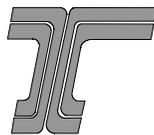


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# Regional Economic Effects of the I-5 Corridor/Columbia River Crossing Transportation Choke Points

*prepared for*  
Oregon Department of Transportation



*prepared by*  
**Cambridge Systematics, Inc.**

*in association with*  
**David Evans and Associates, Inc.**

April 2003

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*final report*

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Cambridge Systematics, Inc.  
150 CambridgePark Drive, Suite 4000  
Cambridge, Massachusetts 02140

*in association with*

David Evans and Associates, Inc.  
2100 Southwest River Parkway  
Portland, Oregon 97201

*April 2003*

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## ■ Executive Summary

Portland, Oregon and Vancouver, Washington, along with the rest of Oregon and Washington, share a common transportation choke point—the Interstate 5 (I-5) Corridor highway and rail bridges that connect the two cities across the Columbia River. The crossings are of strategic importance to the freight transportation in the Portland-Vancouver area and the Pacific Northwest, but their ability to effectively support freight movement and the regional economy is threatened by growing congestion.

The duration of peak-period congestion at the I-5/Columbia River highway bridge will double from four hours today to nearly 10 hours in 2020. The congestion will spread into the midday period, which is the peak travel time for trucks. This will increase the cost of delay to trucks by 140 percent—from \$14 million in 2000 to \$34 million in 2020. The rail network within the Portland-Vancouver area is equally congested. Congestion adds about 40 minutes to every train move, twice the delay in Chicago, the nation’s largest rail hub.

Congestion at the Columbia River crossings is not just a local problem, it is a Pacific Northwest problem. The region’s economy is built on transportation-intensive industries. Agriculture, construction, transportation equipment and utilities, wholesale and retail trade, and manufacturing make up 54 percent of the Oregon-Washington economy, but only 49 percent of the national economy. As a consequence, the Oregon-Washington economy is more dependent on transportation and spends more proportionally on transportation than the nation as a whole. The Oregon-Washington economy spends 3.35 percent of its gross regional product on freight transportation, 6.7 percent more than the national average of 3.14 percent.

The region has an efficient transportation system today, which gives the region’s businesses a competitive edge in reaching national and global markets. But if the region loses reliable and cost-effective access to its businesses, farms, ports, airports, and trade partners, the regional economy loses.

Efficient transportation is important because the Oregon-Washington economy is small compared to the other economic regions of the United States—the region’s \$350 billion economy ranks seventh among the eight national multi-state trade blocs. Reliable transportation is essential to Pacific Northwest businesses moving and selling products to the larger California and Eastern markets. But much of this freight traffic funnels through the congested Portland-Vancouver crossings.

Efficient transportation also is important because the economy of the Pacific Northwest is very dependent on global trade. Oregon and Washington export \$45 billion of products each year. As a percentage of the region’s economy, this is about twice the national average. Much of this freight traffic also funnels through the Portland-Vancouver crossings.

This study examined the impact of congestion at the I-5/Columbia River crossings on key Oregon-Washington industries, including:

- Lumber, wood, and paper products industry; transportation equipment industry; and farm and food products industry – traditional pillars of the Pacific Northwest economy;
- High-technology industry – a key emerging industry, critical to the region’s future growth; and
- Distribution and warehousing industry – the sector that supplies manufacturers, retailers, and the service sector.

The study found that congestion at the I-5/Columbia River crossings was affecting business and industry across the region by increasing shipping and production costs, shrinking labor markets, and reducing the competitiveness of these industries in regional, national, and global markets.

The cost of congestion at the I-5/Columbia River crossings will become an even greater drag on the economy in the future as the region grows and the demand for travel increases. The Portland-Vancouver area and the Pacific Northwest can expect freight volumes to grow at rates faster than the national average – between 1998 and 2020 import-export freight tonnage is forecast to grow 123 percent and domestic freight tonnage 76 percent. The region must provide the capacity to handle this growth effectively or risk weakening its economy and quality of life.

The I-5 Transportation and Trade Partnership, a consortium of state and local transportation planning organizations, elected officials, and stakeholders from the Portland-Vancouver area, has identified transportation improvements needed to relieve highway and rail congestion at the I-5/Columbia River crossings. These improvements will:

- Establish a transportation system that handles the projected 2020 travel demand with improved performance, reliability, predictability, and safety relative to today;
- Minimize the spread of peak-period congestion, preserving the midday period for truck freight movement within and through the Portland-Vancouver area;
- Reduce delays to trucks operating along I-5;
- Maintain or enhance existing accessibility to key port and industrial areas; and
- Accommodate more freight-rail and high-speed passenger-rail service while maintaining or enhancing current rail system performance.

The study recommends that Oregon and Washington make a coordinated effort to act promptly to decide on a course of action and identify sources of funding for the recommended Columbia River crossing improvements in the I-5 transportation corridor. The improvements will benefit Portland-Vancouver and the Pacific Northwest.

## ■ Introduction

### **A Shared Transportation Choke Point**

Portland, Oregon and Vancouver, Washington, along with the rest of Oregon and Washington, share a common transportation choke point—the Interstate 5 (I-5) Corridor highway and rail bridges that connect the two cities across the Columbia River. The crossings have become a choke point because they no longer have the capacity to handle the volume of automobile, truck, and rail traffic crossing the Columbia River.

The crossings are of strategic importance to freight transportation in the Portland-Vancouver area and the Pacific Northwest. But their ability to effectively serve freight movement and the regional economy is threatened by growing congestion. The I-5/Columbia River bridge operates at capacity for four hours each day. By 2020 it will operate at capacity for almost 10 hours each day. The parallel I-205/Glenn Jackson bridge will be equally congested by 2020. As the Glenn Jackson bridge reaches capacity it will discourage diversion of I-5 traffic resulting in increased peak-period spreading within the I-5 corridor. With increasing congestion will come more accidents and breakdowns, adding further delays and making travel times less predictable. The cost of congestion delay and accidents is high today and will be even higher tomorrow.

### **A Shared Economy**

The cost of this congestion is paid by Portland-Vancouver commuters and businesses and by all businesses across Oregon and Washington that move freight through the area. Businesses see these costs as increased shipping and production costs, shrinking and more expensive labor markets, and reduced competitiveness in regional, national, and global markets.

The economy of the Pacific Northwest is very dependent on trade, and much of the freight traffic upon which the regional economy depends funnels through the Portland-Vancouver crossings. Congestion is eroding the reliability of freight transportation in the Pacific Northwest, reducing the region's quality of life and threatening the economic well being of business and industry. Congestion will become an even greater drag on the economy in the future as the region grows and the demand for travel increases.

### **A Regional Partnership**

The I-5 Transportation and Trade Partnership, a consortium of state and local transportation planning organizations, elected officials, and stakeholders from the Portland-Vancouver area, has identified transportation improvements needed to relieve highway

and rail congestion at the I-5 Corridor/Columbia River crossings.<sup>1</sup> The key recommendations and their anticipated benefits are:

- **Highway**

- Widen I-5 to a maximum of three through lanes in each direction from the Fremont Bridge in Portland to the I-205 junction north of Vancouver;
- Add a new supplemental or replacement bridge across the Columbia River with up to two auxiliary or arterial lanes in each direction and provision for two light-rail tracks; and
- Add auxiliary lanes between interchanges on I-5 and modify the interchanges to increase safety and capacity and discourage the use of I-5 for local trips.

- **Transit**

- Construct a light-rail loop connecting the existing transit lines in Portland with the communities across the Columbia River in Clark County, Washington; and
- Initiate premium, peak-hour express bus services in the I-5 and I-205 corridors, consistent with existing regional transportation plans.

- **Rail**

- Expand yard capacity and construct bypass tracks so that local trains do not block through trains;
- Increase track speeds in the Portland-Vancouver area by improving track conditions and repairing or replacing junctions;
- Add a second track to single-track sections, permitting simultaneous bi-directional movement of trains; and
- Add sidings to congested sections to allow for temporary storage of trains and locomotives that are waiting to enter terminals and yards and now block other freight and passenger trains.

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*“Yes, there are real constraints, but we can no longer put our head in the sand. We must think creatively and we must act now.”*  
Keith Thomson, Port of Portland

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- **Transportation System Benefits**

- Establish a transportation system that handles the projected 2020 travel demand with improved performance, reliability, predictability, and safety relative to today;
- Minimize the spread of peak-period congestion, preserving the midday period for truck freight movement within and through the Portland-Vancouver area;
- Reduce delays to trucks operating along I-5;
- Maintain or enhance existing accessibility to key port and industrial areas; and
- Accommodate more freight-rail and high-speed passenger-rail service while maintaining or enhancing current rail system performance.

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<sup>1</sup> For additional details, see I-5 Trade and Transportation Partnership, *Final Strategic Plan*, June 2002 at [www.i-5partnership.com](http://www.i-5partnership.com).

## A Regional Economic Study

Congestion at the Columbia River crossings is not just a local problem, it is a Pacific Northwest problem. Congestion at the I-5 Corridor/Columbia River crossings affects businesses and communities across the entire region. Making the necessary improvements, reducing congestion, and improving the transportation system will require a partnership across Oregon and Washington as well as neighboring states and provinces.

This report expands the I-5 Partnership's prior studies. It investigates the regional economic impacts of the I-5 Corridor/Columbia River crossing transportation choke points. It first reviews the local economic effects, then examines the regional economic effects of congestion at the Portland-Vancouver crossings. It looks at the economy of Oregon and Washington as a whole, then develops case studies of the regional economic impacts on five freight-intensive industries:

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*"The region's ability to develop, finance, and implement a strategic multi-modal transportation plan for this corridor will be the key to maintaining the livability and economic vitality of the area."*

Wesley Hickey, Tidewater Barge Lines

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- Lumber, wood, and paper products industry; transportation equipment industry; and farm and food products industry – traditional pillars of the Pacific Northwest economy;
- High-technology industry – a key emerging industry, critical to the region's future growth; and
- Distribution and warehousing industry – the sector that supplies manufacturers, retailers, and the service sector.