

**Columbia Snake River System
and Oregon Coastal Cargo Ports
Marine Transportation System Study**

Appendix A
Economic Importance of Maritime Trade

Prepared for
CEDER, the Center for Economic Development Education and Research
by
BST Associates

June 2005

This report was supported, in part, by a generous grant from
Oregon Economic and Community Development Department, State of Oregon

Columbia Snake River System and Oregon Coastal Cargo Ports Marine Transportation System Study

Economic Importance of Maritime Trade

Trade is very important to the Pacific Northwest. In 2004, Washington ranked third and Oregon ranked tenth in the dollar value of exports per capita. In Washington State, the Governor's office estimates that one in three jobs is related to trade. The following economic impact estimates include jobs created by cargo handling activities and inland transportation (barge operations on the Columbia/Snake River system as well as truck and rail transportation).

Economic Impacts

The economic impact at ports focuses on activity in the port industry:

- Cargo handling activities (stevedore/longshore vessel loading and unloading and storage activity, and, port charges),
- Inland water transportation (barge operations on the Columbia/Snake River system) and,
- Inland transportation (truck and rail loading and movement).

The intent of the economic impact assessment is to identify and quantify the all economic activities essential to the movement of goods in the foreign and domestic trades via the port regions for the following categories:

- Employment - measured in year-round full-time equivalent jobs (FTEs).
- Wages and income - include wages, salaries, proprietors' income and non-wage compensation (such as pensions, insurance, and health benefits).

Definitions and Methodology

Definitions

Direct impacts are the economic activities directly caused by the movement of cargo flows through the Port, or the operations of port tenants and users. These activities represent the "first round" of spending, employment, and wages. Rounds of inter-industry purchases generate indirect and induced impacts. Indirect impacts represent purchases by the industry of goods and services, such as the payment for outside contractors or for accounting or legal services. Induced impacts refer to the household purchases based on the employment earnings from direct and indirect economic activities. As wages are paid out, workers' families spend their income on a wide array of goods and services, much of which are supplied by the local economy.

Total impacts incorporate the sum of direct, indirect, and induced impacts.

Methodology

The Ports of Portland and Vancouver have recently undertaken economic impact studies. The results of these studies were used for the Lower Columbia and Oregon Coast regions at a specific commodity basis to provide an estimate of the economic impacts in these regions.

The economic impacts of the shallow draft Columbia/Snake River system was developed by BST Associates to estimate the impacts associated with existing and future cargo movements. BST Associates estimated the revenues associated with transportation services (truck transportation to/from the port, port charges and barge transportation along the system). Payroll was estimated based upon data from the Census of Transportation for Washington and Oregon. Average wages per job were used to estimate the number of jobs. RIMS multipliers were used to estimate indirect and induced impacts.

Findings

The economic impacts associated with marine cargo activities are presented in this section.

Lower Columbia Region

The Lower Columbia River region had over 15,000 direct and 40,000 total jobs in 2000 due to marine cargo activity. The direct payroll of port activity was estimated at \$576 million. This generated an income of \$1.8 billion, including direct, indirect and induced effects.

The Lower Columbia River region is expected to generate more than 20,000 direct jobs and 52,000 total jobs in 2020, if baseline and potential market opportunities come to fruition. This would represent an increase of nearly 5,000 direct family wage jobs and an overall increase of more than 12,000 jobs in the region. The projected direct payroll would be \$808 million (in 2004 dollars), representing an increase of \$230 million in wages. Total income would be \$2.5 billion, representing an increase of more than \$700 million.

Table 1 – Lower Columbia River Region Economic Impacts

Year	Jobs		Income (\$mil 2004)	
	Direct	Total	Direct	Total
2000	15,632	40,098	\$576	\$1,809
2020				
Baseline Forecasts	18,610	45,690	\$705.4	\$2,215.1
Potential Opportunities	1,985	6,633	\$102.4	\$321.6
Total Impacts	20,595	52,323	\$807.8	\$2,536.7
Increase	4,963	12,225	\$231.8	\$728.1

Source: BST Associates, using data from Ports of Portland and Vancouver prepared by Martin Associates

Columbia/Snake River Shallow Draft Region

The Columbia/Snake River region had over 1,100 direct and 2,600 total jobs in 2000 due to waterborne cargo activity. The direct payroll associated with this activity was \$39 million, which generated an income of \$80 million, including direct, indirect and induced effects.

The Columbia/Snake River region is expected to generate more than 1,200 direct jobs and nearly 2,900 total jobs in 2020, if baseline forecasts come to fruition. This would represent an increase

of nearly 100 direct family wage jobs and an overall increase of 250 jobs in the region. The projected direct payroll would be \$42 million (in 2004 dollars), representing an increase of \$4 million in wages. Total income would be \$88 million, representing an increase of more than \$7 million.

Table 2 –Columbia/Snake River Region Economic Impacts

Year	Jobs		Income (\$mil current)	
	Direct	Total	Direct	Total
2000	1,134	2,640	\$39	\$80
2020				
Baseline Forecasts	1,242	2,890	\$42.4	\$87.9
Potential Opportunities	-	-	\$0.0	\$0.0
Total Impacts	1,242	2,890	\$42.4	\$87.9
Increase	108	250	\$3.7	\$7.6

Source: BST Associates, using data from Ports of Portland and Vancouver prepared by Martin Associates

Oregon Coast Region

The Oregon Coast region had over 900 direct and 3,100 total jobs in 2000 due to waterborne cargo activity. The direct payroll associated with this activity was \$49 million, which generated an income of \$154 million, including direct, indirect and induced effects.

The Oregon Coast region is expected to generate more than 1,300 direct jobs and nearly 4,400 total jobs in 2020, if baseline forecasts and potential market opportunities come to fruition. This would represent an increase of nearly 350 direct family wage jobs and an overall increase of 1,200 jobs in the region. The projected direct payroll would be \$67 million (in 2004 dollars), representing an increase of \$18 million in wages. Total income would be \$212 million, representing an increase of more than \$58 million.

Table 3 – Oregon Coast Region Economic Impacts

Year	Jobs		Income (\$mil current)	
	Direct	Total	Direct	Total
2000	948	3,169	\$49	\$154
2020				
Baseline Forecasts	1,062	3,548	\$54.8	\$172.0
Potential Opportunities	246	820	\$12.7	\$39.8
Total Impacts	1,308	4,369	\$67.4	\$211.8
Increase	359	1,200	\$18.5	\$58.2

Source: BST Associates, using data from Ports of Portland and Vancouver prepared by Martin Associates