wood exports and mineral bulk exports, the #2 U.S. soybean export gateway, and #2 for west coast auto imports.
- More bulk commodities, including agricultural products and petroleum, will pass through Washington marine ports.

Wheat in Washington

In 2011, Washington was the fourth largest wheat grower in the nation, producing 167.8 million bushels of wheat grown on 2.3 million acres. Over ten million tons of wheat is exported annually through the Columbia River ports.

8. Local access to and from ports (first and last mile connectors) is vital to maintaining and expanding Washington's market share of national and international trade.

- Ports and trade gateways would benefit from designated, protected, and well maintained freight routes and corridors to move freight traffic between the regional transportation network and gateway facilities.
- Separating trucks from trains at key at-grade rail crossings near ports and gateway facilities will improve freight mobility and connections.
- Ports play a key role in emergency preparedness and national defense yet receive little financial support to fulfill the obligations.

9. Global supply chains are critical to Washington's economy. Yet government programs and regulations are usually focused on a single mode, creating inefficiencies and affecting modal competition.

- Regulations should not interfere with modal competitors.
 - Government policy that favors one mode above others is detrimental to freight supply chain requirements.
- Maintaining and increasing the national and international share of freight moving through Washington is important to the economy, and requires investment in all modes.
- Freight generally moves on multiple modes, for example, from ship to rail to truck. All modes need to work efficiently for success.

10. Recent use of SEPA to include environmental impacts beyond the jurisdiction of the project site is a significant departure from standard planning and policy work. Expanded scope of review creates uncertainty about proposed expansions or new projects and dampens efforts to invest and improve infrastructure.

11. Increased rules and regulations add costs and hinder competitiveness.

- Projects requiring both SEPA and NEPA reviews are time consuming and costly. Project delivery costs could be reduced if categorical exemptions were consistent. NEPA categorical exclusions have been updated several times over recent years, whereas SEPA categorical exemptions have not.
- Better coordination among and between state and federal agencies is needed on multiple issues, including environment, dredging, and construction and NEPA/SEPA reviews.
- Some regulations increase ancillary costs of road and terminal capital investments. This is an especially acute issue with state stormwater regulations, which involve significant uncertainties about what will be required or what the costs will be.

Crude Oil

Crude oil is processed at five refineries in Washington. These refineries produce 89% of the petroleum needs for the State and 70% of Oregon's needs. The mode of crude oil delivery to refineries is shifting with significant increases in delivery by rail and potential increases in pipeline delivery volumes and less delivery by crude oil tank vessels.

The Olympic Pipe Line carries 50-60% of the output of these refineries to distribution centers in Western Washington, and is the sole source of jet fuel for the Sea-Tac airport.

Source:

www.wsdot.wa.gov/planning/wtp/documents/freight.htm

- Full compliance with the Industrial Stormwater General Permit (ISWGP) is challenging for Port tenants and creates an impact on Port competitiveness:
 - Washington's ISWGP is more stringent than other west coast states.
 - Washington's ISWGP corrective actions escalate more rapidly than other west coast states.
 - Marine Terminal Operator tenants face immediate and uncertain capital outlay for Best Management Practices and Treatment Technologies yet it is unclear if the proposed treatment devices will reduce pollutant levels below required benchmarks.
 - Marine terminals as a sector are unable to fully comply with current stormwater benchmarks jeopardizing the ability to continue operations without reasonable compliance options. This threat to the ability to move imports and exports on and off ships is compounded by the additional uncertainty of a new five-year permit due to be implemented in 2015. If efforts to obtain reasonable compliance options fail, then marine terminals will either shut down or be subject to significant daily penalties and citizen lawsuits.

12. Freight provisions in MAP-21 can be improved to better recognize the intermodal nature of freight mobility and international trade.

- MAP-21 includes a Primary Freight Network (PFN) capped at 27,000 centerline miles, which has resulted in USDOT releasing a draft network that is disconnected and excludes much of the nation's surface transportation system that should be considered of primary freight importance.
- The draft PFN as proposed by USDOT is limited to roadways, despite widespread acknowledgment that the nation's freight and goods transportation system is a multimodal integration of international and national trade corridors, air cargo, roads and highways, rail, marine cargo facilities, and inland waterways.
- The PFN needs to be defined so that it ensures future inclusion of the other freight modes that comprise the nation's freight and goods transportation system.

13. There is a need to establish a dedicated federal funding stream for freight that recognizes the multi-modal and multi-jurisdictional nature of freight mobility.

- TIGER grants continue to be a welcome source of funding for freight projects, but have not been permanently authorized by Congress.
- Currently MAP-21 requires the establishment of new freight provisions, but these remain unfunded programs.

Policy Recommendations

Federal Government

1. Work with Congress to pass comprehensive Harbor Maintenance Tax reforms such as those included in the Maritime Goods Movement Act to strengthen the competitiveness of American ports and drastically increase funds available for operations and maintenance dredging.
2. Work with Congress to increase revenue to the Inland Waterways Trust Fund so it can adequately pay for major construction and rehabilitation projects. This could be done by increasing the existing diesel tax, imposing lockage or towboat fees, or revising the cost share formula.
3. Work with Congress to support increased investments in and support for policies to address issues related to waterways, including dredging and aging jetties.
4. Work with Congress to make Section 214 of the Water Resources Development Act of 2000 permanent to address ongoing permit wait times and backlogs.
5. Work with Congress and USDOT to improve the freight provisions in MAP-21 by raising the 27,000 mile threshold in the Primary Freight Network. In the designation of the PFN and in National Strategic Freight Planning require USDOT to use multimodal methodology and assign higher priority to international trade corridor gateways (including ports, first/last mile connectors), and recognize multimodal hubs and intermodal connectors.
6. Work with Congress to support funding streams for dedicated freight programs such as TIGER, Projects of Regional and National Significance and other programs dedicated to the multimodal-multi-jurisdictional freight mobility improvements.

State Government

1. Stormwater Recommendations:
 - Clarify compliance and cost requirements through reasonable application of an all known and reasonable technologies (AKART) approach matched to marine terminals to allow for cost effective mitigation while providing for continued operations of marine terminals.
 - Synchronize permit requirements with west coast states, and with west coast Canadian ports to better address competitive disadvantages.
 - Compare permit requirements with east coast and Gulf States with marine terminals to better address competitive advantages.
 - Compare with municipal stormwater requirements to avoid dramatically different requirements for waterways.
 - Ensure state funding, such as Model Toxics Control Act, remains available to help address stormwater permit requirements.
 - Place a reasonable maximum cap on private sector stormwater investments based on reasonable, cost effective proven and readily available technologies.

2. Work with the Department of Ecology to create a parallel review process with NEPA, and limit a project's impact area to the location of the project.
3. SEPA categorical exemptions should be updated to better match with NEPA categorical exclusions. (The Department of Ecology is undertaking rulemaking at the time of this publication.)

State and Local Government (including Port Districts)

1. Use the Port Element of City Comprehensive Plans (RCW 36.70A.085) to help define and protect the core area of port and port-related industrial uses from incompatible land uses within the city and to help ensure efficient access.
 - a. Ensure that the Port Element is reviewed regularly (every 2-3 years) and updated as needed.
2. Encourage identification in local, regional, and state land use and transportation plans of economic corridors for the movement of people and goods.
3. Define freight or heavy haul corridors, including major interchanges, to allow targeted public sector investments in freight infrastructure (RCW 46.44.0915).

Local Government (including Port Districts) and/or Private Sector with support from State Government

1. Maintain and protect intermodal connectors and last mile connectors to improve goods movement.

Alaska: An Important Trading Partner

The ports of Tacoma and Anchorage celebrated 25 years of partnership in 2011. The **Port of Tacoma's** annual trade with Alaska is estimated at \$3 billion. If ranked with its international trading partners, Alaska would be fourth.

Port of Seattle facilities play an important role in supporting trade with Alaska. Marine terminals in the Seattle harbor and on the Duwamish River load goods on vessels headed to numerous cities and villages throughout Alaska. Fishermen's Terminal and Terminal 91 are home to the North Pacific fishing fleet and enable Alaska's seafood to be brought to market.

Rail



Overview

Washington's railways play a major role in the movement of containers, automobiles, and merchandise from seaports to consumer markets in and out of the state. Railroads account for 40% of intercity freight volume. Nationwide, rail moved 13.3% of the nation's freight tonnage.

Two mainline Class 1 railroads serve Washington: the BNSF Railway (BNSF) and the Union Pacific Railroad (UP). These Class 1 railroads primarily serve the inland transportation component of the supply chain for large volumes of import and export cargo moving through state ports. These railroads connect Washington to the rest of the U.S., Canada and Mexico.

There are also 24 short-line (or local) railroads, which vary in size from one mile to more than 100 miles. These include 18 local railroads and six switching and terminal railroads. Short-line railroads are owned by private and public entities.

The majority of rail infrastructure is owned by private companies. Class 1 railroads are regulated by the federal Surface Transportation Board, and freight rail safety regulation is the responsibility of the Federal Railroad Administration (FRA). As a result, state and local governments have a limited regulatory role and have no control over the frequency or schedule of rail traffic.

Railroad spending is divided into three categories: the cost to run the railroad, the cost to maintain the railroad, and the cost to grow and modernize the rail network. According to the Association of American Railroads, \$40.2 billion was spent on running the railroads in 2012. Railroad capital costs are proportionately large and far exceed the industrial average. The amount of money required to maintain the network was \$8.9 billion in 2012.

Freight railroads invested approximately \$13.5 billion to upgrade and expand the capacity of the rail network in 2012 and are projected to spend a similar amount in 2013. From 1980 through 2012 they've reinvested \$525 billion—more than 40 cents of every revenue dollar—to maintain and modernize the national freight rail network⁵.

Rail Corridors in Washington State

The major rail corridors in Washington State 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 to Pasco, Spokane, and east

⁵ Association of American Railroads, Total Annual Spending, 2012 Data.

Key Findings

- 1. As an increasingly efficient mode for moving freight, rail transport is expected to grow dramatically. However, increased train traffic will bring additional impacts to local communities.**
 - Multi-state and multi-partner rail coalitions, for example, the Great Northern Corridor Coalition, have been a successful strategy to ensure rail improvement on key rail lines that are critical to Washington State's economy.
 - Under federal guidelines, Class I Railroads have a very limited financial partnership role with state and local governments concerning community impacts related to commodity/freight movement. Most impacts will need to be addressed with federal, state, and local dollars.
 - Impacts include train noise, loud horns, longer wait times at crossings, longer emergency response times, and hazardous cargo risks.
 - Communities often perceive few benefits from cargo that passes through their town or city.
 - Federal Section 130 (set-aside from the Highway Safety Improvement Program and apportioned to states by formula) and the Freight Mobility Strategic Investment Board are two funding sources for addressing at-grade crossings. However, requests exceed funds available.
 - The Short-line Tax Credit, which has provided significant relief for short-line railroad companies, has not been re-authorized. Effective capital spending planning requires a multi-year horizon to be effective and efficient.
 - Boeing 737 fuselages arrive in Renton by rail.
- 2. Cargo owners determine the most cost effective and efficient mode based on factors such as fuel price, time, and commodity.**
 - Some cargo has shifted from air to rail due to fuel prices (UPS is currently one of BNSF's biggest customers).
 - Alternative fuel policies create uncertainty now and could increase costs in the future. Costs come from retrofitting old equipment or purchasing new equipment.
 - Limited rail capacity creates conflicts during the busy agricultural growing season.
 - Cargo flows are sensitive to rail rates.

The Washington State Rail Plan

WSDOT completed the Washington State Rail Plan (2013-2035) on March 31, 2014. The Plan provides an overview of passenger rail, Class I, and short-line freight rail. It also includes recommendations on how Washington State can partner with Amtrak, Class I, and short-line rail companies.

The WAFAC has included additional key findings and more specific policy recommendations in this folio.

The Plan is available at:
http://www.wsdot.wa.gov/rail/state_railplan.htm

3. Regulatory and market forces are producing shifts to greener technology. These shifts produce upfront costs, some of which will be passed on to consumers.

- Technology is enabling efficient goods delivery and moving cargo in a more environmentally sustainable way.
- Rail interests believe that growing our economy in the greenest way possible will require more trains. To do this successfully, more planning is needed.

4. Increased rules and regulations add costs and hinder competitiveness.

- Positive Train Control is an unfunded mandate that has cost billions.
- Legislation has increased freight rail rates and pricing regulations have been costly for the industry.
- The railroads oppose legislation to force freight railroads to allow open access to competing railroads.
- Short-line railroad companies handle the first- and last-mile of over 20% of the nation's rail freight. Companies are capital constrained and struggle with the irregular nature of needed investments to upgrade bridges for efficient freight movement. They also struggle with other capital needs for bridges, rail, cross ties, equipment, commercial facilities, and systems upgrades.
- Grade separations and crossing improvements are important to reducing impacts of growth in freight rail density as well as highway and local freight and passenger mobility.
- Unprecedented use of SEPA to include environmental impacts beyond the jurisdiction of the project site and beyond what is normally required under NEPA causes concern among rail, ports, and private sector investment interests in Washington.

5. Routing, queuing, and other changes have improved the flow of freight, but border gateways still need attention to further facilitate goods movement.

- The International Mobility & Trade Corridor Program (IMTC), a U.S.-Canadian coalition of government and business entities, has identified and promoted improvements to mobility and security for the four border crossings that connect Whatcom County and the Lower Mainland of British Columbia.
- The U.S. Customs and Border Protection's Vehicle and Cargo Inspection System (VACIS) screening facility impedes movement in Blaine, Washington. Trains are over one mile long and when stopped they block traffic at several intersections.

**Unit Trains are More Efficient
for the Railroads**

With a unit train, all of the train cars are shipped from the same origin to the same destination, without being split up or stored en route. This saves time and money, specifically related to time spent assembling and disassembling trains at rail yards. For example, a BNSF grain train would have 110 cars.

Policy Recommendations

Federal Government

1. Work with federal agencies to ensure regulations do not interfere with modal competition.
2. Work with Congress to re-authorize the Short-line Tax Credit on a minimum of a five-year cycle so that Short-line Capital programs can be properly developed and efficiently administered for these vital “first mile, last mile” freight connectors.
3. Work with Congress to expand the Section 130 program – State funding for grade crossing improvements and separations.
4. Request the U.S. Customs and Border Protection’s Vehicle and Cargo Inspection System (VACIS) screening facility pursue new technology, such as “Rapiscan,” which can allow up to 35 mph scanning speed.
5. Work with Congress to pass the Maritime Goods Movement Act, which provides a competitive grant program for freight mobility projects.

Federal and State Government

1. Work with legislators to pass legislation that provides additional public financial assistance to help cities and towns address public safety and emergency response time issues to help mitigate the impacts of rail growth.

State Government

1. Develop a systematic way of addressing freight funding, for example, to address the over \$1 billion in identified at-grade crossings needs.
2. Support coalitions to plan for corridor improvements.

Local Government

1. Local public agencies need to get the railroad involved early in the grade separation design process (e.g. before the agencies get to the 30% design phase.) Railroads should be available to provide input to local governments during the design process.
2. Grade separations must consider the future growth of rail traffic. For example, where there is only a single track at a crossing where a separation is being considered, the bridge design should consider two or more tracks to accommodate future rail traffic.

Washington State At-Grade Crossing Inventory

The WAFAC conducted an inventory of at-grade crossings. The inventory only reviewed Class I railroads within city limits that intersected with high tonnage roadways.

The preliminary inventory:

- Identified over 110 at-grade crossings to date.
- \$1.1B is estimated to address less than half of the first tier and emerging grade separation inventory.

Trucking



Overview

There are 1.2 million truck carriers nationwide with 63,000 in the northwest and 7,000 in Washington State. Truck related jobs account for about 8% of the Washington workforce.

Trucking is a diverse industry with a variety of truck-types, ownerships, and services. Trucks carried \$334 billion of the state's total freight volumes according to data released by the Federal Highway Administration.

Truck freight is expected to grow about 3% annually between 2010 and 2040. Trucking dominates the freight transportation industry in terms of both tonnage and revenue, comprising 68.5% of tonnage and 80.7% of revenue in 2011.⁶

Our freight system enables local distribution of an enormous variety of goods that Washington's residents and businesses depend on. Movement of goods relies on highways and roads for long-distance transport as well as for urban goods delivery "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 groceries and other e-commerce, trips to and from distribution centers, and point to point shipments.

Changes in Storage and Goods Movement

- Higher retail rents have led to smaller stores, and more inventory stored at distribution centers and warehouses.
- Regionalization of distribution centers and smaller, more frequent deliveries to stores have increased. In some cases, trucks serve as mobile warehouses.
- Since distribution centers are often close to retail centers, average truck trip distance has decreased.
- Increased demand for on-time deliveries in short appointment windows (to the minute) or face fines.
- Major food distributors' urban delivery hours are shifting to off-peak (midnight to 5:00am), though off peak delivery is illegal in some jurisdictions.

⁶ American Trucking Association Chief Economist, Bob Costello.

Key Findings

1. Trucking tonnage has increased with the economic recovery. Many local employers rely heavily on trucks to move goods.

- 2012 tonnage was 9.4 billion tons (68.5% of all freight modes), up 2.3%.
- Boeing directly employs over 300 drivers who drive over 8.5 million miles annually in the Puget Sound region (does not include vendors). Boeing moves parts by water, rail and air, but all these modes require truck pickups.
- PACCAR relies primarily on trucks for freight movement and moves less than 15% of its parts by rail.
- FedEx has 1,400 employees in Washington State. They have a 120,000 SF facility in Seattle and a 20,000 SF warehouse in Blaine near the U.S.-Canada border.
- SuperValu operates a 500,000 SF 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.

2. Puget Sound companies rely on trucks and are concerned about congestion and road infrastructure.

- The costs of a missed delivery due to congestion, road closures, or other reasons are high given the just in time nature of production. Any delay slows the entire assembly process and can leave store shelves unstocked.
- Oversize/overweight freight is most affected by functionally obsolete bridges.
- Boeing currently produces 38 planes each month in Renton with components coming from various parts of the state. The goal is to increase production to 60 planes, which will require more trucks and produce more traffic.
 - Boeing is adjusting delivery times where possible – they have 28 drivers on the third shift – but not everything can be delivered during this time and some vendors do not want to stay open beyond 10 hours.
- Almost all of Costco's 130,000 truckloads in the state travel on SR 167, which is regularly backed up.

The Boeing Company

Boeing maintains established manufacturing, service, and technology partnerships around the world through contracts with 26,500 suppliers and partners, some of which are located in Washington.

Its exports, which are generally flown directly overseas from Boeing's assembly plants, lift Washington from an 'average' exporting state to one of the highest in the country in terms of export value per resident in the country.

Boeing has customers in 150 countries and produced \$81.7 billion total revenue in 2012.

Source:
www.boeing.com/companyoffices/aboutus/brief.html

3. A driver shortage began in 2006 and continues to be a challenge.

- The current workforce is retiring and quality of life issues make it harder to attract new drivers.
- Age of entry is a career barrier for trucking:
 - Federal law requires drivers to be age 21 or over to haul **interstate** freight.
 - **Intrastate** freight (a trip that originates and ends in Washington State) can be hauled by a driver at age 18.
 - A barrier to a driver aged 18 to 20 occurs when interstate freight enters Washington as a final destination and the load is broken down to be shipped locally. Because the original load was defined as “interstate,” drivers age 18 to 20 cannot make the local delivery. This further compounds driver shortages and is a barrier to trucking as a career path.
 - Insurance requirements for under age 21 drivers can be a barrier.
- Truck technology is being developed to address some safety issues through adaptive cruise control, more secure cab structure, and engine dropout to mitigate injuries involving impact with objects.
- The Compliance, Safety and Accountability (CSA) system that launched in December 2010 is creating uncertainty and dissatisfaction and reducing the pool of eligible drivers.
- Hours of Service Rule Changes (as of July, 2013) require more truck drivers and potentially more equipment to transport the same amount of goods.

4. Regulatory and market forces are producing shifts to greener technology. These shifts produce significant upfront costs, some of which will be passed on to consumers.

- Technology is enabling efficient goods delivery and moving cargo in a more environmentally sustainable way.
- Private and for hire freight carriers are using routing optimization software, cross dock programs, and long combination vehicles (when possible) to maximize truck capacity, increase efficiency, and minimize trucks on the road.
- Diesel prices are volatile and current forecasts suggest LNG prices will remain low into the future, but ultimately low LNG prices may bring down the price of diesel.

Trade with Canada

The annual value of goods coming into Washington from Canada is \$14 billion. Seventy percent of that passes through Whatcom and Skagit counties and much of it is transported by truck.

- Trucks are using low sulfur diesel and the latest generation diesel engines are the cleanest burning in trucking history. The LNG/ CNG fueling network is experiencing growth nationwide. Trucks will convert to natural gas either by retrofitting current trucks or replacing their engines with LNG or CNG burning engines during normal fleet replacements.
- At PACCAR in 2013, diesel trucks average \$110,000 while LNG trucks cost more at \$165,000.
- Biodiesel mandates increase costs since biodiesel costs 2-4 cents more per gallon.

5. Inconsistent state regulations produce inefficiencies and extra costs for the trucking industry.

- Washington truckers pay higher annual truck taxes: 2011 average cost for a five-axle tractor semi-trailer combination was \$8,900 in Washington compared to \$5,585 nationally.
- In 1991, Congress passed the Intermodal Surface Transportation Efficiency Act prohibiting states from increasing the size and weight of combination vehicles beyond that allowed on June 1, 1991.
 - Companies like Costco and FedEx would like to use longer combination vehicles. Companies can haul three trailers in Idaho and Oregon, but are restricted to two when they enter Washington. Drivers must stop and break down the freight, which takes time.
 - Changes to additional length would require appropriate number of axles to minimize roadway damage.
 - Washington State has authorized higher limits but is unable to allow them due to the Federal limits.
- Truck parking and staging is increasingly an issue as long haul truckers need safe places to park overnight.
- Requirements mandating electronic on-board recorders have some concerned about the cost and others optimistic that elimination of paper log books will produce savings.
- Environmental policies and goals may conflict with trucking interests and increase cost of operations (see side bar).

Low Carbon Fuel Standards

Cost estimates to meet the standards vary:

The Governor's Climate Legislative and Executive Workgroup Report to the Legislature cited research from the Boston Consulting Group estimating an additional \$.14 to \$.69 more per gallon as it will cost more to produce low carbon fuel.

In the January 23rd Senate Environmental Committee work session on low carbon fuel standards, the Western States Petroleum Association presented their findings on the effect of the fuel standard in California, their estimate was \$.33 to \$1.06 in additional fuel costs per gallon.

The cost of fuel accounts for nearly 30% of operating costs, which along with equipment and driver pay are the highest costs for trucking businesses. Given the small business nature of trucking, they are very sensitive to costs and historically have very low margins.

- More standardization across states and provinces is needed. Washington legislation limits trailer length to 28 feet. Larger combinations in Washington and Oregon are limited to intrastate travel and short connections from off-ramps. Other states allow 33 feet, which allows greater utilization and fewer trucks. British Columbia allows a maximum licensed gross weight of 139,994 lbs without a permit compared to 80,000 lbs in the U.S.
- Trucking favors size and weight increases in compliance with Federal Formula B, due to efficiency gains for trucks and shippers (fewer trips would be needed). Rail interests are opposed without a commensurate payment for increased wear and tear on the roads. A difference of opinion may remain on the definition of “fair share” and whether the trucking industry is already paying it.

Policy Recommendations

Federal Government

1. Federal regulations should not interfere with modal competition.
2. Work with Congress to support consistent and stable federal and state transportation infrastructure funding, which is necessary to address freight infrastructure needs and broader transportation investments.
3. Work with federal agencies for standard regulations around trailer size and weight limits with appropriate requirements for axles.
4. Work with Congress to revise the definition of interstate travel to allow 18-20 year old drivers to drive the in-state leg of an interstate shipment. This would help alleviate the state and national truck driver shortage and create a career path for truck drivers.

State Government

1. Any state transportation revenue package that includes an increase in truck weight fees should be dedicated to mitigating the impacts of freight.
2. More funding is needed for at-grade crossing improvements and “first and last mile” projects that target gaps between major transportation nodes.
3. When public policy is developed, impacts to freight mobility should be included in the trade-off analysis.

State and Local Government (including Port Districts)

1. Encourage identification in local, regional, and state land use and transportation plans of key transportation corridors for the movement of people and goods.
2. Define freight or heavy haul corridors, including major interchanges, to allow targeted public sector investments in freight infrastructure. (RCW 46.44.0915)