2014 Washington State Freight Mobility Plan

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Washington State Freight Mobility Plan

Guided by three objectives:

Urban goods movement systems that support jobs, the economy, and clean air for all, and provide goods delivery to residents and businesses.

Washington's competitive position as a Global Gateway to the nation with intermodal freight corridors serving trade and international and interstate commerce, and the state and national Export Initiatives.

Rural economies' farm-to-market, manufacturing and resource industry sectors.
We have a strong freight system in Washington

Freight Dependent Industries support 1.46 million jobs and $128.8 billion in regional domestic product statewide.
Truck Freight Economic Corridors

LEGEND
- T1 Truck Freight Economic Corridors: Freight corridors carrying more than 10 million tons per year.
- T2 Truck Freight Economic Corridors: Freight corridors carrying 4 million to 10 million tons per year. Also includes corridors serving as alternatives to primary freight routes (US 2, US 12, SR 7, SR 14).

Source: 2011 Freight and Goods Transportation System.
Truck Freight Economic Corridor and First/Last Mile Connector Route Criteria

1. T-1 freight corridors that carry more than 10 million tons per year
2. T-2 freight corridors that carry 4 to 10 million tons per year
3. Alternative freight routes that serve as alternatives to T-1 truck routes that experience severe-weather closures, and carry 300,000 to four million tons per year
4. First/last mile connector routes between freight-intensive land uses and T-1 and T-freight corridors. These criteria were used to identify the connector routes:
   - Statewide:
     – To-and-from T-1 and T-2 truck routes and strategic U.S. defense facilities
     – Over-dimensional truck freight routes that connect the state’s significant intermodal facilities to the T-1 and T-2 highway system
   - In urban areas:
     – To-and-from the Interstate system and the (1) closest major airport with air freight service, (2) marine terminals, ports, barge loaders and other intermodal facilities, and (3) warehouse/industrial lands
     – From high-volume urban freight intermodal facilities to other urban intermodal facilities, e.g. from the Port of Seattle to the BNSF rail yard in Seattle
   - In rural areas:
     – To-and-from state freight hubs located within five miles of T-1 and T-2 highways; freight hubs are defined as: (1) agricultural processing centers, (2) distribution centers, (3) intermodal facilities, and (4) industrial/commercial zoned land
     – Routes that carry one million tons during three months of the year (reflecting seasonality) of agricultural, timber or other resource industry sector goods
One Example of a First/Last Mile Connector Route Map: PSRC – King and Kitsap Counties
Rail Freight Economic Corridors

Legend:
- Economic rail corridors:
  - R1 - Greater than 5 million tons
  - R2 - 1 million to 5 million tons
  - R3 - 5 hundred thousand to 1 million tons
  - R4 - 1 hundred thousand to 5 hundred thousand tons

Source: WSDOT Freight Systems Division - 2012 Freight Rail Data.

Intermodal rail yards
Major air cargo airport
County line

Washington State Department of Transportation

Map State Freight Economic Corridors

March 2013
Waterway Freight Economic Corridors

LEGEND

Waterway economic corridors:
- W1 - Greater than 25 million tons
- W2 - 10 million to 25 million tons
- W3 - 5 million to 10 million tons
- W4 - 2.5 million to 5 million tons
- W5 - 0.9 million to 2.5 million tons

Truck Freight Performance Measures

The Washington State Department of Transportation (WSDOT) will use six measures to track the performance of the Truck Freight Economic Corridors.

Reducing:
1. Truck travel time
2. Direct truck operating costs
3. Truck engine emissions

Improving:
4. Economic output
5. Network resiliency
6. Reliability

WSDOT organized and supported three Technical Teams focused on Urban Goods Movement, Rural Economies, and the state’s Global Gateways to identify and prioritize the state’s truck freight performance goals.

They determined that these six performance goals are strongly aligned with both state and federal freight policies, and are the most important to freight system customers in Washington State.
Truck Freight Bottleneck Categories

Slow Speed
• More than 50 percent of sampled trucks are traveling below 60 percent of the posted speed (35 mph on urban freeways)

Reliability
• 80th percentile

Resiliency
• Disruptions caused by severe weather, natural disasters (earthquakes), or other causes
• Minimum average of at least 5,000 trucks per day on the freight corridor
• Truck corridor has had at least one full closure lasting longer than 24 hours in a rolling 20-year period

Restricted Access for Legal Loads
• Facility has a posted weight limit below the legal gross vehicle weight of 105,500 pounds or the facility has a posted height limit below 14 feet, the legal height limit for trucks

Clearance restriction for over-height loads
• Facility has a height clearance less than 17 feet

Implications for Freight
• Travel time increases
• Travel times are hard to estimate, leading to poor on-time performance
• Facility failure causes large statewide economic impacts for shippers, goods receivers, and carriers
• Legal truck loads cannot travel on the state truck freight economic corridors
• Over-height loads have to take detour routes adding too many additional miles to the trip
Freight Rail Challenges

Rail System Capacity
• Future growth could overwhelm rail system capacity

Community Impact
• Increased delays at highway-rail grade crossings and increased noise through communities

Maintenance of Short-line Railroads
• Challenge of deferred maintenance and modernization

Freight Waterway Challenges

Maintenance of Navigation Channel Depth
• High sustained river flows made maintaining Columbia River navigation channel depth a challenge

Lack of Columbia River Anchorages

Implications for Freight
• Could not meet future freight rail demands
• Negatively affect traffic congestion and safety at at-grade crossings
• Could not attract new businesses or encourage past shippers to return to rail transportation
• Unable to meet future navigation needs for large ships
• Unable to meet increased need for safe places to anchor ships
Preservation is the Greatest Need

Over 3,700 highway lane miles are due or past due for preservation projects, but WSDOT will only be able to repave about 1,100 in 2013-15. There are nearly 3,800 state owned bridges; without new revenue only 23 will be painted in the next 10 years.

There is a need to preserve critical freight-intensive land uses at both marine and air cargo ports, and in the state’s major warehouse district in the Green River Valley.

Deferral of freight rail maintenance can lead to equipment and track deterioration that requires substantial investment to repair. Short-line operators named bridge repairs as one of their highest priorities.
Apple Supply Chain: Example Freight Mobility Improvements

- US 12/Old Naches Highway
  - New interchange to improve mobility and safety.

- I-90 Snoqualmie Pass--widen to Easton
  - Widening and interchange improvements.

- I-5 Tacoma to Everett
  - Mobility improvements

Apple Packing Facilities
- In Urban Area
- In Rural Area: within 5 mile radius of T1/T2 highways
- In Rural Area: outside 5 mile radius of T1/T2 highways


Freight Economic Corridors
- T1 Truck Freight Economic Corridors: Freight corridors carrying more than 10 million tons per year.
- T2 Truck Freight Economic Corridors: Freight corridors carrying 4 million to 10 million tons per year.
- Alternative Freight Economic Corridors: Corridors carrying 600,000 to 4 million tons per year and serve as alternatives to T1 freight routes.

Apple Orchards

Apples are a $1.83 billion industry in Washington State.
Potato Supply Chain: Example Freight Mobility Improvements

Potatoes are a $771 million industry in Washington State.
Milk Supply Chain: Example Freight Mobility Improvements

I-5 Tacoma to Everett
Mobility improvements
Multiple improvements to I-5.

I-90 Snoqualmie Pass--widen to Easton
Widening and interchange improvements.

I-82 West Richland - Red Mountain interchange
Multi-phase improvements to Improve intersection safety and access.

Milk is a $1.28 billion industry in Washington State

Source: Washington State Department of Agriculture; Washington State Freight Goods Transportation System
Wheat Supply Chain: Example Freight Mobility Improvements

- **Ice Harbor Lock & Dam**
  Lock and dam maintenance project.

- **Ice Harbor Lock & Dam**
  New freight rail entrance to the Port of Vancouver from the mainline and internal rail track storage to accommodate unit trains.

- **PCC Freight Rail Preservation**
  Multiple preservation and rehabilitation projects.

- **West Vancouver Freight Access**
  New freight rail entrance to the Port of Vancouver from the mainline and internal rail track storage to accommodate unit trains.

Wheat is a $1.14 billion industry in Washington State.
Aerospace Supply Chain: Example Freight Mobility Improvements

Phase I - Re-designation of SR 529 & Improvements
Access improvements from Port of Everett to I-5 and intersection improvements to better accommodate over-dimensional freight traffic.

I-5 Tacoma to Everett mobility improvements
Multiple improvements to I-5.

I-90 Snoqualmie Pass--widen to Easton
Widening and interchange improvements.

Aerospace products and part are a $52.2 billion industry in Washington State

Source: Washington State Department of Revenue; Washington State Freight and Goods Transportation System
Washington State is Growing

By 2030 the central Puget Sound region alone will add another 760,000 residents. Clark County is expected to add over 110,000 and Spokane over 87,000 residents by 2030.

• Washington’s population was 6.7 million in 2010 and is expected to climb to over 8.1 million by 2030 according to the Washington State Office of Financial Management.

• As population rises, there will be more pressure on the public and private sectors to lower freight emissions near workers and residents.

• Business growth will drive demand to move goods at the right cost and right time on the state’s freight economic corridors.
Truck Freight Growth Through 2030

Base Truck Forecast with Trend Analysis Applied

Overall trend indicates the potential for a strong positive impact to the base forecast.
Rail Freight Growth Through 2035

Rail Volumes by Direction of Travel 2010 to 2035

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We can meet the challenge together…

• The Washington State Freight Plan addresses the period from 2014 to 2030 and contains both near- and long-term policy, operational and project investment strategies.
• The Freight Plan is multimodal, and incorporated freight rail recommendations from the State Rail Plan.
• Policy recommendations came from WSDOT, the Washington State Freight Advisory Committee, and discussions with other freight stakeholders.
• The WSDOT recommendations on State Truck and Freight Rail Economic Corridors are drawn from the WSDOT 2013 Unfunded System Investments list found at http://www.wsdot.wa.gov/Funding/SystemInvestments.htm. WSDOT's recommended freight highway project list may be subject to revision as the department is currently undertaking a rigorous practical design process to continue to seek the lowest-cost and highest-value solutions for freight and passenger needs on the highway system.
• Project recommendations on the State Waterway Freight Economic Corridors are based on information provided by the Pacific Northwest Waterways Association and state ports.
• WSDOT and FMSIB joined together to gather regional and local freight project recommendations from MPOs, RTPOs, Ports and Tribes, as a first step towards a unified State Freight Mobility Plan.
We’re very interested in your feedback and questions.

For more information, please contact:
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Washington State Freight Mobility Plan is available here: http://www.wsdot.wa.gov/Freight/freightmobilityplan

Please send comments to Freight@wsdot.wa.gov by 5:00 pm on August 8, 2014