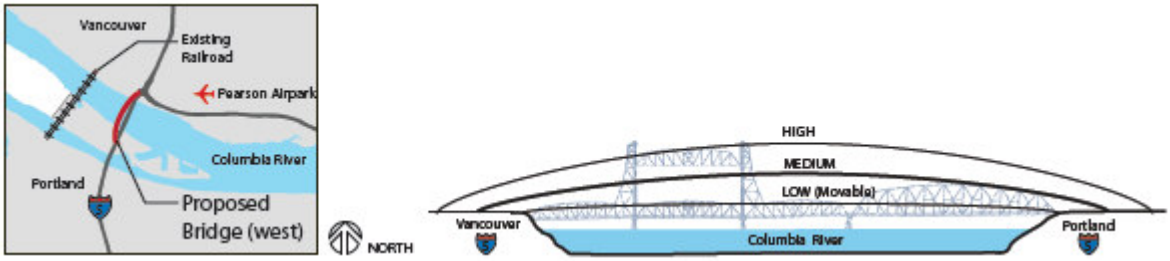
**Figure 5-7. Supplemental Bridge Downstream/Mid Level**




These components pass the Step A questions because:

1. They would increase vehicular capacity in the Bridge Influence Area by providing approximately ten lanes of capacity for traffic.

2. The bridge configurations could also be used to carry transit, and thus could allow for an increase in transit capacity.

3. Freight mobility would be improved because of the increase in capacity and because the vertical alignment would be flatter and more conducive to truck movements.

4. All components that replace the existing bridges would be built to modern standards including full shoulders and a design speed of 70 mph, and they would not encroach into Pearson Airpark airspace.

5. All of these components would also allow for a separated bike/pedestrian lane designed to modern standards in each direction.

6. Depending on the use of the existing I-5 bridges, they may need to be seismically upgraded to meet the new seismic criteria. It is not known at this point whether the existing bridges can be retrofitted to meet current seismic design standards.

Components RC-7 and RC-9, which add a new bridge immediately downstream of the existing I-5 bridge, would make it more difficult for tugs and barges to line up with the opening in the BNSF railroad bridge downstream. Further study is needed to determine whether these components can provide for safe passage of marine vessels. One potential improvement would be to straighten the path through the bridges by relocating the opening in the BNSF railroad span to the center of the Columbia River.

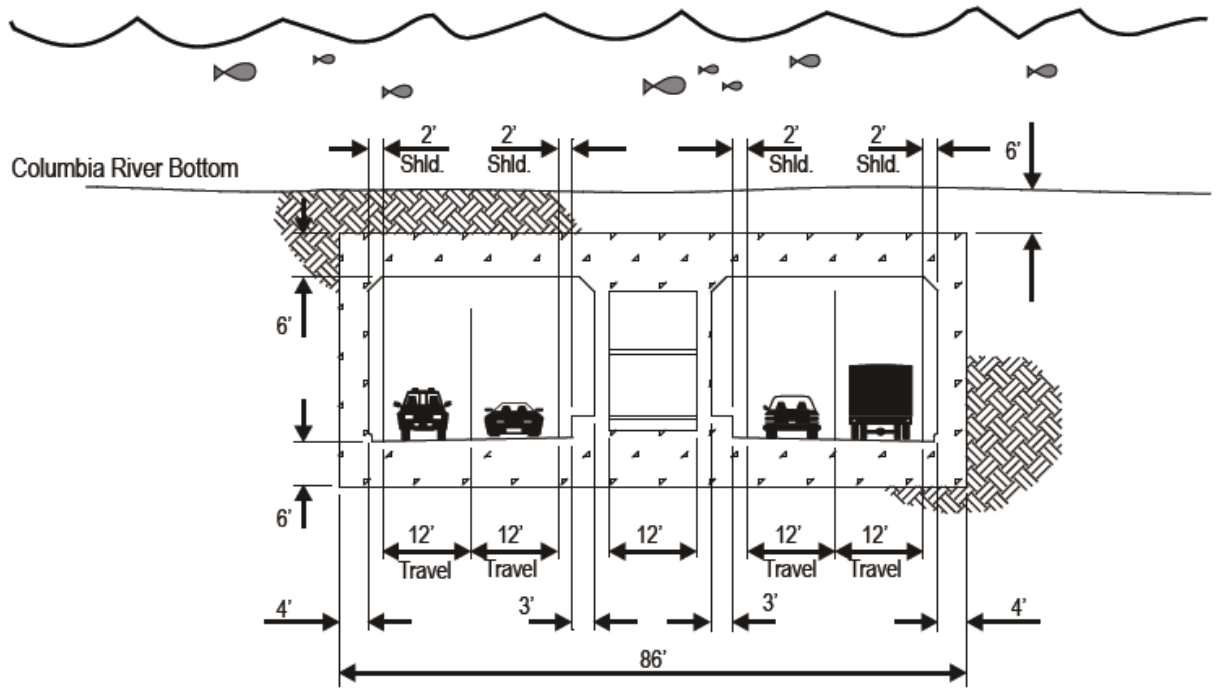
### 5.2.3 RC-13 Tunnel to Supplement I-5

**Description:**

This component would supplement the existing I-5 bridges with a multi-lane tunnel; the existing I-5 bridges would remain in place. The tunnel would surface approximately at Mill Plain Blvd. on the north and between Marine Drive and Victory Blvd. on the south, and would bypass

Marine Drive, Hayden Island and the SR 14 interchange. Connections to these interchanges would be provided via the existing I-5 bridges. **Figure 5-8** shows this component.

**Figure 5-8. Tunnel to Supplement I-5**




This component passes the Step A questions because:

1. This component would increase vehicular capacity in the Bridge Influence Area by providing additional traffic lanes.

2. These lanes could also be used to carry transit, and thus could allow for an increase in transit capacity.

3. Freight mobility would be improved because of the increase in capacity, and because the vertical alignment of the tunnel would be flatter and more conducive to truck movements. There would also be fewer on and off ramps, allowing traffic to flow more smoothly.

4. This component would improve vehicular safety by decreasing traffic volumes on the existing bridge, and would not compromise river navigation by adding more piers in the river.

5. For this component to improve bike and pedestrian mobility, the bike lane on the existing bridge would need to be upgraded.

6. Depending on the use of the existing bridges, they could need to be seismically upgraded to meet the new seismic criteria. It is not known at this point whether the existing bridges can be retrofitted to meet current seismic design standards.

### 5.2.4 RC-23 Arterial Crossing with I-5 Improvements

**Description:**

This component would supplement the existing I-5 bridges by adding a new Columbia River Crossing for arterial use connecting Vancouver to Hayden Island with potential connections at Marine Drive and Columbia Boulevard. Improvements to the existing I-5 bridges would be included. **Figure 5-9** shows this component.

**Figure 5-9. Arterial Crossing with I-5 Improvements**


This component would pass the Step A screening by assuming that the arterial crossing would be built in conjunction with a new I-5 crossing, and thus is similar to other components that increase capacity and therefore pass Step A.

## 5.3 Components that Fail Step A

This section describes the river crossing components that do not pass the Step A screening. The most common problems associated with these components include:

- Encroachment into Pearson Airpark airspace
- The location of the proposed crossing does not serve the transit and/or freight markets
- The component does not address existing I-5 safety or seismic deficiencies

**Rationale for Not Advancing:**

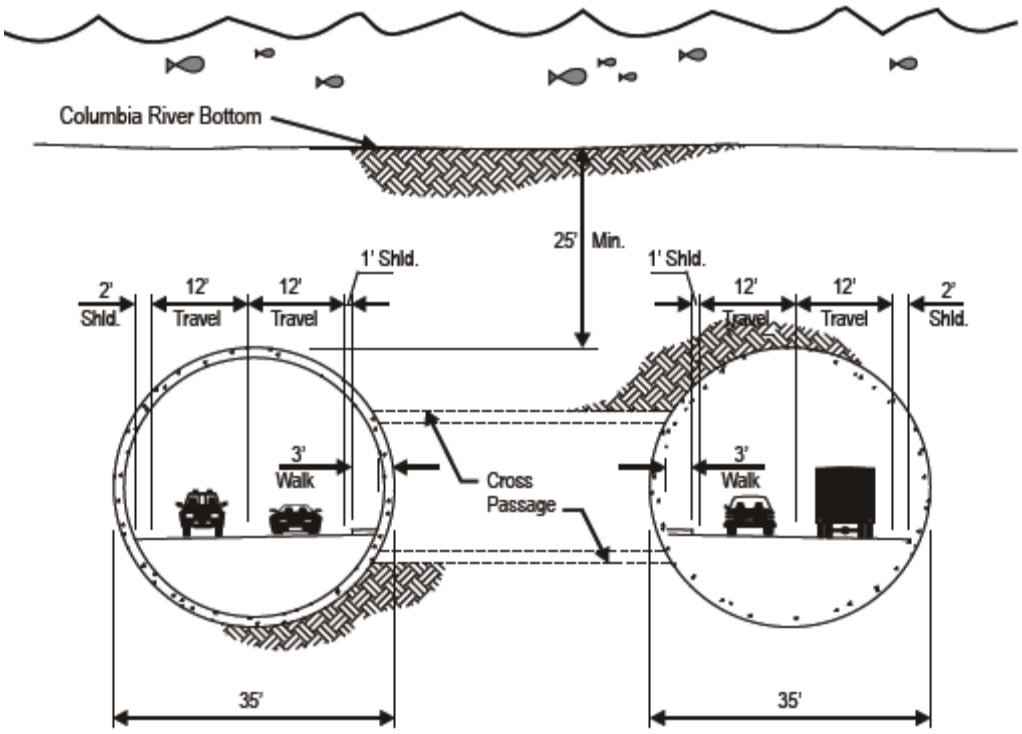
This component fails Question #4 related to safety. This component retains the existing I-5 bridges, and therefore the opening for the supplemental bridge would need to line up with the existing lift span opening. This places the high point of the new bridge on the north side of the Columbia River channel. In addition, the new bridge's upstream location places it closer to Pearson Airpark. Because of the upstream bridge and high point locations, this crossing encroaches into the Pearson Airpark airspace and therefore does not satisfy the Step A question related to safety.

### 5.3.3 RC-20 Replacement Tunnel

**Description:**

This component would replace the existing I-5 bridges with a new tunnel crossing. The tunnel would surface near SR 500 on the north and near Columbia Blvd. on the south, and would bypass most of the Bridge Influence Area. **Figure 5-15** shows this component.

**Figure 5-15. Replacement Tunnel**




**Rationale for Not Advancing:**

- This component fails Question #1 because it would not serve (i.e. increase vehicular capacity to) most of the Bridge Influence Area. It would also be difficult to construct enough tunnel traffic lanes to match the capacity that is needed; this would likely require

two to four new bored tunnels. Activity centers in the Bridge Influence Area would instead have to be accessed by a complex system of frontage roads that would increase out-of-direction travel.

- This component fails Question #2. This component does not improve transit service to the identified I-5 corridor transit markets, nor does it improve the performance of the existing transit system within the Bridge Influence Area.
- This component fails Question #3 related to freight movement because connections to major state highways and freight centers within the Bridge Influence Area (e.g., Marine Drive, SR 14) would either be removed or would, at best, require significant out-of-direction travel.
- This component fails Question #5 because it would not include bike and pedestrian routes in the tunnel.

### 5.3.4 Components RC-14 through RC-19, RC-21, and RC-22 (New Corridor Components)

Most of these new corridor components were suggested during the NEPA scoping process and are conceptual in nature. Project staff has not developed detailed alignments or engineering designs for these components. That said, enough is known about their general location and intended function to substantiate the findings.

#### 5.3.4.1 RC-14 New Corridor Crossing

**Description:**

This component creates a multi-modal bi-state industrial corridor next to the BNSF rail crossing west of the existing I-5 bridges. The north end would start near Mill Plain and Fourth Plain Boulevards in Vancouver and it would travel through Hayden Island connecting to Marine Drive near North Portland Road. This crossing would accommodate freight trains, trucks, autos, bus transit, bikes/pedestrians and potentially light rail. **Figure 5-16** shows this component. shows this component.