
3.4 Land Use and Economic Activity

Jurisdictions in the Portland-Vancouver metropolitan region have traditionally integrated transportation and land use planning to encourage economic and community development around designated urban centers and transportation corridors. This integration also helps ensure that major transportation improvements do not create unintended or unforeseen effects on land use patterns and economic health.

I-5 is the region's primary north-south traffic corridor, and there is substantial development adjacent to this highway, including the downtowns of both Portland and Vancouver. The locally preferred alternative (LPA) is expected to accommodate travel resulting from the region's anticipated growth and economic development, and it has been designed to support the local jurisdictions' twin goals of compact growth and economic development. Both Oregon and Washington have growth management laws which also help to constrain growth.

This section evaluates the potential effects of the CRC project on the region's ability to meet land use planning goals and to influence existing and future economic activity. The evaluation includes both a detailed assessment of changes to land uses and a review of consistency with adopted policies and regulations. This section addresses impacts within the main project area, the possible casting and staging areas, and the area around the Ruby Junction Maintenance Facility expansion. No direct land use or economic impacts are expected from the proposed modifications to the Steel Bridge.

Information in this section is based on data in the CRC Land Use and Economics Technical Reports, as well as the CRC Indirect Effects Technical Report, which addresses the potential for induced growth. These technical reports are included as electronic appendices to this FEIS. A comparison of impacts from the LPA and the DEIS alternatives is summarized in Exhibit 3.4-5. A more detailed description of the impacts of the DEIS alternatives on land use and economic activity is in the DEIS starting on page 3-121.

3.4.1 New Information Developed Since the Draft EIS

New information has been incorporated into this analysis since the publication of the DEIS. The project team conducted the following activities to update the report:

- Convened an expert panel to provide a peer review of the traffic modeling and induced growth analysis.
- Updated the estimate of the LPA's job creation potential.
- Conducted an updated analysis of induced growth using Metroscope econometric model, confirming previous findings.
- Collected new information specific to the businesses that would likely be displaced by the LPA.

- Updated existing conditions to reflect more recent economic circumstances in the region.

In addition to new information developed since the DEIS, the FEIS includes refinements in design, impacts and mitigation measures. Where new information or design changes could potentially create new significant environmental impacts not previously evaluated in the DEIS, or could be meaningful to the decision-making process, this information and these changes were applied to all alternatives, as appropriate. However, most of the new information did not warrant updating analysis of the non-preferred alternatives because it would not meaningfully change the impacts, would not result in new significant impacts, and would not change other factors that led to the choice of the LPA. Therefore, most of the refinements were applied only to the LPA. As allowed under Section 6002 of SAFETEA-LU [23 USC 139(f)(4)(D)], to facilitate development of mitigation measures and compliance with other environmental laws, the project has developed the LPA to a higher level of detail than the other alternatives. This detail has allowed the project to develop more specific mitigation measures and to facilitate compliance with other environmental laws and regulations, such as Section 4(f) of the DOT Act, Section 106 of the National Historic Preservation Act, Section 7 of the Endangered Species Act, and Section 404 of the Clean Water Act. FTA and FHWA prepared NEPA re-evaluations and a documented categorical exclusion (DCE) to analyze changes in the project and project impacts that have occurred since the DEIS. Both agencies concluded from these evaluations that these changes and new information would not result in any new significant environmental impacts that were not previously considered in the DEIS. These changes in impacts are described in the re-evaluations and DCE included in Appendix O of this FEIS. Relevant refinements in information, design, impacts and mitigation are described in the following text.

3.4.2 Existing Conditions

Transportation and land use plans have helped define how the Portland-Vancouver region has grown. Oregon's Statewide Planning Goals and Washington's Growth Management Act agree on general principles of compact urban form, preservation of rural areas, use of urban growth boundaries, and multimodal transportation systems. Regional plans help local and regional governments to tailor these goals for the Portland-Vancouver area. Local plans provide further refinement of these goals and help governments to establish policies, such as zoning and other development regulations, to implement them.

The Portland-Vancouver region is located at the confluence of two navigable rivers, the Columbia and the Willamette, and is served by the Burlington Northern Santa Fe (BNSF) and Union Pacific transcontinental rail lines, Portland International Airport, and marine terminals at the Ports of Portland and Vancouver. The region's economic competitiveness largely depends on its role as a gateway and distribution center for domestic and international markets. By 2035, freight tonnage moving through the two ports is expected to be double the tonnage in 2000, increasing from approximately 300 million tons to approximately 600 million tons (Metro 2006). Access to port facilities is crucial because many of this region's industries depend on the movement of freight.

Existing Land Uses

The project area in North Portland between Columbia Boulevard and the Columbia River is largely comprised of a mixture of commercial and industrial uses. There are also parks and open space near the existing I-5 corridor. Some regionally important properties in this area include the Portland International Raceway, Portland Meadows, the Exposition (Expo) Center, Delta Park, and large wetlands. Currently the TriMet MAX light rail line ends at the Expo Center, just south of the Columbia River and north of the Columbia Slough.

Hayden Island, shown in Exhibit 3.4-1, has two distinct land use types. Much of the developed part of the island west of I-5 is devoted to the Jantzen Beach commercial district. East of I-5 and along the waterfront west of I-5 are residential uses that include condominiums, manufactured homes, and floating homes. Several restaurants, a Safeway grocery store, two gas stations, and the Red Lion Hotel surround the I-5 interchange. There is a large parcel holding the former Thunderbird Motel, immediately west of I-5.

Exhibit 3.4-1

Existing Land Use on Hayden Island (looking north)



Downtown Vancouver includes a central business district, residential areas, and the large Central Park Neighborhood, which includes the Vancouver National Historic Reserve (VNHR), a nationally important park and historic site. Land uses in the area are typical of an urban core, with retail, offices, industrial, governmental, and residential uses. The downtown Vancouver area serves as the governmental and cultural center of Clark County. Community facilities include a train station, the VNHR, and various government offices. The I-5 corridor separates the west side—including the downtown area and commercial, residential, and office centers—from the east side, which includes the VNHR, a large Veterans Administration complex, the Clark County Center for Community Health, and Clark College. Exhibit 3.4-2 shows I-5 dividing the west side of Vancouver from the east side.

Exhibit 3.4-2

Existing Land Use in Vancouver (looking northeast)

To the west side of I-5 is the Uptown Village commercial district (between McLoughlin and Fourth Plain Boulevards), a small-scale commercial and residential area between downtown and the lower-density neighborhoods to the north. Directly to the east of I-5 are public facilities and institutions, multi-family housing, and some commercial uses. To the north of this area, the Rose Village Neighborhood features a tight street grid system, small lots, and housing from the 1920s to current times. Further north, past SR 500 and 39th Street, development becomes progressively more suburban, with larger lots, off-street parking lots, and few structures over two stories in height.

Adopted Plans

State, regional, and local plans provide guidance on economic development, transportation systems, and urban form. These plans and their implementing regulations provide both general policy and specific standards for community and transportation planning and for transportation projects. The lists below show many of the laws, regulations, and plans that were reviewed for this analysis.

FEDERAL

- Uniform Relocation Assistance and Real Property Acquisition Act of 1970 (as amended) (Uniform Act). 42 USC 4601 et. seq., 49 CFR 24.

STATE – WASHINGTON

- Revised Code of Washington (RCW). Growth Management Act (GMA), Chapter 36.70A.

- RCW. 1971. Shoreline Management Act (SMA) of 1971. RCW 90.58. Olympia, Washington.
- Washington State Transportation Commission, Washington State Department of Transportation (WSDOT). 2002. Washington Transportation Plan (WTP), 2005-2022. Olympia, Washington.
- Washington Administrative Code (WAC). 1998. State Environmental Policy Act (SEPA); WAC 197-11. Olympia, Washington.

STATE – OREGON

- Oregon Revised Statutes (ORS). 1973. ORS 660-15-0000 (1-15). Salem, Oregon.
- The Oregon Department of Transportation (ODOT), Transportation Development Division, Planning Section. 1999. Oregon Highway Plan (OHP). Salem, Oregon.
- Land Conservation and Development Commission (LCDC). Transportation Planning Rule (TPR). Oregon Administrative Rules (OAR) Chapter 660, Division 12. As amended 2005.
- ODOT, Oregon Transportation Plan (OTP). As amended 2006. Salem, Oregon.

LOCAL AND REGIONAL – WASHINGTON

- Southwest Washington Regional Transportation Council (RTC). 2003. Metropolitan Transportation Plan for Clark County. Vancouver, Washington.
- Clark County, Long Range Planning Division of the Community Development Department. 2004. Comprehensive Growth Management Plan. Vancouver, Washington.
- Clark County, Long Range Planning Division of the Community Development Department. 2004. Highway 99, Focused Public Investment Area Action Plan. Vancouver, Washington.
- City of Vancouver, Community Development Department. 2004. City of Vancouver Comprehensive Plan. Vancouver, Washington.
- City of Vancouver, Economic Development Department. 2007 Vancouver City Center Vision (VCCV) Plan. Vancouver, Washington.
- City of Vancouver, Transportation Services. 2004. City of Vancouver Transportation Plan. Vancouver, Washington.
- Vancouver-Clark Parks & Recreation Department. 2004. Paths & Trails Master Plan. Vancouver, Washington.
- City of Vancouver, Community Development Department. 2008. The Central Park Plan. Vancouver, Washington.
- City of Vancouver. Vancouver Municipal Code.

LOCAL – OREGON

- Metro. 1995. 2040 Growth Concept. Portland, Oregon.
- Metro. 2005. Regional Framework Plan. Portland, Oregon.
- Metro. 2010. Regional Transportation Plan (RTP). Portland, Oregon.

- Metro. 2005. Nature in Neighborhoods. Ordinance No. 05-1077C. Portland, Oregon.
- City of Portland, Bureau of Planning. 2004. Comprehensive Plan Goals and Policies. Portland, Oregon.
- City of Portland, Bureau of Planning. 2000. Central City Plan. Portland, Oregon.
- City of Portland, Bureau of Planning. 1993. Albina Community Plan. Portland, Oregon.
- City of Portland, Bureau of Planning. 1997. Bridgeton Neighborhood Plan. Portland, Oregon.
- City of Portland, Bureau of Planning. 2001. Kenton Neighborhood Plan.
- City of Portland, Bureau of Planning. 2000. Interstate Corridor Urban Renewal Area Plan. Portland, Oregon.
- City of Portland, Bureau of Planning and Sustainability. 2009. Hayden Island Plan. Portland, Oregon.
- City of Portland, Bureau of Planning. 1990. East Columbia Neighborhood Natural Resource Management Plan. Portland Oregon.
- City of Portland, Bureau of Planning. 1997. Natural Resources Management for Peninsula Drainage District No. 1. Portland, Oregon.
- City of Portland, Bureau of Planning. 1999. City of Portland Code (CPC), Title 33 Planning and Zoning. Portland, Oregon.

Site-specific master plans were reviewed for the Bonneville Power Administration, Vancouver Campus; Clark College; Columbia Gateway Subarea; Vancouver National Historic Reserve; Portland Expo Center; and other locations.

Applicable Policies and Regulations

In 1973, the Oregon Legislature passed Senate Bill 100 requiring all cities and counties to adopt and implement comprehensive land use plans that comply with Oregon's 19 Statewide Planning Goals. These goals range from the protection of natural resources to promotion of economic development to land use and transportation planning.

The State of Washington adopted the GMA in 1990. This act requires most local jurisdictions to define and implement a land use policy framework that emphasizes reducing inappropriate conversion of rural land to urban development. This law also requires designation of urban growth areas around cities and identification of areas for future urban expansion to help preserve rural land. The study area in Washington is entirely within an urban growth area designated in accordance with the GMA.

LOCAL AND REGIONAL PLANNING

The Southwest Washington Regional Transportation Council (RTC) is the metropolitan planning organization for southwest Washington; it has regional authority over transportation only. Clark County determines population and employment growth forecasts, and sets urban growth areas.

Metro is an elected regional government that serves as a metropolitan planning organization for the Portland metropolitan region, with jurisdiction over both transportation and land use. The Metro 2040 Growth Concept outlines

a vision for regional growth and development in the Portland metropolitan region. Policies in the 2040 Growth Concept encourage efficient use of land and protection of farmland and natural resources by focusing growth along transportation corridors and in urban centers. Federal projects must be consistent with Metro's Regional Transportation Plan, which includes specific guidance for the CRC.

In order to ensure consistency with plans from multiple jurisdictions, Metro is authorized to approve land use final orders (LUFOs) on projects in its region, and has specifically done so for the South-North Light Rail Transit Project. The LUFO consolidates the determination of consistency with Oregon Statewide Planning Goals into one process instead of requiring findings from every jurisdiction. The original LUFO for the South-North light rail transit line included plans for a light rail extension to the Oregon state line. The South-North project called for the light rail extension into Vancouver, but the LUFO only included the Oregon portion of the project. It was established in 1998 and has been amended in 1999 to include the Interstate MAX project, 2004 to amend for the I-205 MAX project to Clackamas Regional Center, and 2008 to amend for the Portland to Milwaukie MAX project. Each Oregon jurisdiction participates in the Project Steering Committee and can review the projects. On August 11, 2011, the Metro Council approved the LUFO for the CRC project inclusive of all the elements of the LPA.

Plan Consistency

The CRC project has been designed to address and support adopted land use and transportation plans. A few key plans are summarized here in the FEIS. The CRC Land Use Technical Report provides a comprehensive discussion of adopted local and regional plans that are relevant to the LPA.

Comprehensive plan designations in Portland are similar to existing land uses. North Portland neighborhoods adjacent to I-5 are a mix of residential zones, with higher densities and a few commercial areas along arterial roads. Most land between Columbia Boulevard and North Portland Harbor is either industrial or open space.

On August 19, 2009, the City of Portland adopted the Hayden Island Neighborhood Plan. The plan includes goals, objectives, proposed comprehensive plan and zoning changes, and an implementation strategy. This plan supports the redevelopment of the commercial core of the island, with a reduction in the area dedicated to regional commercial centers, and the introduction of a transit-oriented, mixed use shopping district.

The Vancouver comprehensive plan designations are similar to existing land uses. The waterfront immediately west of I-5 is designated City Center to accommodate planned development here. This designation extends as far north as McLoughlin Boulevard.

The lands east of I-5 are designated public facility and open space in recognition of the VNHR, General George Marshall Park, and Clark College. North of Fourth Plain Boulevard to SR 500, the east side of I-5 has low-density residential development, with duplexes and commercial uses along arterial corridors.

The VCCV includes a list of goals and guiding principles for downtown Vancouver. Specific goals include:

- Strengthen the primary street connections to the waterfront.
- Support a secondary connection to the waterfront.

- Connect downtown with the VNHR via a 7th Street pedestrian bridge.
- Ensure that expansion of I-5 and CRC improvements augment access to the City Center and minimize potentially negative effects.
- Reduce the disruption between downtown and the waterfront created by the physical barrier of the BNSF railroad berm.
- Provide improved access into the southern and western areas of the City Center.

Vancouver has adopted the Downtown Vancouver Transportation System Plan, which addresses transportation conditions and plans between Fourth Plain Boulevard and the Columbia River. This plan states: “The extension of MAX service into Vancouver is a key ingredient to the region’s growth management strategy and the overall I-5 corridor plan. Light rail in Vancouver would directly benefit the downtown area by improving access to downtown Vancouver, particularly during the peak commuter hours.”

The Vancouver Central Park Plan was adopted in 1979, and since then, the area has seen dramatic changes, recognized by recent collaborative updates to the plan. On January 28, 2008, the Vancouver City Council adopted the updated Central Park Subarea Plan, replacing the 1979 Central Park Plan, “A Park for Vancouver” and its design guidelines.

Key features identified in the planning process were prioritized by participants. Gateway features ranked highest, meaning that the CRC project should contribute to the planned gateway design on McLoughlin just south of the proposed park and ride. The plan describes gateways as “attractive entry points to the Subarea that visually signal arrival and differentiate the Subarea from the surrounding areas...and will likely include special signage, landscaping, paving, and structures.” The plan policies address the construction of a station/park and ride facility and seek to integrate it as a service for Central Park users: “CP-17 New Park and Ride facilities shall be located and built to facilitate shared non-peak-hour parking with Central Park institutions and to minimize impervious surface and land used for parking” (City of Vancouver 2008, p. 23). The plan also includes the following language specific to the CRC:

Vision: The I-5 Columbia River Crossing improves access to Central Park from all parts of the city and region.

CP-22 Work with Project Partners to ensure that the Columbia River Crossing project is consistent with the goals and policies of the Central Park Plan by addressing the following:

- A. Create new linkages between Central Park and the Vancouver City Center;
- B. Enhance the Mill Plain connection as the primary gateway to the Central Park Subarea;
- C. Enhance the Evergreen, McLoughlin, and Fourth Plain Boulevard connections as gateways between the City Center and the Central Park Subarea;

- D. Integrate all modes of transportation, including high-capacity transit, bicycle and pedestrian circulation, to achieve a true regional multimodal corridor;
- E. Coordinate I-5 improvements with Central Park Subarea access and circulation needs;
- F. Any new interchanges that are to be built due to the realignment of I-5 shall provide multimodal access on all sides and shall provide smooth connections to existing paths, sidewalks and bike lanes between Central Park and the City Center; and
- G. To reduce potential impacts of an expanded I-5 freeway and bridge, a cap(s) over I-5 should be provided linking Central Park and the City Center.

Economic Conditions

The Ports of Portland and Vancouver are critical to the economic growth and prosperity of this region. For these ports to remain competitive with other West Coast ports, efficient and cost-effective multimodal transportation systems must be available. Reducing freight travel times by investing in transportation infrastructure improvements that increase access and decrease congestion will help maintain the region’s competitiveness. By 2035 the annual tonnage moving through these two ports is expected to be double the tonnage in 2000 (Exhibit 3.4-3). Furthermore, commodities moved by trucks are expected to grow from 67 percent of total freight in 2000 to 75 percent in 2035 (Metro 2006) (see Exhibit 3.4-4). Increased demand for truck-hauled freight will create a corresponding growth in demand on the Interstate System.

The Portland-Vancouver region is more susceptible to long-term economic losses from congestion than other areas because its economy is relatively dependent on manufacturing, transportation/port distribution, and services that serve broader regional, national and global markets. Transportation-related firms bring new money into the region by selling their products and services nationally and internationally. These firms could locate elsewhere, but choose the Portland-Vancouver region for its attractiveness and competitiveness for their operations. An inadequate transportation system could negatively impact the region’s economic competitiveness.

Exhibit 3.4-3
**Ports of Portland/
Vancouver Projected
Commodity Growth**
(millions of tons)

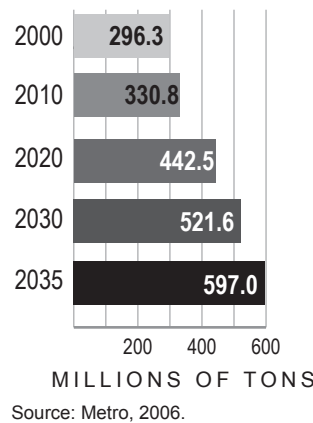
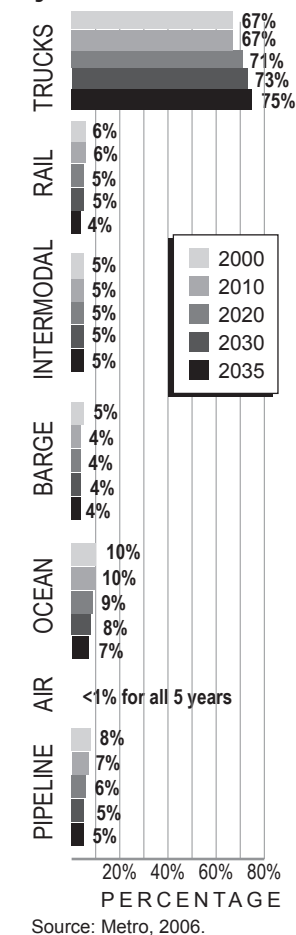


Exhibit 3.4-4
**Ports of Portland/Vancouver
Commodity Flow Forecast
by Mode**



Both the City of Portland and the City of Vancouver rely heavily on tax revenues to fund general services. Because of this, it is important to estimate the impact that the LPA is expected to have on tax revenues. Property acquisitions and displacements could decrease tax revenues, while development and land use changes spurred by project improvements could increase tax revenues. Property taxes are the largest single source of revenue for both cities, accounting for 36 percent of Portland’s annual tax revenue and 31 percent of Vancouver’s. Total tax revenue accounts for 40 percent of Portland’s overall revenue and 78 percent of Vancouver’s. This dramatic difference in percentage is largely because Vancouver receives sales tax revenues, while Oregon does not have a sales tax.

3.4.3 Long-term Effects

Exhibit 3.4-5 compares the impacts of the LPA to the other build and No-Build alternatives. Unless stated otherwise, the LPA with highway phasing options would have the same impacts to land use and economics as the corresponding LPA full build options. Similarly, whether Option A or Option B is built, the impacts to land use and economics are expected to be the same, except where noted.

Exhibit 3.4-5

Comparison of Long-term Effects on Land Use and Economics

Environmental Metric	Locally Preferred Alternative		No-Build	Alt 2: Repl Crossing with BRT	Alt 3: Repl Crossing with LRT	Alt 4: Suppl Crossing with BRT	Alt 5: Suppl Crossing with LRT
	LPA Option A ^a	LPA Option B ^a					
Direct Land Use Impacts ^b (related to acquisitions)	Minor	Same as Option A	None	Minor	Minor	Minor	Minor
Direct Commercial Impacts ^c (related to acquisitions)	Moderate	Same as Option A	None	Moderate	Moderate	Moderate	Moderate
Regional Economy ^d	Highly beneficial	Same as Option A	Moderately detrimental	Highly beneficial	Highly beneficial	Moderately beneficial	Moderately beneficial
Plan Consistency	Consistent	Same as Option A	Inconsistent	Consistent	Consistent	Consistent	Consistent
Increased TOD Potential	Moderate	Same as Option A	None	Low	Moderate	Low	Moderate

Note: The impacts for the LPA are relative to No-Build and existing conditions.

- a Information in parentheses indicates impacts if the LPA Option A or B is constructed with highway phasing.
- b Although based on the project’s acquisition of right-of-way, direct land use impacts indicate the likelihood that the collective acquisitions would lead to a change in land use patterns, plans, or intensities.
- c Direct commercial impacts are based on loss of businesses, jobs, tax revenues, and other commercial elements related to acquisitions.
- d Impacts to regional economy for Alternatives 2 through 5 are based on DEIS analysis.

No-Build Alternative

Under the No-Build Alternative, no businesses within Oregon or Washington would be displaced by right-of-way acquisition, and there would be no resulting direct decrease in property or sales tax revenues or jobs lost. At the same time, there would be no additional employment or added sales tax associated with project construction. Economic development planned for this area may occur more slowly, as business owners may be more reluctant to locate in an area with poor access and mobility for employees and customers. Freight reliability would decrease as congestion spreads beyond the peak hour and into times when trucks tend to travel. Customers may elect to shop in other areas with easier access and mobility. The No-Build Alternative would fail to support the principal elements of plans for the area, including accepted levels-of-service, improved freight mobility, multimodal transportation, and safety.

LPA

In the Marine Drive interchange area, five marine-related businesses with a total of 25 employees and \$10.6 million in annual sales would be displaced under the LPA. These businesses are dependent upon a location close to the river in order to operate. Finding suitable locations for boat sales and a boat dock and repair may be difficult, as much of the Columbia River area in the vicinity of highway access is built up for either residential or industrial/commercial use. The Oregon Department of Transportation (ODOT) would partner with TriMet to provide relocation assistance to these businesses.

The LPA with highway phasing would defer construction of the Marine Drive flyover and construction of the Victory Braid. Deferring construction of the Marine Drive flyover would require traffic traveling eastbound on Marine Drive to I-5 northbound to travel through the signalized single-point urban interchange (SPUI) instead of having free-flow movement provided by the flyover. This is a reduced benefit to freight traffic from the Rivergate Industrial Area, compared to the full LPA, but still provides a benefit over the No-Build Alternative.

On Hayden Island an estimated 39 businesses with a total of 643 employees and \$62.7 million in annual sales would be displaced by the LPA. Most important from an economic standpoint is the displacement of businesses that serve mainly local clientele. ODOT would work with affected business owners to provide relocation assistance, although the relocation of the Safeway grocery store and pharmacy may be challenging, as store officials have indicated that it would be difficult for the store to relocate to another site on Hayden Island or in the Delta Park area because of the lack of available sites and the duration of CRC construction.

All displaced businesses would be offered relocation assistance in accordance with the Uniform Act. Some of these displaced businesses may choose not to relocate locally. Even with relocation assistance, some of the employees may be unable to retain their jobs; for example, an employee may have to accept a new job during the transition period of relocation.

On Hayden Island, unlike the remainder of the project area, there is potential for the direct impacts of the LPA to lead to substantial changes in the land use pattern of the area. The displacement of large-scale commercial businesses

How would highway capacity affect job distribution?

Modeling conducted in 2002 as part of the I-5 Strategic Plan evaluated I-5 capacity improvements similar to those proposed by the CRC project. That analysis projected that, compared to the No-Build Alternative, those improvements would shift about 1 percent of the region's employment to the I-5 corridor by the year 2020 (Portland-Vancouver 2002).

(retail, service, and dining) and the displacement of many floating homes would be an adverse impact. The impact would be adverse because of the removal of residents from the island and the displacement of nearby businesses that residents could patronize. However, the provision of a light rail station, connecting Tomahawk Drive, the improved I-5 access and capacity of the Hayden Island interchange, and the addition of direct roadway access on a new local multimodal bridge (Option A) would provide beneficial land use and economic impacts and would all contribute to the viability and success of the redevelopment plans for the island. Additional beneficial effects would result in improvements in the local street network consistent with the Hayden Island Plan.

The displacement of many businesses could disrupt the overall commercial significance of the Jantzen Beach SuperCenter and surrounding regional commercial center. Centers such as these are able to draw patrons from throughout the region, partly because of the convenience of having so many different types of products and services all offered in one location. It is possible for the displacement of these businesses to decrease the collective stability of the SuperCenter “mall” itself and the surrounding shopping center. However, in the summer of 2010, initial plans were submitted to the City of Portland to redevelop the mall, which would renovate or remove many of the existing buildings. Preliminary plans call for inclusion of a new grocery store and pharmacy in the redevelopment.

The potential to transition the island from a large scale regional shopping center to a more walkable, mixed use “lifestyle” shopping center has been preliminarily designed and incorporated into the City of Portland’s adopted Hayden Island Plan. There are also a number of “freeway-related transportation issues” identified in the Plan.

The Plan calls for the CRC project to address the following issues. Plan text is italicized. A description of the LPA’s support for and consistency with these goals is described in regular text.

Growing travel demand and congestion: Existing travel demand exceeds capacity on the I-5 Columbia River crossing and associated interchanges. This corridor experiences heavy congestion during both the morning and afternoon peak periods and when traffic accidents, vehicle breakdowns or bridge-lifts occur. The project would increase capacity and reduce congestion.

Impaired freight movement: I-5 is the most important freight freeway on the West Coast, linking international, national and regional markets in Canada, Mexico and the Pacific Rim with destinations throughout the western United States. The project would improve freight mobility by increasing capacity, reducing congestion, and improving safety on I-5.

Limited public transportation operation, connectivity and reliability: Due to limited public transportation options, a number of transportation markets are not well served, including trips between Portland, Vancouver and Clark County. The project would construct light rail on Hayden Island serving Vancouver and Portland.

Safety and vulnerability to incidents: The I-5 river crossing and its approaches experience crash rates nearly 2.5 times higher than statewide averages for comparable facilities. The project would improve safety by constructing facilities with larger shoulders, longer ramps, standard braiding and merging distances, etc.

Substandard bicycle and pedestrian facilities: The bicycle and pedestrian facilities on the Columbia River bridges are narrow and are located extremely close to traffic lanes, with poor connectivity to the adjacent bicycle and pedestrian networks. The project would greatly improve bicycle and pedestrian facilities.

Seismic vulnerability: The existing I-5 bridges are located in a seismically active zone, do not meet current seismic standards, and are vulnerable to failure in an earthquake. The project would greatly reduce the facility's vulnerability to a seismic event.

The Hayden Island Plan also states that *"the CRC project must provide the capability to access local street systems south of North Portland Harbor without using the freeway."* Both Option A and Option B would meet this aspect of the Plan. Option A would provide vehicular access between Marine Drive and Hayden Island on an arterial bridge. Option B would provide that local access on collector-distributor lanes separate from the I-5 mainline.

Based on the information presented above, the CRC project would support the Hayden Island Plan.

The Ruby Junction Maintenance Facility expansion would require full acquisition of property occupied by eight service and industrial businesses, with a total of 79 employees and \$12.2 million in annual sales. Several of the impacted properties house both an industrial type of business and a residence. This unique setting allows for small industrial business owners to live and work at the same location, which may not be possible after standard relocation to a new neighborhood.

In Vancouver, the number of displaced businesses would be lower than in Oregon, because nearly the entire project can be accommodated within the existing right-of-way. A total of 17 businesses are expected to be displaced, with 169 employees and \$18.1 million in annual sales. The Washington State Department of Transportation (WSDOT) would provide relocation assistance to displaced businesses in accordance with the Uniform Act.

Exhibit 3.4-6 provides a summary of the direct impacts to commercial entities within the project area for the LPA and the No-Build Alternative. The information in this exhibit is based on a project design that has been refined since publication of the DEIS, so the DEIS Alternatives 2 through 5 do not have the level of detail of analysis to be included in this table.

Exhibit 3.4-6

Summary of Economic Impacts

Type of Impact	No-Build Alternative	Locally Preferred Alternative ^a	
		LPA Option A	LPA Option B
Number of Businesses Displaced	0	52 in Oregon 17 in Washington 69 Total	Same as Option A
Number of Employees Impacted by Displacements	0	747 in Oregon 169 in Washington 916 Total	Same as Option A
Annual Sales Impacts from Displacements	0	\$85.5 Million in Oregon \$18.1 Million in Washington \$103.6 Million Total	Same as Option A
Property Tax Impacts	0	\$255,300 in Oregon (0.12% total) \$12,100 in Vancouver (<0.01% total)	\$287,400 in Oregon (0.14% total) \$12,100 in Vancouver (<0.01% total)
Parking Impacts	0	<p>Parking at the Expo Center and the Jantzen Beach SuperCenter would be reduced due to extension of light rail transit to the north. Large amount of parking available, impact of parking loss not substantial.</p> <p>On-street parking and some off-street parking in downtown Vancouver would be removed due to the new light rail transit alignment. However, current parking is underutilized and ample on- and off-street parking exists downtown. Three park and rides with 2,900 parking stalls would be added to accommodate parking near transit.</p>	Same as Option A
Access/Circulation Impacts	Access and Circulation same as existing.	<p>Access and circulation greatly improved for majority of freight traffic in vicinity of Marine Drive interchange. Some out-of-direction travel required to access a small number of businesses located between Marine Drive and North Portland Harbor. Improved street network for Hayden Island with improved local access between the Island and the Oregon mainland.</p> <p>In Vancouver, access modifications would occur along the new light rail transit alignment, most prominently along Washington and Broadway Streets, where accesses directly adjacent to LRT are closed, and along 17th Street, where accesses are modified to right-in/right out. Businesses could see an increase of “pass-by” business due to the addition of transit.</p>	Same as Option A
Travel Patterns/Volumes Impacts	Duration of congestion increases over current levels. Travel time reliability is worse than current levels.	Travel time reliability for freight is improved, in particular from the improvements at Marine Drive due to interchange design focus on addressing freight needs. More direct access for freight along Martin Luther King Jr. Boulevard, Marine Drive, and from both the Rivergate and Airport industrial areas.	Same as Option A

Source: CRC Acquisitions Technical Report, InfoUSA Data, 2009, Clark and Multnomah County Tax Assessor Data.

Note: The impacts for the LPA are relative to No-Build and existing conditions.

a The LPA with highway phasing would have the same impacts as the LPA.

Access closures along Washington and Broadway Streets due to the side-running light rail alignment could impact businesses along those streets. The majority of businesses have alternate access from side streets; however, some businesses do not have alternate access, and one of these would likely have to be relocated in order to continue operations.

North and east of the Mill Park and Ride, center-running light rail would operate along 17th Street. Access to businesses would be modified to right-in/right-out. This means that customers looking to reach a business may need to go out of direction or around a block to access the location. Businesses located along 17th Street do not rely heavily on drive-by traffic. It is expected that some access impacts associated with circulation constraints would be offset by increased visibility from the addition of light rail transit.

Option B would cause slightly higher property tax impacts than Option A (as shown in Exhibit 3.4-6), but the difference would only be equivalent to approximately 0.02% of Multnomah County's budgeted 2008 property tax revenue.

Regional Economy

The I-5 corridor is the backbone of a network of roads that provide access to the greater Vancouver and Portland region. The Oregon Commodity Flow Forecast (PB 2009) projects an 81 percent increase in tonnage moving to, from, and through the state by 2030. Trade capacity studies further concluded that while all modes are important, the roadway system links all of the other modes and links land uses critical to business. Roadway congestion increases the cost of doing business for those activities that are transportation-dependent.

Five industries in the Portland-Vancouver region are particularly sensitive to road congestion: lumber/wood/paper, distribution/wholesale trade, transportation equipment/steel, farm and food products, and high-tech. These industries accounted for approximately 70 percent of the commodity tonnage that crossed the I-5 and I-205 bridges and for 31 percent of Oregon and Washington's gross regional output in 2000. These industries would benefit greatly from the improvements offered by the LPA.

Maintaining and enhancing the efficiency of the highway system would allow the Ports of Portland and Vancouver to stay competitive with other West Coast ports. This is especially true because of anticipated growth in the movement of truck-hauled freight to and from marine and aviation ports. In addition to improving the highway system, the LPA would improve marine navigation. Taller ships would not be restricted by the hours of lift span operation, and would not have to navigate a difficult path around the lift span. The new primary channel under the LPA bridges would be better aligned with the channel under the railroad bridge than currently.

Congestion at the I-5 crossing is predicted to increase the cost of delay to trucks by approximately 140 percent by 2020, from \$14 million in 2000 to \$34 million (Cambridge Systematics 2003). Reduced congestion resulting from the build alternatives would benefit the trucking industry by reducing labor and fuel costs, improving safety, and reducing scheduling uncertainty.

Transportation system improvements could reduce household out of pocket costs for personal travel, thereby increasing disposable personal income.

The result would be an increase in living standards and consumer spending, which could then support additional retail and consumer business activity. High-capacity transit could also increase the employment and incomes of local residents by increasing their access to outside business locations.

Light rail transit service and the accompanying transit stations have the potential to significantly benefit nearby businesses. The increase in access for both customers and employees is a direct benefit. Related factors are discussed in the following sections on induced growth and transit-oriented development. The improved access, especially near transit stations, would bring more potential customers within walking distance of commercial nodes, serving to offset losses in customer parking. This would provide a benefit to existing businesses as well as increase opportunities for new business. Furthermore, the investments in transit stations, which often include public art and new landscaping, would represent an investment in neighborhoods. These public investments typically lead to higher levels of private investment and, subsequently, to increased vitality of commercial nodes.

TOLLING

Tolling would likely be beneficial for freight-dependent businesses and businesses that rely on just-in-time deliveries, because the predictability of travel times would improve. However, the greater the toll, the higher the operating costs for truck movements.

The effect of tolling can substantially mitigate the potential indirect land use impacts of increased highway capacity. The LPA would provide a savings in travel time as reported in Section 3.1, Transportation. This savings is one of many factors with financial implications, and may influence locational decisions for residential and commercial growth. The monetary cost of transportation (especially of the home-to-work commute) is also a factor. The travel time savings provided with the LPA (from I-84 to 179th Street) range from 8 to 20 minutes. The monetary equivalent of these travel time savings would be partially offset by the cost of tolling.

The collection of tolls would serve to reduce the demand for vehicular capacity. In this way, it would help mitigate potential induced growth that could otherwise result from improved auto travel times. Furthermore, the use of tolls is consistent with adopted transportation policies, especially when it enables peak period (congestion) pricing.

PLAN CONSISTENCY

The LPA is consistent with and would support Oregon's Statewide Planning Goals and Washington's GMA policies pertaining to transportation and infrastructure improvements. The project would be integrated with a variety of planned transportation facilities and would be consistent with goals for providing infrastructure to urban areas. Improving infrastructure in the urban core would also support regional plans adopted by the Southwest Washington RTC, Clark County, and Metro.

Overall, the LPA would comply with the direction of the Vancouver Comprehensive Plan to provide City Center infrastructure and a range of transportation facilities that would accommodate transit, bicycles, and pedestrians. The project would meet the Comprehensive Plan goals for improved access to I-5 and for improved connections to the VNHR and waterfront areas.

A number of policies in many plans refer to a balance of transportation modes. This includes the Washington Transportation Plan (WTP); Metro 2040 Growth Concept, Regional Framework Plan, and RTP; Portland Comprehensive Plan and Transportation System Plan; Vancouver Comprehensive Plan, and Clark County Comprehensive Plan. The existing bridge has no accommodations for high-capacity transit. The existing bike and pedestrian facilities are substandard and are sufficiently unpleasant (with narrow pathways and high noise levels from nearby high speed traffic) to discourage bike and pedestrian trips on the bridge.

The two regional transportation planning agencies, Metro and RTC, adopted the LPA into their financially constrained Regional Transportation Plan and financially constrained Metropolitan Transportation Plan, respectively, in 2008 (Metro 08-3960B; RTC 07-08-10). The CRC project is in the Oregon 2010-2013 Statewide Transportation Improvement Program (STIP), the draft 2012-2015 Oregon STIP, and the Washington 2011-2014 STIP.

The following is an overview of regional and local plans with which the CRC project complies. The LPA is consistent with each of the plans discussed below:

- *Metro 2040 Growth Concept and the Regional Framework Plan*
 - Policy 2.13 – Regional Motor Vehicle System: Provide a regional motor vehicle system of arterials and collectors that connect the central city, regional centers, industrial areas and intermodal facilities, and other regional destinations, and provide mobility within and through the region.
 - Policy 2.14 – Regional Public Transportation System: Provide an appropriate level, quality, and range of public transportation options to serve the region and support implementation of the 2040 Growth Concept, consistent with the Regional Transportation Plan.
 - Policy 2.15 – Regional Freight System: Provide efficient, cost-effective and safe movement of freight in and through the region.
 - Policy 2.19.2 – Peak Period Pricing: Manage and optimize the use of highways in the region to reduce congestion, improve mobility, and maintain accessibility within limited financial resources.
 - Apply peak period pricing appropriately to manage congestion. In addition, peak period pricing may generate revenues to help with needed transportation improvements.
 - Consider peak period pricing as a feasible option when major, new highway capacity is being added to the regional motor vehicle system, using the criteria used in Working Paper 9 of the Traffic Relief Operations study.

- *City of Portland Comprehensive Plan*
 - Policy 5.4 – Transportation System: Promote a multimodal regional transportation system that encourages economic development.
 - Goal 6 – Transportation: Develop a balanced, equitable, and efficient transportation system that: provides a range of transportation choice; reinforces the livability of neighborhoods; supports a strong and diverse economy; reduces air, noise, and water pollution; and lessens reliance on the automobile while maintaining accessibility.
 - Policy 6.29 – Freight Intermodal Facilities and Freight Activity Areas: Develop and maintain an intermodal transportation system for access and circulation in Freight Districts and for the safe, efficient, and cost-effective movement of freight, goods, and commercial vehicles within and through the city on Truck Streets.
 - Address freight movement and access needs when conducting multimodal transportation studies or designing transportation facilities.
 - Participate in the interjurisdictional planning for improvements to the I-5 transportation and trade corridor.
 - Policy 6.33 – Congestion Pricing: Advocate for a regional, market-based pricing system for auto trips during peak hours.
 - Policy 6.34 – North Transportation District: Reinforce neighborhood livability and commercial activity by planning and investing in a multimodal transportation network, relieving congestion through measures that reduce transportation demand, and routing non-local and industrial traffic along the edges of the residential areas.
 - Policy 7.6 – Energy Efficient Transportation: Provide opportunities for non-auto transportation including alternative vehicles, buses, light rail, bikeways and walkways.
 - Promote the construction of a regional light rail system.
- *City of Vancouver Comprehensive Plan*
 - CD-4. Urban Centers and Corridors: Achieve the full potential of existing and emerging urban activity centers and the corridors that connect them, by:
 - Promoting or reinforcing a unique identity or function for individual centers and corridors.
 - Planning for a compact urban form with an appropriate mix of uses.
 - Establishing connectivity and accessibility within each center and to other areas.
 - Providing a range of transportation options.

- *Vancouver City Center Vision Plan*
 - Strengthen the primary street connections, (Columbia and Esther) to the waterfront.
 - Ensure that expansion of I-5 and Columbia River crossing improvements improve access to the city center and minimize potentially negative effects.
 - Overcome the barrier-like feeling of the BNSF railroad berm between downtown and the waterfront.
 - Integrate all modes of transportation, including high-capacity transit, bicycle, and pedestrian circulation, to achieve a true regional multimodal corridor.

On August 11, 2011, Metro Council issued an amended LUFO that gave the land use approval for the CRC project to be built in Oregon. It also required the City of Portland TSP and Metro RTP to be amended to come into conformance with the LUFO. The LPA is consistent with Oregon statewide planning goals and the respective comprehensive plans for jurisdictions in Oregon.

Interchange Area Management Plans (IAMPs) for the Hayden Island and Marine Drive interchanges are currently being developed in coordination with the City of Portland, ODOT, and other stakeholders. These efforts are building off the adopted Hayden Island Plan and the work of the Marine Drive Stakeholders Group. The IAMPs will provide a framework for access management and local circulation decisions in the context of these interchanges.

An Interstate Access Modification Request (IAMR) for the SR 14/City Center, Mill Plain, Fourth Plain, and SR 500/39th Street interchanges in Washington and the Hayden Island, Marine Drive, and Victory/Denver interchanges in Oregon is also in preparation. The IAMR is a standalone document that includes the necessary supporting information needed for access modification requests to the Interstate System. An IAMR provides the rationale for access modifications to the Interstate System and documents the assumptions and design of the preferred alternative, the planning process, the evaluation of alternatives considered, and the coordination that supports and justifies the request for an access revision. The LPA, and each component of the LPA, is consistent with and complies with the zoning codes of the Cities of Portland and Vancouver. The transit stations, bridges, and other project elements are allowed uses in each respective zoning district. Final designs will comply with the pertinent requirements related to urban design, traffic impacts assessment and mitigation, and environmental protection codes such as environmental zone regulations in Portland and the City of Vancouver's Shoreline Management Program and Critical Area Ordinances. For more information on plan and code consistency, please see the CRC Land Use Technical Report, included as an electronic appendix to this FEIS.

Other Impacts

The higher bridge clearance provided by the LPA would give a more open feel along the Vancouver waterfront for the park that currently passes under the relatively low clearance of the existing I-5 crossing. The LPA would also allow Vancouver to extend Main Street to Columbia Way, which supports the

City's vision of providing greater connectivity to the waterfront. Additionally, the community connector will enhance pedestrian access between downtown Vancouver and the VNHR.

As a result of improvements to I-5 and the local street network, some area traffic patterns will change. Drivers are likely to choose routes that can take advantage of the new roadway capacity and intersections that operate better under the LPA. Some local businesses will experience an increase in drive-by traffic, while others will experience a decrease, especially if access becomes more out-of-direction. A significant decrease in drive-by traffic, for some businesses, may result in an adverse effect on business revenues. For example, the LPA includes a new design for the Marine Drive/Union Court intersection. The new design will improve mobility, traffic operations and safety. However, it will also reduce traffic volumes at Marine Way and Vancouver Way. There are businesses at this location that could experience a decline in revenues as a result of this change in the local traffic patterns. Similarly, access management measures associated with the Marine Drive and Hayden Island interchanges could make access to certain businesses more out-of-direction and less convenient, which could impact overall business revenues.

Indirect Effects

The CRC project team evaluated whether and how this project could change travel behavior and consequentially change land use patterns. This evaluation was presented in the DEIS and subsequently reviewed by an independent panel of experts. The evaluation of the CRC project's potential to induce land use changes employed five methods: 1) an assessment of how the project is expected to impact land use, 2) a survey of national research, 3) a comparison of growth management regulations in Washington and Oregon, 4) transportation demand modeling and traffic operations analysis, and 5) transportation-land use modeling. Each of these methods is described below.

In 2008, after publication of the DEIS, the project team convened a panel of national experts to review the travel demand model methodology and conclusions. The panel unanimously concluded that the project team's methods and the conclusions were valid and reasonable.

ASSESSMENT OF HOW PROJECT WILL IMPACT LAND USE

The LPA is consistent with goals for providing infrastructure to urban areas and for directing high-density growth to urbanized locations. Regional plans, adopted by the Southwest Washington RTC, Clark County, and Metro would also be supported by improved infrastructure in the urban core and the extension of a high-capacity transit system. The LPA would comply with the direction of the Vancouver Comprehensive Plan, VCCV, and the Hayden Island Plan, delivering a significant investment and multimodal improvements.

A SURVEY OF NATIONAL RESEARCH

The project team surveyed research conducted at a national level regarding indirect effects associated with highway projects. This research posed a number of questions that help identify possible indirect effects of such projects. The relevant questions and the analysis team's responses for the CRC project (the LPA) are given in Exhibits 3.4-7 and 3.4-8.

Exhibit 3.4-7

Factors Associated with Highway Projects

Factors associated with highway projects that tend to induce auto travel and sprawl	Does the CRC project exhibit these factors?
Does the project provide new access to areas previously unserved or greatly underserved by highways?	No. CRC is entirely within an urbanized area, and I-5 has been an Interstate corridor since 1958. Project adds no new interchanges.
Does the project provide new highway access to land on the urban edge?	No. CRC improvements are located 7 miles inside Vancouver Urban Growth Area boundary to the north, and over 13 miles inside Metro Urban Growth Boundary to the south.
Does the project substantially improve highway travel times?	Yes and No. With CRC, I-5 travel times would be shorter than No-Build and would be longer than existing conditions.
Does the project reduce auto travel costs?	No. CRC adds a toll on the highway that increases auto travel costs relative to the No-Build Alternative.
Are there real estate markets supporting low density development?	Yes and No. On the outer edge of the Urban Area under Clark County jurisdiction, zoning allows lower density development (around 6 units per acre – similar to the densities in equivalent areas on the Oregon side). These areas are generally three or more miles from the project area, and at greater distances in Oregon than in Washington. While there is low to moderately low development densities in these areas, the zoning designations now require higher density development. Within the project area, higher density and mixed use developments are most common.
Are local and regional land use regulations ineffective at managing growth?	No. The Portland Metro area has a long history of effective growth management. Vancouver and Clark County follow Washington’s Growth Management Act regulations, and any Urban Growth Area expansions are subject to state oversight.

Source: CRC Land Use Technical Report, 2008.

Exhibit 3.4-8

Factors Associated with High-capacity Transit Projects

Factors associated with high-capacity transit projects that tend to promote higher density and/or transit-oriented development	Does the CRC project exhibit these factors?
Would the project increase transit ridership?	Yes. Transit mode split is projected to be about 15 percent with the project, compared to 8 percent with the No-Build Alternative. ^a
Does the project provide new access to developable/ redevelopable land previously unserved or underserved by transit?	Yes. The project area is not currently served by high-capacity transit and there is substantial latent demand for cross-river transit service.
Are there real estate markets supporting such development?	Yes. The majority of the recent and planned developments in downtown Vancouver are high-density and/or mixed use.
Is there positive public perception of transit?	Yes. Over 70 percent of residents polled support extending light rail across the river to Vancouver.
Do local and regional land use regulations effectively manage growth?	Yes. The Portland Metro area has a long history of effective growth management. Vancouver and Clark County follow Washington’s Growth Management Act regulations, and any Urban Growth Area expansions are subject to state oversight.

Source: CRC Land Use Technical Report, 2008.

a PM Peak period transit mode split for I-5 crossings. See Section 3.1 Transportation.

The data in these tables, along with the findings of an independent expert review panel, support the conclusion that the CRC project has far more elements likely to encourage compact, higher density development in established urban areas than elements that are likely to promote auto-oriented, lower density development on the urban fringe. This project would decrease travel times, improve travel reliability, and reduce congestion. However, tolling the river crossing and adding light rail transit offsets much of the potential for inducing auto travel. It serves to reduce total auto trips and increase transit mode share. The light rail extension into Vancouver further increases transit ridership and promotes transit-oriented development around the new stations. Ultimately, this project is more likely to help realize long-term, regional land use plans by concentrating growth in established urban centers and connecting them with a more efficient, multimodal transportation system.

COMPARISON OF WASHINGTON AND OREGON GROWTH MANAGEMENT

The national research and case studies reviewed by the project team emphasized the importance of local land use regulations for influencing the type and magnitude of effects from transportation improvements. Metro has a long history of effective growth management, and the City of Portland has a sophisticated zoning code with provisions for focusing growth where desired and encouraging compact mixed-use development around transit facilities. The land use regulations in the City of Vancouver and Clark County also have robust growth management policies and regulations. Please see the CRC Indirect Effects Technical Report, included as an electronic appendix to this FEIS, for further details.

TRAVEL DEMAND MODELING AND TRAFFIC OPERATIONS ANALYSIS

Travel demand modeling and traffic simulation indicate that the CRC project has a far greater effect on transit ridership than I-5 travel times. Although the LPA would substantially reduce congestion within the project area compared to the No-Build Alternative, travel times are not as dramatically changed because this project improves a relatively small portion of the region's highway system. The project would include a toll for river crossing commutes by car or truck, which diminishes the land use effects of improved travel times. For more information, see the CRC Traffic and Indirect Effects Technical Reports, included as electronic appendices to this FEIS.

TRANSPORTATION-LAND USE MODELING (METROSCOPE)

The fifth method for evaluating this project's potential for inducing land use changes entailed evaluating a Metroscope model analysis of transportation improvements similar to the LPA. Metroscope is an integrated land use and transportation model designed by Metro to predict how changes in several factors, including transportation infrastructure, could change the future distribution of employment and housing throughout the region. In 2010, Metro used the Metroscope model to forecast growth associated with transportation improvements of a CRC project including a 12-lane river crossing, interchange improvements, and light rail extension to Clark College. The model forecast the impacts with both a tolled and an untolled bridge. The model showed only minimal changes in employment location and housing demand compared to the No-Build Alternative. Essentially, the model verified previous analyses that found the project would not significantly induce growth or sprawl. Compared to the No-Build Alternative, for a tolled

facility, Metroscope estimated a 0.03 percent decrease in households in north Clark County and a 0.51 percent increase in the southern, more urban, half of the county. Even with no toll, the model forecast only a slight increase in households in north Clark County (0.85 percent) and a 0.66 percent increase in southern Clark County. Metroscope estimated a 1.5 percent employment gain in North and northeast Portland, compared to the No-Build Alternative. Other changes in employment were also slight (Metro 2010).

INDIRECT EFFECTS CONCLUSION

The evaluation summarized above demonstrates that this project is likely to promote transit-oriented development (TOD) around new light rail stations on Hayden Island and in downtown Vancouver, and to promote additional density of jobs and housing near the I-5 corridor. Promotion of TOD on Hayden Island and in downtown Vancouver is consistent with regional policy, city and subarea plans in both Portland and Vancouver. The project also is unlikely to induce increased growth around the region's urban periphery (i.e., it is unlikely to promote "urban sprawl").

3.4.4 Temporary Effects

On-site Construction

Construction activity for the LPA would temporarily disrupt land uses on Hayden Island, but would not likely have as much of an effect elsewhere in the project area. I-5 provides the only way on and off Hayden Island, and the existing businesses on the island are predominantly auto-oriented, large-scale retail. Construction could temporarily reduce the attraction of the island's shopping center. Attracting new tenants, and possibly new residents, could be temporarily impeded by construction activities. Other parts of the project area are not as reliant on I-5 for access, and are thus less likely to experience any substantial effects on local land uses from temporary disruption.

Construction activities associated with the LPA have the potential to cause economic impacts by temporarily blocking visibility and access to businesses, causing traffic delays and rerouting traffic to detours. Access restrictions or other difficulties could divert customers and clients and hamper deliveries. However, most traffic movements would remain open throughout construction.

Traffic congestion is already common within the I-5 corridor during peak travel periods. Adjacent construction activities and temporary detours would extend periods of congestion, negatively impacting businesses and other land uses. Movement of freight, goods, and services would also be negatively affected. If construction activities make travel times more difficult to predict, many freight shippers and businesses that rely on just-in-time delivery would be negatively affected. Motorists would be warned about delays through effective communication strategies and advanced signing. As a result, some might avoid the project area entirely, which could negatively affect patronage of local businesses. Coordination with the Port of Portland and businesses in the Rivergate and Portland International Airport industrial areas would identify ways to minimize delays during construction for commercial freight vehicles.

However, construction of the LPA would also result in increased employment and spending in the project area during construction. The extent of these

effects depends on the source of project funding and the makeup of work crews used during project construction. Funds from local or regional sources are transfers, i.e., money spent on the project that would otherwise be spent by residents and businesses on other economic activities within the region. Federal or state funds that are new to a region can have a measurable economic effect on employment and income gains resulting from project construction. Estimated employment impacts due to project expenditures are shown in Exhibit 3.4-9. As shown, approximately 20,975 total job-years would be required for design and construction of the LPA. A job-year is defined as one job for one year. The average annual regional jobs required would be 1,906, and when multiplied over 11 years, the result is over 20,000 job-years.

Exhibit 3.4-9

Employment Impacts of Project Construction

	Full-Time Equivalent Employment				Average Annual Regional Jobs
	Direct Jobs	Indirect Jobs	Induced Jobs	Total Regional Jobs	
FEIS	151	101	80	332	30
Highway Construction and Bridge Removal	9,687	2,089	4,319	16,095	1,463
Transit Construction	2,583	775	1,190	4,548	413
Total In-region Construction	12,421	2,965	5,589	20,975	1,906

Source: 2009 CRC project cost estimates, expenditure per employee estimates from FHWA (2003) and ODOT (2009), and employment multipliers from the Minnesota IMPLAN Group, Inc. (2007).

Off-site Staging Areas and Casting Yards

Project use of the following off-site staging areas and casting yards is unlikely to have an impact on land use, but would likely temporarily displace other economic activities from the sites:

- Port of Vancouver Parcel 1A site
- Red Lion at the Quay Hotel site
- Vacant Thunderbird Hotel site on Hayden Island
- Port of Vancouver Alcoa/Evergreen West site
- Sundial site between Fairview and Troutdale

3.4.5 Mitigation or Compensation

Long-term Effects

Most negative economic impacts would result from business displacements, losses in parking, or changes in access to businesses. For those businesses displaced by the project, the acquiring agencies would provide a relocation assistance program. Property acquisitions affecting other uses would also be mitigated by relocation assistance, as described in Section 3.3, Property Acquisitions and Displacements.

The long-term land use and economic effects from the project are primarily beneficial and consistent with relevant plans and policies, as described in Section 3.4.3.

Temporary Effects

The following mitigation measures would be pursued to mitigate for temporary (construction) effects of the LPA.

Construction of the LPA would be carefully planned to minimize road closures and to avoid and minimize temporary impacts to businesses. Signs to identify the location of access points and the businesses served would be provided during detours or closures. Detours would be carefully routed to reduce travel times and signed to reduce confusion.

Programs to help businesses affected during construction would include some combination of the following: business planning assistance, marketing and retail consulting, and promotions to generate patronage in construction areas. These programs would be provided by TriMet; similar programs have been employed on recent light rail extension projects. TriMet and C-TRAN are committed to small business assistance during construction. The City of Vancouver is planning to establish a Growth and Transportation Efficiency Center. This Center would be charged with improving transportation efficiency and would develop and administer a construction communication and mitigation plan, which would be funded by the DOTs as part of the mitigation for project impacts.

To maintain navigation-related commerce, the project would ensure that at least one of the three Columbia River navigation channels would remain open during construction.

Signs would be posted to encourage commercial freight vehicles not serving destinations in the Portland-Vancouver I-5 corridor to shift from I-5 onto I-205 during construction.

TRANSIT

TriMet, C-TRAN and other sponsoring agencies have years of experience helping communities and small businesses overcome the challenges of transit construction activities. Keeping businesses open and accessible during light rail construction would be a high priority of these agencies. During previous light rail transit construction projects, TriMet has kept construction disruption to a minimum while maintaining access to businesses, and has rapidly responded to concerns and potential issues. Mitigation of impacts to businesses during transit construction (short-term impacts) can be accomplished through a number of activities. The project team would model business and community outreach strategies on the successful strategies employed on recent TriMet construction projects, as outlined below.

Approach to Construction

With a business-oriented approach to construction, contractors would coordinate the schedule, pace and order of construction to minimize its impact to nearby businesses. Construction would be staged and managed so that it does not disrupt any single area for an extended period of time.

With light rail construction, crews typically work within a three to five block area before moving to the next construction zone. Using various means of communications, the project team would provide nearby businesses and residents advance notice of night work or other possible disruptions.

Access to Businesses

Maintaining access for motorists, delivery and service vehicles, cyclists, and pedestrians during business hours is a key component of construction plans. This strategy includes working on sections of affected roadways and intersections while leaving a portion open for through traffic for all modes. When a detour becomes necessary, crews provide a quick, well-defined detour route around construction. Flagging crews are often deployed to guide motorists and pedestrians through work zones. Temporary parking is provided for businesses that lose parking due to construction.

Temporary Business Signage

In addition to keeping access open, the project would provide visible, temporary easy-to-read signage to alert customers that businesses are open during construction.

Buy Local

Light rail construction would generate thousands of jobs and millions of dollars in consumer spending. To maximize this support within the local communities affected by construction, project partners would identify local businesses along the corridor that could provide services during construction, such as sign makers, restaurants, coffee houses, print shops and others. To the extent practicable, construction materials would be purchased from local businesses. Contractors would hold an open and competitive bid process that would not restrict suppliers based on size, location, or other characteristics. For example, during the construction of the Interstate MAX line, local haulers formed a consortium that worked with the contractors to haul materials to and from the sites, thereby ensuring that more of the construction dollars went back into the local community.