

NOTEBOOK 2

TAB F: FIVE DRAFT ENVIRONMENTAL IMPACT STATEMENT ALTERNATIVES (2007 – 2008)

SPRING 2007: SELECTING DRAFT ENVIRONMENTAL IMPACT STATEMENT ALTERNATIVES

In January 2007, the project team launched an intensive public involvement campaign to present the screening results of the preliminary 12 alternatives and receive comments on the staff recommendation to move four alternatives forward for further analysis. Overall, the public and most agencies generally agreed with the recommendation, but some felt they did not include a wide enough range of options, particularly one that would reuse the existing I-5 bridges. Reusing the existing bridges appeared to warrant further evaluation primarily because of the possibility for reduced capital costs compared to replacing the existing bridges. This led the Task Force to explore how the existing I-5 bridges could be reused in a way that would meet the CRC purpose and need. This effort to evaluate a “fourth alternative” is described in the materials provided in this section of the notebook.

The project team, working with Task Force members and input from other stakeholders, developed an additional alternative that reused the existing bridges for northbound I-5 traffic, bicycles, and pedestrians. With this alternative a new, supplemental bridge would carry high-capacity transit and southbound I-5 traffic. In March 2007 the CRC partners incorporated the Task Force recommendation into the Draft EIS range of alternatives. This produced the range of alternatives evaluated in the Draft EIS:

- Alternative 1: No-Build
- Alternative 2: Replacement crossing with bus rapid transit
- Alternative 3: Replacement crossing with light rail
- Alternative 4: Supplemental crossing with bus rapid transit
- Alternative 5: Supplemental crossing with light rail

SPRING 2007 – SUMMER 2008: ANALYZING THE FIVE ALTERNATIVES

The CRC project analyzed each alternative to determine how well it would relieve congestion and improve safety and mobility on I-5. On May 2, 2008, the project released its Draft EIS for public and agency review. This document describes the potential effects of five alternatives on community, natural and historic resources.

Hundreds of documents were delivered to neighborhood associations, community centers, libraries and stakeholders. The entire document was also posted online for review and comments. Over 1,600 comments were received from the public during the 60-day comment period.

The Draft EIS Executive Summary is included in this notebook. CDs of the entire document and technical reports are attached to the back cover of the Executive Summary.

DEIS Errata and Clarifications

Last updated: May 21, 2008

The following corrects errors in the I-5 Columbia River Crossing (CRC) Draft Environmental Impact Statement (DEIS) that was released for public review and comment on May 2, 2008. The Draft EIS will be further updated as errors are discovered or to clarify points of confusion. Such updates or corrections will be made either with additional errata or in the Final EIS anticipated to be released in summer 2009.

CHAPTER	PAGE	CURRENT TEXT	CORRECTED TEXT/CLARIFICATION
Front Matter	v	"Lupke Center"	Lupke Center
Summary	10	"The exclusive bus lanes would extend 2.07-4.22 miles north from the Expo Center through Vancouver, and include five to seven transit stations and three to five structured or surface park and rides with up to 2,410 spaces, depending on the transit terminus."	"The exclusive bus lanes would extend 2.07-4.22 miles north from the Expo Center through Vancouver, and include five to seven transit stations and three to five structured or surface park and rides with up to 3,220 spaces, depending on the transit terminus."
Summary	14	"The exclusive bus lanes would extend 2.07-4.22 miles north from the Expo Center through Vancouver, and include five to seven transit stations and three to five structured or surface park and rides with up to 2,410 spaces, depending on the transit terminus."	"The exclusive bus lanes would extend 2.07-4.22 miles north from the Expo Center through Vancouver, and include five to seven transit stations and three to five structured or surface park and rides with up to 3,220 spaces, depending on the transit terminus."
Summary	15	Exhibit 14: Adjacent inset shows N Jantzen Beach Ctr extending over North Portland Harbor	This crossing over North Portland Harbor does not exist, nor is it a CRC project alternative
Summary	17	Exhibit 15: Adjacent inset shows N Jantzen Beach Ctr extending over North Portland Harbor	This crossing over North Portland Harbor does not exist, nor is it a CRC project alternative
Summary	20	Exhibit 17: Key for Detailed Area of River Crossing displays a "3" in the colored label boxes corresponding with northbound and southbound through and auxiliary lanes.	The "3" was chosen to make the key consistent and is not meant to imply that there would be three through and three auxiliary lanes in both directions. Please refer to the graphic to the left of key for the actual number of lanes over the river crossing. The type of lane (i.e., northbound or southbound, through or auxiliary) is denoted by the color of the label box.
Summary	21	Exhibit 18: Key for Detailed Area of River Crossing displays a "3" in the colored label boxes corresponding with northbound and southbound through and auxiliary lanes.	The "3" was chosen to make the key consistent and is not meant to imply that there would be three through and three auxiliary lanes in both directions. Please refer to the graphic to the left of key for the actual number of lanes over the river crossing. The type of lane (i.e., northbound or southbound, through or auxiliary) is denoted by the color of the label box.
Summary	23	Exhibit 21 states "two-way Broadway" in the legend for a downtown Vancouver transit alignment option	Two-way Washington
Summary	23	Exhibit 21 shows the two-way Broadway alignment option in northern Vancouver on Main Street	This alignment option should be shown on Broadway

CHAPTER	PAGE	CURRENT TEXT	CORRECTED TEXT/CLARIFICATION
Summary	23	Exhibit 21 shows Park and Rides near the I-5 SR 14 interchange and near Mill Plain Blvd for the Lincoln Terminus option	These Park and Rides should be deleted for this terminus option, as they only apply to the Mill Plain MOS
Summary	24	Exhibit 22 incorrectly characterizes the park and rides paired with the Clark College MOS and Mill Plain MOS	Clark College MOS: Clark College (surface lot) (structure) Mill Plain MOS: SR-14 (surface and structure) and Mill Plain (structure)
Summary	24	Exhibit 22 lists the following total park and ride stalls included for each terminus option: 2,410 (Kiggins Bowl), 1,250 (Lincoln), 2,410 (Clark College), 2,365 (Mill Plain)	Each terminus option could be associated with a variety of park and ride options. However, the approximate number of spaces assumed in the DEIS analysis are: 2,500 (Kiggins Bowl), 2,410 (Lincoln), 1,250 (Clark College), 3,220 (Mill Plain).
Summary	25	Exhibit 23 states "two-way Broadway" in the legend for a downtown Vancouver transit alignment option	Two-way Washington
Summary	30	Exhibit 26 incorrectly reports transit mode split	Error fixed in attached table, added explanatory footnotes and additional person throughput information for clarification
Summary	30	Exhibit 26: Capital Cost Estimate	The range of costs in exhibit 26 excludes costs to develop the DEIS and LPA. The preliminary cost estimate of \$3.1-\$4.2 billion includes work to date in addition to capital costs.
Summary	33	Exhibit 29 states "Transit mode split in p.m. peak period" as 17-21% (BRT) and 19-23% (LRT)	Should state: 15-18% (BRT) and 17-20% (LRT)
Summary	33	Exhibit 30 states "Transit mode split in p.m. peak period" as 22% (Kiggins Bowl terminus), 21% (Lincoln terminus), 19% (Clark College MOS), and 23% (Mill Plain MOS)	Should state: 19% (Kiggins Bowl terminus), 19% (Lincoln terminus), 17% (Clark College MOS), and 20% (Mill Plain MOS)
Summary	36	DraftEIScomments@columbiarivercrossing.com	DraftEIS feedback @columbiarivercrossing.com <i>[Note: emails sent to "DraftEIScomments@columbiarivercrossing.com" will still be received and recorded. Also, most documents distributed in hardcopy were fixed with a sticker over the incorrect address.]</i>
Summary	Inside back cover	Phone number for CRC office is listed as: (360) 737-2725	Correct phone number is: (360) 737-2726
Chapter 1	3	"Ultimately, the preceding transportation planning studies of the CRC project area provided the underlying scope of this project, while coordination with stakeholder groups, the public, and a variety of local, state, and federal agencies provided important input on how this project should define why it is being initiated and what problems it seeks to address"	"Ultimately, the preceding transportation planning studies of the CRC project area provided the underlying scope of this project, while coordination with stakeholder groups, the public, and a variety of local, state, and federal agencies provided important input on how this project should define why it is being initiated and what problems it seeks to address"

CHAPTER	PAGE	CURRENT TEXT	CORRECTED TEXT/CLARIFICATION
Chapter 2	8	"The exclusive bus lanes would extend 2.07-4.22 miles north from the Expo Center through Vancouver, and include five to seven transit stations and three to five structured or surface park and rides with up to 2,410 spaces, depending on the transit terminus."	"The exclusive bus lanes would extend 2.07-4.22 miles north from the Expo Center through Vancouver, and include five to seven transit stations and three to five structured or surface park and rides with up to 3,220 spaces, depending on the transit terminus."
Chapter 2	12	"The exclusive bus lanes would extend 2.07-4.22 miles north from the Expo Center through Vancouver, and include five to seven transit stations and three to five structured or surface park and rides with up to 2,410 spaces, depending on the transit terminus."	"The exclusive bus lanes would extend 2.07-4.22 miles north from the Expo Center through Vancouver, and include five to seven transit stations and three to five structured or surface park and rides with up to 3,220 spaces, depending on the transit terminus."
Chapter 2	19	A third bridge, parallel to these two bridges, would accommodate transit vehicles, bicyclists, and pedestrians. Two lanes or tracks would accommodate bus rapid transit or light rail, and a path at least 12 feet wide would be dedicated to bicyclists and pedestrians.	A third bridge, parallel to these two bridges, would accommodate transit vehicles, bicyclists, and pedestrians. Two lanes or tracks would accommodate bus rapid transit or light rail, and a path at least 16 feet wide would be dedicated to bicyclists and pedestrians.
Chapter 2	32	Exhibit 2.3-14 incorrectly characterizes the park and rides paired with the Clark College MOS and Mill Plain MOS	Clark College MOS: Clark College (surface lot) (structure) Mill Plain MOS: SR-14 (surface and structure) and Mill Plain (structure)
Chapter 2	33	Exhibit 2.3-15 states "two-way Broadway" in the legend for a downtown Vancouver transit alignment option	Two-way Washington
Chapter 2	33	Exhibit 2.3-15 shows the two-way Broadway alignment option in north Vancouver on Main Street	This alignment option should be shown on Broadway
Chapter 2	33	Exhibit 2.3-15 shows Park and Rides near the I-5 SR 14 interchange and near Mill Plain Blvd for the Lincoln Terminus option	These Park and Rides should be deleted for this terminus option, as they only apply to the Mill Plain MOS
Chapter 2	34	Exhibit 2.3-16 states "two-way Broadway" in the legend for a downtown Vancouver transit alignment option	Two-way Washington
Chapter 3	5	"In 2004, C-TRAN extended Route 4 to Hayden Island and the light rail station at Delta Park."	"In 2007 , C-TRAN extended Route 4 to Hayden Island and the light rail station at Delta Park."
Chapter 3	24	"With the No-Build Alternative, the transit mode split would be 1 percent of the afternoon/evening peak direction trips (up from 6 percent today) within the I-5 corridor."	"With the No-Build Alternative, the transit mode split would be 12 percent of the afternoon/evening peak direction trips (up from 6 percent today) within the I-5 corridor." [Note: see clarification above about how mode split is reported in the DEIS]
Chapter 3	Throughout section 3.1	Person throughput in cars and on transit (i.e., people over the I-5 Crossing during PM peak in transit) is reported incorrectly in the following places: <ul style="list-style-type: none"> Exhibit 3.1-21, page 3-26 in chapter 3 Page 3-29, second full paragraph 	Correct person throughput numbers are included in corrected exhibits (those listed to the left) as an attachment to this document. New explanatory footnotes are also included in the tables.

CHAPTER	PAGE	CURRENT TEXT	CORRECTED TEXT/CLARIFICATION
		<ul style="list-style-type: none"> Exhibit 3.1-24, page 3-32 Exhibit 3.1-25, page 3-34 Page 3-37, second full paragraph Exhibit 3.1-28, page 3-41 	
Chapter 3	Throughout section 3.1	<p>Transit mode split is reported incorrectly both in text and exhibits in the following places:</p> <ul style="list-style-type: none"> Exhibit 3.1-21, page 3-26 in chapter 3 Exhibit 3.1-24, page 3-32 Exhibit 3.1-25, page 3-34 Exhibit 3.1-28, page 3-41 Exhibit 3.1-33, page 3-53 Exhibit 3.1-39, page 3-60 Exhibit 3.1-46, page 3-72 Exhibit 3.1-50, page 3-75 	<p>Correct mode split numbers are included in corrected exhibits as an attachment to this document. Additional mode split numbers and explanatory footnotes are also included in the tables.</p>
Chapter 3	31	<p>Second full paragraph – Nineteen percent of travelers over the I-5 crossing during the afternoon/evening northbound peak would use transit.</p>	<p>Seventeen percent of travelers over the I-5 crossing during the afternoon/evening northbound peak would use transit. <u>(Mode split is based on demand and does not include freight trips or trips that start or end outside of the Portland/Vancouver metropolitan area.)</u></p>
Chapter 3	33	<p>Fourth full paragraph – Twenty-one percent of travelers over the I-5 crossing during the afternoon/evening northbound peak would use transit.</p>	<p>Nineteen percent of travelers over the I-5 crossing during the afternoon/evening northbound peak would use transit. <u>(Mode split is based on demand and does not include freight trips or trips that start or end outside of the Portland/Vancouver metropolitan area.)</u></p>
Chapter 3	39	<p>Sixth full paragraph – Thirty-three percent of travelers over the I-5 crossing during the afternoon/evening northbound peak would use transit.</p>	<p>Twenty-three percent of travelers over the I-5 crossing during the afternoon/evening northbound peak would use transit. <u>(Mode split is based on demand and does not include freight trips or trips that start or end outside of the Portland/Vancouver metropolitan area.)</u></p>
Chapter 3	42	<p>Third full paragraph – Thirty-seven percent of travelers over the I-5 crossing during the afternoon/evening northbound peak would use transit.</p>	<p>Twenty-six percent of travelers over the I-5 crossing during the afternoon/evening northbound peak would use transit. <u>(Mode split is based on demand and does not include freight trips or trips that start or end outside of the Portland/Vancouver metropolitan area.)</u></p>

CHAPTER	PAGE	CURRENT TEXT	CORRECTED TEXT/CLARIFICATION
Chapter 3	44	“For the supplemental crossing, northbound travel times would improve for motorists using the through lanes (i.e., the western northbound bridge) by about 15 minutes, or 34 percent, compared to No-Build conditions. However, due to the seven hours of congestion expected to occur on the eastern northbound bridge, northbound vehicles using the eastern bridge (those entering the highway at Marine Drive or Hayden Island, and those exiting the highway at SR 14, City Center, Mill Plain...)”	“For the supplemental crossing, northbound travel times would improve for motorists using the through lanes (i.e., the western northbound bridge) by about <u>17</u> minutes, or <u>39</u> percent, compared to No-Build conditions. However, due to the seven hours of congestion expected to occur on the eastern northbound bridge, northbound vehicles using the eastern bridge (those entering the highway at Marine Drive or Hayden Island, and those exiting the highway at SR 14, City Center, Mill Plain...)”
Chapter 3	48	“Because of northbound traffic back-ups under the supplemental crossing, about 50 percent of the traffic demand to northbound I-5 from Hayden Island and Marine Drive and Hayden Island would go unserved, resulting in congested ramp terminals and local streets in the vicinity of these interchanges.”	“Because of northbound traffic back-ups under the supplemental crossing, about 50 percent of the traffic demand to northbound I-5 from Hayden Island and Marine Drive <u>and Hayden Island</u> would go unserved, resulting in congested ramp terminals and local streets in the vicinity of these interchanges.”
Chapter 3	58	Exhibit 3.1-38 states “two-way Broadway” in the legend for a downtown Vancouver transit alignment option	Two-way <u>Washington</u>
Chapter 3	58	Exhibit 3.1-38 shows the two-way Broadway alignment option in north Vancouver on Main Street	This alignment option should be shown on Broadway
Chapter 3	58	Exhibit 3.1-38 shows Park and Rides near the I-5 SR 14 interchange and near Mill Plain Blvd for the Lincoln Terminus option	These Park and Rides should be deleted for this terminus option, as they only apply to the Mill Plain MOS
Chapter 3	59	“The Clark College Park and Ride surface lot would generate about 225 morning and 230 afternoon/evening peak hour vehicle trips.”	“The Clark College Park and Ride surface lot would generate about <u>255</u> morning and 230 afternoon/evening peak hour vehicle trips.”
Chapter 3	62	Exhibit 3.1-40 states “two-way Broadway” in the legend for a downtown Vancouver transit alignment option	Two-way <u>Washington</u>
Chapter 3	64	“The Clark College MOS terminus would have a peak period/peak direction transportation mode split comparable to the Kiggins Bowl terminus. Peak period/peak direction traffic over the Columbia River would be made up of 52 percent SOV, 29 percent HOV, and 19 percent transit. With the full length of the Kiggins Bowl terminus, the mode split would be 50 percent SOV, 29 percent HOV, and 21 percent transit.”	“The Clark College MOS terminus would have a peak period/peak direction transportation mode split comparable to the Kiggins Bowl terminus. Peak period/peak direction traffic over the Columbia River would be made up of 52 percent SOV, <u>31</u> percent HOV, and <u>17</u> percent transit. With the full length of the Kiggins Bowl terminus, the mode split would be <u>51</u> percent SOV, <u>30</u> percent HOV, and <u>19</u> percent transit.”
Chapter 3	66	“The Mill Plain MOS would likely have a peak period/peak direction mode split comparable to that for the Lincoln terminus. With the Mill Plain MOS the peak period/peak direction mode split would be 50 percent SOV, 27 percent HOV and 23 percent transit. With the Lincoln terminus, the mode split would be 50 percent SOV, 29 percent HOV, and 21 percent transit.”	“The Mill Plain MOS would likely have a peak period/peak direction mode split comparable to that for the Lincoln terminus. With the Mill Plain MOS the peak period/peak direction mode split would be <u>51</u> percent SOV, <u>29</u> percent HOV and <u>20</u> percent transit. With the Lincoln terminus, the mode split would be <u>51</u> percent SOV, <u>30</u> percent HOV, and <u>19</u> percent transit.”

CHAPTER	PAGE	CURRENT TEXT	CORRECTED TEXT/CLARIFICATION
Chapter 3	66	With the Mill Plain MOS, there would be 1,100 spaces at two joint-use parking structures in downtown Vancouver, plus two additional satellite lots, for a total of 2,758 spaces.	With the Mill Plain MOS, there would be 1,100 spaces at two joint-use parking structures in downtown Vancouver, plus two additional satellite lots, for a total of <u>3,220</u> spaces.
Chapter 3	74	BRIDGE TOLL: TRANSIT RIDERSHIP AND MODE SPLIT	BRIDGE TOLL: TRANSIT RIDERSHIP <u>AND MODE SPLIT</u>
Chapter 3	74	Increased transit ridership caused by tolling would produce a greater increase in transit mode split. In general, tolling would increase transit ridership over the river, decrease auto usage over the river, and thus increase transit mode split.	Increased transit ridership caused by tolling would produce a greater increase in transit mode split. In general, tolling would increase transit ridership over the river, decrease auto usage over the river, and thus increase transit mode split. <u>Transit ridership would increase due to tolling. This increase combined with the decreased auto usage of the crossing, would likely result in a higher transit mode split.</u>
Chapter 3	99	Exhibit 3.3-3 contains duplicate footnotes (footnotes "b" and "d" are the same)	Footnote "d" should be deleted.
Chapter 3	114	Exhibit 3.3-16 incorrectly displays the "16th St" label	<u>16th St McLoughlin Blvd</u>
Appendix D	1	Table footnote: "The Clark College MOS option would require the acquisitions shaded in gray in the tables for the "Northern Vancouver Connection;" The Mill Plain MOS would avoid most of these impacts in northern Vancouver except for"	Table footnote: The Clark College MOS option would require the acquisitions shaded in gray in the tables for the "Northern Vancouver Connection;" The Mill Plain MOS would avoid most of these impacts in northern Vancouver except for <u>those associated with the Lincoln and Kiggins Bowl Park and Rides."</u>

Exhibit 26

Summary of Transportation Effects and Cost for Each Alternative

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Hours of congestion/day	15 hours	3.5-5.5 hours	3.5-5.5 hours	10.75 hours	10.75 hours
Persons served over the I-5 Crossing during PM peak^a	28,550 total	40,500 total	41,650 total	31,600 total	33,050 total
Via autos	26,500	34,400	34,400	25,700	25,700
Via transit (total)	2,050	6,100	7,250	5,900	7,350
Via high-capacity transit	<u>0</u>	<u>2,450</u>	<u>4,600</u>	<u>2,750</u>	<u>4,900</u>
Via bus on I-5	<u>2,050</u>	<u>3,650</u>	<u>2,650</u>	<u>3,150</u>	<u>2,450</u>
Transit mode split in PM peak for all I-5 crossing trips^b	<u>7%</u>	<u>15%</u>	<u>17%</u>	<u>19%</u>	<u>22%</u>
Transit travel time from Mill Plain station to Expo Center via HCT	<u>N/A</u>	<u>8 min</u>	<u>7 min</u>	<u>14 min</u>	<u>8 min</u>
Vehicle trips over the I-5 crossing/day	184,000	178,000 ^c	178,000 ^c	165,000 ^c	165,000 ^c
Pedestrian and bicycle connections	Potentially no improvement to connections.	Provide continuous grade-separate multi-use path between Marine Drive and downtown Vancouver.	Provide continuous grade-separate multi-use path between Marine Drive and downtown Vancouver.	Improvements over the river but has at-grade crossings on Hayden Island.	Improvements over the river but has at-grade crossings on Hayden Island.
Traffic safety	Potentially no improvement.	Reduced congestion and improved highway design would reduce collisions.	Reduced congestion and improved highway design would reduce collisions.	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.
Transit safety	Potentially no changes	Additional buses could increase collisions but dedicated guideway may improve separation of modes. Potential security issues would need to be addressed at less visible stations.	New mode (light rail) could increase collisions but dedicated guideway would improve separation of modes. Potential security issues would need to be addressed at less visible stations.	High frequency of buses could increase collisions but dedicated guideway may improve separation of modes. Potential security issues would need to be addressed at less visible stations.	New mode (light rail) could increase collisions but dedicated guideway would improve separation of modes. Potential security issues would need to be addressed at less visible stations.
Effect on river navigation	Potentially no improvement	Eliminates S-curve maneuver and reduces number of piers.	Eliminates S-curve maneuver and reduces number of piers.	S-curve maneuver worsened with more piers and narrower channel.	S-curve maneuver worsened with more piers and narrower channel.
Capital cost ^d	\$0	\$3,260 - \$3,915	\$3,368 - \$4,091	\$3,125 - \$3,781	\$3,214 - \$3,950

Sources: CRC Traffic Technical Report, 2008; CRC Transit Technical Report, 2008; CRC Cost Risk Assessment, 2007.

a Total number of people in cars and on transit vehicles using the I-5 crossing traveling north during the four-hour afternoon/evening peak period (3 p.m. to 7 p.m.).

b [Transit mode split is based on service volumes. For demand based mode split, see Exhibits 29 and 30.](#)

c [This information is based on a representative combination of park and ride locations and sizes. The relationships between the alternatives' ridership and mode split would change based on changes to park and ride locations and lot sizes. These values assume a Lincoln terminus. See Exhibit 3.1-39 for information on how transit ridership and transit mode split would vary with each of the transit terminus options.](#)

d Capital costs are in millions of year-of-expenditure dollars. Cost ranges are due to the HCT terminus option in each of the build alternatives and to confidence (low being 60% confidence that cost would not be exceeded, and high being 90% confidence that cost would not be exceeded.)

Exhibit 3.1-21

Alternative 2: Replacement Crossing with Bus Rapid Transit

Alternative 2: Replacement Crossing with Bus Rapid Transit				
Metric	Kiggins Bowl Terminus (A)	Lincoln Terminus (B)	Clark College MOS (C)^a	Mill Plain MOS (D)^a
<u>Persons served over the I-5 Crossing during PM peak^a</u>				
<u>Via autos</u>	34,400 (NB)			
<u>Via transit^b</u>	6,100 (NB)			
<u>Transit mode split in p.m. peak period for all I-5 crossing trips</u>	15%			
Transit travel time from Mill Plain station to Expo Center	8 min	8 min	8 min	8 min
Vehicles over the I-5 crossing each weekday	178,000	178,000	179,500	179,500
Hours of congestion per day	3.5-5.5 hours	3.5-5.5 hours	3.5-5.5 hours	3.5-5.5 hours
Pedestrian and bicycle connections	Provide continuous grade-separated multi-use path between Marine Drive and downtown Vancouver.	Provide continuous grade-separated multi-use path between Marine Drive and downtown Vancouver.	Provide continuous grade-separated multi-use path between Marine Drive and downtown Vancouver.	Provide continuous grade-separated multi-use path between Marine Drive and downtown Vancouver.
Annual transit operations and maintenance costs (\$ million)^c	\$74.9	\$75.1	\$74.9	\$74.9
Traffic safety and security	Reduced congestion and improved safety design would reduce collisions.	Reduced congestion and improved safety design would reduce collisions.	Reduced congestion and improved safety design would reduce collisions.	Reduced congestion and improved safety design would reduce collisions.
Transit safety and security	Additional buses could increase collisions but dedicated guideway may improve separation of modes. Potential security issues would need to be addressed at less visible stations.	Additional buses could increase collisions but dedicated guideway may improve separation of modes. Potential security issues would need to be addressed at less visible stations.	Additional buses could increase collisions but dedicated guideway may improve separation of modes. Potential security issues would need to be addressed at less visible stations.	Additional buses could increase collisions but dedicated guideway may improve separation of modes. Potential security issues would need to be addressed at less visible stations.

^a Total number of people crossing the river on I-5 traveling north (NB) during the afternoon/evening peak period. This includes all freight trips and all other trips regardless of where they begin or end. Transit mode split is based on service volumes. For mode split based on demand volumes, see exhibits 3.1- 33, 34, and 39.

^b This information is based on a representative combination of park and ride locations and sizes. The relationships between the alternatives' ridership and mode split would change based on changes to park and ride locations and lot sizes. These values assume a Lincoln terminus. See Exhibit 3.1- 39 for information on how transit ridership and transit mode split would vary with each of the transit terminus options.

^c Total annual cost to run C-TRAN local and express routes, TriMet N Portland local buses, MAX LRT Yellow Line, and HCT service.

^d Taking into account exclusive guideway length, park-and-ride structure, operating characteristics, etc., these figures were extrapolated from data produced from modeling Alternative 3 using ratio differences between alignments.

Note: The Stacked Transit/Highway Bridge design would perform the same as the three-bridge replacement design.

Exhibit 3.1-24

Alternative 3: Replacement Crossing with Light Rail

Alternative 3: Replacement Crossing with Light Rail				
Metric	Kiggins Bowl Terminus (A)	Lincoln Terminus (B)	Clark College MOS (C)	Mill Plain MOS (D)
<u>Persons served over the I-5 Crossing during PM peak^a</u> <u>Via autos</u> <u>Via transit^b</u>	34,400 (NB)			
	7,250 (NB)			
<u>Transit mode split in p.m. peak period for all I-5 crossing trips</u>	17%			
Transit travel time from Mill Plain station to Expo Center	7 min	7 min	7 min	7 min
Vehicles over the I-5 crossing each weekday	178,000	178,000	179,500	179,500
Hours of congestion per day	3.5-5.5 hours	3.5-5.5 hours	3.5-5.5 hours	3.5-5.5 hours
Pedestrian and bicycle connections	Provide continuous grade-separated multi-use path between Marine Drive and downtown Vancouver.	Provide continuous grade-separated multi-use path between Marine Drive and downtown Vancouver.	Provide continuous grade-separated multi-use path between Marine Drive and downtown Vancouver.	Provide continuous grade-separated multi-use path between Marine Drive and downtown Vancouver.
Annual transit operations and maintenance costs (\$ million)^c	\$74.0	\$73.3	\$72.7	\$72.6
Traffic safety and security	Reduced congestion and improved safety design would reduce collisions.	Reduced congestion and improved safety design would reduce collisions.	Reduced congestion and improved safety design would reduce collisions.	Reduced congestion and improved safety design would reduce collisions.
Transit safety and security	New mode (light rail) could increase collisions but dedicated guideway would improve separation of modes. Potential security issues would need to be addressed at less visible stations.	New mode (light rail) could increase collisions but dedicated guideway would improve separation of modes. Potential security issues would need to be addressed at less visible stations.	New mode (light rail) could increase collisions but dedicated guideway would improve separation of modes. Potential security issues would need to be addressed at less visible stations.	New mode (light rail) could increase collisions but dedicated guideway would improve separation of modes. Potential security issues would need to be addressed at less visible stations.

^a Total number of people [crossing the river on I-5](#) traveling north (NB) during the afternoon/evening peak period. [This includes all freight trips and all other trips regardless of where they begin or end. Transit mode split is based on service volumes. For mode split based on demand volumes, see exhibits 3.1- 33, 34, and 39.](#)

^b [This information is based on a representative combination of park and ride locations and sizes. The relationships between the alternatives' ridership and mode split would change based on changes to park and ride locations and lot sizes. These values assume a Lincoln terminus. See transit terminus section below for information on how the transit terminus options affect vehicle trips. See Exhibit 3.1-39 for information on how transit ridership and transit mode split would vary with each of the transit terminus options.](#)

^c Total annual cost to run C-TRAN local and express routes, TriMet N Portland local buses, MAX LRT Yellow Line, and HCT service.

^d Taking into account exclusive guideway length, park-and-ride structure, operating characteristics, etc., these figures were extrapolated from data produced from modeling Alternative 3 using ratio differences between alignments.

Note: The Stacked Transit/Highway Bridge design would perform the same as the three-bridge replacement design.

Exhibit 3.1-25

Alternative 4: Supplemental Crossing with Bus Rapid Transit

Alternative 4: Supplemental Crossing with Bus Rapid Transit				
Metric	Kiggins Bowl Terminus (A)	Lincoln Terminus (B)	Clark College MOS (C) ^d	Mill Plain MOS (D) ^d
Persons served over the I-5 Crossing during PM peak^a	Via autos			
	25,700 (NB)			
Via transit^b	5,900 (NB)			
Transit mode split in p.m. peak period for all I-5 crossing trips	19%			
Transit travel time from Mill Plain station to Expo Center	14 min	14 min	14 min	14 min
Vehicles over the I-5 crossing each weekday	165,000	165,000	166,500	166,500
Hours of congestion per day	10.75 hours	10.75 hours	10.75 hours	10.75 hours
Pedestrian and bicycle connections	Improvements over the river but has at-grade crossings on Hayden Island.	Improvements over the river but has at-grade crossings on Hayden Island.	Improvements over the river but has at-grade crossings on Hayden Island.	Improvements over the river but has at-grade crossings on Hayden Island.
Annual transit operations and maintenance costs (\$ million) ^c	\$114.1	\$114.4	\$114.2	\$114.1
Traffic safety and security	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.
Transit safety and security	High frequency of buses could increase collisions but dedicated guideway may improve separation of modes. Potential security issues would need to be addressed at less visible stations.	High frequency of buses could increase collisions but dedicated guideway may improve separation of modes. Potential security issues would need to be addressed at less visible stations.	High frequency of buses could increase collisions but dedicated guideway may improve separation of modes. Potential security issues would need to be addressed at less visible stations.	High frequency of buses could increase collisions but dedicated guideway may improve separation of modes. Potential security issues would need to be addressed at less visible stations.

^a Total number of people [crossing the river on I-5](#) traveling north (NB) during the afternoon/evening peak period. [This includes all freight trips and all other trips regardless of where they begin or end. Transit mode split is based on service volumes. For mode split based on demand volumes, see exhibits 3.1- 33, 34, and 39.](#)

^b [This information is based on a representative combination of park and ride locations and sizes. The relationships between the alternatives' ridership and mode split would change based on changes to park and ride locations and lot sizes. These values assume a Lincoln terminus. See transit terminus section below for information on how the transit terminus options affect vehicle trips. See Exhibit 3.1-39 for information on how transit ridership and transit mode split would vary with each of the transit terminus options.](#)

^c Total annual cost to run C-TRAN local and express routes, TriMet N Portland local buses, MAX LRT Yellow Line, and HCT service.

^d Taking into account exclusive guideway length, park-and-ride structure, operating characteristics, etc., these figures were extrapolated from data produced from modeling Alternative 3 using ratio differences between alignments.

Exhibit 3.1-28

Alternative 5: Supplemental Crossing with Light Rail

Alternative 5: Supplemental Crossing with Light Rail				
Metric	Kiggins Bowl Terminus (A)	Lincoln Terminus (B)	Clark College MOS (C) ^d	Mill Plain MOS (D) ^d
Persons served over the I-5 Crossing during PM peak ^a	25,700 (NB)			
Via autos				
Via transit ^b				
Transit mode split in p.m. peak period for all I-5 crossing trips	22%			
Transit travel time from Mill Plain station to Expo Center	8 min	8 min	8 min	8 min
Vehicles over the I-5 crossing each weekday	165,000	165,000	166,500	166,500
Hours of congestion per day	10.75 hours	10.75 hours	10.75 hours	10.75 hours
Pedestrian and bicycle connections	Improvements but has at-grade crossings on Hayden Island.	Improvements but has at-grade crossings on Hayden Island.	Improvements but has at-grade crossings on Hayden Island.	Improvements but has at-grade crossings on Hayden Island.
Annual transit operations and maintenance costs (\$ million) ^c	\$106.5	\$105.5	\$104.7	\$104.5
Traffic safety and security	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.
Transit safety and security	New mode (light rail) could increase collisions but dedicated guideway would improve separation of modes. Potential security issues would need to be addressed at less visible stations.	New mode (light rail) could increase collisions but dedicated guideway would improve separation of modes. Potential security issues would need to be addressed at less visible stations.	New mode (light rail) could increase collisions but dedicated guideway would improve separation of modes. Potential security issues would need to be addressed at less visible stations.	New mode (light rail) could increase collisions but dedicated guideway would improve separation of modes. Potential security issues would need to be addressed at less visible stations.

- ^a Total number of people [crossing the river on I-5](#) traveling north (NB) during the afternoon/evening peak period. [This includes all freight trips and all other trips regardless of where they begin or end. Transit mode split is based on service volumes. For mode split based on demand volumes, see exhibits 3.1- 33, 34, and 39.](#)
- ^b [This information is based on a representative combination of park and ride locations and sizes. The relationships between the alternatives' ridership and mode split would change based on changes to park and ride locations and lot sizes. These values assume a Lincoln terminus. See transit terminus section below for information on how the transit terminus options affect vehicle trips. See Exhibit 3.1-39 for information on how transit ridership and transit mode split would vary with each of the transit terminus options.](#)
- ^c Total annual cost to run C-TRAN local and express routes, TriMet N Portland local buses, MAX LRT Yellow Line, and HCT service.
- ^d Taking into account exclusive guideway length, park-and-ride structure, operating characteristics, etc., these figures were extrapolated from data produced from modeling Alternative 3 using ratio differences between alignments.

Exhibit 3.1-33

Comparison of Transit Mode Split over the I-5 Columbia River Crossing

	No-Build	BRT	LRT
P.M. peak direction SOV ^a	54%	53%	50%
P.M. peak direction HOV ^a	33%	31%	30%
P.M. peak direction transit	13%	17%	19%

Source: 2007 travel demand forecasting outputs.

^a SOV – Single-Occupancy Vehicle, HOV – High-Occupancy vehicle.

Exhibit 3.1-39

Transit Terminus Characteristics and Performance

Characteristic	Kiggins Bowl terminus	Lincoln terminus	Clark College MOS	Mill Plain MOS
Daily Passenger Trips on Transit over alignment	21,100	20,800	18,200	19,100
Annual Passenger Trips on Transit over alignment	6,780,000	6,670,000	5,820,000	6,110,000
PM Peak Direction Mode Split over I-5 river crossing	SOV	51 percent	52 percent	51 percent
	HOV	30 percent	31 percent	29 percent
	Transit	19 percent	17 percent	20 percent
Transit Accessibility	Clark County households within ½ mile of HCT station	5 percent	4 percent	3 percent
	Clark County employment within ½ mile of HCT station	11 percent	10 percent	9 percent
Estimated Capital Cost	\$1,068.8M	\$879.3M	\$674.9M	\$615.8M
Annual Operating Cost (Increment over the No-Build)	\$4,240,000	\$3,510,000	\$2,950,000	\$2,830,000
Annualized Cost per Transit Guideway River Crossing	\$13.67	\$11.55	\$10.38	\$8.91

Source: 2007 travel demand forecasting outputs.

Note: Data presented in this table is for light rail. The relationship between alignments and MOS options would be the same for BRT.

Exhibit 3.1-46

Ridership and Mode Split for Efficient and Increased Transit Operations

	Efficient Operations		Increased Operations	
	BRT	LRT	BRT	LRT
Transit riders over the I-5 crossing^a				
PM peak period	4,900	6,100	5,600	6,700
Daily	16,800	20,800	19,800	23,100
Transit mode split over the I-5 crossing^b				
PM peak period	<u>17%</u>	<u>19%</u>	<u>23%</u>	<u>26%</u>
Daily	13%	15%	15%	16%

^a Riders over the I-5 crossing are based on outline data.

^b Transit mode split data is based on Selectlink analysis based on district to district transit travel.

Source: 2007 Travel Demand Forecasting Outputs.

Exhibit 3.1-50

Transit Trips across the I-5 River Crossing^a

	No Toll	I-5 Standard Toll	I-5 Higher Toll	I-5 and I-205 Standard Toll
Daily transit trips across the I-5 river crossing	19,300	20,800	21,400	21,700

Source: 2007 Travel Demand Forecasting Outputs.

^a These data are for light rail, but the relationship would be the same for BRT.



Summary

This summary briefly describes the contents of the I-5 Columbia River Crossing Draft Environmental Impact Statement (DEIS), including who is leading the project, what studies preceded the project, and what problems the project is seeking to fix. It also discusses the different alternatives for addressing these problems, and the key effects and impacts of these alternatives. It concludes with a brief discussion of the next steps and methods by which the public can get involved in the project.

What is the I-5 Columbia River Crossing project?

The Interstate 5 (I-5) Columbia River Crossing (CRC) project is a multimodal project focused on improving safety, reducing congestion, and increasing mobility of motorists, freight, transit riders, bicyclists, and pedestrians along a five-mile section of the I-5 corridor connecting Vancouver, Washington and Portland, Oregon. The project area stretches from State Route 500 (SR 500) in northern Vancouver, south through downtown Vancouver and over the I-5 bridges across the Columbia River to just north of Columbia Boulevard in north Portland.

I-5 is the only continuous north-south interstate highway on the West Coast, linking the United States, Canada, and Mexico. In the Vancouver-Portland region, I-5 is one of two major north-south highways that provide interstate connectivity and mobility. I-5 directly connects the central cities of Vancouver and Portland. Traffic conditions on the I-5 crossing over the Columbia River are influenced by the five-mile section of I-5 between SR 500 in Vancouver and Columbia Boulevard in Portland. This section includes six interchanges that connect three state highways and several major arterial roadways. These interchanges serve a variety of land uses and provide access to downtown Vancouver, two international marine ports, industrial centers, residential neighborhoods, retail centers, and recreational areas.

CHAPTER CONTENTS

What is the I-5 Columbia River Crossing project?	S-1
Who is leading the CRC project?	S-2
What studies preceded the CRC project?	S-3
What problems does this project seek to fix?	S-4
What are the different choices for addressing the problems in the CRC corridor?	S-6
How do the different alternatives and components compare?	S-28
What are the next steps and how will a decision be made?	S-35
How can the public learn more about and be involved in the project?	S-36

Exhibit 1
CRC Project Area



DIMENSIONS ARE APPROXIMATE.

Agencies and Tribes this project is working with

- City of Vancouver
- City of Portland
- Clark County Community Development Department
- Clark Public Utilities
- Chinook Tribe (non-federally recognized)
- Confederated Tribes of the Grand Ronde Community of Oregon
- Confederated Tribes of the Siletz Reservation, Oregon
- Confederated Tribes of the Umatilla Reservation, Oregon
- Confederated Tribes of the Warm Springs Reservation of Oregon
- Confederated Tribes and Bands of the Yakama Nation, Washington
- Cowlitz Indian Tribe, Washington
- Federal Aviation Administration
- National Marine Fisheries Service
- National Park Service
- Nez Perce Tribe of Idaho
- Oregon Department of Environmental Quality
- Oregon Department of Fish and Wildlife
- Oregon Department of Land Conservation and Development
- Oregon Department of State Lands
- Oregon State Historic Preservation Office
- Spokane Tribe of the Spokane Reservation, Washington
- U.S. Army Corps of Engineers
- U.S. Coast Guard
- U.S. Environmental Protection Agency
- U.S. General Services Administration
- U.S. Fish and Wildlife Service
- Vancouver Housing Authority
- Washington Department of Natural Resources
- Washington State Department of Archaeology and Historic Preservation
- Washington State Department of Ecology
- Washington State Department of Fish and Wildlife

See Appendix A for more information on how this project has coordinated with local, state, and federal agencies and Tribes.

Transit connections within the CRC project area are currently constrained by many of the same problems facing highway motorists—outdated highway safety design features and traffic congestion are increasing travel times and reducing reliability for buses connections between Clark County and to Portland.

Who is leading the CRC project?

The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) are the lead federal agencies for this study. Both agencies must ensure that the National Environmental Policy Act (NEPA) process is properly conducted and completed, including the publication of this Draft Environmental Impact Statement, before they can provide funding or approval for this project. After FTA and FHWA have completed the NEPA process, they will ultimately sign a Record of Decision, if a build alternative is chosen. The Record of Decision will affirm that all federal environmental regulations have been met before this project can proceed into final design and construction, if a build alternative is selected.

State transportation agencies and local governments in the Vancouver-Portland region have joined together to develop a comprehensive strategy for addressing highway, freight, transit, bicycle, and pedestrian needs within the CRC project area. The co-lead agencies for this project, in addition to the aforementioned federal lead agencies, are: Washington State Department of Transportation (WSDOT), the Oregon State Department of Transportation (ODOT), the Tri-County Metropolitan Transportation District (TriMet), Clark County Public Transportation Benefit Area (C-TRAN), the Southwest Washington Regional Transportation Council (RTC), and the Metropolitan Regional Government (Metro). These co-lead agencies, together with the cities of Vancouver and Portland, comprise the local agencies that are sponsoring this project. Each of these sponsoring agencies will be responsible for approving all or part of the project that will be built.

WSDOT and ODOT are leading the highway design. Metro and RTC are the Metropolitan Planning Organizations for the region, and they maintain the regional and metropolitan transportation plans that will need to be amended to include a locally preferred alternative for the CRC project. TriMet and C-TRAN, the region's transit operators, must endorse the transit elements of the project. The cities of Portland and Vancouver must approve any local project elements. Other state and federal agencies and stakeholders are also participating in technical, regulatory, or advisory roles.

The agencies leading the CRC project have worked with many other local, state, and federal agencies (see list at left) during the planning and development of this project to ensure that the ultimate construction of this project can be permitted and allowed, and that this project best represents the interests of this region. Appendix A describes the agencies this project is working with and the coordination processes within this diverse group.

What studies preceded the CRC project?

Major transportation improvements in the CRC project area have been studied for over a decade. More recently, in 2001, the Washington and Oregon governors appointed a bi-state task force of 28 community members, business representatives, and elected officials to address concerns about congestion on I-5 between Portland and Vancouver. This task force developed a plan to improve transportation in the I-5 corridor between the I-405 interchange in Portland and the I-205 interchange north of Vancouver, and adopted the Final Strategic Plan on June 18, 2002. Below is a summary of their recommendations:

- Expand I-5 to include three through-lanes in each direction, including the area through Delta Park.
- Introduce a phased light rail loop in Clark County in the vicinity of the I-5, SR 500/Fourth Plain, and I-205 corridors.
- Provide an additional bridge or a replacement crossing for the I-5 crossing of the Columbia River, with up to two additional lanes for merging traffic and two light rail tracks.
- Improve interchanges and add merging lanes between SR 500 in Vancouver and Columbia Boulevard in Portland, including a full interchange at Columbia Boulevard.
- Improve capacity for freight rail.
- Encourage bi-state coordination of land use and transportation issues to reduce highway demand and protect corridor investments.
- Involve communities along the corridor to ensure that final project outcomes are equitable.

Several of these recommendations are being further evaluated by this project. See Section 2.5 of this DEIS for more information on the early development of the CRC project.

High-capacity transit in the I-5 corridor through north Portland and Vancouver has been studied periodically for over a decade. In 1993, the FTA, in cooperation with Metro, began studying high-capacity transit in the “South/North Corridor”, which stretches from Clackamas and Milwaukie, Oregon to Vancouver, Washington. FTA and Metro published the South/North Corridor Project Draft Environmental Impact Statement in 1998. This identified a variety of alignments and length options for a light rail corridor connecting Milwaukie, downtown Portland, North Portland, and downtown Vancouver. Subsequent funding challenges didn’t allow construction of the entire corridor assessed in the South/North project, but did allow construction of the MAX Yellow line. The Yellow line was built in 2004 through North Portland, a section of the South/North corridor. The new light rail line currently being constructed along the north-south axis of downtown Portland can accommodate a future extension to Milwaukie; an environmental impact study is currently evaluating this extension. The transit component of the CRC project is now assessing the extension of high-capacity transit through Vancouver. These projects are part of the vision outlined in the original planning studies of the 1990s.

Exhibit 2
Preceding Studies



DIMENSIONS ARE APPROXIMATE.

TERMS & DEFINITIONS

Traffic Terms

Congestion – For highways, congestion occurs when the average speed is below 30 mph.

Peak Period – This is more generally described as “rush hour” when travel patterns generate the most traffic, especially in a certain direction.

Exhibit 3
Projected Hours of Congestion on I-5 Crossing

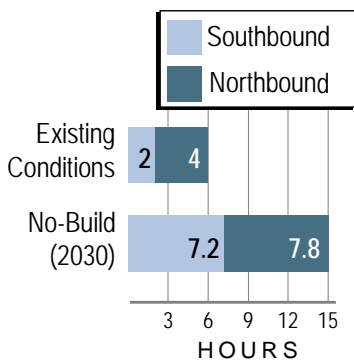


Exhibit 4
A Bus and Truck Wait During a Bridge Lift



What problems does this project seek to fix?

The CRC project seeks to address six problems, as described below:

- 1. Growing travel demand and congestion:** Heavy congestion has resulted from growth in regional population, employment, and interstate commerce. The existing I-5 crossing provides three lanes for northbound and southbound travel, which can accommodate approximately 5,500 vehicles per hour in each direction. However, there are more people who want to use the crossing during peak periods than can be accommodated on the bridges, which results in stop-and-go traffic the mornings and afternoons. Cars getting on the highway have little room to accelerate and merge with highway traffic (short merging lanes) and have no room to pull off the highway (narrow shoulders) when an accident occurs or when vehicles break down. These conditions make congestion worse and decrease safety. Traffic can also become congested when large river vessels must use the lift spans to navigate underneath the I-5 bridges.
- 2. Impaired freight movement:** Congestion on I-5 reduces freight mobility between regional markets in Portland and Vancouver, as well as national (California and other neighboring states) and international (Mexico or Canada) destinations along the I-5 corridor. Freight trucks most often travel in the middle of the day to avoid congestion. As hours of congestion continue to increase over time, travel times for freight trucks will continue to increase—even when traveling during the off-peak hours. This increases delivery times and raises shipping costs. It also negatively affects this region’s economy. Truck-hauled freight in the Portland-Vancouver region is expected to grow more rapidly than other forms of freight movement (such as marine-hauled freight). Truck-hauled freight is forecast to grow from 67 percent of total freight movement in 2000 to 75 percent in 2035.¹
- 3. Limited public transportation operation, connectivity, and reliability:** Congestion on I-5 reduces bus travel speeds and reliability. Local bus services currently travel between downtown Vancouver and downtown Portland. Express bus routes serve commuters by providing service directly from Clark County park and rides to downtown Portland. Both of these services travel over the I-5 bridges. Bus travel times from downtown Vancouver to Hayden Island increased 50 percent between 1998 and 2005. On average, local bus travel times are 10 to 60 percent longer during peak periods than during off-peak periods.
- 4. Safety and vulnerability to incidents:** Over 300 crashes are reported annually on I-5 in the project area, making this one of the most accident-intensive section of I-5. This high accident rate is a result of multiple highway design features that do not meet current standards, including:

¹ Metro. 2006.

- Close interchange spacing – within the CRC project area, I-5 has six interchanges spaced approximately one-half mile apart. The recommended minimum distance between interchanges is one mile so that cars entering and exiting the highway have enough distance to fully merge with traffic or diverge to the off-ramp before the next interchange.
- Short on- and off-ramps – several on-ramps are not long enough for vehicles to reach highway speed before merging with highway traffic. Off-ramps are too short for safely slowing down, and may cause back ups from exits that block traffic on I-5. This generates traffic congestion and can cause accidents because maneuvering is difficult, especially for large trucks.
- Vertical grade changes – a “hump” in the I-5 bridges that accommodates the Columbia River shipping channel blocks the view of roadway conditions ahead. This blocked view reduces speeds and creates potential hazards to motorists.
- Narrow lanes and shoulders – several portions of I-5 in the project area have narrow inside and outside shoulders, while the I-5 bridges essentially have no shoulders, with less than one foot between the outside lanes and the barrier. The northbound I-5 bridge also has lanes one foot narrower than the minimum standard for a highway, and no shoulders. These conditions place vehicles very close to physical barriers and other vehicles, causing motorists to slow down, and do not provide space for broken down vehicles or emergency vehicles.
- Hazardous river navigation – the Coast Guard has agreed not to raise the I-5 bridges’ lift spans during peak traffic periods because of the substantial impact this would have on automotive traffic. This requires boats heading downstream (west) to navigate using the fixed “barge channel” near the middle of the river, and then quickly turn to line up with the narrow opening on the north end of the Burlington Northern Santa Fe (BNSF) railroad bridge, located about one mile downstream. This movement is especially difficult during high river levels.

Exhibit 5
Accident on Narrow Shoulder Closes Travel Lane

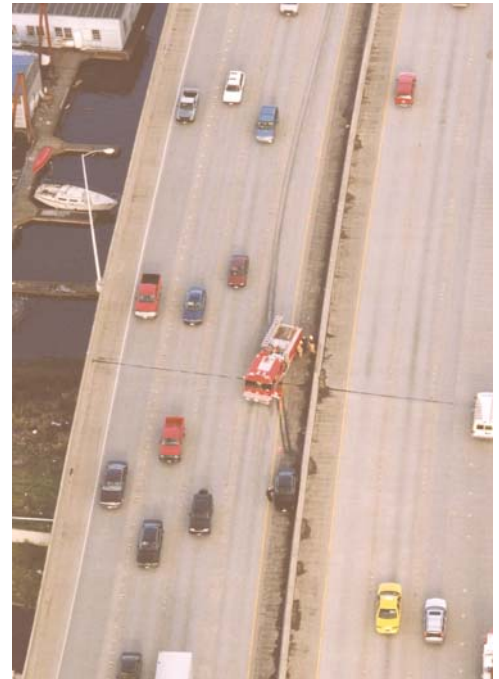
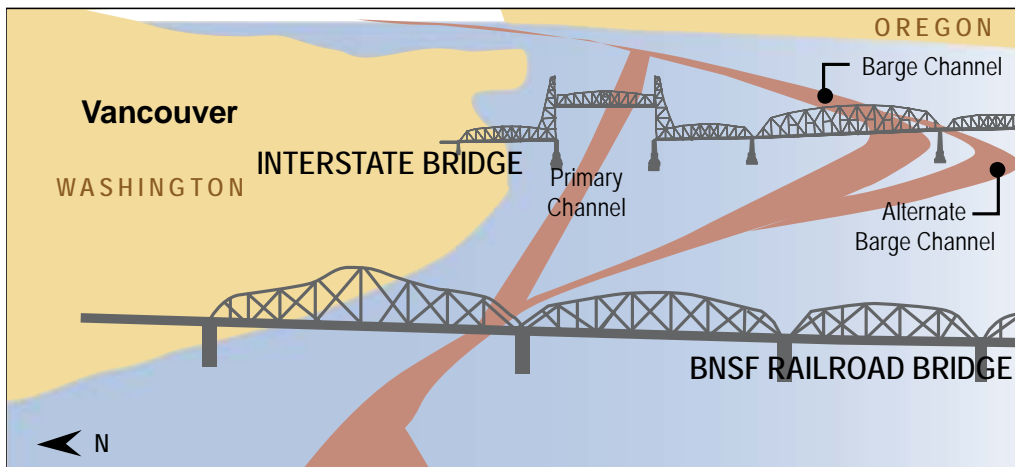


Exhibit 6
Constrained River Navigation



NOT TO SCALE

Exhibit 7

Bicycle and Pedestrian Path



5. **Substandard bicycle and pedestrian facilities:** The bicycle and pedestrian paths on the I-5 bridges are very narrow (four feet wide in most places) and extremely close to traffic and to the steel trusses. Also, the connections to these paths at both ends of the bridges are difficult to follow, especially around the Marine Drive and Hayden Island interchanges. Many existing non-motorized facilities cannot be used by persons with disabilities, and thus do not comply with the Americans with Disabilities Act standards.
6. **Seismic vulnerability:** The I-5 crossing is comprised of two bridges, one built in 1917 (the northbound structure) and the other built in 1958 (the southbound structure). The foundations of both bridges rest in soils that could liquefy during a major earthquake. Neither bridge was built to current earthquake safety standards, and could be damaged or collapse during a major earthquake.

What are the different choices for addressing the problems in the CRC corridor?

This DEIS assesses how different alternatives could improve the conditions mentioned above, such as increasing safety, improving mobility between Vancouver and Portland, and reducing congestion. All build alternatives assessed in this DEIS include transit, highway, bicycle, and pedestrian improvements. Some of these are physical improvements, such as widening the highway or installing dedicated transit lanes. Others are operational improvements to help the system function more efficiently, such as adding meters to a highway ramp to affect how quickly vehicles can enter the highway, or tolling the river crossing to reduce automobile traffic.

Four build alternatives are being assessed in this DEIS, in addition to a No-Build alternative. Each alternative being evaluated is comprised of several components that, when combined, create a particular multimodal alternative that comprehensively addresses the problems this project seeks to fix. These components include:

- Multimodal river crossing and highway improvements
 - Bridges over the Columbia River carrying transit, highway, and bicycle and pedestrian traffic
 - Bicycle and pedestrian improvements between north Portland and downtown Vancouver
 - Highway and interchange improvements between Marine Drive in north Portland and SR 500 in Vancouver
- High-capacity transit modes
- Transit terminus and alignment options
 - Transit terminus (endpoint) options
 - Transit alignment options
- Transit operations (frequency of train or bus rapid transit service)
- Bridge tolls
- Transportation System and Demand Management measures

Exhibit 8

Earthquake Damage to a Steel Truss Bridge



A span of the "Million Dollar Bridge" in Alaska slipped off its foundation during an earthquake in 1964.

Exhibit 9 summarizes the components included in each alternative. Each component is described following an overview of the full alternatives.

Exhibit 9

Components Making up the Project Alternatives

Component	Alternative 1 (No-Build)	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Multimodal River Crossing and Highway	Current I-5 bridges	Replacement ^a	Replacement ^a	Supplemental	Supplemental
High-Capacity Transit Mode ^b	None	Bus Rapid Transit	Light Rail	Bus Rapid Transit	Light Rail
High-Capacity Transit Terminus	N/A	(A) Kiggins Bowl, (B) Lincoln, (C) Clark College MOS ^c , or (D) Mill Plain MOS	(A) Kiggins Bowl, (B) Lincoln, (C) Clark College MOS, or (D) Mill Plain MOS	((A) Kiggins Bowl, (B) Lincoln, (C) Clark College MOS, or (D) Mill Plain MOS	(A) Kiggins Bowl, (B) Lincoln, (C) Clark College MOS, or (D) Mill Plain MOS
Transportation Demand and System Management programs	Current programs	Expanded Transportation Demand and System Management programs			
I-5 Bridge Toll	None	Standard rate	Standard rate ^d	Higher rate ^e	Higher rate ^e
Transit Operations	Existing	Efficient	Efficient	Increased	Increased

^a The Replacement crossing has two designs, a 3-bridge design and a Stacked Transit/Highway Bridge design concept; these are described below.

^b High-Capacity Transit Mode also dictates the location of a maintenance base expansion. Bus Rapid Transit would entail expanding a bus maintenance facility in eastern Vancouver. Light Rail would entail expanding the Ruby Junction maintenance base in Gresham.

^c Minimum operable segment; see Glossary.

^d Alternative 3 was also evaluated without a toll to quantify the traffic effects of tolling the I-5 crossing.

^e Alternatives 4 and 5 include a higher toll rate during peak commute periods to reduce traffic demand in order to compensate for these alternatives' lower highway capacity (compared to Alternatives 2 and 3) that is a result of these alternatives including a Supplemental river crossing.

Exhibit 10 on the following page identifies key features of each alternative.

COLUMBIA RIVER CROSSING

Exhibit 10

Key Transit and Highway Features of the Alternatives

Alternative	Transit Features	Highway Features
<p>1: No-Build Alternative</p>	<p>Modest increases to C-TRAN's service hours for bus routes throughout Vancouver and Clark County to keep pace with anticipated changes in congestion.</p> <p>Modest increases to TriMet's services hours for bus routes throughout north and northeast Portland to keep pace with anticipated changes in congestion.</p> <p>Completion of the first phase of the South Corridor light rail project on the Portland Mall and I-205.</p>	<p>I-5 widening and improvements around Delta Park.</p>
<p>2: Replacement crossing with bus rapid transit</p>	<p>Exclusive bus lanes from the Expo Center, over Hayden Island, across the Columbia River, and to a terminus in Vancouver.</p> <p>The exclusive bus lanes would extend 2.07–4.22 miles north from the Expo Center through Vancouver, and include five to seven transit stations and three to five structured or surface park and rides with up to 2,410 spaces, depending upon the transit terminus.</p> <p>Introduction of a new bus rapid transit service, including a simplified payment method (e.g., the use of off-board ticket vending machines) and 60-foot articulated vehicles with special markings to create a "branded identity."</p> <p>Expansion of the current C-TRAN bus maintenance facility in eastern Vancouver.</p> <p>Changes to C-TRAN local bus routes to connect with the new bus guideway and park and rides.</p> <p>27 bus rapid transit vehicles (60' articulated buses) and 12 standard buses would be included in this alternative.</p>	<p>A new replacement crossing over the Columbia River, with either three separate bridges (two for interstate traffic and a third for buses, bicycles, and pedestrians) or a "stacked highway/transit bridge" design that would include transit beneath the western highway bridge deck. (see the Multimodal River Crossing and highway improvements section below for more information on these designs).</p> <p>Improvements to the following I-5 interchanges: Marine Drive, Hayden Island, SR 14, Mill Plain, Fourth Plain, and SR 500.</p> <p>Additional auxiliary lanes for traffic entering and/or exiting I-5 between Marine Drive and SR 500.</p> <p>A toll would be charged on the I-5 crossing, with higher rates during peak travel periods.</p>
<p>3: Replacement crossing with light rail</p>	<p>Extension of the light rail guideway from the Expo Center over Hayden Island and across the Columbia River to a terminus in Vancouver. The light rail guideway would extend 2.07–4.22 miles north from the Expo Center, and would include five to seven transit stations and three to five structured or surface park and rides with up to 2,410 spaces, depending upon the transit terminus.</p> <p>Changes to C-TRAN local bus routes to connect with the new light rail stations and park and rides.</p> <p>Expansion of TriMet's Ruby Junction light rail maintenance facility in Gresham.</p> <p>Fourteen light rail vehicles and 27 standard buses would be included in this alternative.</p>	<p>Same highway features as Alternative 2.</p> <p>This alternative was also modeled without a toll to determine the potential effects of tolling on traffic patterns.</p>
<p>4: Supplemental crossing with bus rapid transit</p>	<p>Same transit features as Alternative 2, but higher frequency operations of bus rapid transit and local bus routes.</p> <p>This alternative would include 38 bus rapid transit vehicles and 143 standard buses.</p>	<p>A new, supplemental crossing for southbound interstate traffic and exclusive lanes for buses.</p> <p>Both existing I-5 bridges would be re-striped for two lanes each to carry northbound I-5 traffic.</p> <p>Seismic retrofits to the existing bridges.</p> <p>Improvements to the following I-5 interchanges: Marine Drive, Hayden Island, SR 14, Mill Plain, Fourth Plain, and SR 500.</p> <p>Additional auxiliary lanes (generally one less additional lane than Alternatives 2 and 3) for traffic entering and/or exiting I-5 between Marine Drive and SR 500.</p> <p>A toll would be charged on the I-5 crossing, with higher rates during peak travel periods. During these peak travel periods, the toll would be higher than with Alternatives 2 or 3.</p>
<p>5: Supplemental crossing with light rail</p>	<p>Same transit features as Alternative 3, but higher frequency operations for light rail and for local bus routes.</p> <p>This alternative would include 18 light rail vehicles and 147 standard buses.</p>	<p>Same highway features as Alternative 4.</p>

Exhibits 11 through 15, below, describe the build alternatives. These exhibits are followed by detailed descriptions of the various components that make up the alternatives.

Exhibit 11

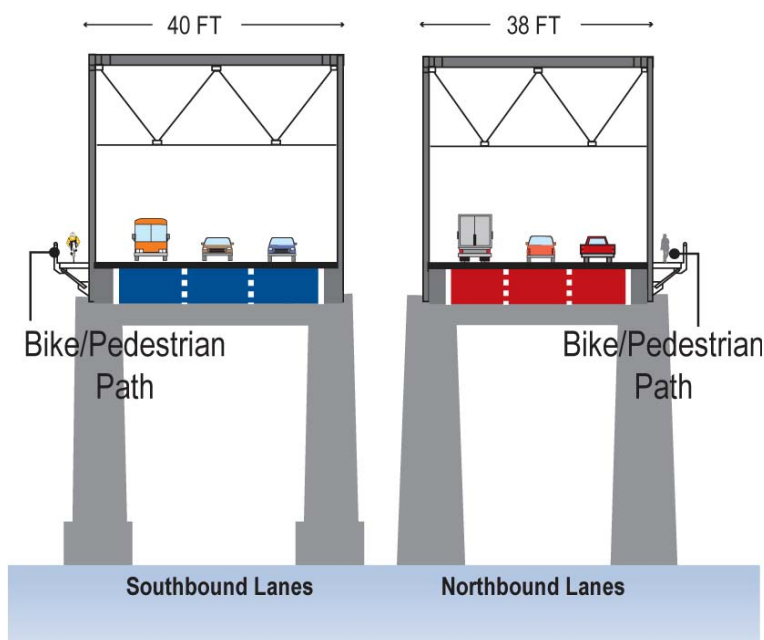
ALTERNATIVE 1: No-Build



DIMENSIONS ARE APPROXIMATE.

The No-Build Alternative illustrates how transportation and environmental conditions would change by the year 2030 if the I-5 CRC project is not built. This alternative makes the same assumptions as the build alternatives regarding population and employment growth through 2030, and also assumes that the same transportation and land use projects in the region would occur as planned. For example, the No-Build Alternative includes the I-5 widening around Delta Park that is schedule to begin construction in 2008. The No-Build Alternative also includes several large land use changes that are planned within the project area, such as the Riverwest development just south of Evergreen Boulevard west of I-5, the Columbia West Renaissance project along the western waterfront in downtown Vancouver, and redevelopment plans for the Jantzen Beach shopping center on Hayden Island. All traffic and transit projects within or near the CRC project area that are anticipated to be built by 2030 separately from this project are included in the Cumulative Effects Technical Report. All these projects are also assumed in the build alternatives.

Existing River Crossing



MEASUREMENTS PROVIDED ARE APPROXIMATE.

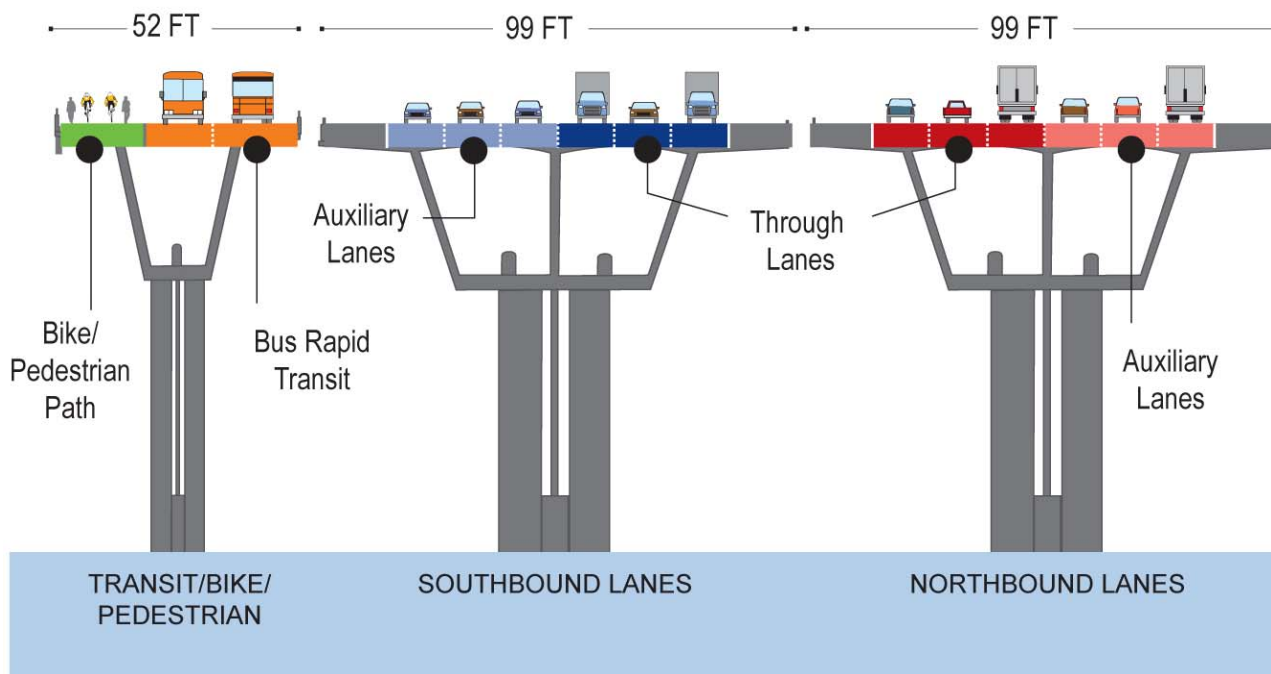
Exhibit 12 (page 1 of 2)

ALTERNATIVE 2: Replacement Crossing with Bus Rapid Transit

This alternative would replace the existing I-5 bridges with a new crossing downstream (west) of the current I-5 alignment. The existing bridges would be removed. The new crossing could include three bridges, two for northbound and southbound Interstate traffic, and a third bridge for buses in dedicated transit lanes, bicyclists, and pedestrians. There is also a “Stacked Transit/Highway Bridge” (STHB) design that would require two new bridges, rather than the three needed for the standard replacement crossing design. The STHB design would include transit beneath the highway deck of the I-5 southbound bridge and would suspend the bicycle and pedestrian path under the eastern edge of the northbound I-5 bridge.

Bus rapid transit would operate in an exclusive guideway from the Expo Center in Portland along one of several alignment options through the project area to end at one of four possible terminus options (a description of these options starts on page S-22). The exclusive bus lanes would extend 2.07–4.22 miles north from the Expo Center through Vancouver, and include five to seven transit stations and three to five structured or surface park and rides with up to 2,410 spaces, depending upon the transit terminus. Riders could transfer at the Expo Center to the existing MAX light rail system. Local bus service in Vancouver would increase to serve new transit passengers. Automobiles and trucks would pay a toll to cross the Columbia River on the new I-5 bridges.

Replacement River Crossing with Bus Rapid Transit



Please see page S-18 for a definition of Auxiliary Lanes
MEASUREMENTS PROVIDED ARE APPROXIMATE.

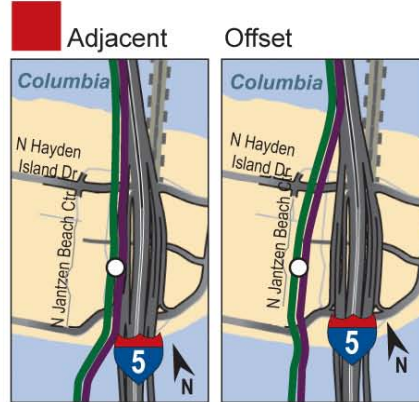
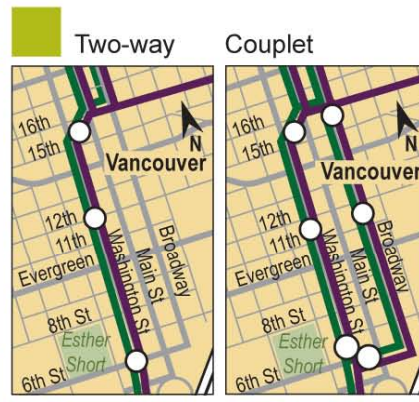
Exhibit 12 (page 2 of 2)

Transit Terminus and Alignment Options for Alternative 2

Kiggins Bowl Terminus



- Kiggins Bowl Terminus
- Lincoln Terminus
- Existing MAX Line
- Transit Station
- Bike/Pedestrian Path



Lincoln Terminus

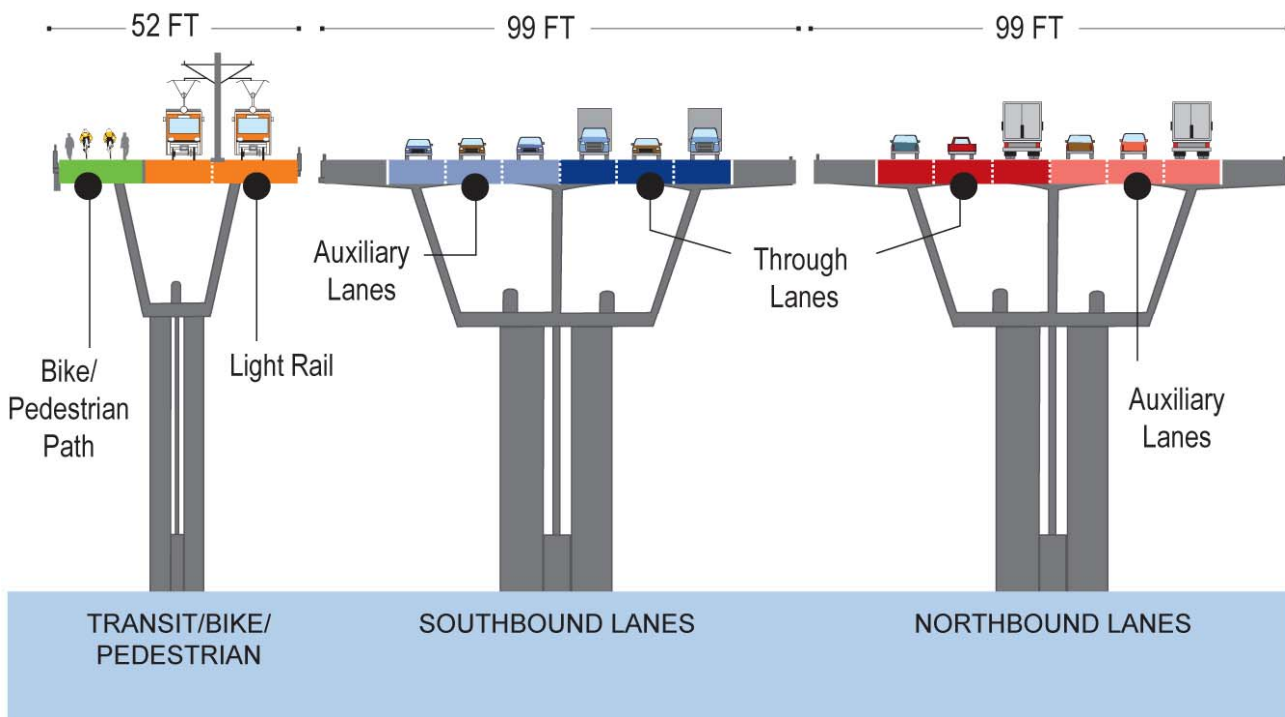


Exhibit 13 (page 1 of 2)

ALTERNATIVE 3: Replacement Crossing with Light Rail

Alternative 3 is similar to Alternative 2 except that light rail would be used instead of bus rapid transit. Light rail could use the same alignments and station locations as bus rapid transit. Trains would not run as frequently as the buses in Alternative 2 because they have higher capacity. The light rail guideway would connect with the MAX system at the Expo Center, allowing trains to continue directly into downtown Portland without a transfer. This alternative includes the same tolling scenario as Alternative 2, but was also modeled without a toll on the I-5 crossing in order to determine the effects that tolling could have on traffic patterns.

Replacement River Crossing with Light Rail



Please see page S-18 for a definition of Auxiliary Lanes
 MEASUREMENTS PROVIDED ARE APPROXIMATE.

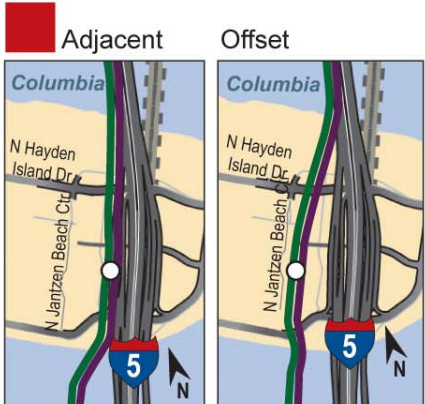
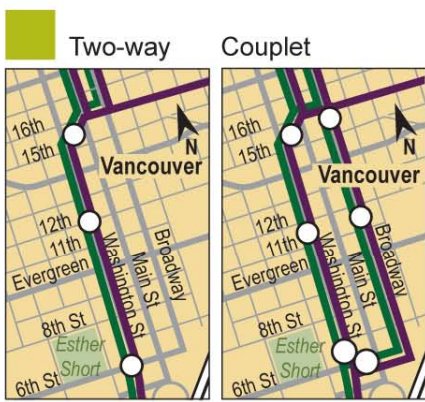
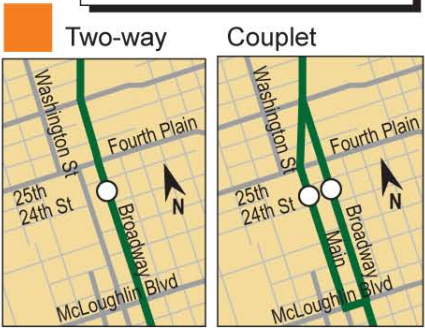
Exhibit 13 (page 2 of 2)

Transit Terminus and Alignment Options for Alternative 3

Kiggins Bowl Terminus



- Kiggins Bowl Terminus
- Lincoln Terminus
- Existing MAX Line
- Transit Station
- Bike/Pedestrian Path



Lincoln Terminus



MAP DIMENSIONS ARE APPROXIMATE.
MOS=Minimum Operable Segment

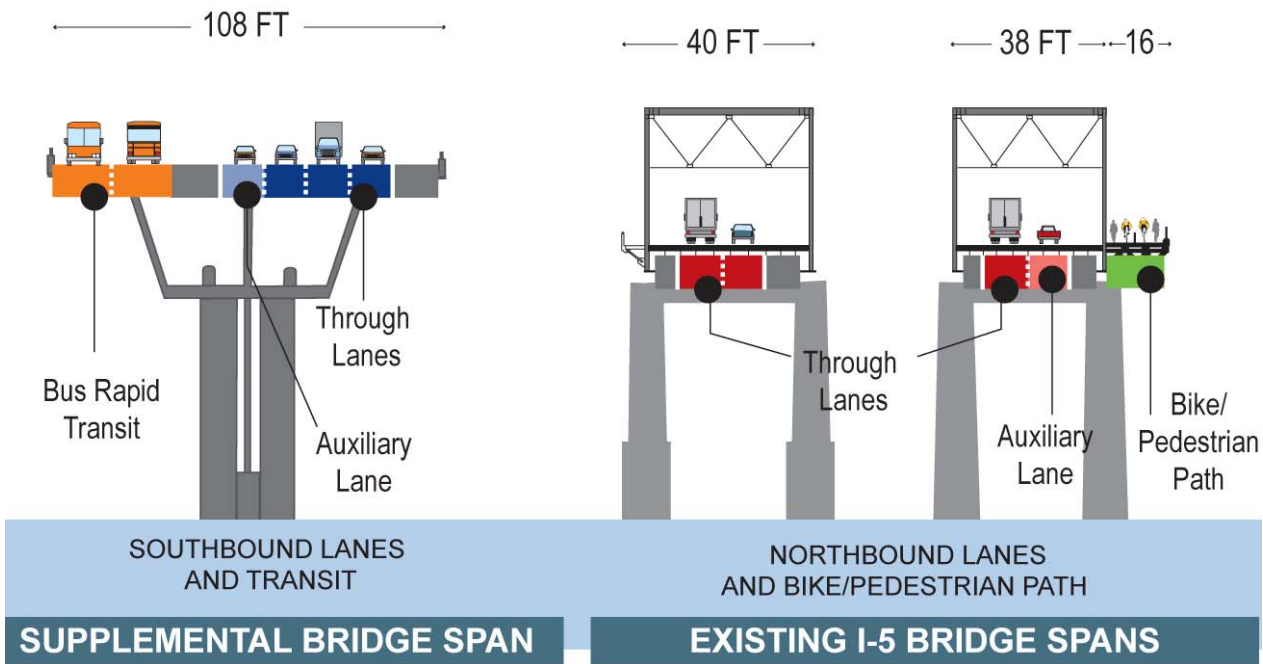
Exhibit 14 (page 1 of 2)

ALTERNATIVE 4: Supplemental Crossing with Bus Rapid Transit

This alternative would retain both existing I-5 bridges and add one new bridge. The existing I-5 bridges would be re-striped to provide two northbound lanes on each bridge and provide safety shoulders for disabled vehicles. Currently each bridge has three lanes and no shoulders. A new, wider bicycle and pedestrian facility would be added to the east side of the existing northbound (eastern) bridge. A new supplemental bridge would be constructed downstream of the existing bridges, and would include four southbound I-5 traffic lanes, safety shoulders and a bus rapid transit guideway.

Buses would operate in an exclusive guideway from the Expo Center in Portland along one of several possible alignments through the project area to end at one of four possible terminus options (a description of these options starts on page S-22). The exclusive bus lanes would extend 2.07–4.22 miles north from the Expo Center through Vancouver, and include five to seven transit stations and three to five structured or surface park and rides with up to 2,410 spaces, depending upon the transit terminus. Buses would operate more frequently than with Alternative 2, to compensate for the reduced auto capacity of the supplemental crossing compared to the replacement crossing. Local bus service in Vancouver and Clark County would increase to serve new transit passengers. Automobiles and trucks would pay a toll to cross the Columbia River that would be slightly higher during peak commute periods than for Alternatives 2 and 3.

Supplemental River Crossing with Bus Rapid Transit



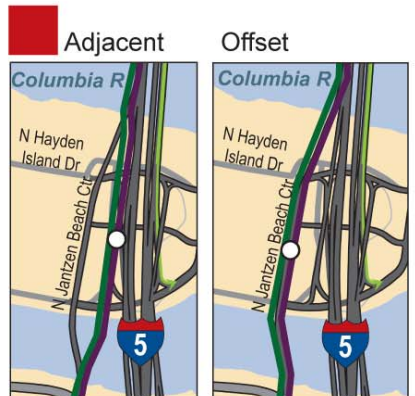
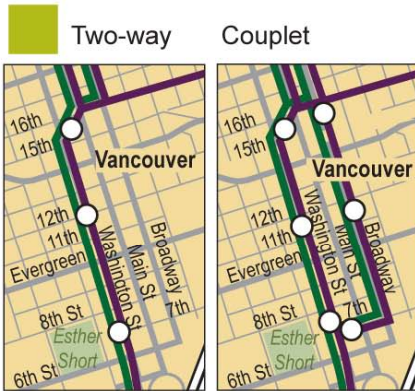
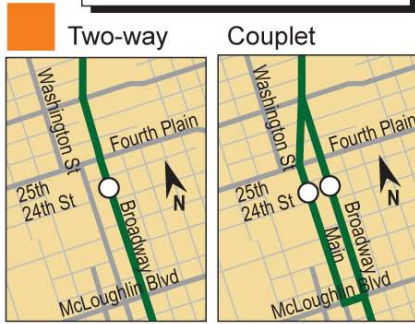
Please see page S-18 for a definition of Auxiliary Lanes
MEASUREMENTS PROVIDED ARE APPROXIMATE.

Exhibit 14 (page 2 of 2)

Transit Terminus and Alignment Options for Alternative 4
Kiggins Bowl Terminus



- Kiggins Bowl Terminus
- Lincoln Terminus
- Existing MAX Line
- Transit Station
- Bike/Pedestrian Path



Lincoln Terminus



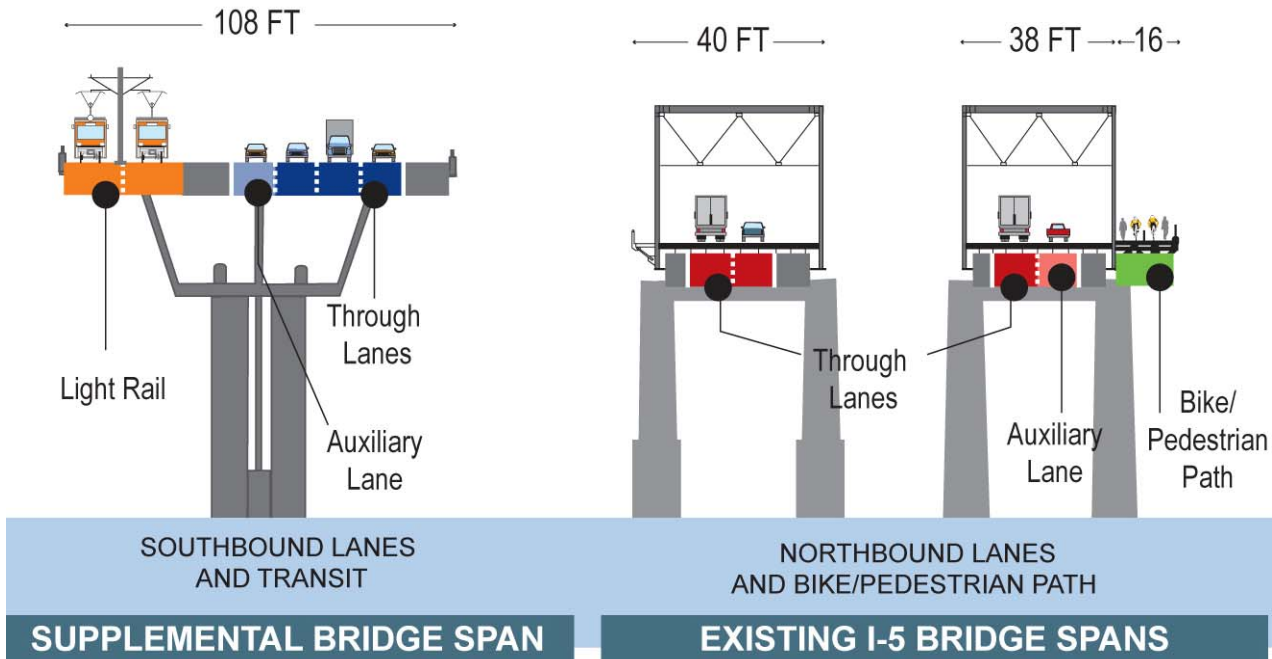
MAP DIMENSIONS ARE APPROXIMATE.
 MOS=Minimum Operable Segment

Exhibit 15 (page 1 of 2)

ALTERNATIVE 5: Supplemental Crossing with Light Rail

Alternative 5 is similar to Alternative 4 except that light rail would be used instead of bus rapid transit. Light rail would have the same possible alignments and station locations. Compared to Alternative 3, trains would operate more frequently to increase the capacity of the transit system in order to compensate for the lower capacity of the supplemental crossing compared to the replacement crossing.

Supplemental River Crossing with Light Rail



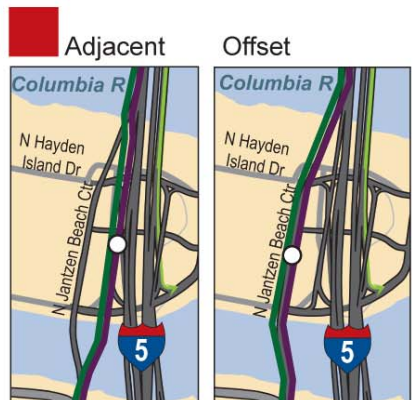
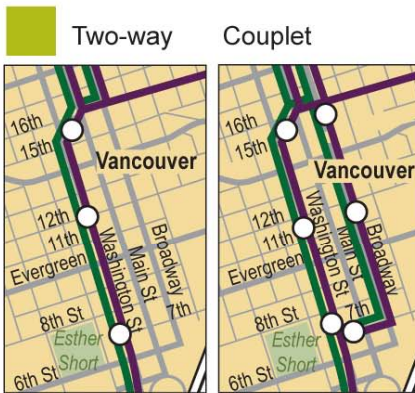
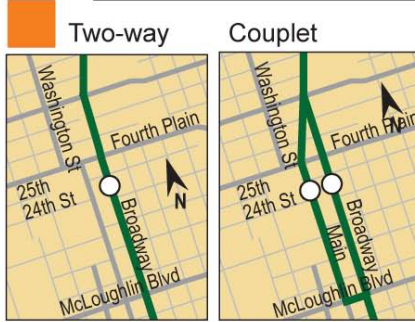
Please see page S-18 for a definition of Auxiliary Lanes
 MEASUREMENTS PROVIDED ARE APPROXIMATE.

Exhibit 15 (page 2 of 2)

Transit Terminus and Alignment Options for Alternative 5
Kiggins Bowl Terminus



- Kiggins Bowl Terminus
- Lincoln Terminus
- Existing MAX Line
- Transit Station
- Bike/Pedestrian Path



Lincoln Terminus



MAP DIMENSIONS ARE APPROXIMATE.
 MOS=Minimum Operable Segment

Multimodal River Crossing and Highway Improvements

Two options for improving the river crossing are being evaluated:

- Replace the existing bridges with new bridges, or
- Reuse the existing bridges and build a new structure next to them.

Each river crossing has a unique set of improvements for highway traffic, transit vehicles, and bicyclists and pedestrians.

REPLACEMENT CROSSING

A replacement river crossing would remove the two existing I-5 bridges and replace them with three new, parallel bridges immediately west of the current I-5 crossing. The new eastern (northbound traffic) and middle (southbound traffic) bridges could accommodate six lanes each for highway traffic. The new western bridge would carry high-capacity transit across the river, with a separated path for bicyclists and pedestrians.

A pathway for bicyclists and pedestrians would be located on the high-capacity transit guideway, and extend from the Expo Center, across Hayden Island, and into downtown Vancouver. This pathway could be placed on either or both sides of the river crossing. The bicycle and pedestrian path would be continuous and above-grade from just north of Marine Drive to Sixth Street in Vancouver.

Highway improvements north and south of the replacement river crossing would provide three lanes for traffic traveling through the project area, and one to three auxiliary lanes for traffic entering, exiting, or traveling short distances on the highway within the project area.

TERMS & DEFINITIONS

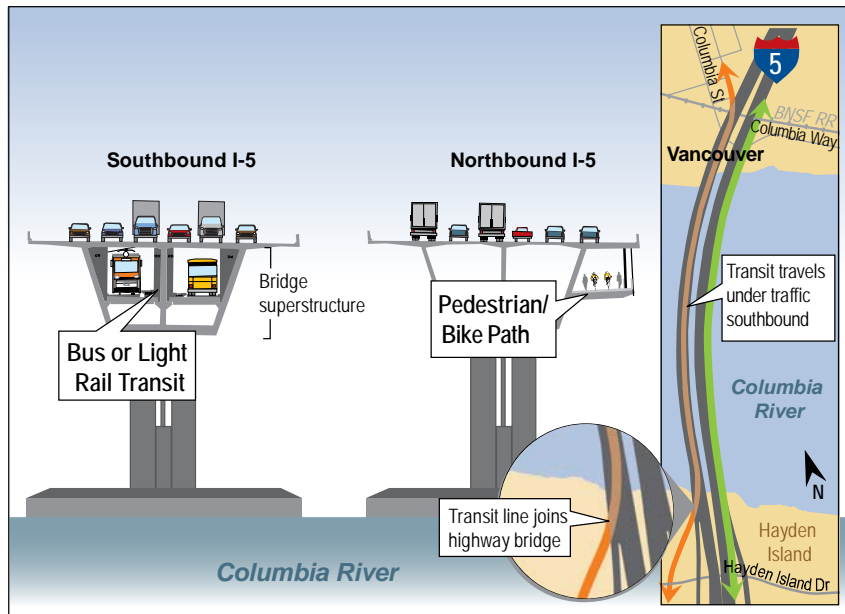
Auxiliary Lanes

Auxiliary lanes can improve safety and reduce congestion by accommodating cars and trucks entering or exiting the highway or traveling short distances between adjacent interchanges, and can reduce conflicting weaving and merging movements. This is especially important at the river crossing, where three large interchanges (Marine Drive, Hayden Island, and SR 14) all have traffic entering and exiting I-5 within a 1.5-mile segment.

There is also a “Stacked Transit/Highway Bridge” (STHB) design for the replacement crossing that would include transit beneath the highway deck of the I-5 southbound bridge and would suspend the bicycle and pedestrian path under the eastern edge of the northbound I-5 bridge. This design would require two new bridges, rather than the three needed for the standard replacement crossing design.

Exhibit 16

Conceptual Design of Stacked Transit/Highway Bridge Design



NOT TO SCALE

Note: The bridge type shown is for display purposes only.

SUPPLEMENTAL CROSSING

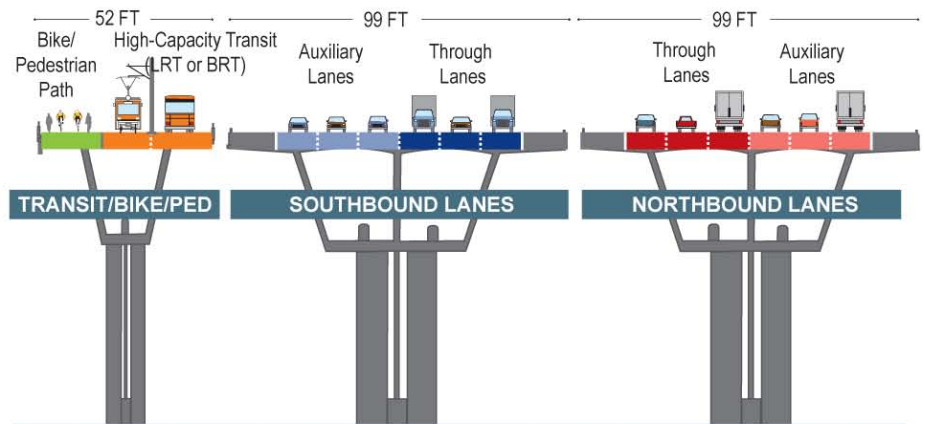
A supplemental river crossing would keep the existing bridges and build an adjacent new bridge. The supplemental river crossing would reuse both existing I-5 bridges, but only northbound traffic would travel on them. These bridges would each be re-striped to accommodate two lanes of traffic, for a total of four northbound I-5 lanes over the Columbia River. Bicyclists and pedestrians would use a new, wider path suspended from one of the existing bridges (current designs show the eastern bridge). The existing bridges would also receive major seismic upgrades. A new, parallel but higher bridge would be constructed downstream (west) to accommodate four lanes of southbound highway traffic, and would carry high-capacity transit in dedicated transit lanes.

Replacement River Crossing



DIMENSIONS ARE APPROXIMATE.

Number of Lanes and Traffic Types on Bridges



MEASUREMENTS PROVIDED ARE APPROXIMATE.

Detailed Area of River Crossing

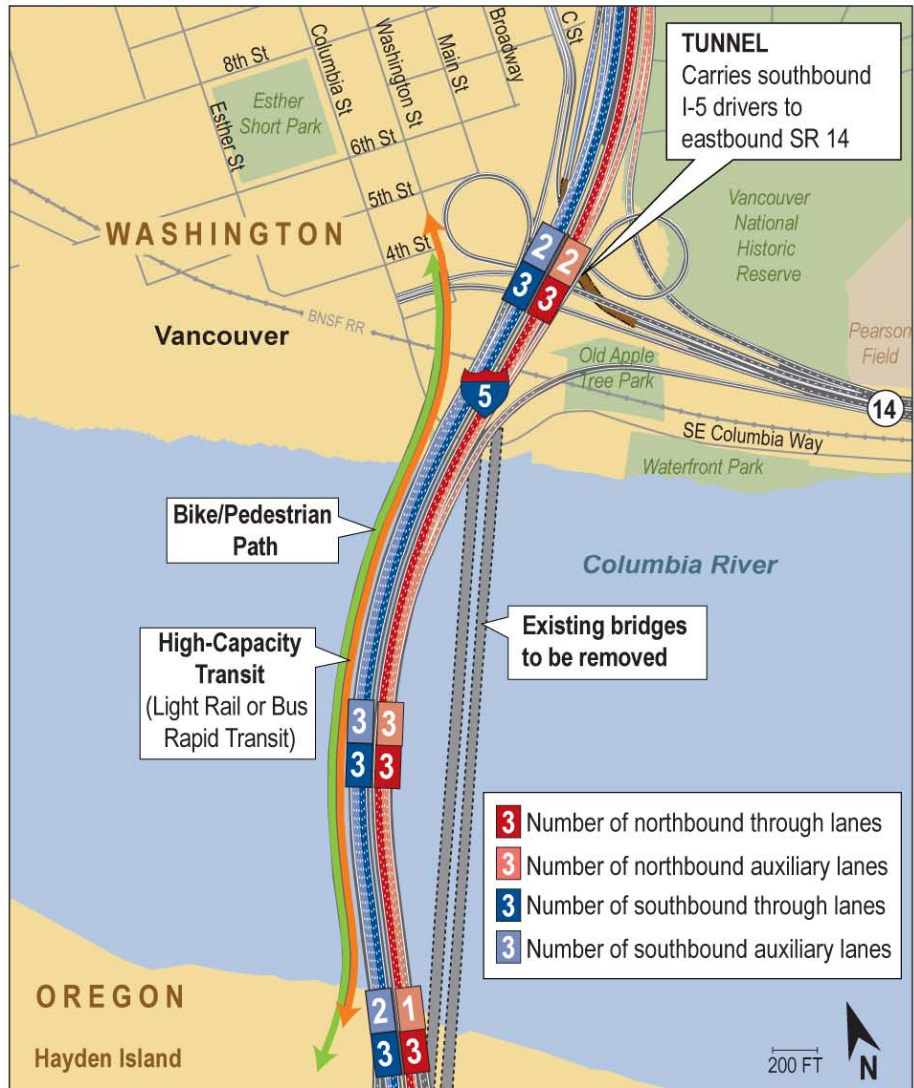


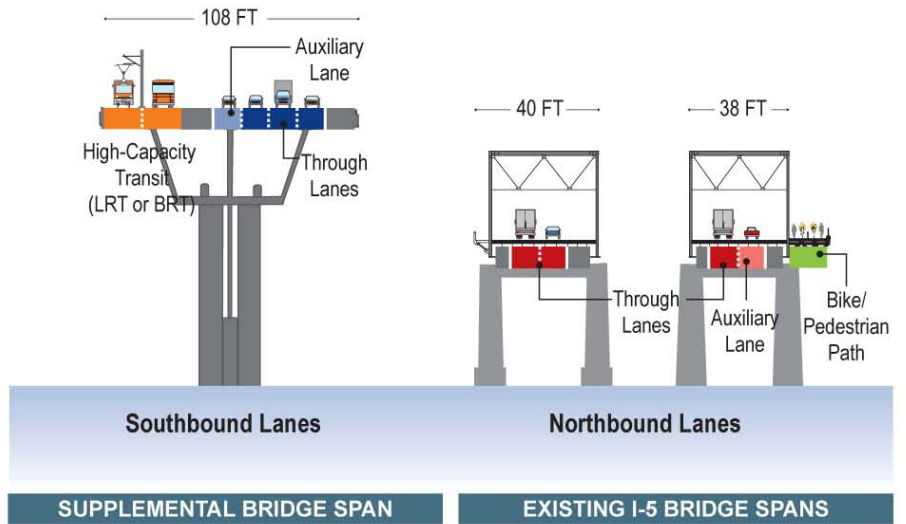
Exhibit 18

Supplemental River Crossing



DIMENSIONS ARE APPROXIMATE.

Number of Lanes and Traffic Types on Bridges



MEASUREMENTS PROVIDED ARE APPROXIMATE.

Detailed Area of River Crossing



A wider path on the outside of one of the existing bridges would be constructed to safely accommodate both pedestrians and bicyclists. Ramps would connect this wider pathway with Columbia Way in Vancouver and with Tomahawk Island Drive on Hayden Island. An elevated multi-use pathway would also be provided alongside the transit guideway between Tomahawk Island Drive and Marine Drive, crossing over North Portland Harbor. Pedestrians and bicyclists using both pathways would need to travel along Tomahawk Island Drive, under I-5, and through intersections. Stairs, ramps, and/or elevators would be provided on both bridge alternatives to connect with existing and planned sidewalks and pathways in Vancouver, on Hayden Island, and near Marine Drive.

Highway improvements north and south of the river crossing would provide three lanes for traffic traveling through the project area, and one to two additional lanes for traffic entering, exiting, or traveling short distances on the highway within the project area. North of the river, the supplemental crossing would have one less auxiliary lane in each direction than the replacement crossing.

High-Capacity Transit Modes

The CRC project is examining two high-capacity transit modes to determine the best solution for providing transit within the CRC project area:

- Bus rapid transit (BRT), and
- Light rail (LRT).

Both modes would offer high capacity transit service connections with existing transit facilities and flexibility for future expansion. Both modes would provide increased capacity for passengers and improved amenities compared to the bus service that currently operate in the project area. Some existing bus routes would be modified to support the high-capacity transit system by connecting suburban commuters to the new system and retaining direct bus service from suburban areas to key employment centers such as downtown Portland.

Bus rapid transit would increase capacity for transit users and supply dedicated bus lanes in the project area. BRT would cost less to construct than a light rail system, and would provide flexibility for increasing future routes. Dedicated lanes through the project area would allow buses to bypass traffic and avoid delays from automobile congestion. Bus rapid transit would use larger buses (60 feet long instead of the typical 40-foot length). BRT stations would offer an easy fare payment method, such as ticket vending machines, and have a “branded” look, distinct from regular buses. Buses would stop at the Expo Center MAX station, where riders could transfer to or from the existing regional light rail system.

Exhibit 19
BRT Vehicle



Exhibit 20
Light Rail Vehicle



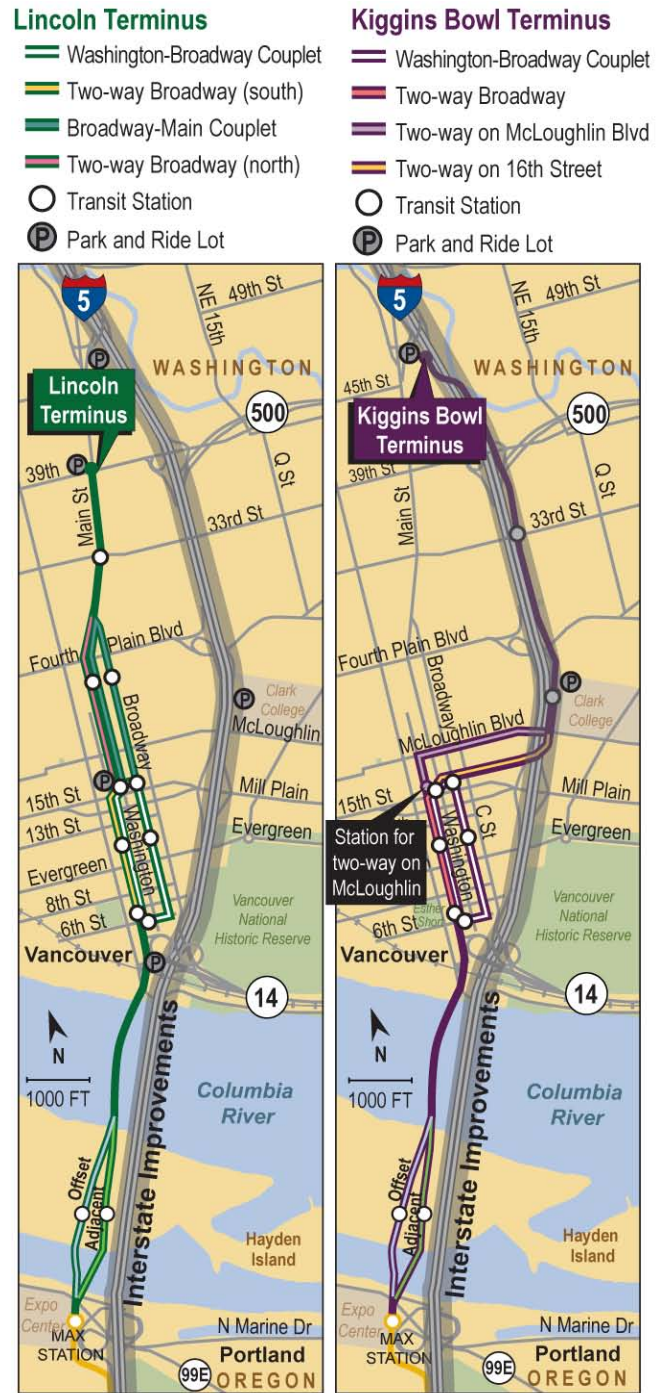
Light rail transit would follow the same potential alignments as bus rapid transit. It would extend the existing light rail system from its current northern ending point (terminus) at the Expo Center station across the Columbia River and into Vancouver, offering passengers a no-transfer ride between Vancouver and downtown Portland. Vehicles and station design would be similar to the existing MAX system, with ticket vending machines and a consistent appearance that is easy to recognize. Light rail trains would be allowed to pass through signalized intersections before other vehicles, which would shorten transit riders' trip through downtown Vancouver.

Transit Terminus and Alignment Options

Each of the CRC build alternatives includes four options in Vancouver where the high-capacity transit guideway could end, called transit terminus options. These terminus options are included in each alternative to provide the public and project co-lead agencies with a range of choices to consider and to provide possibility for extension in the future based on funding availability.

These include the Kiggins Bowl terminus, Lincoln terminus, Clark College minimum operable segment (MOS), and Mill Plain MOS. Each of these terminus options includes both the specific endpoint, such as the park and ride and the transit station, and the entire guideway and stations preceding this terminus through the project corridor. For example, the Kiggins Bowl terminus includes the guideway extending from the Expo Center to the Kiggins Bowl Park and Ride. Likewise, the Clark College MOS terminus includes the guideway extending from the Expo Center to the Clark College Park and Ride.

Exhibit 21
Transit Terminus and Alignment Options



DIMENSIONS ARE APPROXIMATE.

Exhibit 22
Station Locations and Guideway Length

	Kiggins Bowl terminus (A)	Lincoln terminus (B)	Clark College MOS (C)	Mill Plain MOS (D)
Guideway Length	4.22 miles	3.43 miles	2.65	2.07
Hayden Island Station	Adjacent or Offset from I-5	Adjacent or Offset from I-5	Adjacent or Offset from I-5	Adjacent or Offset from I-5
Downtown Vancouver Stations	7th Street 12 Street Mill Plain	7th Street 12 Street Mill Plain	7th Street 12 Street Mill Plain	7th Street 12 Street Mill Plain
North Vancouver Stations	Clark College 33rd Street Kiggins Bowl	24th Street 33rd Street Lincoln	Clark College	None
Park and Rides	Expo Center (existing) Clark College (structure) Kiggins Bowl (structure)	Expo Center (existing) Clark College (surface lot) ^a Lincoln (structure) Kiggins Bowl (surface lot) ^a	Expo Center (existing) Clark College (surface lot) Kiggins Bowl (surface lot) ^a	Expo Center (existing) SR-14 surface lots Clark College (surface lot) ^a Lincoln (surface lot) ^a Kiggins Bowl (surface lot) ^a
Total park and ride stalls	2,410	1,250	2,410	2,365

^a These park and rides are proposed at sites that would not be on the HCT guideway, but would be connected to an HCT via local bus routes.

KIGGINS BOWL TERMINUS

The Kiggins Bowl terminus option would construct high-capacity transit from the Expo Center, across Hayden Island, over the Columbia River, and through downtown Vancouver. It would then travel east to cross under I-5 and connect to Clark College, continue north adjacent to I-5, and end at a park and ride at Kiggins Bowl. This terminus option would include a three-level parking structure at Clark College and a six-level structure at the Kiggins Bowl station.

LINCOLN TERMINUS

The Lincoln terminus option would construct high-capacity transit from the Expo Center, across Hayden Island, over the Columbia River, through downtown Vancouver, and continue north on local streets to the Lincoln Park and Ride north of 39th Street.

The Lincoln Park and Ride would contain up to two levels below ground and one level at-grade or above ground. To provide a wider range of access across Clark County, the Lincoln terminus option would also include a surface parking lot at Clark College and another surface lot at Kiggins Bowl. Local bus routes would connect these lots to the Lincoln Park and Ride or the Mill Plain station for transfer to the high-capacity transit line.

CLARK COLLEGE MINIMUM OPERABLE SEGMENT

The Clark College MOS ends the HCT guideway at the Clark College Park and Ride. This terminus option would provide flexibility for future extension, as part of another project, to either the Kiggins Bowl terminus or the Lincoln terminus.

The Clark College MOS would include the same three-level parking structure at Clark College as the Kiggins Bowl terminus. There would also be a surface lot at Kiggins Bowl that would be connected to the transit guideway by new local bus routes. The terminus station could be between the park and ride and the highway, as indicated in the graphics, or it could be parallel to McLoughlin, either in the middle or to the side of the street.

MILL PLAIN MINIMUM OPERABLE SEGMENT

The Mill Plain MOS would end the transit guideway at a new Mill Plain station between 15th and 16th Streets and between Washington and Main Streets, and could serve as a shortened version of either the Kiggins Bowl terminus or Lincoln terminus. Future projects could extend the transit guideway to either full-length terminus option. The Mill Plain MOS would include park and ride facilities around the SR 14 interchange in lower downtown Vancouver, a multi-level structure north of the Mill Plain station, and surface lots at Clark College, Kiggins Bowl, and Lincoln.

TRANSIT ALIGNMENT OPTIONS

Each of the four terminus options described above has different alignment options, or routes, for extending the high-capacity transit guideway from the Expo Center to the terminus. There are distinct sets of alignment options within three sections of the project corridor. There are two alignment options in the southern section from the Expo Center over Hayden Island and across the Columbia River. The middle section through downtown Vancouver also has two alignment options. The northern section, extending through northern Vancouver, has four alignment options—two for the Kiggins Bowl terminus and Clark College MOS, and two different alignment options for the Lincoln terminus.

From the Expo Station across Hayden Island, transit could run either adjacent to, or several hundred feet away (offset) from, I-5. Through downtown Vancouver, HCT could run both directions (two-way) on

Exhibit 23
Minimum Operable Segment (MOS)



DIMENSIONS ARE APPROXIMATE.

Washington Street, or run southbound on Washington Street and northbound on Broadway Street (a couplet).

The same alignments and station locations are available for bus rapid transit or light rail.

In northern Vancouver, the Kiggins Bowl terminus and Clark College MOS have substantially different alignment options than the Lincoln terminus. The Kiggins Bowl terminus and Clark College MOS would turn east at either McLoughlin Boulevard or 16th Street to go under I-5 and connect with a new park and ride at Clark College. From there, the Kiggins Bowl terminus would continue north parallel to the east side of I-5 before crossing back over I-5 near the SR 500 interchange and ending at a new Kiggins Bowl Park and Ride.

The Lincoln terminus would continue north from downtown Vancouver, using either Broadway Street for two-way travel or a couplet on Broadway and Main Streets. Either of these alignment options would then merge to a two-way guideway on Main Street, north of Fourth Plain Boulevard, and end at the new Lincoln Park and Ride north of 39th Street.

Transit Operations

The build alternatives include two different operating scenarios for the high-capacity transit system—“Efficient” and “Increased” operations. These operating scenarios differ by how often the high-capacity transit vehicles would arrive at stations and what other bus routes would be used to feed the system. The transit system would be able to accommodate more people if the trains or buses arrive more often during the peak commute periods.

Exhibit 24

Transit Vehicle Headways in the Guideway (Minutes)

	Efficient Operations (Alternatives 2 and 3)		Increased Operations (Alternatives 4 and 5)	
	BRT ^a	LRT	BRT ^a	LRT
Peak periods ^b	2.5	7.5	1.5	6
Off-peak period	15	15	15	15

Source: CRC Transit Technical Report.

^a BRT headways include local buses using the guideway.

^b Peak periods are between 6 a.m. and 10 a.m. on weekday mornings and between 3 p.m. and 7 p.m. on weekday evenings.

Bridge Toll

Tolling will likely be necessary to generate the local revenue needed to help pay for the CRC project. Tolling was used to fund the original construction of the Interstate Bridge in 1917, and again in 1958 to pay for construction of the second span.

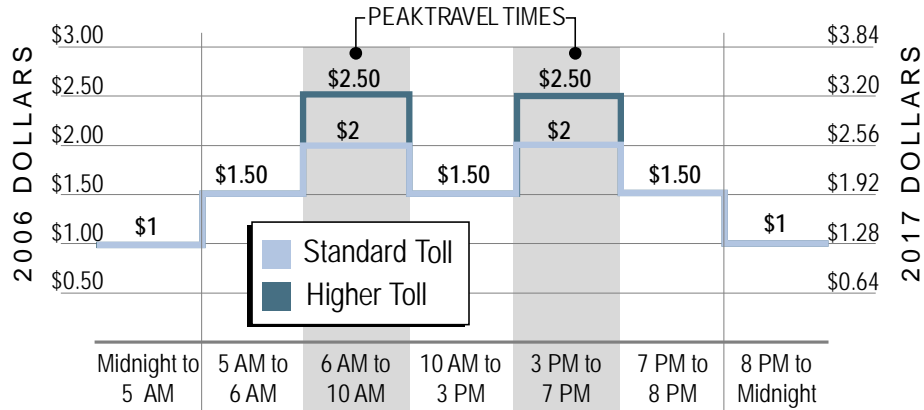
Several tolling scenarios are being evaluated (Exhibit 21):

- No toll (part of the No-Build Alternative, and also modeled with Alternative 3 to determine the traffic effects of tolling).

- Standard variable rate on the I-5 crossing (paired with Alternatives 2 and 3).
- Higher variable rate on the I-5 crossing (paired with Alternatives 4 and 5).
- Standard variable rate on both the I-5 and I-205 crossings (not paired with any build alternative, but evaluated separately to assess potential traffic diversions resulting from tolling the I-5 crossing).

Exhibit 25

Tolls for Passenger Cars (with Transponders)



Different toll rates would be charged based on the type of vehicle and the time of day, with higher tolls charged during peak commute periods. Tolls would be collected through an electronic toll collection system so that traffic would not have to stop or slow down when crossing the bridge. Instead, motorists could equip their cars with transponders that would automatically bill the vehicle owner each time they crossed the bridge. Cars without transponders would be tolled by a license-plate recognition system that would bill the address of the owner registered to that license plate.

These different tolling scenarios are being evaluated for several purposes. Evaluating different rates on the I-5 crossing provides information about travelers' sensitivity to paying a toll, and whether a higher toll would provide more revenue or simply cause reduced use of the river crossing. Evaluating a toll on the I-205 crossing provides an indication of how many motorists would divert to the I-205 crossing if this project were to implement a toll on just the I-5 crossing.

Transportation System and Demand Management Measures

In addition to the components described above, all build alternatives evaluated in this DEIS include transportation system management (TSM) and transportation demand management (TDM) measures to help reduce congestion during peak travel periods, improve traffic movement on the highway, and provide alternative transportation options to commuters. Transportation system management measures attempt to improve how traffic moves on existing roadways through a variety of techniques focused on keeping drivers informed and moving as safely, efficiently, and reliably as possible. Measures include:

- Adding traveler information systems (electronic reader boards) in the project area to alert motorists of temporary changes in highway conditions, such as a traffic accident or construction;
- Improving the emergency vehicle response system;
- Separate on-ramp lanes for transit vehicles and other designated vehicles to bypass traffic at ramp signals; and
- Expanded traffic monitoring equipment and cameras.

Transportation demand management measures seek to reduce the number of vehicles using the road system, especially single-occupant vehicles, while providing alternatives to automobile travel. Several of the project components would reduce demand for automobile travel, such as the introduction of high-capacity transit, charging a toll on cars and trucks using the I-5 crossing, and upgrading the bicycle and pedestrian facilities that cross the Columbia River.

How do the different alternatives and components compare?

This section highlights how the alternatives differ in terms of transportation performance, and community and environmental effects. Key differences between the full alternatives are highlighted first, followed by more detailed comparisons of the individual components. This is not a comprehensive discussion on the effects of these alternatives. Rather, the most substantial effects or those effects that help differentiate the alternatives are discussed. Chapter 3 provides more breadth and detail on how these alternatives and components perform and how they could affect the community and environment.

Comparison of Alternatives

Exhibits 26 and 27 below summarize the key performance and impact differences between each alternative. There are many factors contributing to these differences that are explained by the different combinations of components represented by each alternative. These components are compared in the next section.

Exhibit 26

Summary of Transportation Effects and Cost for Each Alternative

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Hours of Congestion/day	15 hours	3.5-5.5 hours	3.5-5.5 hours	10.75 hours	10.75 hours
People over the I-5 Crossing during PM peak^a	28,550 total	40,500 total	41,650 total	31,600 total	33,050 total
In cars	26,500	34,400	34,400	25,700	25,700
On transit	2,050	6,100	7,250	5,900	7,350
Vehicle trips over the I-5 crossing/day^b	184,000	178,000 ^b	178,000 ^b	165,000 ^b	165,000 ^b
Pedestrian and Bicycle Connections	Potentially no improvement to connections.	Provide continuous grade-separate multi-use path between Marine Drive and downtown Vancouver.	Provide continuous grade-separate multi-use path between Marine Drive and downtown Vancouver.	Improvements over the river but has at-grade crossings on Hayden Island.	Improvements but has at-grade crossings on Hayden Island.
Transit mode split in p.m. peak period^c	13%	17-21%	19-23%	30-34%	34-38%
Transit travel time from Mill Plain station to Expo Center	N/A	8 min	7 min	14 min	8 min
Traffic safety	Potentially no improvement.	Reduced congestion and improved highway design would reduce collisions.	Reduced congestion and improved highway design would reduce collisions.	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.
Transit safety	Potentially no changes	Additional buses could increase collisions but dedicated guideway may improve separation of modes. Potential security issues would need to be addressed at less visible stations.	New mode (light rail) could increase collisions but dedicated guideway would improve separation of modes. Potential security issues would need to be addressed at less visible stations.	High frequency of buses could increase collisions but dedicated guideway may improve separation of modes. Potential security issues would need to be addressed at less visible stations.	New mode (light rail) could increase collisions but dedicated guideway would improve separation of modes. Potential security issues would need to be addressed at less visible stations.
Effect on river navigation	Potentially no improvement	Eliminates S-curve maneuver and reduces number of piers.	Eliminates S-curve maneuver and reduces number of piers.	S-curve maneuver worsened with more piers and narrower channel.	S-curve maneuver worsened with more piers and narrower channel.
Capital Cost^d	\$0	\$3,260 - \$3,915	\$3,368 - \$4,091	\$3,125 - \$3,781	\$3,214 - \$3,950

Sources: CRC Traffic Technical Report, 2008; CRC Transit Technical Report, 2008; CRC Cost Risk Assessment, 2007.

^a Total number of people in cars and on transit vehicles using the I-5 crossing traveling north during the four-hour afternoon/evening peak period (3 p.m. to 7 p.m.).

^b These values assume a Kiggins Bowl terminus. See transit terminus section below for information on how the transit terminus option affects vehicle trips.

^c Percentage of people traveling over the I-5 crossing on transit vehicles in the afternoon peak period, in the northbound direction.

^d Capital costs are in millions of year-of-expenditure dollars. Cost ranges are due to the HCT terminus option in each of the build alternatives and to confidence (low being 60% confidence that cost would not be exceeded, and high being 90% confidence that cost would not be exceeded.)

Exhibit 27

Summary of Community and Environmental Effects for Each Alternative

	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Residential displacements	0 ^a	21-36	21-36	24-33	24-33
Commercial displacements	0 ^a	41-68	41-68	34-64	34-64
Number of potential adverse impacts to historic resources	0	5-8	5-8	5-8	5-8
Air Quality^b					
Carbon monoxide	30% reduction	30% reduction	30% reduction	30% reduction	30% reduction
Nitrogen oxides	70% reduction	70% reduction	70% reduction	70% reduction	70% reduction
Volatile organic compounds	50% reduction	50% reduction	50% reduction	50% reduction	50% reduction
Particulate matter	90% reduction	90% reduction	90% reduction	90% reduction	90% reduction
Traffic noise impacts on sensitive receptors (before mitigation)^c	264	334	334	329	329
Transit noise impacts on sensitive receptors (before mitigation)^c	0	35-82	7-45	38-92	7-51
Impacts on fish	No impacts from in-water construction, existing piers would remain, and water quality issues would remain.	Impacts from in-water construction, fewer piers would be in water, but greatest improvement in water quality.	Impacts from in-water construction, fewer piers would be in water, but greatest improvement in water quality.	Impacts from in-water construction, more piers would be in water, but some improvement in water quality.	Impacts from in-water construction, more piers would be in water, but some improvement in water quality.
Wetland impacts	No impacts	0.11 acres of direct impacts	0.06 acres of direct impacts	0.16 acres of direct impacts	0.11 acres of direct impacts
Total Suspended Solids (lbs./year)	136,020	43,293	43,235	40,735	40,677
Total Phosphorus (lbs./year)	207	109	108	102	102
Dissolved Copper (lbs./year)	9	8	8	8	8
Dissolved zinc (lbs./year)	64	49	49	46	46
CO₂ Emissions (tons/day)	463	452	452	494	491

Sources: CRC Acquisitions Technical Report, 2008; CRC Historic Resources Technical Report, 2008; Air Quality Technical Report, 2008; CRC Noise and Vibration Technical Report, 2008; CRC Ecosystems Technical Report, 2008; CRC Wetlands Technical Report, 2008; CRC Water Quality Technical Report, 2008; CRC Energy Technical Report, 2008.

^a Both the C-TRAN bus maintenance facility and TriMet Ruby Junction light rail maintenance facility could be expanded with the No-Build alternative, though the exact size of the expansions is not known. Both of these expansions would likely result in both residential and commercial displacements.

^b Reductions in emissions are largely due to expected improvements in vehicle emissions by 2030, and are thus not the result of this project and therefore are common amongst all alternatives.

^c Noise impacts are expressed as the total number of impacts on sensitive receptors as defined by FHWA guidelines. This means that, for example, a 30 unit apartment complex that is impacted by traffic noise would register as 30 impacts on sensitive receptors.

Comparison of Components

Exhibits 28 through 32 below compare the performance and impacts of the individual components that comprise the full alternatives using similar metrics as those in the preceding section. This comparison of components illustrates what elements of the full alternatives are causing the differences in their transportation performance and impacts.

Exhibit 28

Comparison of No-Build and Replacement and Supplemental River Crossings and Highway Improvements

	No-Build (Alternative 1)	Replacement Crossing and highway improvements (Alternatives 2 and 3)	Supplemental Crossing and highway improvements (Alternatives 4 and 5)
Hours of Congestion/day	15 hours	3.5-5.5 hours	10.75 hours
People in cars over the I-5 Crossing during PM Peak^a	26,500	34,400	25,700
Vehicle trips over the I-5 crossing/day	184,000	178,000	165,000
Pedestrian and Bicycle Connections	Potentially no improvement to connections.	Provide continuous grade-separate multi-use path between Marine Drive and downtown Vancouver.	Improvements over the river but has at-grade crossings on Hayden Island.
Traffic safety	Potentially no improvement.	Reduced congestion and improved highway design would reduce collisions.	Improvement to highway design for safety, but some compromises on the existing I-5 bridges.
Effect on river navigation	Potentially no improvement.	Eliminates S-curve maneuver and reduces number of piers.	S-curve maneuver worsened with more piers and narrower channel.
Seismic vulnerability	Existing vulnerability	Improved seismic safety	Improved seismic safety
Capital cost^b	\$0	\$2,741 - \$3,042	\$2,560 - 2,813
Residential displacements	0 ^c	20	16
Business displacements	0 ^c	41	34
Number of potential adverse impacts to historic resources	0	5	5
Traffic noise impacts on sensitive receptors (before mitigation)^d	264	334	329
Impacts on fish	No impacts from in-water construction, existing piers would remain, and water quality issues would remain.	Impacts from in-water construction, fewer piers would be in water, but greatest improvement in water quality.	Impacts from in-water construction, fewer piers would be in water, but some improvement in water quality.

^a Total number of people in cars using the I-5 crossing traveling north during the four-hour afternoon/evening peak period (3 p.m. to 7 p.m.).

^b Capital costs shown are for the highway portion of the river crossing and highway improvements throughout the project area, and are in millions of year-of-expenditure dollars. Cost ranges are different levels of confidence that the costs will not be exceeded (low being 60% confidence and high being 90% confidence).

^c Both the C-TRAN and TriMet maintenance facilities may be expanded with the No-Build alternative. The exact size of the expansion, therefore the number of residences or businesses potentially displaced by these expansions, is not known.

^d Noise impacts are expressed as the total number of impacts on sensitive receptors as defined by FHWA guidelines. This means that, for example, a 30 unit apartment complex that is impacted by traffic noise would register as 30 impacts on sensitive receptors.

Exhibit 29

Comparison of Bus Rapid Transit versus Light Rail

	No-Build (Alternative 1)	Bus Rapid Transit (Alternatives 2 and 4)	Light Rail (Alternatives 3 and 5)
People in transit vehicles over the I-5 Crossing during PM Peak ^a	2,050	6,100	7,250
Transit mode split in p.m. peak period ^a	13%	17-21%	19-23%
HCT vehicle average speed through project area	N/A	14.5 mph	17.3 mph
Transit noise impacts on sensitive receptors (before mitigation)^b	0	35-82	7-45

^a Four-hour afternoon/evening peak period (3 p.m. to 7 p.m.).

^b Noise impacts are expressed as the total number of impacts on sensitive receptors as defined by FHWA and FTA guidelines. This means that, for example, a 30 unit apartment complex that is impacted by transit noise would register as 30 impacts on sensitive receptors.

Note: values in this table assume Efficient transit operations scenario.

All four terminus options have been assessed with each of the build alternatives. Differences in the performance and impacts of these four terminus options account for many of the ranges of impacts that are summarized in the tables of the full alternatives above.

Exhibit 30

Comparison of Kiggins Bowl Terminus, Lincoln Terminus, and Clark College MOS, and Mill Plain MOS

	Kiggins Bowl terminus (Alternatives 2–5)	Lincoln terminus (Alternatives 2–5)	Clark College MOS (Alternatives 2–5)	Mill Plain MOS (Alternatives 2–5)
People in transit vehicles over the I-5 Crossing each weekday	21,100	20,800	18,200	19,100
Transit mode split in peak period and peak direction ^a	22%	21%	19%	23%
Capital cost ^b	\$1,045 - \$1,108	\$850 - \$881	\$654 - \$689	\$596 - \$628
Residential displacements	9-16	9-16	1-8	1-8
Commercial displacements	27-36	42-52	25-34	28-30
Number of potential adverse impacts to historic resources	1–3	3	0-2	0
Transit noise impacts on sensitive receptors (before mitigation)^c	17-37	7-45	7-37	7-21

^a Four-hour afternoon/evening peak period (3 p.m. to 7 p.m.).

^b Capital costs are in millions of year-of-expenditure dollars. Cost ranges are different levels of confidence that the costs will not be exceeded (low being 60% confidence and high being 90% confidence).

^c Noise impacts are expressed as the total number of impacts on sensitive receptors as defined by FHWA and FTA guidelines. This means that, for example, a 30 unit apartment complex that is impacted by transit noise would register as 30 impacts on sensitive receptors.

Note: Numbers in this table assume LRT and Efficient transit operations; differences between transit mode and operating scenarios compared in other tables.

The two transit operating scenarios, Efficient and Increased, affect transit performance and impacts differently for BRT than for LRT. This is primarily because the additional vehicles afforded by the Increased operating scenario causes some impact to BRT performance due to the high number of buses congesting the transit guideway; this congestion would not occur with LRT. Additionally, the different noise profile of BRT vehicles compared to LRT vehicles is affected differently by the changing number of transit vehicles between these two transit operating scenarios.

Exhibit 31

Comparison of Efficient and Increased Transit Operating Scenarios

	Efficient transit operating scenario (Alternatives 2 and 3)		Increased transit operating scenario (Alternatives 4 and 5)	
	BRT	LRT	BRT	LRT
People in transit vehicles over the I-5 Crossing each weekday	16,800 ^a	20,800 ^a	19,800 ^a	23,100 ^a
Average travel speed through CRC area	14.5 mph	17.3 mph	13.1 mph	17.3 mph
Transit noise impacts on sensitive receptors (before mitigation)^b	35-82	7-45	38-92	7-51

^a These values assume a Lincoln terminus.

^b Noise impacts are expressed as the total number of impacts on sensitive receptors as defined by FHWA and FTA guidelines. This means that, for example, a 30 unit apartment complex that is impacted by transit noise would register as 30 impacts on sensitive receptors.

Exhibit 32

Comparison of tolling scenarios

	No Toll (Alternative 1, and modeled with Alternative 3)	I-5 standard toll (Alternatives 2 and 3)	I-5 higher toll (Alternatives 4 and 5)	I-5 and I-205 toll (Not packaged with any alternative)
Daily vehicle trips over I-5 crossing	210,000 ^a	178,000 ^a	165,000 ^b	196,000 ^a
Daily vehicle trips over I-205 crossing	200,000 ^a	213,000 ^a	219,000 ^b	170,000 ^a
Total amount of bonds allowed from toll revenues	None	\$750 - \$1,350 million	\$640 - \$1,160 million	\$1,570 - \$2,800 million

^a Assumes a replacement crossing.

^b Assumes a supplemental crossing.

What are the next steps and how will a decision be made?

Identifying a Preferred Alternative

Following publications of this DEIS, public and stakeholder feedback will be collected during a 60-day comment period. During this period, a variety of groups will be solicited for feedback, including Native American tribes and the agencies this project is working with, as described at the beginning of this Summary.

After this comment period, the CRC Task Force will consider the findings in this DEIS and the feedback from the public and stakeholder groups before making a recommendation on a Locally Preferred Alternative (LPA) to each of the project co-lead agencies. The LPA will designate a river crossing type and high-capacity transit mode, and will likely choose a preferred transit terminus but leave open the possibility of either minimum operable segment for flexibility to accommodate funding for this project.

Once the public comment period on the DEIS has ended, and after the Task Force makes their recommendation, the Draft LPA will go to the local sponsor agencies for their consideration. Local sponsoring agencies are expected to endorse an LPA during the summer of 2008. The LPA would then be adopted into Metro's Regional Transportation Plan and RTC's Metropolitan Transportation Plan.

Final EIS and Proposed Mitigation Plan

Following identification of an LPA, the project team will advance the engineering design detail of the LPA, refining and optimizing transportation performance, cost estimates, and design to minimize community and environmental impacts. A variety of design details are not yet determined and will be identified through further engineering, environmental evaluation, and public and stakeholder involvement. These include construction management plans and landscape and architectural designs for most elements of the project, such as transit stations and the bridges over the Columbia River. Other additional work will include completion of a variety of regulatory requirements such as evaluating and documenting historic resources and methods for avoiding, reducing, or mitigating impacts to these resources.

The Final EIS will address comments received on this DEIS. Comments on this DEIS will be grouped by issue and responded to in the FEIS. The FEIS will also analyze the refined design in a manner similar to how alternatives are analyzed in this DEIS. Because there will be fewer options and the engineering designs will be further refined, the Final EIS will be able to more accurately and definitively identify impacts and measures for avoiding, minimizing, or mitigating adverse impacts.

Part of the process of completing a Final EIS will be developing a proposed mitigation plan. The proposed mitigation plan will identify measures for mitigating adverse impacts and incorporating these measures into the project design. The preferred alternative and a mitigation plan will be confirmed in a Record of Decision that is anticipated to be issued by FTA and FHWA in late 2009.

How can the public learn more about and be involved in the project?

The project website (www.columbiarivercrossing.org) provides more information, including project background and the process that has led to the development of this DEIS. The website also has information on upcoming public events, project milestones, and how to obtain a full copy of the DEIS.

You are invited to submit your comments on the DEIS between May 2nd, 2008 through July 1st, 2008. Comments received during this time will be reviewed and considered, and responses will be published in the Final EIS. Questions and comments can be submitted by several methods:

Email: Email comments and questions about the project in general, or about this DEIS specifically, to:

DraftEIScomments@columbiarivercrossing.org

Postal mail: Columbia River Crossing
700 Washington Street, Suite 300
Vancouver, WA 98660

Fax: 360-737-0294

Attend a public open house: Public open houses will be held in Portland and Vancouver in at the following dates and locations:

May 28, 2008
5 p.m. to 8 p.m.
Red Lion at the Quay
100 Columbia Street
Vancouver, WA 98660

May 29, 2008
5 p.m. to 8 p.m.
Portland Metropolitan Exposition Center
2060 North Marine Drive
Portland, Oregon 97217