

**Southwest Washington Regional
Transportation Council**

Clark County Freight Mobility Study

**Technical Memorandum 3.A.2 & 4.A.2
Existing & Future Rail Movements**

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**Prepared For:
RTC**

December 2009

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1. Purpose

This Technical Memorandum presents information about existing rail movements to and through Clark County, and projects how those movements would change in the future. Along with its companion memorandum—Existing and Future Truck Movements—this provides a synopsis of all land-side freight movements in the County.

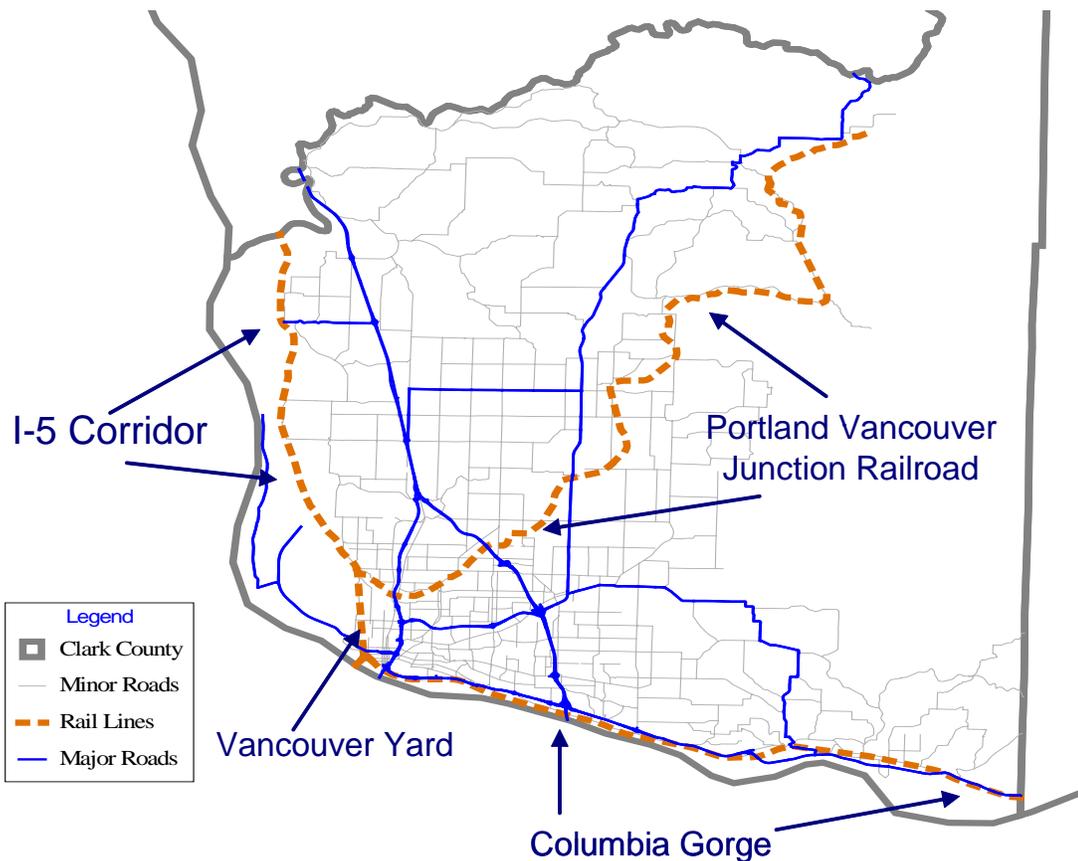
2. Clark County Rail Network

The rail distribution system in Clark County is presented in **Figure 1**. The rail system in Clark County includes portions of two mainline rail corridors, one shortline railroad, and a key rail yard. The system serves a variety of industrial users, and is critical to the operations of the Port of Vancouver. More than 100 trains pass through the Vancouver rail yard every day (BST Associates, November 2009).

The Burlington Northern Santa Fe Railway (BNSF) owns and operates the Columbia Gorge route between Vancouver and Pasco (with connections to inland destinations). BNSF also owns the I-5 Corridor between Vancouver and Tacoma, with the Union Pacific Railroad (UP) operating over the corridor via trackage rights. The BNSF's Vancouver-Pasco line, which follows the Columbia River along the north side, is used by double-stack intermodal container trains moving east, grain trains moving west to the Columbia River and Puget Sound ports, and carload trains moving both east and west to serve Washington State industrial and agricultural shippers. North of Vancouver there are approximately 49 trains per day and east of Vancouver there are 35 to 40 trains per day. The line is operating today at about 70 percent of practical capacity (Cambridge Systematics, December 2006).

The shortline railroad in Clark County is operated by the Portland Vancouver Junction Railroad (PVJR), although the rail line itself is owned by Clark County. The PVJR began operating in 2004 with just 60 cars of freight handled on the line. Since that time, the traffic has increased to over 500 cars being shipped in 2008, with daily service offered. The PVJR corridor is relatively industrial, and there are over 1,000 acres within close proximity of the line that could accommodate expansion and development of heavy and light industrial, manufacturing, warehousing, research and business park uses. The PVJR owns a three-acre parcel on the line to help locate and grow their business (BST Associates, November 2009).

Figure 1. Rail System in Clark County



3. Existing Freight Movement by Rail

Freight movement entering, through, and exiting Clark County for all modes was evaluated by BST Associates for this study. (BST Associates, November 2009) A summary of freight movement by mode, in tonnage and value, is presented in Table 1.

Table 1. Clark County 2007 Freight Tonnage and Value by Mode

Transport Mode	Tons (1,000) ¹	% by Ton	Value (\$1,000s)	% by Value	\$/Ton
Ocean	5,943	18.3%	\$4,660,220	17.6%	\$784
Barge	2,269	7.0%	\$675,383	2.6%	\$298
Rail	5,625	17.3%	\$4,568,740	17.3%	\$812
Truck	17,920	55.2%	\$15,818,286	59.9%	\$883
Air	42	0.1%	\$433,668	1.6%	\$10,249
Pipeline	647	2.0%	\$252,517	1.0%	\$390
Total	32,446	100.0%	\$26,408,813	100.0%	\$814

1. Source: BST Associates, November 2009.

Rail movements account for about 17% of the freight by both volume and value in Clark County (BST Associates, November 2009). Outbound rail shipments primarily move directly to ocean shipping. Inbound ocean shipping transfers to both rail and truck.

The Washington State Department of Transportation is currently evaluating freight rail traffic in Washington State¹. As shown in Table 3, approximately 5.6 million metric tons of cargo originated and/or terminated in Clark County in 2007. Of this total, approximately 4.7 million tons terminated in Clark County with 4.0 million tons originating outside of Washington State and 746,000 tons originating within Washington State. The remaining 907,000 tons originated in Clark County with 747,000 tons going out of state and 160,000 tons remaining within the state.

Table 2. Clark County Rail Traffic in 2007 (1,000 metric Tons)

Region	Originating	Clark County - 1,000 Metric Tons	
		Terminating	Total
Out of State	747.1	3,971.9	4,719.1
Within State	160.1	745.5	905.5
Total	907.2	4,717.4	5,624.6

Source: WSDOT Rail and Marine Office.

BST Associates also evaluated rail cargo movement by commodity type for the *Clark County Freight Mobility Study* using WSDOT data, Port of Vancouver marine terminal cargo statistics, as well as rail traffic generated by tenants of the Port of Vancouver but not related to marine terminals. In addition, BST Associates interviewed the PVJR to estimate rail freight generated on this line. (BST Associates, November 2009). Grain is the largest commodity terminating in Clark County, accounting for 55 percent of all rail traffic, of which most is exported. The next largest commodities by weight were:

¹ Source: *Freight Rail, Washington Economy, and State Roles*, Scott Witt, Director and George Xu, Ph.D., Economist at the Washington State Department of Transportation State Rail and Marine Office, August 5, 2009.

- Wood products accounted for 10 percent of rail traffic,
- Metallic ores (copper concentrate exports) accounted for 6 percent of rail traffic,
- Pulp and paper shipments (from large manufacturers such as Boise Cascade at Camas) accounted for 6 percent of rail traffic,
- Base chemicals accounted for 5 percent of rail traffic,
- Fertilizer accounted for 5 percent of rail traffic, and
- Nonmetallic minerals (cement) accounted for 4 percent of rail traffic.

4. Future Freight Movement by Rail

Cargo forecasts by mode of transport were available from the Columbia River Crossing Project. These data provide a growth rate for rail and truck cargo within the region, as summarized in Table 3. The percentage of all freight expected to move by rail in Clark County would decrease from 11% today to about 10% by the year 2030. Overall, rail tonnage is expected to increase by a compound growth rate of about 1.5% per year.

Table 3. Portland-Vancouver Region Freight Cargo Forecast by Mode

Transport Mode	Year 2000		Year 2030		2000 – 2030 Growth Rate
	Tons (millions)	Percent by Mode	Tons (millions)	Percent by Mode	
Truck	197.2	67%	390.5	73%	2.3%/year
Rail	32.9	11%	50.9	10%	1.5%/year
Ocean	28.4	10%	40.3	8%	1.2%/year
Barge	15.1	5%	19.8	4%	0.9%/year
Pipeline	22.2	7%	28.8	5%	0.9%/year
Air	0.4	<1%	1.3	<1%	4.0%/year
TOTAL	296.2	100%	531.6	100%	2.0%/year

Source: Portland/Vancouver International and Domestic Trade Capacity Analysis, Columbia River Crossing Project: 2006.

5. References:

BST Associates, *Current and Expected Economic Conditions*, Clark County Freight Mobility Study, November 2009.

Cambridge Systematics, *Statewide Rail Capacity and System Needs Study*, Final Report, December 2006.

Columbia River Crossing Project: *Portland/Vancouver International and Domestic Trade Capacity Analysis*, 2006.

Witt, Scott and Xu, George, Ph.D., Economist at the Washington State Department of Transportation State Rail and Marine Office, *Freight Rail, Washington Economy, and State Roles*, August 5, 2009.