

## **APPENDIX E**

### **ANALYSIS OF NEW CROSSING(S) OF THE COLUMBIA RIVER**



## **Appendix E: Analysis of New Crossing(s) of the Columbia River**

A set of potential new crossings of the Columbia River were developed and analyzed as part of this study. The new crossings are located west of I-5 and east of I-205. The new crossings of the Columbia River were modeled as “Parkway” type arterials, with four to six lanes, and were modeled without tolls. The following will provide a summary of the detailed analysis conducted as part of the study.

### Westside Corridor Options for Crossing the Columbia River

The travel demand model indicated strong intersection between west and central Vancouver, Felida/Lakeshore and Ridgefield with destinations in west Portland, the Port of Portland terminals, St. Johns area, and points northwest and west of Portland along US-30 and Cornelius Pass Road.

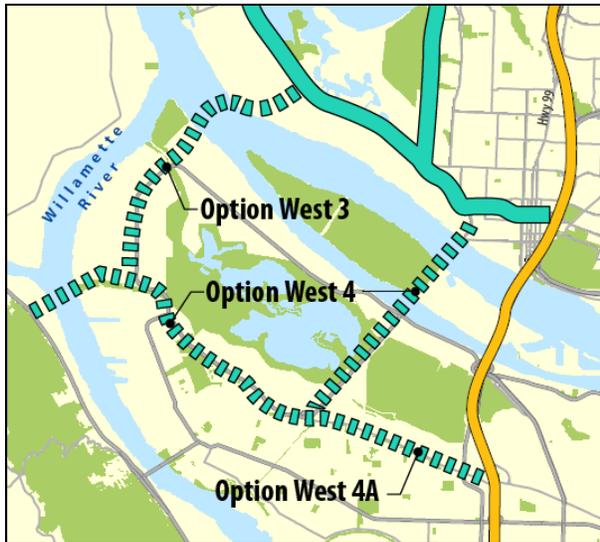
Several alignments for the Westside river crossing were evaluated. One alignment would have connected Lake River Road (SR 501 spur) across Sauvie Island and ending at US-30 northwest of Linnton. That alignment was discarded due to the potential impacts of such a corridor on Sauvie Island, as well as that corridor not serving the predominant types or destinations of trip demand as indicated by the regional travel model.

Option 3 would skirt the Gateway area of the Port of Vancouver, cross over onto and through Hayden Island to the marine terminals area and then bypass the St. Johns neighborhood by crossing the Willamette River to the northwest, ending at US 30. The Option West 3 alignment was adjusted during the study to minimize or avoid impacts to the Port of Vancouver’s Gateway area as well as attempting to avoid impacts to Kelly Point Park and to the Port of Portland’s Marine Terminal 6 area.

Option West 4 would follow the “Bi-State Industrial Corridor” alignment from the Columbia River Crossing EIS. This corridor would connect in Clark County at approximately Mill Plain at NW 26th Avenue, while in Oregon would follow the Portland Road and railroad “trench” through Hayden Island and the peninsula. The corridor also follows Columbia Boulevard west through St. Johns, crosses the Willamette River and connects to US-30 northwest of Linnton. Connections with I-5 would be via Mill Plain, Marine Drive, Columbia Boulevard, and US-30. Information generated by the I-5/Columbia River Crossing Draft Environmental Impact Statement project was consulted for setting and evaluating the Option West 4 corridor.

Exhibit E-1 illustrates the final Westside river crossing alignment options.

## Exhibit E-1 – Westside Crossing Options over the Columbia River



### *Trip Characteristics & Capture Areas*

During the modeling process, only Option West 4 was analyzed. Since Option West 3 is in close proximity of Option West 4, it is assumed that Option West 3 would exhibit similar trip characteristics.

From the modeling analysis, it was found that approximately 38,000 - 46,000 daily trips would cross the Columbia River via the Westside corridor options and the peak hour volumes would be approximately 5,000 vehicles per hour for the peak direction. However, the volume would drop off dramatically north of central Vancouver. These crossing corridors serve subregional trips between Ridgefield, Vancouver, and Northwest Portland.

Further analysis was completed to determine the capture area for these new crossings. Most of the trips expected to use the new crossings would originate from Central Vancouver and Ridgefield/Discovery Corridor on the Washington side; and Central Portland and Marine Terminals on the Oregon side. Exhibit E-2 illustrates the capture area. It was determined that less than 50 percent of the trips begin and end outside of the capture area.

**Exhibit E-2 – Capture Area**



Further analysis was done to determine the origin/destination of the trips crossing the Columbia River which are associated with Washington and Oregon. Exhibit E-3 illustrates the Washington trip capture areas. As shown in the Exhibit, the majority of the trips are from Central Vancouver and the Ridgefield/Discovery Corridor Areas.

**Exhibit E-3 – Trip Capture Area: Washington Trips**

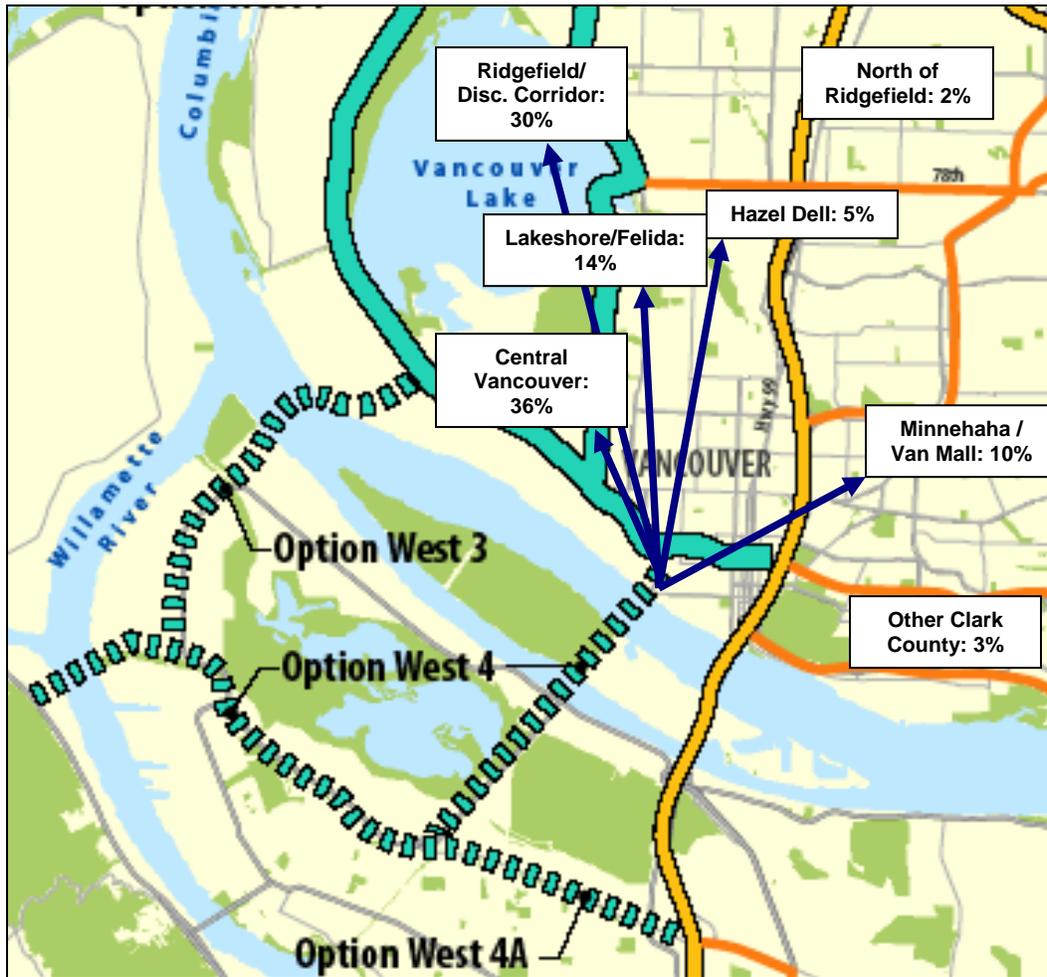


Exhibit E-4 illustrates the Oregon trip capture areas. From the analysis it was determined that the majority of the trips originate from central Portland.

**Exhibit E-4 – Trip Capture Area: Oregon Trips**



It was determined that the new crossings may provide minor relief to I-5 (about 8% fewer trips). Some I-205 trips backfill onto the I-5 Bridge resulting in minimal relief to I-205 due to this trip shifting.

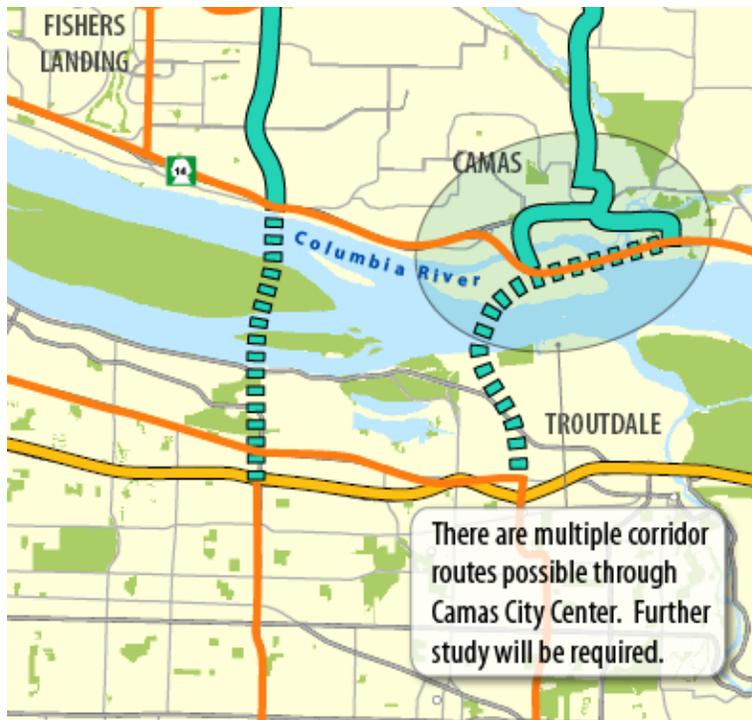
Land use implications exist on each side of the river, along the corridor. This potential corridor increases cross-river travel about 3-4% due to latent demand. Some Clark County trips shifted off of the I-5 corridor north of the Columbia River. On the Washington side, these corridors exhibit characteristics of both a regional and subregional corridor: half of Clark County trip ends are Ridgefield and north, half are central / west Vancouver area. On the Oregon side, over half of the trip origins / destination are longer distances: central Portland and I-5 south, Cornelius Pass, and northwest along US-30.

## Eastside Corridor Options for Crossing the Columbia River

Travel demand modeling indicated a strong interaction between east Vancouver, Fishers Landing, and the Camas/Washougal area to points in east Portland, Gresham, and the Columbia River Gorge along I-84. Thus, crossing options were tested east of I-205 that would have access to I-84 at an existing interchange, as well as connect to a regional corridor in Oregon which had connections to MAX light rail stations for regional transit purposes.

A similar analysis to the Westside corridor evaluation was conducted on the eastside of I-205. Exhibit E-5 illustrates the final eastside river crossing alignment options.

### **Exhibit E-5 – Eastside Crossing Options over the Columbia River**



These corridor options include connections in Clark County at approximately SE 192<sup>nd</sup> Avenue at SR 14, and also serving downtown Camas with a Washington-side landing on Lady Island at SR 14. On the Oregon side, one option ended at approximately I-84 at 181<sup>st</sup> Avenue in Gresham and the other option ended at approximately the 242<sup>nd</sup> Avenue interchange with I-84 in Fairview. There were connections assumed with Airport Way and Sandy Boulevard along with other supporting road improvements. Both of the corridors in Oregon connect to regional corridors that also have MAX light rail stations.

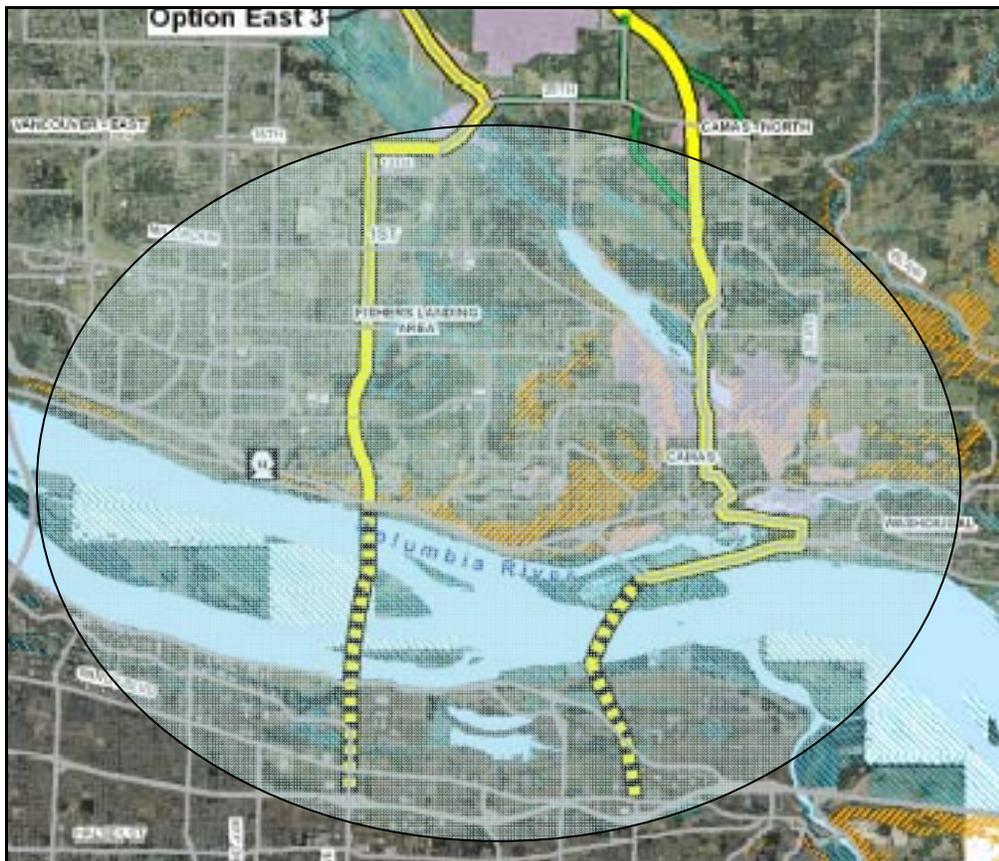
### *Trip Characteristics & Capture Areas*

During the modeling process, the crossing which follows the SE 192<sup>nd</sup> Avenue alignment was analyzed. It was assumed that the downtown Camas alignment would exhibit the same characteristics as the SE 192<sup>nd</sup> Avenue alignment as they are in close proximity to each other.

The modeling analysis indicates that the Eastside corridor options would carry between 70,000 – 80,000 vehicles per day across the Columbia River (over capacity for a four-lane facility), with volumes continuing at that level northward to the Battle Ground area. These high volumes between Battle Ground and northeast Vancouver may indicate lack of a supporting subregional system (in the travel model) which would tend to funnel both regional and subregional trips onto the new corridor rather than spreading them out between facilities.

Further analysis was completed to determine the capture area for these new crossings. Most of the trips expected to use the new crossings would originate from East Vancouver, Camas and Washougal on the Washington side; and Gresham and East Portland on the Oregon side. Exhibit E-6 illustrates the capture area. It was determined that approximately 25 percent of the trips begin and end outside of the capture area.

### **Exhibit E-6 – Capture Area**



Further analysis was done to determine the origin/destination of the trips crossing the Columbia River which are associated with Washington and Oregon. Exhibit E-7 illustrates the Washington trip capture areas. As shown in the Exhibit, the majority of the trips are from East Vancouver, Camas and Washougal.

**Exhibit E-7 – Trip Capture Area: Washington Trips**



Exhibit E-8 illustrates the Oregon trip capture areas. From the analysis it was determined that the majority of the trips originate from Gresham and East Portland.

### Exhibit E-8 – Trip Capture Area: Oregon Trips



It was determined that the new river crossings will not provide any relief to I-5, however some relief may be provided for I-205 with approximately 15-20% fewer trips.

Land use implications exist on each side of the river, along the corridor. This potential corridor increases cross-river travel about 7-10% due to latent demand. On the Washington side, these corridors exhibit characteristics of both a subregional corridor: most of the Clark County trip ends south of 18<sup>th</sup> Street and east of I-205. On the Oregon side, over half of the trip origins / destination are within 2-3 miles of the crossing and is considered a subregional corridor.

## Summary

Exhibit E-9 provides a summary of the findings of the modeling analysis for the Westside and Eastside river crossing corridors.

### **Exhibit E-9 – Summary of the Modeling Analysis**

	Daily Trips Across the Columbia River	Impact to I-5	Impact to I-205	Increase in Cross River Travel
Westside Corridor	38,000-46,000	Minor Relief: 8% fewer trips	Minor Relief due to trip shifting	3-4% increase
Eastside Corridor	70,000-80,000	No Impact	Some Relief: 15-20% fewer trips, subregional trips removed; still over capacity	7-10% increase