

An Engine of Prosperity

How Freight Rail Drives
Washington's Economy

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Study Overview

- Washington Council on International Trade, BNSF Railway
- Dr. Philip J. Romero
 - Chief Economist for the state of California and the RAND Corporation. Professor of Business Administration, University of Oregon, national media contributor
- Examined economic “footprint” of freight rail on the Pacific Northwest economy, using Washington as a microcosm

Rail's role in economic history

- Before steam power in early 19th Century, goods and people stayed very local
 - Little trade, almost entirely by water
 - Few firms faced outside competition → little incentive to improve
 - Per capita incomes ~ \$1,000 per year in current \$
- North American continent west of Appalachians sparsely populated and near-subsistence
 - No efficient way to import materials or export crops
 - Pacific NW population: a few thousand

Why is Washington a Trade Powerhouse?

- Favorable geography (2nd busiest West Coast ports)
- Favorable public policy (over a generation of trade promotion)
- Efficient freight shipping from inland origins (*aka* freight rail)
 - Freight rail ships goods from over a dozen states and provinces—Collective GDP: \$2 trillion +
 - Equivalent to a medium-sized developed country



An export powerhouse

- Washington has the fourth highest exports of any U.S. state
 - Behind only states with 4 to 6x population
 - Second highest per capita
 - Twice as export-intensive as U.S. average (\$10,000 + per person vs. less than \$5,000 national avg.)
- 40% of state-employment is trade-dependent
 - 3/4ths exports; 1/4th imports
- State economy more resilient than the nation's
 - Shallower fall in 2008-09 recession
 - Grew 7th fastest since 2009

Four Out of Ten WA Jobs Depend on Trade

Industry	No. of Freight-Dependent Jobs	% of State Employment
Agriculture, Forestry, Fishing/Hunting	74,018	3%
Mining	2,800	.1%
Construction	186,495	6%
Manufacturing	298,970	10%
Wholesale trade	126,563	4%
Retail trade	322,256	11%
Transportation and Warehousing	114,006	4%
Total	1,125,108	39%
<i>Of which primarily export-dependent</i>	<i>802,852</i>	<i>28%</i>
<i>Total state employment in 2008: 2,881,000 jobs</i>		

Methodology



- Identified six most trade dependent industries
- Approximated the substitution of shipping modes from trains to trucks—not all shipping would disappear if trains didn't exist
- Used input/output multipliers to capture the effects if the trade-dependent industries sold less and bought less due to higher shipping costs
- Compared results to total size of WA economy to check for reasonableness

Key Findings

- Freight rail responsible for \$28.5 billion in state economic activity
 - Nearly one in ten dollars of GDP
 - Most of a decade's worth of economic growth
- Household earnings \$13.4 billion higher
 - More than \$5,000 per family
- Rail supports 342,000 jobs
 - More than 10% of state workforce



Why is Rail Superior?



- Efficiency
- Environmental impact
- Economic self-sufficiency:
Since 1980, \$500 billion in private investment
- Safety: Accident rates have halved since 1980
- Speed: Avoids congested highways
 - Washington highway congestion costs \$3.3 billion per year

Why Not Use Trucks Instead of Rail?

- If rail didn't exist, land based shipping would be by truck
 - 279% price increase
 - Labor costs nearly 100x
 - Emissions 4x
- Trucks' total "social" costs are 9x rail; inferior in each of the following:
 - Congestion
 - Pollution
 - Energy security
 - Public infrastructure
 - Accidents
- Without freight rail, little overland long distance trade would occur

Conclusions

- Trade has driven a vast upward climb in Washington State's living standards
- Freight rail is critical to Washington State's prosperity
- Rail enables Washington State to exploit its position astride the path of trade for a dozen states and provinces

BACKUP

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Rail is superior to trucks in all but one impact category

- Trucks' direct costs per ton-mile are 3.79x rail
 - Labor costs nearly 100x
 - Emissions 4x
- Trucks' total “social” costs are 9x rail; inferior in each of the following (except noise):
 - **Congestion**
 - **Energy security**
 - **Public infrastructure**
 - **Pollution**
 - *Noise*
 - **Accidents**

*Sources: Gerald McCullough, U. Minnesota, 2005;
David Fockenbrock, U. Iowa, 2001*