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## Columbia/Snake River System and Oregon Coastal Cargo Ports Marine Transportation System (MTS) Study



### Executive Summary June 2005

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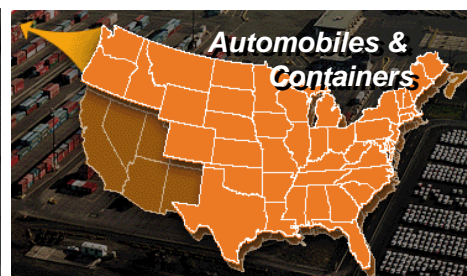
# Columbia/Snake River System and Oregon Coastal Cargo Ports Marine Transportation System Study

## Executive Summary

The Columbia/Snake River System and Oregon Coastal Cargo Ports region is a uniquely valuable regional and national transportation resource because, unlike any other location on the West Coast, it integrates transportation options via deep water shipping, upriver barging, two water-grade rail mainlines and the interstate highway system into a multimodal, low-cost and high-capacity Marine Transportation System (MTS).

These ports provide a critical regional and national gateway linking the agricultural, mineral and goods production across the Northwest, Midwest and Mountain states to the growing markets in the Pacific. The Columbia River is the leading export gateway for U.S. wheat and barley exports. The region is the leading bulk cargo and forest products trade gateway on the West Coast. Total trade through the Columbia/Snake River System and Oregon Coastal Cargo Ports amounted to \$15 billion in value in 2003.

Marine activities in the Lower Columbia River generated 40,000 jobs in 2000 and income of \$1.8 billion. That will grow to more than 52,000 total jobs in 2020 if baseline and potential market opportunities come to fruition. The Columbia/Snake River inland waterway region generated 2,600 total jobs in 2000 and income of \$80

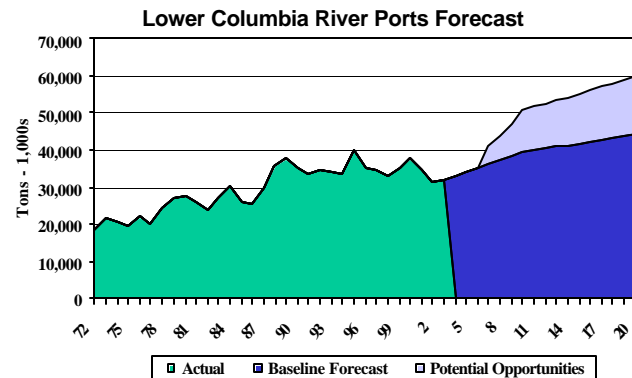


million. The inland region is expected to generate 2,900 total jobs and \$88 million in income in 2020. The Oregon Coast region generated 3,100 total jobs in 2000, with income of \$154 million. The Oregon Coast region is expected to generate more than 1,300 direct jobs and nearly 4,400 total jobs in 2020 and a total income of \$212 million.

## Regional Cargo Trade Outlook

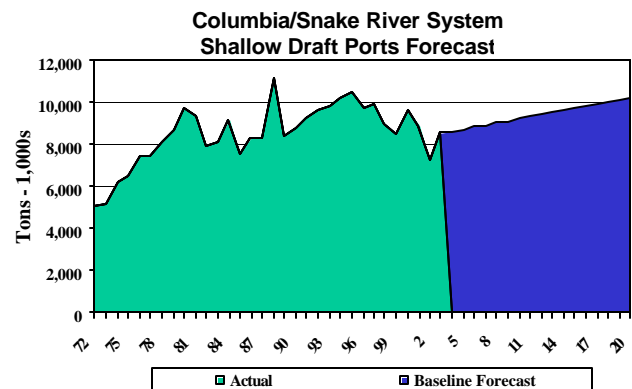
### Lower Columbia River Deep Draft Ports

Marine traffic passing the entrance of the Columbia River is projected to increase by 35% from 32 million tons in 2003 to 43 million tons by 2020. Containers should nearly double in volume. Grain, autos and break bulk cargo are all expected to increase by about 40 percent. If all potential market opportunities come to fruition, particularly auto imports, dry bulk and grain exports, and liquefied natural gas (LNG) imports, marine cargo would grow by 85% and reach 60 million tons by 2020.



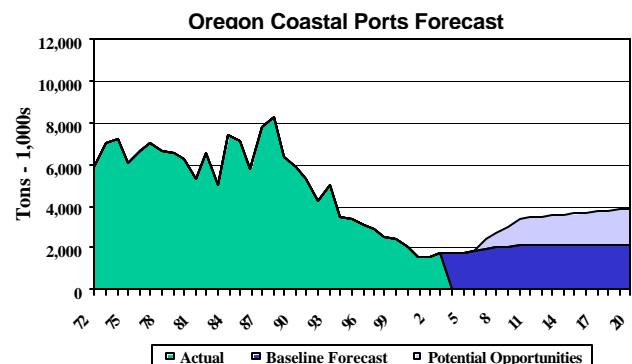
### Columbia/Snake River Inland Ports

Traffic on the Columbia/Snake river barge system grew from 5.0 million tons in 1972 to 8.5 million tons in 2003, with peaks above 10 million tons in 1988 and in the mid-1990s. The baseline forecast projects that traffic will grow about 20%, reaching 10.2 million tons by 2020. Grain and containers are the major growth commodities. Although not a subject of this study, the volume of passengers carried on cruise ships on the inland waterway has been growing dramatically. These vessels benefit from the same infrastructure maintenance and improvements as maritime cargo. They also contribute economic benefits to the port communities on the river system.



### Oregon Coast Deep Draft Ports

Oregon Coast ports experienced a decline in waterborne traffic since the late 1980s, but the worst appears to be over. The baseline forecast expects growth in the existing product base, from 1.7 to 2.1 million tons by 2020. In addition, new opportunities such as the proposed liquefied natural gas (LNG) terminal at Coos Bay could increase cargo volumes to 3.9 million tons by 2020.



## Toward An Integrated, Multi-modal Marine Transportation System

The Columbia/Snake River System and Oregon Coastal Cargo Ports MTS envisions an integrated deep water navigation, inland navigation, rail, roadway and port system that facilitates superior transportation operating efficiency for the export/import trade flowing through the region. Meeting the growing and shifting challenges of freight transportation and multimodal logistics requires additional investment to ensure that the MTS system keeps regional and national shippers competitive in the global market.

While most proposed projects will provide efficiency and operating benefits to exporters, importers and carriers on a stand-alone basis, taken together the projects create a highly-efficient operating environment

which will improve export and import competitiveness of this trade corridor at the national, regional and local levels alike.

The deep water, inland waterway, rail and roadway transportation assets in the region create an integrated, multi-modal freight transportation system that is the lifeline of the region’s waterborne international trade. At key crossroads, these transportation corridors converge to facilitate the transfer of goods from one mode to another. Several key corridors and transfer points in the region stand out as critically important when considering future MTS investments:

- **The Portland-Vancouver area** where inland waterway navigation, the BNSF and UP railroads, I-84 and I-5 meet deep water.
- **The I-5 corridor between Portland and Longview** where rail and truck freight bound for Columbia River export must contend with domestic freight and passenger traffic for vital rail and highway capacity.
- **The Mid Columbia and Snake River navigation system** which feeds waterborne trade from the region’s hinterlands to downriver deep water ports.
- **The inland port system** stretching from Boardman, Oregon to Lewiston, Idaho which provides truck-to-barge and rail-to-barge transfer capability for regional shippers and economic development opportunities for the Inland Empire sub region.
- **The road, rail and navigation system converging at Coos Bay** which provides waterborne trade access and unique economic development opportunities for Southern Oregon.

This MTS study identifies proposed navigation, rail and highway projects that remove bottlenecks, add efficiency and enhance capacity along these corridors and at these key network crossroads. Taken together, the MTS projects will collectively deliver the most overall benefit to trade for the Columbia/Snake River System and Oregon Coastal Cargo Ports, the region and the nation. The MTS projects are selected to ensure that the region’s transportation infrastructure constitutes a multimodal system, the components of which are properly located and sized to accommodate the regional and national marine trade that moves through the region.

### Summary of Total MTS Infrastructure Needs (Thousands of Dollars)

PROJECT TYPE & LOCATION	ON-GOING MAINTENANCE PROJECTS*	NEW PROJECTS			
		Near Term 1-5 Years	Mid Term 6-10 Years	Long Term 10+ Years	Total
<b>By Infrastructure Type</b>					
Navigation	\$37,700	\$237,600	28,000I	\$56,500	<b>\$322,100</b>
Rail	N/I	\$9,400	\$467,800	N/I	<b>\$477,200</b>
Roadway	N/I	\$151,100	\$77,000	\$1,086,000	<b>\$1,314,100</b>
<b>Total</b>	<b>\$37,700</b>	<b>\$398,100</b>	<b>\$572,800</b>	<b>\$1,142,500</b>	<b>\$2,133,400</b>
<b>By Port Region</b>					
Lower Columbia River	\$20,000	\$181,850	\$531,800	\$1,142,500	<b>\$1,856,150</b>
Mid Columbia & Snake Rivers	\$9,400	\$52,950	N/I	N/I	<b>\$52,950</b>
Oregon Coast	\$8,300	\$163,300	\$41,000	N/I	<b>\$204,300</b>
<b>Total</b>	<b>\$37,700</b>	<b>\$398,100</b>	<b>\$572,800</b>	<b>\$1,142,500</b>	<b>\$2,133,400</b>

\*Average annual cost

N/I – Not identified at this time, although maintenance and development needs are anticipated

## **MTS Infrastructure Needs for National & Regional Markets**

National and regional MTS projects for the Columbia/Snake River System and Oregon Coastal Cargo Ports include 11 new navigation, rail and roadway projects plus on-going maintenance of four critical navigation projects. In the next five years, the projects emphasize navigation capacity improvement and maintenance programs. In the six- to ten-year timeframe, the currently identified projects focus primarily on rail capacity improvements to facilitate rising marine-related trade volumes of national and regional origin/destination. Beyond ten years, major improvements to the I-5 and BNSF Columbia River crossings are currently identified.

### **Summary of MTS Infrastructure Needs - National & Regional Projects**

<b>Project</b>	<b>Location</b>	<b>Project Type</b>	<b>System Importance</b>	<b>Basis of Need</b>	<b>Cost</b>
<b>On-Going Maintenance</b>					
1. Columbia & Willamette Rivers Maintenance Dredging	Lower Columbia & Willamette Rivers	Navigation	National	Maintain Existing Trade	\$20,000,000 (annually.)
2. Snake River Maintenance Dredging	Snake River	Navigation	Regional	Maintain Existing Trade	\$4-\$6,000,000 (every 3 yrs.)
3. Coos Bay Maintenance Dredging	Coos Bay	Navigation	Regional	Maintain Existing Trade	\$6,500,000 (every 2 yrs.)
4. Mid Columbia & Snake Rivers Navigation Lock Maintenance	Mid Columbia & Snake Rivers	Navigation	Regional	Maintain Existing Trade	\$3-\$4,000,000 (annually.)
<b>Near-Term (1-5 Years)</b>					
5. Columbia River Channel Deepening	Lower Columbia River	Navigation	National	Maintain Existing Trade & Trade Growth	\$148,400,000
6. Columbia River Jetty Repair	Mouth of Columbia River	Navigation	National	Maintain Existing Trade	\$14,000,000
7. Mid Columbia & Snake Rivers Navigation Lock Repair & Retrofit	Mid Columbia River	Navigation	Regional	Maintain Existing Trade	\$51,400,000
8. Coos Bay Harbor Improvements (2 projects)	Coos Bay	Navigation	Regional	Maintain Existing Trade & Trade Growth	\$23,500,000
9. Coos Bay North Bay Industrial Rail Lead	Coos Bay	Rail	Regional	Trade Growth	\$6,800,000
10. Upriver Unit Train Facility Feasibility Studies	Morrow, Umatilla, Pasco, Lewiston	Rail	Regional	Trade Growth	\$250,000
<b>Mid-Term (6-10 Years)</b>					
11. I-5 Trade Corridor Rail Capacity Improvements (10 projects)	Portland-Vancouver	Rail	National	Trade Growth	\$170,000,000
12. Kelso-Martins Bluff Third Main Line	Kalama-Longview	Rail	National	Trade Growth	\$190,000,000
13. I-5 Delta Park to Lombard in North Portland	Portland	Highway	Regional	Trade Growth	\$44,000,000
<b>Long-Term (10+ Years)</b>					
14. I-5 Columbia River Crossing	Portland-Vancouver	Highway	Regional	Trade Growth	\$1,000,000,000
15. BNSF Rail Bridge Navigation Lift Span	Portland-Vancouver	Navigation	Regional	Maintain Existing Trade	\$56,500,000

## MTS Infrastructure Needs for Local Markets

Twenty-two MTS projects are of local importance in supporting marine trade and transportation in the Columbia/Snake River System and Oregon Coastal Cargo Ports region. These projects include three navigation, ten rail and nine roadway projects.

### MTS Infrastructure Needs - Local Projects

Project	Location	Project Type	System Importance	Basis of Need	Cost
<b>On-Going Maintenance</b>					
Newport Harbor Maintenance Dredging	Newport	Navigation	Local	Maintain Existing Trade	\$1,800,000 (every 2 yrs.)
<b>Near-Term (1-5 Years)</b>					
Pasco Processing Center Road Connection to SR395	Pasco	Road	Local	Trade Growth	\$300,000
US20 Pioneer Mountain to Eddyville	Newport	Road	Local	Trade Growth	\$133,000,000
Umatilla Terminal Access Road Improvements	Umatilla	Road	Local	Trade Growth	\$1,000,000
Columbia Blvd.& Lombard St. Improvements at MLK	Portland	Road	Local	Trade Growth	\$16,800,000
Scappoose Bay Marine Park Channel Deepening	Port of St. Helens	Navigation	Local	Trade Growth	\$300,000
<b>Mid-Term (6-10 Years)</b>					
New Port of Vancouver Northern Rail Access	Vancouver	Rail	Local	Trade Growth	\$60,000,000 to \$80,000,000
Yaquina Bay Jetty Repair	Newport	Navigation	Local	Maintain Existing Trade	\$28,000,000
Repair/Replace Coos River Rail Bridge	Coos Bay	Rail	Local	Maintain Existing Trade	\$10,000,000+
Kalama Grain Terminal Trackage Improvements	Kalama	Rail	Local	Trade Growth	\$2,500,000
Leadbetter St. Extension & Rail Overcrossing	Portland	Rail	Local	Trade Growth	\$10,800,000
North Rivergate A&B Rail Yard Expansion	Portland	Rail	Local	Trade Growth	\$4,500,000
Coos Bay North Bay Marine Terminal Rail infrastructure	Coos Bay	Rail	Local	Trade Growth	\$3,000,000
West 26 <sup>th</sup> Roadway Extension	Vancouver	Road	Local	Trade Growth	\$20,000,000
Fruit Valley Road, Phase 3	Vancouver	Road	Local	Trade Growth	\$10,000,000
Port Westward Industrial Rail Loop	Port of St. Helens	Rail	Local		\$1,800,000
Multnomah Plywood Industrial P Park Rail siding	Port of St. Helens	Rail	Local		\$250,000
Railroad Avenue/Pole Yard Rail Upgrade	Port of St. Helens	Rail	Local		\$150,000
Columbia City Rail Siding Upgrade	Port of St. Helens	Rail	Local		\$150,000
Chapman Landing Access Road Improvement	Port of St. Helens	Road	Local	Trade Growth	\$3,000,000
<b>Long-Term (10+ Years)</b>					
Fourth Plain Expansion	Vancouver	Road	Local	Trade Growth	\$30,000,000