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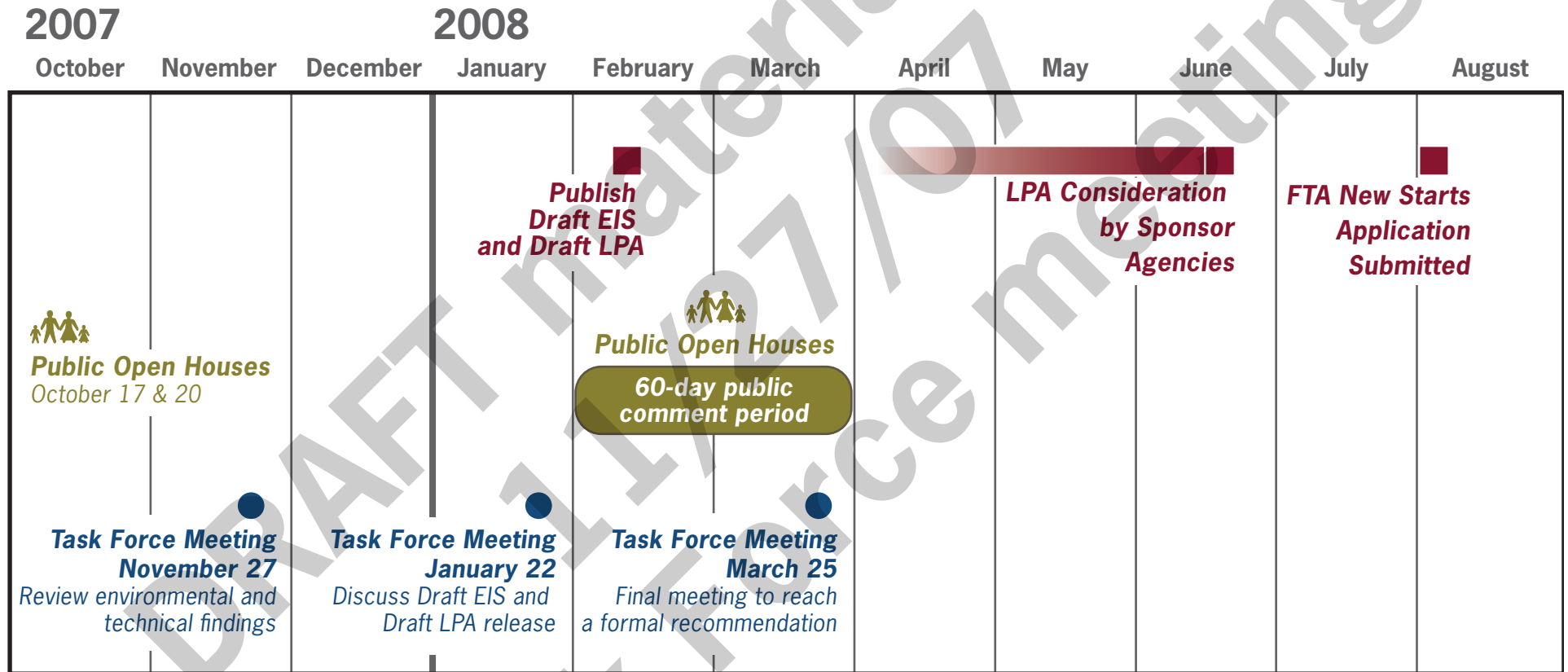
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Columbia River
 **Project Schedule**



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DRAFT materials for
11/27/07
Task Force meeting



I-5 Columbia River Crossing Statement of Purpose and Need

Project Purpose

The purpose of the proposed action is to improve Interstate 5 corridor mobility by addressing present and future travel demand and mobility needs in the Columbia River crossing Bridge Influence Area (BIA). The BIA extends from approximately Columbia Boulevard in the south to SR 500 in the north. Relative to the No-build alternative, the proposed action is intended to achieve the following objectives: a) improve travel safety and traffic operations on the Interstate 5 crossing's bridges and associated interchanges; b) improve connectivity, reliability, travel times and operations of public transportation modal alternatives in the BIA; c) improve highway freight mobility and address interstate travel and commerce needs in the BIA; and d) improve the Interstate 5 river crossing's structural integrity.

Project Need

The specific needs to be addressed by the proposed action include:

- **Growing Travel Demand and Congestion:** Existing travel demand exceeds capacity in the I-5 Columbia River crossing and associated interchanges. This corridor experiences heavy congestion and delay lasting 2 to 5 hours during both the morning and afternoon peak travel periods and when traffic accidents, vehicle breakdowns, or bridge-lifts occur. Due to excess travel demand and congestion in the I-5 bridge corridor, many trips take the longer, alternative I-205 route across the river. Spillover traffic from I-5 onto parallel arterials such as Martin Luther King Boulevard, and Interstate Avenue increases local congestion. The two crossings currently carry over 260,000 trips across the Columbia River daily. Daily traffic demand over the I-5 crossing is projected to increase by 40 percent during the next 20 years, with stop-and-go conditions increasing to at least 10 to 12 hours each day if no improvements are made.
- **Impaired freight movement:** I-5 is part of the National Truck Network, and the most important freight freeway on the West Coast linking international, national and regional markets in Canada, Mexico and the Pacific Rim with destinations throughout the western United States. In the center of the project area, I-5 intersects with the Columbia River's deep water shipping and barging as well as two river-level, transcontinental rail lines. The I-5 crossing provides direct and important highway connection to the Port of Vancouver and Port of Portland facilities located on the Columbia River as well as the majority of the area's freight consolidation facilities and distribution terminals. Freight volumes moved by truck to and from the area are projected to more than double over the next 25 years. Vehicle-hours of delay on truck routes in the Portland-Vancouver area are projected to increase by more than

90 percent over the next 20 years. Growing demand and congestion will result in increasing delay, costs and uncertainty for all businesses that rely on this corridor for freight movement.

- **Limited public transportation operation, connectivity and reliability:** Due to limited public transportation options, a number of transportation markets are not well served. The key transit markets include trips between the Portland Central City and the City of Vancouver and Clark County, trips between North/Northeast Portland and the City of Vancouver and Clark County, and trips connecting the City of Vancouver and Clark County with the regional transit system in Oregon. Current congestion in the corridor adversely impacts public transportation service reliability and travel speed. Southbound bus travel times across the bridge are currently up to three times longer during parts of the am peak compared to off peak. Travel times for public transit using general purpose lanes on I-5 in the bridge influence area are expected to increase substantially by 2030.
- **Safety and Vulnerability to Incidents:** The I-5 river crossing and its approach-sections experience crash rates nearly 2.5 times higher than statewide averages for comparable facilities. Incident evaluations generally attribute these crashes to traffic congestion and weaving movements associated with closely spaced interchanges. Without breakdown lanes or shoulders, even minor traffic accidents or stalls cause severe delay or more serious accidents.
- **Substandard bicycle and pedestrian facilities:** The bike/pedestrian lanes on the I-5 Columbia River bridges are 6 to 8 feet wide, narrower than the 10-foot standard, and are located extremely close to traffic lanes thus impacting safety for pedestrians and bicyclists. Direct pedestrian and bicycle connectivity are poor in the BIA.
- **Seismic vulnerability:** The existing I-5 bridges are located in a seismically active zone. They do not meet current seismic standards and are vulnerable to failure in an earthquake.



FINAL
PROBLEM DEFINITION

December 27, 2005

Introduction

Major transportation agencies in the Vancouver-Portland region have joined together to lead development of transportation improvements to the 5-mile segment of Interstate 5 (I-5) between State Route (SR) 500 in Vancouver and Columbia Boulevard in Portland, including the bridges across the Columbia River (the I-5 Bridge Influence Area). Improvements are expected to address highway, vehicular freight, transit, pedestrian, and bicycle needs.

Function and Role of the I-5 Bridge Influence Area

I-5 is the only continuous north/south interstate highway on the West Coast, providing a commerce link for the United States, Canada, and Mexico. In the Vancouver-Portland region, I-5 is one of two major highways that provide interstate connectivity and mobility. I-5 directly connects the central cities of Vancouver and Portland. Interstate 205 (I-205), a 37-mile long freeway that extends from its connection with I-5 at Salmon Creek to its terminus with I-5 near Tualatin, provides a more suburban and bypass function and serves travel demand between east Clark County, east Multnomah County, and Clackamas County.

Operation of the I-5 crossing over the Columbia River is directly influenced by the 5-mile segment of I-5 between SR 500 in Vancouver and Columbia Boulevard in Portland. Known as the I-5 Bridge Influence Area, this segment includes eight interchanges, including connections with four state highways (SR 14, SR 500, and SR 501 in Washington and OR 99E in Oregon) and with several major arterial roadways, that serve a variety of land uses, and provides access to downtown Vancouver, two international ports, industrial centers, residential neighborhoods, retail centers, and recreational areas.

The existing I-5 crossing of the Columbia River consists of two side-by-side bridges that have lift spans. They were built four decades apart and the cost of each was financed with bridge tolls. The eastern bridge (serving northbound traffic) was built in 1917 and the western bridge (serving southbound traffic) was built in 1958. The two-bridge crossing, which served 30,000 vehicles per day in the 1960s, now carries more than 125,000 automobiles, buses, and trucks each weekday. While many of these trips are regionally-oriented (average trip length is 16 miles), it is estimated that 70 to 80 percent of trips using the I-5 crossing actually enter and/or exit I-5 within the 5-mile long I-5 Bridge Influence Area.

A second interstate highway river crossing is located 6 miles east (upstream) of the I-5 crossing. The I-205 Glenn Jackson Bridge, which opened in 1982, carries about 140,000 vehicles per day and is reaching its peak-hour period carrying capacity. This bridge has a fixed span. No other river crossing options in the metropolitan area are available between the two states. The next closest bridges for automobile use are located at Longview, Washington, 46 miles to the west, and at Cascade Locks, Oregon, 40 miles east of the I-5 bridge crossing.

A rail bridge is located about a mile west (downstream) of the I-5 crossing. The Burlington Northern-Santa Fe (BNSF) rail bridge was built in 1908 and features a swinging span to accommodate river traffic. The I-5 crossing's lift spans were designed to align with the rail bridge's swing span.

The I-5 Bridge Influence Area serves several broad travel markets:

- Through travel. These users travel from outside the Vancouver-Portland region to destinations that are also outside the region—for example, a freight or tourist trip from Seattle, Washington to Eugene, Oregon. These users represent about 7 percent of the total vehicle-trips crossing the river during the peak periods.
- Regional travel. Most of these users travel between Clark County and the Portland metropolitan area (Multnomah, Washington and Clackamas counties), or vice-versa, without stopping in the I-5 Bridge Influence Area. These trips account for about 47 percent of the total vehicle-trips crossing the river during the peak periods.

Seven percent of the total trips crossing the river originate within the region and are destined outside of the region, or originate outside of the region and are destined within the region, for example, a trip from Salem, Oregon to Clark County.

- Local travel. Most of these users travel between the I-5 Bridge Influence Area and other locations within the Vancouver/Portland metropolitan area, or vice-versa. For example, a trip from a southeast Portland neighborhood to downtown Vancouver is considered a local trip. These trips account for about 32 percent of the vehicle-trips crossing the I-5 bridge during the peak periods.

Two percent of the total trips crossing the river originate outside the region and are destined to a location within the I-5 Bridge Influence Area, or originate within this area and are destined outside of the region, for example, a trip from Longview, Washington to Portland Meadows.

- Internal travel. These users stay entirely within the I-5 Bridge Influence Area—for example, from downtown Vancouver to Hayden Island. This constitutes about 5 percent of the trips crossing the I-5 bridge during the peak periods.

Definition of the Problem

Current Problems	Details/Background
<p>1. Travel demand exceeds capacity in the I-5 Bridge Influence Area, causing heavy congestion and delay during peak travel periods for automobile, transit, and freight traffic. This limits mobility within the region and impedes access to major activity centers.</p>	<p>Heavy traffic congestion has resulted from growth in regional population and employment and in interstate commerce over the last two decades. The existing I-5 bridge crossing provides 3 lanes of capacity in each direction, with a directional capacity of about 5,500 vehicles per hour. Travel demand currently exceeds that capacity during peak periods. As a result, stop-and-go traffic conditions last 2 to 5 hours in the mornings and afternoons. These conditions are aggravated by vehicle merges, traffic accidents, and vehicle breakdowns. Due to excess travel demand in the I-5 Bridge Influence Area, many travelers take longer, alternative routes such as I-205, or circulate on local streets to less direct I-5 interchanges. In addition, spillover traffic from I-5 onto parallel arterial roadways increases local congestion.</p> <p>Although the lift span is used only in off-peak periods, it affects travel reliability across the river and creates extensive traffic delays. The span is opened 20 to 30 times a month, with the greatest number of lifts occurring during the winter when water levels are at their highest. Each lift takes approximately 10 minutes, creating traffic delays that can last up to an hour. During peak periods when the lifts are not allowed, river traffic must maneuver a tight S-curve route through the rail bridge opening and the highest fixed span of the I-5 crossing, creating hazardous navigation conditions.</p>
<p>2. Transit service between Vancouver and Portland is constrained by the limited capacity in the I-5 corridor and is subject to the same congestion as other vehicles, affecting transit reliability and operations.</p>	<p>The I-5 bridge is a critical bi-state transit link for transit patrons traveling between Vancouver and Portland. Bi-state transit service includes local fixed-route bus service between downtown Portland and downtown Vancouver (using the I-5 bridge), commuter-oriented peak period express routes from Clark County park-and-rides and transit centers to downtown Portland on both I-5 and I-205, and I-205 shuttle service between Fisher's Landing Transit Center and the Parkrose Transit Center.</p> <p>Current congestion in the I-5 Bridge Influence Area has an adverse impact on transit travel speed and service reliability. Between 1998 and 2005, local bus travel times between the Vancouver Transit Center and Hayden Island increased 50 percent during the peak period. Local buses crossing the I-5 bridge in the southbound direction currently take up to three times longer during parts of the morning</p>

	<p>peak period compared to off peak periods. On average, local bus travel times are between 10 percent and 60 percent longer when traveling in the peak period direction.</p> <p>Commuter buses also experience congestion and incident-related delays. Commuter buses traveling southbound during the morning peak period have travel times between 45 percent and 115 percent longer than commuter buses traveling during off-peak periods. Commuter buses traveling northbound during the afternoon peak period have the advantage of using the northbound High Occupancy Vehicle lane, however, these buses still experience travel times between 35 percent and 60 percent longer than commuter buses traveling during the off-peak periods.</p>
<p>3. The access of truck-hauled freight to nationally and regionally significant industrial and commercial districts, as well as connections to marine, rail, and air freight facilities, is impaired by congestion in the I-5 Bridge Influence Area.</p>	<p>I-5 is the primary supply-chain for goods moving into and out of the Vancouver-Portland region and the Pacific Northwest. Access to nationally and regionally significant industrial and commercial districts, including the Ports of Vancouver and Portland, and connections to marine, rail and air freight facilities, is adversely affected by congestion in the I-5 Bridge Influence Area. Congestion is increasingly spreading into the off-peak periods (including weekends) used by freight carriers. Declining freight carrier access slows delivery times and increases shipping costs, diminishing the attractiveness of I-5 and the uses served by I-5, and negatively affecting the region's economy.</p> <p>Recent forecasts indicate that truck traffic in the region will double, and the logistics requirements for freight delivery time will become increasingly "just-in-time" – placing even more pressure on travel time reliability.</p>
<p>4. The I-5 bridge crossing area and its approach sections experience crash rates over two times higher than statewide averages for comparable urban freeways in Washington and Oregon, largely due to outdated design. Incident evaluations attribute crashes to congestion, closely spaced interchanges, short weave and merge sections, vertical grade changes in the bridge span, and narrow shoulders. In addition, the</p>	<p>Over 300 reported crashes occur annually in the I-5 Bridge Influence Area. Crashes have resulted in substantial property damage and injury; some have resulted in fatalities. The causes are:</p> <p>Close Interchange Spacing The 5-mile Bridge Influence Area contains eight closely spaced interchanges. These interchanges provide access to several east-west highways and arterial roadways that serve a mix of interstate, regional, and local trip purposes. The average distance between the interchanges is 1/2 mile, as compared with a recommended minimum spacing of 1 mile between interchanges located in urban areas.</p> <p>Short Weave and Merge Sections Short weave sections for vehicles entering and exiting the freeway generate backups and delay due to difficulty in</p>

<p>configuration of the existing I-5 bridges relative to the downstream BNSF rail bridge contributes to hazardous navigation conditions for commercial and recreational boat traffic.</p>	<p>maneuvering, especially for large trucks. The proportion of trucks is high because this segment provides arterial street access to both ports.</p> <p>Outdated designs for entrance and exit ramps cause backups onto the mainline at exit ramps. Most of the entrance ramps do not provide enough space for vehicles to merge safely with through traffic.</p> <p>Vertical Grade Changes Vertical grade changes in the bridge span over the Columbia River create sight distance limitations that reduce speeds and create potential hazards to motorists.</p> <p>Narrow Highway Shoulder Width Several segments of the I-5 Bridge Influence Area, including the I-5 bridge, have narrow inside and outside shoulders in both travel directions. In several locations, shoulders are as little as 1-foot wide (10- to 12-foot wide shoulders are standard).</p> <p>The lack of shoulders positions many motorists undesirably close to physical barriers that border I-5. Many drivers respond with caution by slowing down to increase separation from vehicles ahead and behind. Increased vehicle spacing reduces vehicle throughput and contributes to freeway congestion.</p> <p>In addition, the lack of safe areas for incident response, disabled vehicle pullout, and driver recovery also impairs the ability to manage highway operations and recover from events that interrupt traffic flow.</p> <p>Hazards for River Navigation The I-5 crossing's lift span cannot be raised during peak traffic periods. This requires river traffic heading downstream on the Columbia River to navigate under the bridge's high fixed spans near the middle of the river, then quickly turn to line up with the narrow opening of the rail bridge on the north side of the river. This maneuver is especially difficult during high river levels and could result in a collision between a vessel and one of the bridges.</p>
<p>5. Bicycle and pedestrian facilities for crossing the Columbia River in the I-5 Bridge Influence Area are not designed to promote non-motorized access and connectivity across the river. In addition, "low speed</p>	<p>The width of the bicycle/pedestrian facility on the I-5 bridge is substandard (6 to 8 feet) and located extremely close to traffic. Separated multi-use paths should be at least 10 feet wide.</p> <p>Bicycle and pedestrian connections between North Marine Drive, Hayden Island, and Vancouver require out-of-direction travel. For example, no connection exists for pedestrians or bicyclists wanting to stay on the west side of</p>

<p>vehicles” are not allowed to use the I-5 bridge to cross the river.</p>	<p>the bridge between Hayden Island and North Marine Drive. In addition, many of the I-5 Bridge Influence Area’s features are not in compliance with Americans with Disabilities Act design guidelines.</p> <p>“Low speed vehicles” can be propelled via various means, including through the use of different fuels or electric power. These vehicles must have seatbelts, windshields, turn signals, headlights, brake lights and other safety equipment. According to the National Highway Traffic Safety Administration, “low speed vehicles” are capable of speeds of up to 25 miles per hour and can be operated on streets with posted speed limits of 35 miles per hour or less. Since I-5 is posted for freeway speeds and since the bridge’s multi-use pathway is narrow and permits only non-motorized vehicles, “low speed vehicles” are not allowed to use the I-5 bridge to cross the river.</p>
<p>6. The I-5 bridges across the Columbia River do not meet current seismic standards, leaving them vulnerable to failure in an earthquake.</p>	<p>Previous studies concluded that the existing structures could not be upgraded to fully meet seismic design standards without full bridge reconstruction.</p>
<p>7. The current configuration of I-5 within the I-5 Bridge Influence Area limits east-west connectivity across the highway for all users.</p>	<p>There are a limited number of overcrossings and undercrossings of I-5, particularly across I-5’s approaches to the Columbia River bridge crossing, i.e., between downtown Vancouver to the west of I-5 and the numerous land uses to the east of I-5 and between Jantzen Beach and Hayden Island. Users wishing to travel across I-5 often must take circuitous routes.</p>
<p>Future Problems</p>	<p>Details/Background</p>
<p>8. As the Vancouver/Portland metropolitan region grows, mobility and accessibility for automobile, freight, and transit will decline unless the disparity between demand and capacity in the I-5 Bridge Influence Area is addressed. The increasing disparity between demand and capacity will lead to longer delays, increased accident potential, and diminished quality of life and economic opportunity.</p>	<p>Regional Growth</p> <p>Consistent with regionally adopted comprehensive plans, the region’s growth forecasts indicate that population, employment, and commercial trade will continue to grow, increasing regional travel demand.</p> <ul style="list-style-type: none"> • Between 2005 and 2030, the population of the four-county Vancouver-Portland region is projected to increase by 44 percent, from 1.96 million to 2.82 million. • Regional trade is expected to almost double over the next 25 years to over 520 million tons. While currently 64 percent of the region’s freight tonnage is hauled by truck, by 2030 it is projected that 73 percent will be carried by truck, many including container loads.

Increased Travel Demand

Daily traffic demand over the I-5 bridge is expected to increase by more than 40 percent in 20 years, from 125,000 vehicles in 2000 to 180,000 vehicles in 2020 (traffic is expected to further increase beyond 2020; new travel demand modeling is currently being conducted to predict 2030 levels). The projected increase in use of the bridge is constrained by the lack of capacity to accommodate more vehicles, resulting in an expansion of the peak period to accommodate the projected traffic increase. There will also be a potentially large and underserved transit market for trips between key regional locations traveling or connecting through the I-5 Bridge Influence Area.

Deteriorating Traffic Conditions

Unless improvements are made, traffic conditions in the I-5 Bridge Influence Area are predicted to worsen over the next 20 years:

- Traffic congestion and delay will increase, with stop-and-go conditions occurring in both directions for 10 to 12 hours on weekdays. Increased delays on weekends will also result.
- The current off-peak periods, which are generally uncongested and favored by freight carriers, will blend into adjacent peak period congestion, increasing freight delay throughout much of the day.
- Vehicle-hours of delay during the evening commute period will increase nearly 80 percent, from 18,000 hours to 32,000 hours each day. Vehicle-hours of delay on truck routes will increase by more than 90 percent, from 13,400 hours to 25,800 hours each day.
- Average travel times for buses traveling in general purpose lanes on I-5 between downtown Vancouver and downtown Portland are expected to almost double, from 27 minutes in 2000 to 55 minutes in 2020.
- With an extension in the duration of congestion, there may be pressure to increase the bridge lift closure periods, further hampering river navigation and increasing the likelihood of accidents between vessels and the bridge.
- As traffic demands increase, accident levels will likely rise within the Bridge Influence Area.

	<p>Diminished Mobility and Accessibility</p> <ul style="list-style-type: none">• Slower highway speeds will reduce access to jobs, shopping, and recreational uses.• Regional truck freight is projected to increase by about 130 percent in the next 25 years; however, increasing delays between I-5 and freight centers will adversely affect freight distribution and access to ports and terminals, thereby shrinking market areas served by the Vancouver-Portland region. <p>The current Regional Transportation Council Metropolitan Transportation Plan and the Metro Regional Transportation Plan recognize the need for additional capacity to improve the flow of people and freight in the I-5 Bridge Influence Area. Both plans include the I-5 Transportation and Trade Partnership Strategic Plan recommendations to increase mobility and accessibility in the I-5 Bridge Influence Area.</p>
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Columbia River CROSSING

Originally sent June 8, 2007

Revised October 31, 2007

TO: Linda Gehrke, Federal Transit Administration
Steve Saxton, Federal Highway Administration
Jeff Graham, Federal Highway Administration

FROM: Kris Strickler, CRC Deputy Project Director

COPY Doug Ficco, CRC Project Director
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SUBJECT: Development of the Range of Alternatives

The purpose of this memorandum is to briefly summarize the process employed by the Columbia River Crossing (CRC) project team to develop the range of alternatives being evaluated in the Draft Environmental Impact Statement (DEIS), and to seek concurrence from Federal Transit Administration and Federal Highway Administration to proceed with this range of alternatives. This memorandum is a summary of the process used to develop the range of alternatives; however there are several attachments that are referenced throughout that provide additional details.

In 2001, Governors Gary Locke and John Kitzhaber established 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 published a strategic plan in 2002 (see Attachment A) recommending substantial transportation improvements between I-405 in Portland and I-205 north of Vancouver. The CRC project was initiated in September 2005 to advance the recommendations of this planning effort. Since this time, CRC project staff has worked closely with the public, stakeholders, and local jurisdictions to develop, evaluate, and narrow a wide range of options to address this project's purpose and need.

In 2005, a combination of public scoping, stakeholder involvement, and project staff input developed the project's Purpose and Need (see Attachment B) and identified more than 70 potential options that could possibly satisfy it. These options were evaluated and screened by project staff during the first half of 2006 that resulted in a shorter list of promising transit and highway options. These options were then shared with outside stakeholders. Highway and transit options were then combined into 12 multi-modal alternatives that represented a reasonable range of transit and highway combinations to evaluate their performance. These 12 alternatives received extensive public and agency input and analysis. In November 2006, based on this input and analysis, project staff recommended advancing a range of alternatives to the DEIS that included two high capacity transit (HCT) modes—Light Rail Transit (LRT) and Bus Rapid Transit (BRT), and one river crossing alternative—replacement bridge (with design options of upriver or downriver). Subsequent public and stakeholder feedback revealed a desire by some stakeholders for a wider range of options to be evaluated in the DEIS, prompting the inclusion of supplemental bridge options in the range of alternatives. The range of alternatives currently being evaluated in the DEIS are as follows:

1. No Build
2. Replacement Bridge and BRT with complementary Express Bus service
3. Replacement Bridge and LRT with complementary Express Bus service
4. Supplemental Downstream Bridge and BRT with complementary Express Bus service
5. Supplemental Downstream Bridge and LRT with complementary Express Bus service

In addition, project staff will be evaluating a range of tolling options for the river crossing.

Early Alternative Development and Screening

In October 2005, the CRC Task Force adopted a Vision and Values Statement (see Attachment C) that outlines broad goals and priorities for this project and served as a basis for developing criteria and performance measures to evaluate alternatives. In collaboration with local agency sponsors, the CRC Task Force¹, state and federal permitting agencies, and the project team developed the Evaluation Framework (see Attachment D). The Evaluation Framework outlines a process for narrowing a wide range of possible alternatives to a short list to be evaluated in the DEIS and ultimately to the selection of a preferred alternative. The first step in this process was to identify transportation components (i.e., river crossing types and transit modes) that could be packaged into alternatives. Over 70 such components were identified in the 2002 I-5 Transportation and Trade Partnership Final Strategic Plan and through public and stakeholder outreach.

After identifying components, project staff performed two rounds of evaluation and screening to narrow these options in preparation for packaging them into full alternatives. The initial screening effort in April 2006, "Step A" (see Attachment E), narrowed over 70 components using a pass/fail test to eliminate ideas that did not meet the purpose and need of the project. A second round of screening in June 2006, "Step B" (see Attachment F), evaluated the performance of the remaining components in relation to criteria specified in the Evaluation Framework. Components were scored on the following adopted values:

- Community livability and human resources
- Mobility, reliability, accessibility, congestion reduction, and efficiency
- Modal choice
- Safety
- Regional economy, freight mobility
- Stewardship of natural resources
- Distribution of benefits and impacts

Ultimately, all of the components that entered Step B screening remained. Step B screening did not highlight any clearly superior options or reveal any new fatal flaws, and many of the less significant weaknesses could likely be mitigated with design refinements.

The Task Force and general public participated in the Step A/Step B screening process through formal and informal comment and dialogue. The Task Force concurred with the results of the screening and the list of components brought forward for the next step.

Alternative Packages Development and Screening

The early screening efforts identified several promising options for further study. The best-performing river crossing options appeared to be a replacement bridge and a supplemental arterial or Interstate bridge. Express Bus, BRT, and LRT were the best performing transit modes. These components were packaged into 12 alternative packages. They were designed to assess how they perform generally, and to see how individual features perform in different combinations. Each alternative package included a river crossing type and transit mode(s), as well as specific designs to improve safety, freight movement, highway operations, and bicycle and pedestrian access. The 12 alternatives are listed below:

¹ The CRC Task Force is a 39-member stakeholder advisory group comprised of leaders from a broad cross section of southwest Washington and Portland, Oregon communities interested in the project. This group has representation from public agencies, businesses, civic organizations, neighborhoods, and freight, commuter and environmental groups.

Alternative Package Themes	River Crossing Type	High Capacity Transit Mode	Function of Existing Bridges	Function of New Bridge
#1 No Action	Existing bridges	None	I-5	N/A
#2 Minimum Investment: TDM/TSM Emphasis	Existing bridges	None	I-5	N/A
#3 Maximum Transit Ridership, Minimum I-5 improvements	Supplemental arterial	LRT	I-5	Arterial + LRT
#4 Balanced Transit/Highway Improvements with LRT	Supplemental Interstate	LRT	Arterial + LRT	I-5
#5 Balanced Transit/Highway Improvements with BRT-Full	Supplemental Interstate	BRT-full	Arterial + BRT	I-5
#6 Balanced Transit/Highway Improvements with BRT-Lite	Supplemental Interstate	BRT-Lite	Arterial + BRT	I-5
#7 Maximum Vehicle Capacity	Supplemental Interstate	None	Arterial	I-5
#8 Balanced Transit/Highway Improvements with LRT	Replacement bridge	LRT	N/A	I-5 & LRT
#9 Balanced Transit/Highway Improvements with LRT	Replacement bridge	LRT	N/A	I-5 & LRT
#10 Balanced Transit/Highway Improvements with BRT-Full	Replacement bridge	BRT-full	N/A	I-5 & BRT
#11 Balanced Transit/Highway Improvements with BRT-Lite	Replacement bridge	BRT-Lite	N/A	I-5 & BRT
#12 Maximum Vehicle Capacity	Replacement bridge	None	N/A	I-5

Note: BRT-full is Bus Rapid Transit with mostly exclusive right-of-way
BRT-lite is less capital-intensive with much less exclusive right-of-way

Project staff used the criteria outlined in the Evaluation Framework to assess the performance of each alternative. This assessment focused on the performance of river crossing types and transit modes. Other elements of alternatives, such as interchange configurations and transit alignments were used for modeling traffic and transit but were not individually screened. These elements would be later developed for alternatives assessed in the DEIS.

Overall, multi-modal packages performed the best. Alternatives that did not include a combination of both highway and transit improvements were not recommended to be carried into the DEIS. Options that contained only transit improvements without bridge capacity or those with new bridge capacity that did not include transit improvements did not meet the purpose and need established for the project.

Analysis revealed (see Attachment G) that a replacement bridge performed best on nearly all criteria, and that a supplemental interstate bridge also performs well on most criteria. As documented in Attachment G, Component Findings, the No Build (package 1), TDM/TSM only (package 2), and a supplemental arterial (package 3) do not meet the project's Purpose and Need to reduce congestion duration, serve higher travel demands, and improve safety. BRT and LRT performed best for transit, particularly when paired with complementary Express Bus service. In November 2006, staff recommended (see Attachment H) to the CRC Task Force that the DEIS evaluate: 1) No Build, 2) Replacement Bridge with BRT and Express Bus, and 3) Replacement Bridge with LRT and Express Bus. The CRC Task Force gave a preliminary recommendation to further develop these alternatives in preparation for evaluation in the DEIS. The Task Force also recommended the project team undertake a substantial public involvement effort to gauge public opinion on the staff recommendation.

Development of the Range of Alternatives

In January 2007, staff launched an intensive public involvement effort to present the screening results and receive comments on the staff recommendation. The public and most agencies generally agreed

with the recommendation but some, including the Oregon and Washington State Historic Preservation Offices, felt it did not include a wide enough range of options. There was interest in seeing the evaluation results of an alternative that would reuse the existing I-5 bridges. This interest led the Task Force to form a subcommittee in February 2007 to explore how the existing I-5 bridges could be reused and still meet the project's Purpose and Need.

The subcommittee and the project staff found that the best option for reusing the existing bridges is to place northbound I-5 traffic and bicycles and pedestrians on the existing bridges and include HCT and southbound I-5 traffic on a new supplemental crossing (see Attachment I for a description of the subcommittee process). The Task Force adopted the subcommittee's recommendation in March 2007.

Staff incorporated the March 2007 Task Force recommendation by including two more alternatives. Both alternatives would carry I-5 traffic as specified by the Task Force recommendation (southbound traffic on the new supplemental crossing and northbound traffic on both existing I-5 bridges), but differ in their HCT mode; the fourth alternative includes BRT on the new supplemental bridge and the fifth alternative includes LRT. This resulted in the following alternatives for evaluation in the DEIS:

1. *No Build*: This alternative includes the same 2030 population and employment projections and the same reasonably foreseeable projects used in the build alternatives outside the project area.
2. *Replacement Bridge with BRT*: This alternative would replace the existing I-5 bridges with a new crossing either upstream or downstream of the current I-5 alignment. This new crossing would carry Interstate traffic, BRT, and bicycles and pedestrians. Transit would include an all-day BRT system that would operate in an exclusive guideway from Vancouver to the Expo Center station where it would connect to the existing Yellow MAX Line. Express Bus service and local and feeder bus service would be increased to serve the added transit capacity.
3. *Replacement Bridge with LRT*: The same as the previous alternative except that LRT would be used as the HCT mode. LRT has the same alignment options, and similar station locations and requirements as those for the BRT alternative. Operational options, such as headways, would differ, and this system would integrate with the Yellow MAX Line without requiring transit patrons to transfer.
4. *Supplemental Bridge with BRT*: This alternative would use both existing I-5 bridges for northbound Interstate traffic and bicycles and pedestrians. A new crossing would carry southbound Interstate traffic and BRT. The existing I-5 bridges would be re-striped to provide two lanes on each bridge and allow for an outside safety shoulder for disabled vehicles. Three lanes would be for through traffic and one would be an auxiliary lane. Four southbound I-5 lanes and BRT would be provided on a new downstream supplemental bridge. The southbound lanes would include three through lanes and one auxiliary lane. Interchanges would be modified to improve intersection performance in accordance with operational analysis that balances the mainline improvements. Express Bus service and local and feeder bus service would be increased to serve the added transit capacity.
5. *Supplemental Bridge with LRT*: The same as the previous alternative except that LRT would be used as the HCT mode. LRT has the same alignment options, and similar station locations and requirements as the BRT alternative. Operational details, such as headways, may differ, and this system would integrate with the Yellow MAX Line without requiring transit patrons to transfer.

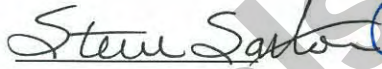
The DEIS will also evaluate the potential impacts and performance of a variety of tolling options, including variable rate tolling. All of the build alternatives in the DEIS will include additional TSM and TDM measures to help reduce congestion during the peak travel period, improve efficient use of the transportation network, and provide alternative transportation options to commuters such as carpools, flexible work hours, and telecommuting.

Federal Concurrence

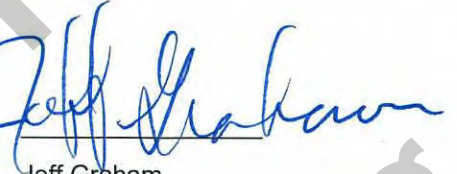
We appreciate your ongoing assistance and support with the Columbia River Crossing project. With this memorandum, we are seeking your concurrence on the range of alternatives being advanced into the DEIS, and the process that led up to those alternatives. If you have any questions or comments, please call Kris Strickler (360.816.2201) or Heather Gundersen (360.816.2199).



Linda Gehrke
FTA Deputy Administrator,
Region 10



Steve Saxton
FHWA WA Area Engineer



Jeff Graham
FHWA OR Area Engineer

DRAFT materials for
11/27/07
Task Force meeting

Alternative Packages Evaluation



Value	Criteria	Performance Measures
1. Community Livability and Human Resources	1.1 Avoid, then minimize adverse impacts to, and where practicable reduce, noise levels	1.1.1 No. of residential properties within estimated FHWA noise impact contours.
		1.1.2 No. of residential properties within estimated FTA impact screening contours.
		1.1.3 Identified constraints to providing mitigation for areas with potential impacts
	1.2 Avoid, then minimize adverse impacts to, and where practicable enhance, neighborhood cohesion.	1.2.1 No. of neighborhoods bisected by new construction
		1.2.2 No. of significantly impacted neighborhoods (> 10% of total area required for new construction)
		1.2.3 No. of neighborhoods divided from their identified resources by new construction
	1.3 Avoid, then minimize adverse impacts to, and where practicable enhance, air quality	1.3.1 General trade offs in air quality effects of the alternatives
	1.4 Avoid or minimize residential displacements	1.4.1 No. of residential properties crossed by alternative's conceptual footprint
	1.5 Avoid or minimize business displacements	1.5.1 No. of commercial/industrial properties crossed by alternative's conceptual footprint
	1.6 Avoid or minimize adverse impacts to, and where practicable, preserve historic, prehistoric, and cultural resources	1.6.1 No. of historic, archaeological and cultural (i.e., TCP) resource properties within conceptual footprint
		1.6.2 Total acreage of historic, archeological, cultural properties within conceptual footprint
		1.6.3 No. of historic, archaeological and cultural resource properties also within potential noise impact contour
		1.6.4 Total acreage of land located in high probability areas for archeological resources
	1.7 Avoid, then minimize adverse impacts to, and where practicable enhance, public park and recreation resources	1.7 No. of 4(f) public parks (including # of parks and area of parkland) falling within conceptual footprint
1.8 Support local comprehensive plans and jurisdiction-approved neighborhood plans including development and redevelopment opportunities, consistent with these plans.	1.8.1 Does alternative support/uphold principles of multi-modalism and compact growth?	
	1.8.2 Is alternative consistent with relevant comprehensive plans?	
	1.8.3 Is alternative consistent with project-specific policies in the Vancouver City Center Vision?	
1.9 Incorporate aesthetic values of the community in the project design	1.9.1 To be measured in later phases of project when design details are available to support evaluation	
	1.9.3 Amount of developable, redevelopable land to be lost under alternative.	
2. Mobility, Reliability, Accessibility, Congestion Reduction, and Efficiency	2.1 Reduce travel times and delay in the I-5 corridor and within the bridge influence area for passenger vehicles	2.1.1 Passenger auto travel times in minutes between selected corridor points along I-5. Morning commute (SB I-5) Salmon Creek to Portland CBD; Evening commute (NB I-5) Portland CBD to Vancouver CBD
		2.1.2 Passenger auto vehicle hours of delay (VHD) on I-5 within BIA and corridor area
	2.2 Reduce travel times and delay in the I-5 corridor and within the bridge influence area for transit modes	2.2.1 Peak period transit vehicle travel time and aggregate VHD (transit vehicle hour delay) from selected corridor points along I-5
	2.3 Reduce the number of hours of daily highway congestion in the I-5 corridor and within the bridge influence area	2.3.1 No. of congested lane miles and daily number of hours of congestion on I-5 in the I-5 corridor and within bridge influence area
		2.3.2 Employment and housing accessibility- No. of jobs and households reachable in 15, 30, 45, and 60 minute trips by auto and transit from specific I-5 travel markets
	2.4 Enhance or maintain accessibility of jobs, housing, health care and education to travel markets served by the I-5 Columbia River crossing	2.4.2 Change in # of existing highways/arterials that directly access I-5 within Bridge Influence Area
		2.5.1 & 2.5.2 Peak period and daily persons crossing Columbia River between SOV, HOV, and transit modes
2.6 Improve vehicle throughput of I-5 Columbia River crossing	2.6.1 & 2.6.2 Peak period and daily SOV, HOV, Bus, and Medium/Heavy Truck volumes across I-5 Columbia River crossing.	
	2.6.3 Peak period volumes on east-west and north-south adjacent I-5 corridor arterial roadways within Bridge Influence Area	
	3.1 Provide for multi-modal transportation choices in the I-5 corridor and within the bridge influence area	3.1.1 Percent of population and employment with access to transit within 1/4 mile of bus lines and 1/2 mile of HCT stations
3.1.2 Access to employment and housing within transit travel time contour in 15, 30, 45, and 60 minutes		
3.2 Improve transit service to target markets in the I-5 corridor and within the bridge influence area	3.2.1 Transit travel times from the 7 Clark County transit markets to the 5 major transit markets in Oregon (both in vehicle and out of vehicle for a few representative pairs) (Salmon Creek, dt Vancouver, N Portland, dt Portland)	
	3.3 Improve bike/pedestrian connectivity in the I-5 corridor and within the bridge influence area	3.3.1 Provide multi-use facility designed to at least minimum design standards; providing continuous and non-circuitous north-south pathway and convenient connections -- qualitatively evaluated
3.4 Increase vehicle occupancy in the I-5 corridor and within the bridge influence area	3.4.1 Peak period SOV + HOV + Bus + Medium & Heavy Truck volumes across I-5 Columbia River crossing and vehicle occupancy at I-5 Columbia River crossing	
4. Safety	4.1 Enhance Vehicle/Freight Safety	4.1.1 Highway improvements to I-5 that specifically improve vehicle/freight safety
	4.2 Enhance bike/pedestrian facilities and safety	4.2.1 Qualitative assessment of bicycle and pedestrian pathways provided within an alternative, and their affect on bike/ped safety
	4.3 Enhance or maintain marine safety	4.3.1 Quality of navigation channel geometrics to accommodate ship movements. Does alternative improve barge turning maneuvers
	4.4 Enhance or maintain aviation safety	4.4.1 Ability to accommodate FAA clearance zone for Pearson Airpark
	4.5 Provide sustained life-line connectivity	4.5.1 Ability to accommodate life-line connections in the I-5 corridor across the Columbia River to be maintained in an earthquake
	4.6 Enhance I-5 incident/emergency response access within the bridge influence area	4.6.1 Ability to accommodate incident/emergency service access to incidents on I-5 in the bridge influence area

Alternative Packages Evaluation



Value	Criteria	Performance Measures
5. Regional Economy/Freight Mobility	5.1 Reduce travel times and reduce delay for vehicle-moved freight on I-5 within the bridge influence area	5.1.1 Peak period Medium/Heavy Truck travel times in minutes on I-5 within Bridge Influence Area. 5.1.2 Peak period Medium/Heavy Truck vehicle hours of delay (VHD) on I-5 within Bridge Influence Area
	5.2 Reduce travel times and reduce delay for vehicle-moved freight in the I-5 corridor	5.2.1 Peak period Medium/Heavy Truck travel times in minutes within I-5 corridor. 5.2.2 Peak period aggregate vehicle hours of delay (VHD) for Medium/Heavy Trucks within I-5 Corridor
	5.3 Enhance or maintain efficiency of marine navigation	5.3.1 Potential for an alternative to avert extension of "no bridge lift" periods tied to I-5 congestion
	5.4 Improve freight truck throughput of the bridge influence area	5.4.1 Peak period Medium & Heavy Truck volumes across I-5 Columbia River crossing
	5.5 Avoid or minimize adverse impacts to the parallel freight rail corridor	5.5.1 Peak period congestion along east-west arterials within Bridge Influence Area with at-grade crossings of westerly north-south BNSF railline
	5.6 Enhance or maintain access to port, freight, and industrial facilities	5.6.1 Peak period Medium/Heavy Truck travel times in minutes between typical freight centers
	6. Stewardship of Natural Resources	6.1 Avoid, then minimize adverse impacts to, and where practicable enhance, threatened or endangered fish and wildlife and their habitat
6.2 Avoid, then minimize adverse impacts to, and where practicable enhance, other fish and wildlife and their habitat		6.2.1 Total area in acres of fish and wildlife habitat within alternative's conceptual footprint 6.2.2 Impacts to wildlife crossings/passage 6.2.3 Type and relative quality of the habitat identified under Measure 6.2.2
6.3 Avoid, then minimize adverse impacts to, and where practicable enhance, rare, threatened, or endangered plant species		6.3.1 Total area in acres of rare plant habitat within alternative's conceptual footprint
6.4 Avoid, then minimize adverse impacts to, and where practicable enhance and/or restore, wetlands		6.4.1 Total area in acres of wetlands within alternative's conceptual footprint 6.4.2 Type and relative quality of the wetlands identified under Measure 6.4.1
6.5 Avoid, then minimize adverse impacts to, and where practicable enhance, water quality		6.5.1 Total area in acres of additional impervious surface created under alternative. How much existing impervious surface would remain?
6.6 Minimize total energy consumption of construction and transportation system operations		6.6.1 Amount of energy use
6.7 Avoid, then minimize adverse impacts to, and where practicable enhance, waterways		6.7.1 Identified removal/fill impacts to waterways
7. Distribution of Benefits and Impacts		7.1 Avoid or minimize disproportionate adverse impacts on, and where practicable, improve conditions for low income and minority populations
	7.2 Provide for equitable distribution of benefits to low income and minority populations	7.2.1 Which block groups experience improved access to I-5, downtown Vancouver, downtown Portland, or other resources? 7.2.2 Which block groups experience the greatest improvements in transit service?
	8. Cost Effectiveness and Financial Resources	8.1 Minimize the cost of construction.
8.2 Ensure transportation system construction cost effectiveness.		8.1.4 Estimate of FTA Cost Effectiveness index (as an indicator of each alternative's potential eligibility for FTA New Starts funds). This will be reported in ranges given the preliminary nature of the data
8.3 Ensure transportation system maintenance and operation cost effectiveness.		8.1.5 Daily Time Savings (vehicle hours) per highway alternative life cycle cost 8.1.6 Daily reduction in congested hours of operation (hrs/day) per highway alternative life cycle cost
8.4 Ensure a reliable funding plan for the project		8.4.1 To be measured in later phases.
		8.4.2 To be measured in later phases.
9. Growth Management, Land Use	9.1 Support adopted regional growth management and comprehensive plans	9.1.1 Consistency with regional plan policies (e.g., multi-modalism, compact growth) summarized in Table 1-2 of the draft land use MDR, and other regional plan policies specific to the project. Is the alternative included in the RTP and MTP?
		9.1.2 Proximity of proposed HCT stations to areas of higher density, either existing or planned (in local comprehensive plans) and with supportive parking, pedestrian and other policies in place.
10. Constructability	10.1 Maintain transportation operations during construction	10.1.1 Magnitude of delays to current highway, transit, and navigation use.
	10.2 Minimize adverse construction impacts	10.2.1 Magnitude of noise, air quality, and visual impacts to environment.
	10.3 Provide flexibility to accommodate future transportation system improvements	10.3.1 Ease by which transportation system can be improved.
	10.4 Use construction practices and materials that minimize environmental impact	10.4.1 To be measured in later phases.

March 26, 2007

TO: Hal Dengerink and Henry Hewitt, Co-Chairs
FROM: Fourth Alternative Subcommittee (Prepared by CRC Staff)
SUBJECT: Fourth CRC DEIS Alternative Recommendation
COPY: Doug Ficco, WSDOT and John Osborn, ODOT – Co-Directors
ATTACHMENTS: Fourth Alternative Progression Diagram
Fourth Alternative Subcommittee Recommendation

BACKGROUND

At the February 27, 2007 Task Force meeting, a subcommittee was formed to develop a potential fourth alternative for analysis in the CRC project's DEIS. The subcommittee included the following members:

Metro Councilor Rex Burkholder, Co-Chair
Clark County Commissioner Steve Stuart, Co-Chair
Hal Dengerink, CRC Task Force Co-Chair, ex-officio subcommittee member
Henry Hewitt, CRC Task Force Co-Chair, ex-officio subcommittee member
Dean Lookingbill, SW Washington Regional Transportation Council
Fred Hansen, TriMet
Jeff Hamm, C-TRAN
Walter Valenta, Bridgeton Neighborhood
Scot Walstra, Greater Vancouver Chamber of Commerce
Tom Zelenka, Schnitzer Group

Meetings were held weekly at the former Hayden Island Yacht Club, 12050 N. Jantzen Drive, Portland, Oregon. Meeting dates and times were:

March 12, 2007, 2:30 p.m. to 4:30 p.m.
March 19, 2007, 8:00 a.m. to 9:00 a.m.
March 26, 2007, 8:00 a.m. to 10:00 a.m.

The following ground rules were adopted at the initial March 12th meeting:

Ground Rules for Developing the Fourth Alternative:

1. We will produce an alternative in three weeks.
2. The alternative will aspire to meet the CRC project's Purpose and Need Statement.
3. Our job is to assemble the best possible solutions that do the following:
 - a. Maximize the utility of the existing bridges
 - b. Provides High Capacity Transit (HCT) between Clark and Multnomah counties
 - c. Provides high quality bicycle and pedestrian access
 - d. Minimizes impacts on downtown Vancouver and Hayden Island
 - e. Ensure better freight mobility
 - f. Address issues of barge and ship traffic on the Columbia River
4. The Task Force members named by the chairs will be the members of the subcommittee unless the co-chairs (Commissioner Stuart and Councilor Burkholder) and the CRC Task Force co-chairs decide more expertise is needed.

DRAFT — FOR REVIEW ONLY

5. While subcommittee meetings will be noticed and will be open to the public, only officially designated members will participate. Given that the recommendation on including any proposed alternative will be made by the CRC Task Force, the subcommittee will not take any public testimony.
6. Our goal is to make decisions by consensus.

Evaluation Criteria for the Fourth Alternative

The subcommittee recommended the performance of the fourth alternative should aspire to achieve the following criteria in accordance with the CRC project's Purpose and Need:

- encouraging mode shift
- moving people and freight
- optimizing interchanges
- using existing bridges most effectively
- minimizing impacts to land use, minimizing footprints
- providing a lower cost alternative

PROCESS

For the initial meeting, CRC presented two "book-end" options for review by the committee. Option A was essentially a "No-Build" for I-5 with TDM/TSM and transit service. Option B added six lanes of new capacity for I-5, three in each direction, and used the existing bridges for auxiliary lanes in addition to transit service. Both alternatives addressed appropriate interchange modifications, safety improvements, TDM/TSM, freight enhancements, bicycle/pedestrian upgrades, seismic retrofits, and relocation of the railroad moveable span.

For the March 19, 2007 meeting, CRC staff was asked to provide conceptual layouts for three modifications to Options A and B along with an evaluation of their performance sufficient to begin shaping the proposed fourth alternative. The following three recommendations were optimized and evaluated by CRC staff:

- Option A+: Essentially a No-Build option for I-5 with aggressive TDM and Transit components to meet the demand to move people across the river, including a new HCT bridge across the river. I-5 improvements were targeted at improving safety and system flow.
- Option A++: The same as Option A+ with the addition of two I-5 auxiliary lanes, one in each direction, on a new bridge combined with HCT.
- Option B-: Uses the existing I-5 Bridges as auxiliary lanes and provides for two new I-5 lanes in each direction on a new bridge to carry through traffic and HCT. Appropriately sized TDM strategies and increased transit service is added to balance the demand.

Upon presentation of the performance results of the three options, CRC staff was asked to evaluate an additional option that fell somewhere between Option A++ and Option B-. CRC staff added another option for review at the March 26th meeting. These two options are described below:

- Option A++ Modified: This option uses the existing Interstate Bridges for I-5 traffic and adds two lanes, one in each direction, on a new bridge with HCT. Pricing or tolling may be used on the new or existing lanes to reduce vehicle demand. Transit service is increased sufficiently to encourage options to driving alone. A new moveable span is provided on the railroad crossing that best serves navigation needs.
- Option B- Modified: CRC staff recommended an option that uses the existing bridges for NB traffic and a new bridge for SB traffic. The total number of lanes can be limited to eight, two lanes each on the existing bridges and four lanes on the new bridge. This option has the same number of I-5 lanes as Option A++ Modified described above, but more effectively and efficiently uses existing infrastructure and alignments. SB lanes can transition directly to the new alignment without the need for additional shoulders and the fly-over. TDM and Transit is

similar to Option A++ Modified. HCT can share the SB highway bridge. This option also improves opportunities to toll all vehicles crossing the Columbia River.

At the March 26, 2007 subcommittee meeting, Option B- Modified was recommended as the fourth alternative for presentation to the Task Force at their March 27, 2007 meeting.

Following is a detailed description of the Fourth Alternative subcommittee recommendation:

FOURTH ALTERNATIVE SUBCOMMITTEE RECOMMENDATION

A total of eight I-5 lanes will be provided, four in each direction. The existing Interstate Bridges will carry northbound traffic and will be modified to carry two lanes on each bridge. The existing southbound bridge will be converted to northbound for two general purpose through lanes. The existing northbound bridge will carry two lanes, one for general purpose and the other as an auxiliary lane. Four I-5 southbound lanes will be provided on a new bridge with HCT, three general purpose lanes and one auxiliary lane. HCT lanes can either be for light rail or express bus. Transit service will be sized to meet increase demand for riders. Tolling will be used for project funding and will also reduce travel demand. Other TDM as well as TSM and freight enhancements will be included. Bicycles and pedestrians will be on a wider, retrofitted path on the existing bridges. Interchange modifications will be included in relationship to the mainline I-5 improvements to assure the best operational characteristics. A seismic upgrade of the existing bridges may be required. A new railroad moveable span may be required to benefit navigation.

Component improvements recommended include:

Highway

- The existing I-5 bridges are re-striped to provide two lanes on each bridge and allows for an outside safety shoulder for disabled vehicles. The two lanes on the NB bridge will connect with the interchanges as well as allow for through traffic. The two lanes on the SB bridge will become through NB lanes.
- Four new SB I-5 lanes are provided on a new bridge along with HCT. The new lanes will allow for three through lanes and one auxiliary lane connecting SR 14 with Hayden Island.
- Interchanges are modified to improve intersection performance in accordance with operational analysis that balances the mainline improvements. Spot safety improvements are included.
- Traffic system management tools are incorporated to improve I-5 operations.

Transit

- A new river crossing bridge for HCT is included with the new highway bridge.
- HCT capacity is increased to serve approximately 25,000 persons per day.
- Express bus service and local and feeder bus service are increased to serve the added transit capacity. Increase in transit service is based on data generated from model runs and confirmed by the transit providers.
- Park-and-ride lot capacity is increased from the existing 1,872 spaces in the I-5 corridor to approximately 7,500. Recommendations for reduction in park-and-ride spaces can be achieved based on modeling results and transit service recommendations.

TDM/TSM

- Tolling is included for both the new I-5 bridge and existing bridges with variable pricing to reflect peak hour demand. Pricing is focused on generating revenue to help fund the new improvements as well as reducing demand.
- Transit operating subsidies are provided to encourage increased transit service and use.

Freight Mobility

- Trucks have the opportunity to use the new I-5 capacity.

- Spot modifications at key intersections improve truck flow in the interchanges.
- Rebuilding the SB lanes allows ramp by-pass lanes for transit and trucks.

Bicycle/Pedestrian

- Bicycle and pedestrian traffic will use the existing Interstate Bridges. Existing facilities will be widened either on the east side only to provide for a 15 foot-wide path or 10 feet on each side of the two bridges for two paths.
- Bicycle and pedestrian connections are improved throughout the corridor.

Seismic

- Seismic retrofit to “no-collapse” standards would most likely be required for this option.

Railroad Swing Span

- A new railroad marine navigation moveable span is constructed to align with primary navigation needs.

It is important to note that the description of components for the fourth alternative is much more detailed than CRC staff recommendations for the replacement bridge. All alternatives carried into the DEIS will undergo operational analysis to assure best performing elements are included and transit and interchange improvements will be carried forward that are cost-beneficial and sized to meet 2035 demand as required by FHWA and FTA.

October 17, 2007

TO: FHWA, Oregon; FHWA, Washington, FTA
FROM: Doug Ficco and John Osborn, Project Directors
SUBJECT: Upstream/Downstream Alignment Options Memorandum
COPY: Ron Anderson, Jay Lyman, Heather Gunderson, Tom Hildreth

PURPOSE

In February 2007, two I-5 Columbia River Bridge options – a Replacement and a Supplemental – were carried forward for consideration in the Draft Environmental Impact Statement (DEIS). The Replacement crossing had two alignment options – one adjacent to and upstream from the existing I-5 bridges and the other downstream of the existing bridges. Further design and analysis of these options over the past several months has identified several substantial problems with the upstream option. The purpose of this memorandum is to obtain approval to remove the upstream alignment option from further consideration in the DEIS.

BACKGROUND

The Columbia River Crossing (CRC) project began in 2005 with the charge to alleviate the severe congestion in the I-5 corridor in the vicinity of the Columbia River - much of which was attributed to the antiquated 1917 and 1958 structures crossing the Columbia River and the associated interchanges on either side.

An extensive public process narrowed the options to be carried into the DEIS. Part of that process screened and evaluated the potential solutions on an initial pass/fail basis and those that remained were further evaluated against performance measures. The upstream and downstream alignments were the two clear replacement options that provided the best value.

Further refinement of these alignments demonstrated that, although as originally determined the two options provide identical functions, the environmental and construction impacts between the two are such that it is no longer warranted to further evaluate the upstream alignment in the DEIS.

REASONING

Two major design/constructability factors distinguish the upstream and downstream alignment options. The greatest impact is to the schedule since the upstream alignment is estimated to take up to four years longer to construct because it must be located as close to the existing bridges as possible to avoid Pearson Field aviation constraints and the Fort Vancouver Historic Reserve. The close proximity of the upstream alignment to the existing I-5 bridges requires several phases to construct. The northbound bridge must be constructed first; all traffic moved from the existing bridges to this new bridge; the existing northbound bridge demolished; and then, the new southbound bridge constructed. Once completed, the original southbound bridge can be demolished and the high capacity transit (HCT) bridge constructed. The downstream alignment allows the river portion of the highway and HCT bridges to be constructed in one phase and the following demolition of the existing I-5 bridges can also be performed in one phase.

The longer time span required for the upstream alignment extends in-water work and has the potential for greater impacts to threatened or endangered fish and/or wildlife habitat. River vessels, especially less maneuverable commercial barges, have double the exposure to construction equipment in the river with this alignment. And, the HCT bridge across the river could be opened in some capacity within three years using the downstream alignment while it could be eight years with the upstream.

The time-value of money imposes obvious financial impacts to the project. The longer it takes to construct large structures and projects, the more risk a contractor must factor into their bid to take into account future material and labor prices. Plus, the upstream alignment ties up unique and expensive construction cranes and barges for an extended period of time – over six years versus two and one half for the downstream. As such, the large difference in timelines to construct the river crossing alignments weighs heavily in favor of the downstream alignment for minimizing the costs of construction. Also, tying up specialized equipment for up to seven years may be difficult. Additionally, current construction timelines are based on equipment, materials and workforce being available and allowed to work as needed. If working in the water has severe restrictions on construction activities, these timelines will grow exponentially, further exasperating the upstream alignment's viability. Costs cannot be contained under such scenarios.

Several environmental and community factors enter into this reasoning. Many of the small businesses impacted by either alignment have the potential for relocation on the island. However, the upstream alignment impacts the only major grocery store on the island – Safeway - and a large convention center hotel - Red Lion Hotel on the River. It is quite likely a new grocery store would be contemplated on the island; however, the low availability and high competition for large parcels that would accommodate a large store may preclude its construction. Convenience is not the only problem with elimination of this grocery. A manufactured home park located north of the Jantzen Beach Shopping Center has a high probability of housing lower income families. Although neither alignment actually touches the manufactured home park, the elimination of the only major grocery store on the island could have an adverse affect on this population.

The function of the Red Lion and its ability to accommodate large groups may be severely impacted since the upstream alignment requires acquisition of two of its four wings reducing its room availability from 320 to 160. With that impact, its functionality as a large convention center is in serious doubt and a total acquisition may be required.

Historic, prehistoric and geologic evidence all suggest that the Washington side of the river has the highest potential for cultural impacts. While Native Americans occupied or used both sides of the river and the river itself, the Oregon side is in the Columbia River's historic floodplain and thus the land was frequently inundated and the soils are much newer than on the Washington side. In addition, the presence of the Hudson's Bay Company on the Washington side in the 1800's has resulted in substantial historic archaeological resources, as well as known and likely burials of both Europeans and Native Americans. The Fort Vancouver Historic Reserve, which encompasses much of this rich historic landscape, is located on the upstream side of I-5. Although most of the area that would be disturbed by either alignment has seen a variety of building, dock, railroad and road construction, as well as a variety of land uses, there continues to be new discoveries. The Vancouver waterfront area that is disturbed by the downstream alignment has had a variety of uses through the years from a municipal dock in the 1880's, to a shipyard in the WWI era, and the current dock and warehouse occupied by the Hotel Vancouver at the Quay. The upstream alignment disturbs land on the east side of I-5, along the old Fort Vancouver boundary line, which is not currently occupied by highway right-of-way. The history of the area, as well past discoveries, indicate that there is a higher chance of finding burials on the upstream alignment. Also, oral history places a potential cultural site either in the water or on the near shore where the upstream alignment would be located.

RECOMMENDATION

The upstream option's significantly longer construction period, and the associated added costs and impacts, are detrimental enough to that option's viability and acceptability to remove it from further

consideration. In addition, the upstream option would have greater environmental impacts. It increases the risk of impacting historic, prehistoric, and cultural resources, and has greater potential impacts on Hayden Island land use and neighborhoods, including potential low income populations. The recommendation is to drop the upstream alignment and carry the Replacement downstream option and the Supplemental option through the DEIS.

A scenario that doubles the amount of construction time in the water will be very difficult to justify both from a cost standpoint and higher risk to fish, marine mammals and water quality. In terms of cost, an upstream alignment requires mobilizing equipment up to three times instead of once, or paying substantially more to have it on standby. Adding three to four years to the in-water construction schedule will have a significant impact on the overall contract budget.

Furthermore there is no outside interest in maintaining an upstream alignment from any of the agencies or partners in this project.

Therefore, we ask your concurrence that the upstream option be addressed as "Considered but Rejected" and further evaluation halted.

CONCURRENCE

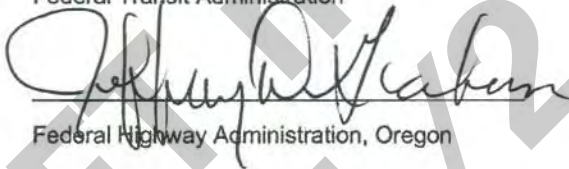
By signature below, FTA and FHWA concur in the recommendation to remove the upstream alignment option for Alternatives 2 & 3 from further consideration in the DEIS.



Federal Transit Administration

10/22/07

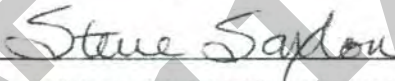
Date:



Federal Highway Administration, Oregon

Oct. 19, 2007

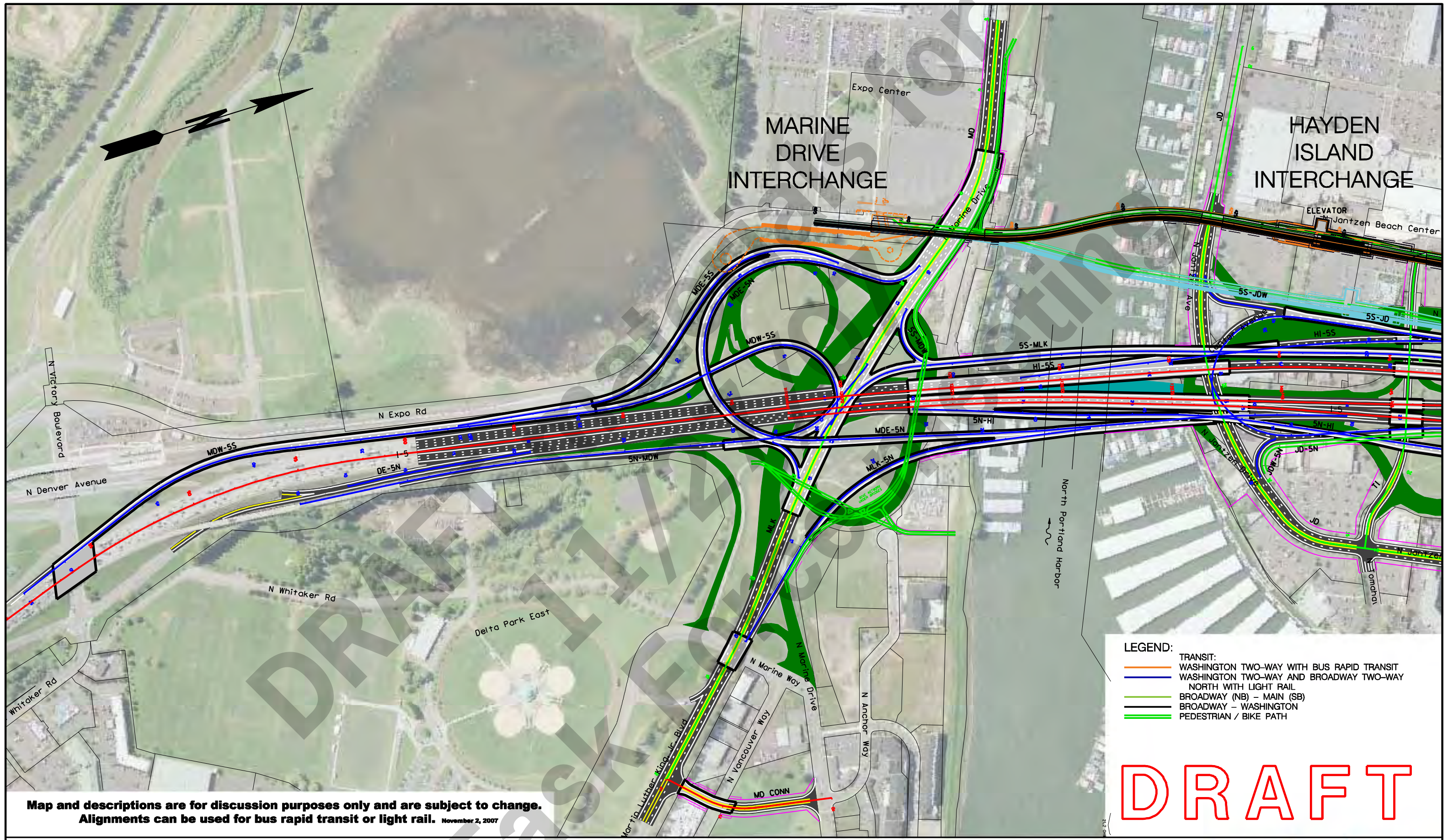
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Federal Highway Administration, Washington

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Date

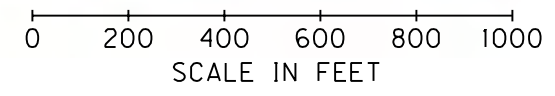


- LEGEND:**
- TRANSIT:
 - WASHINGTON TWO-WAY WITH BUS RAPID TRANSIT
 - WASHINGTON TWO-WAY AND BROADWAY TWO-WAY NORTH WITH LIGHT RAIL
 - BROADWAY (NB) - MAIN (SB)
 - BROADWAY - WASHINGTON
 - PEDESTRIAN / BIKE PATH

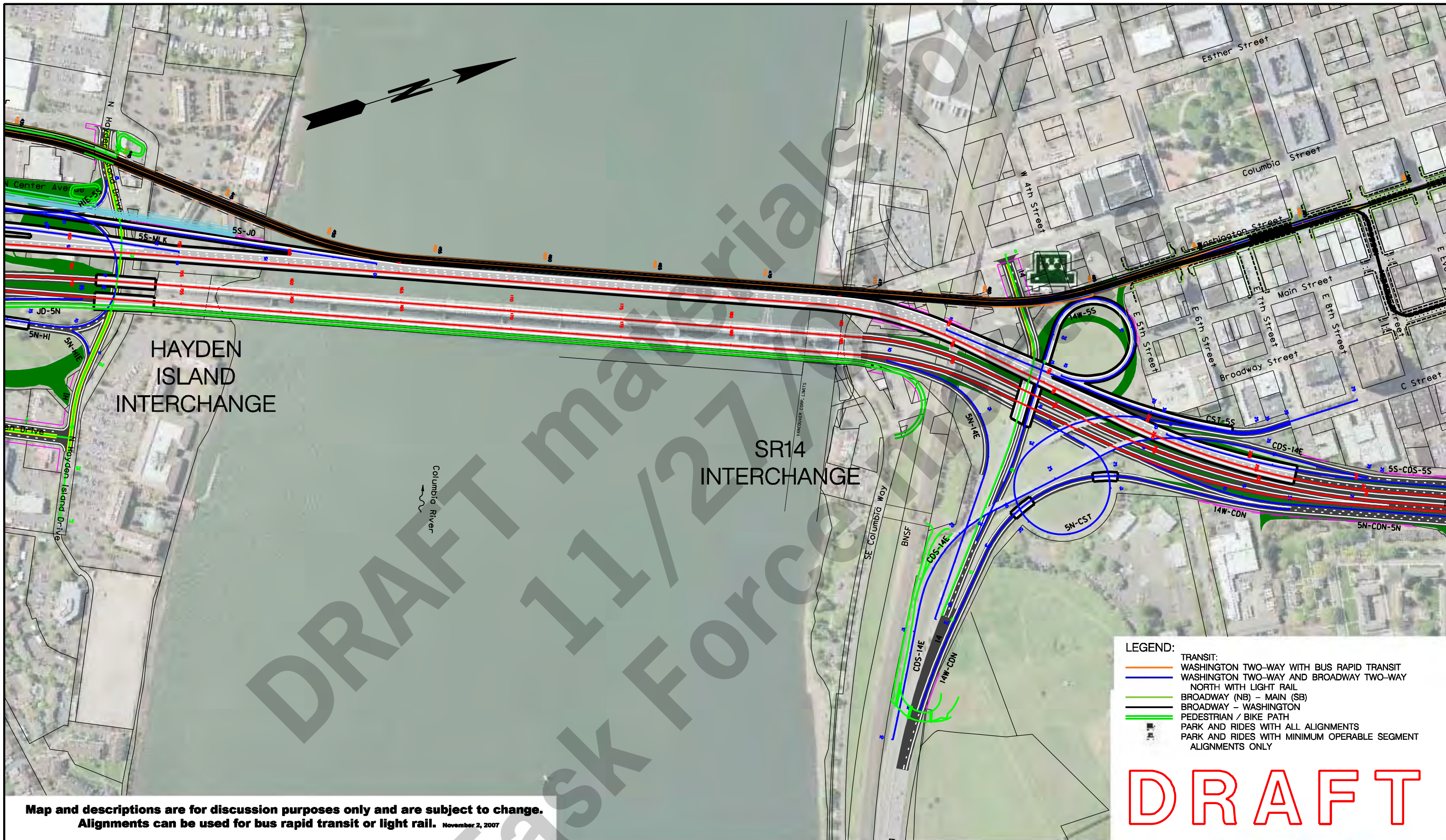
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SUPPLEMENTAL BRIDGE
WITH BUS RAPID TRANSIT OR LIGHT RAIL
Sheet 1 of 4



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HAYDEN ISLAND INTERCHANGE

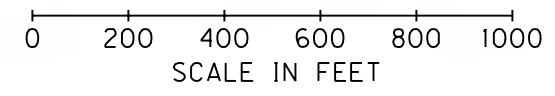
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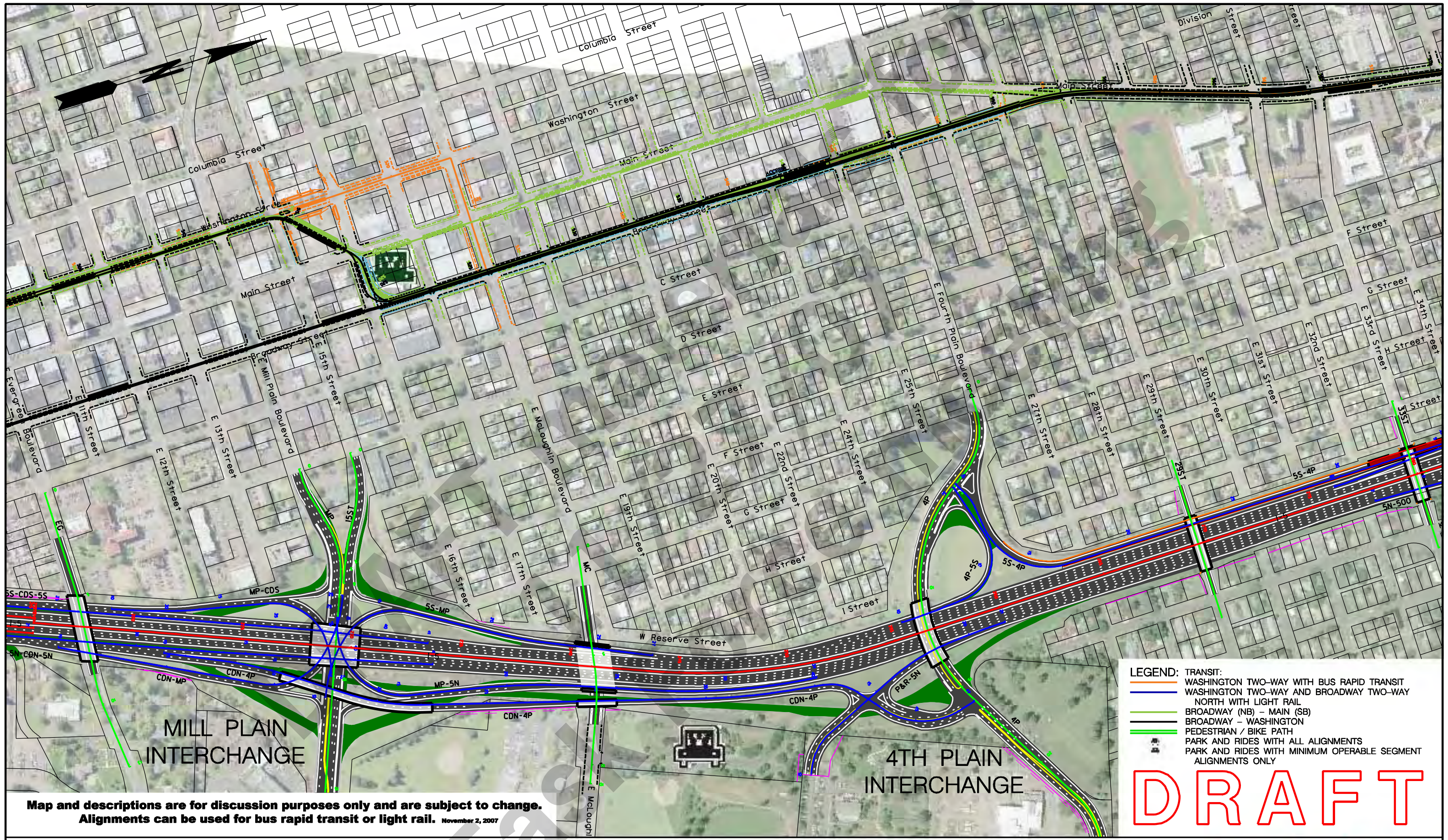
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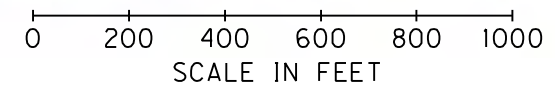
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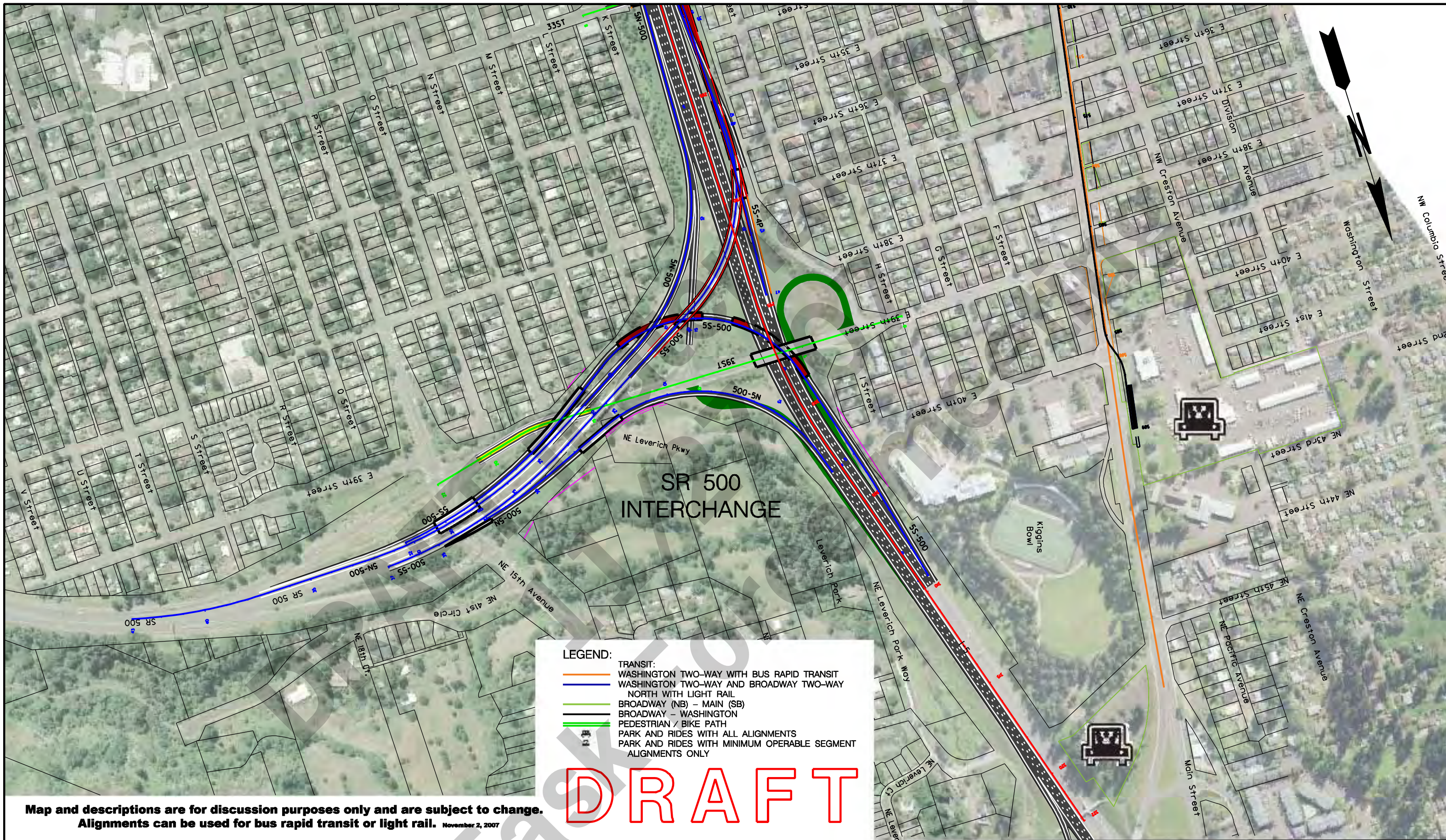


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SUPPLEMENTAL BRIDGE
WITH BUS RAPID TRANSIT OR LIGHT RAIL
Sheet 3 of 4



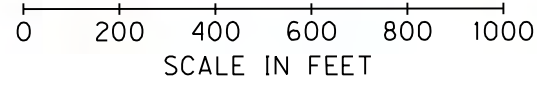


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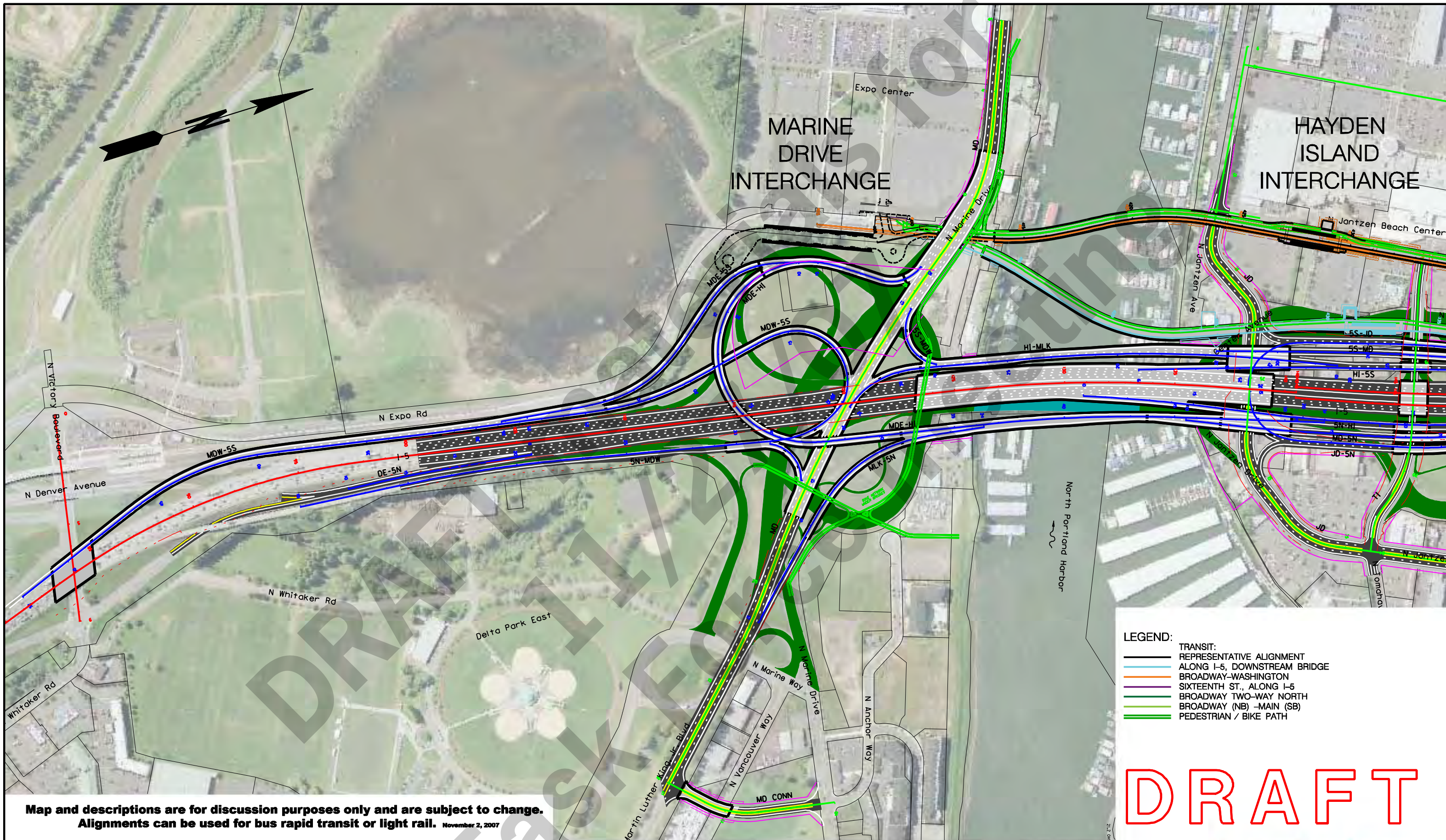
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SUPPLEMENTAL BRIDGE
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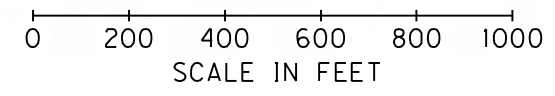


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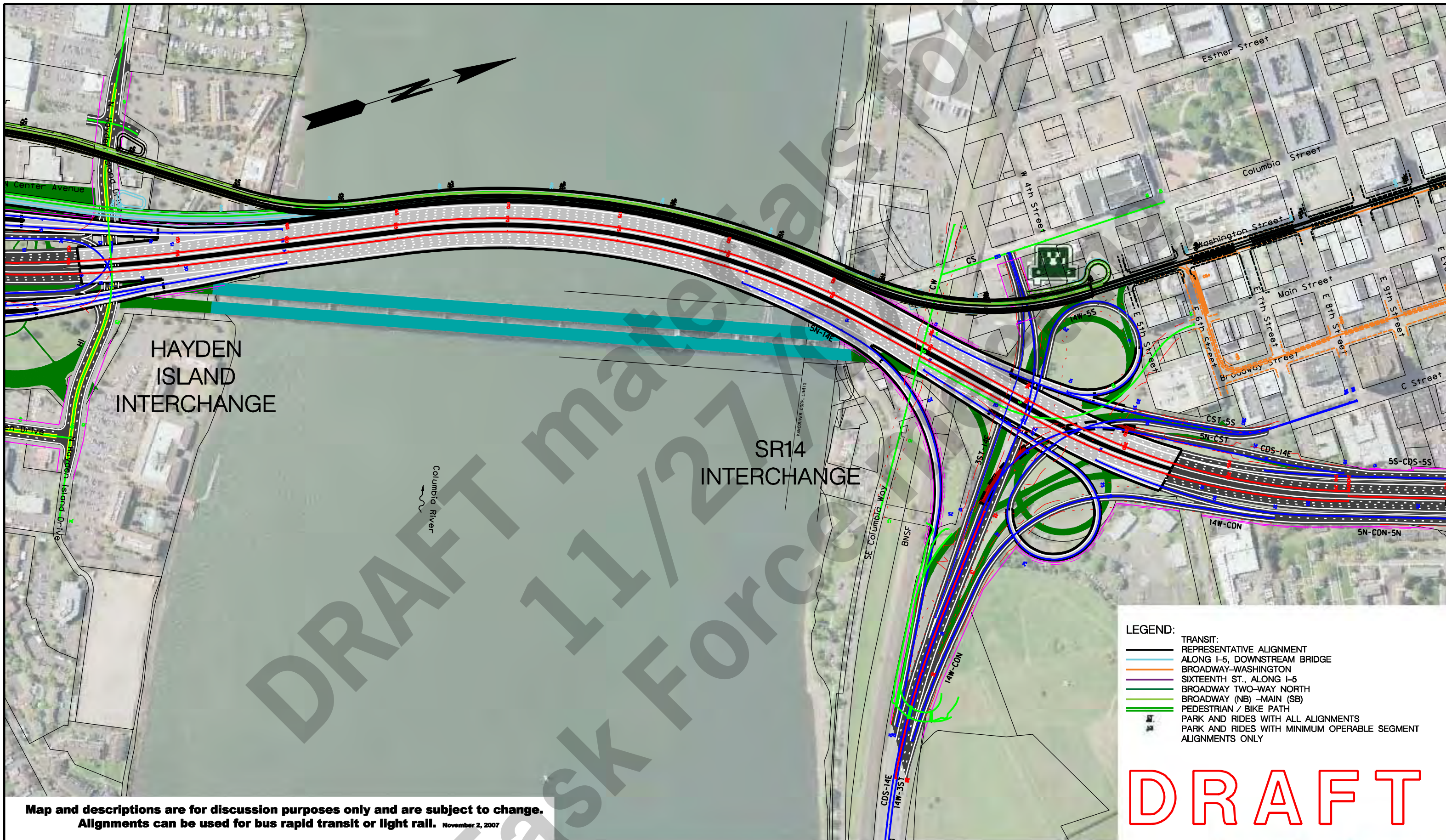
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 - SIXTEENTH ST., ALONG I-5
 - BROADWAY TWO-WAY NORTH
 - BROADWAY (NB) -MAIN (SB)
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REPLACEMENT DOWNSTREAM
 WITH BUS RAPID TRANSIT OR LIGHT RAIL
 Sheet 1 of 4



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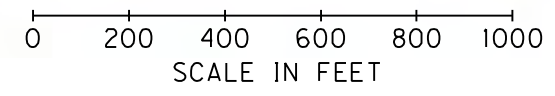
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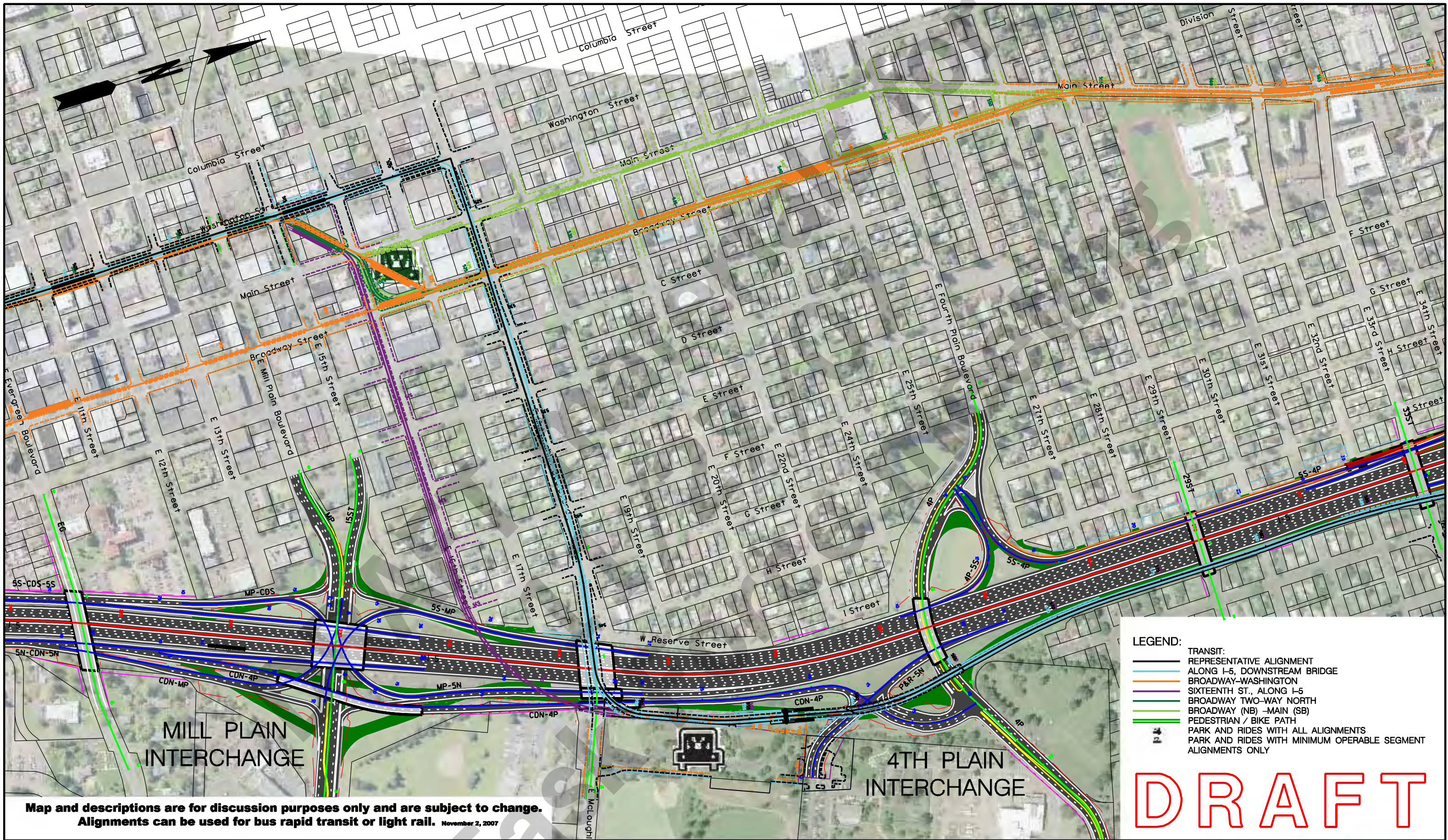
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REPLACEMENT DOWNSTREAM
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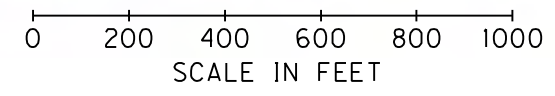
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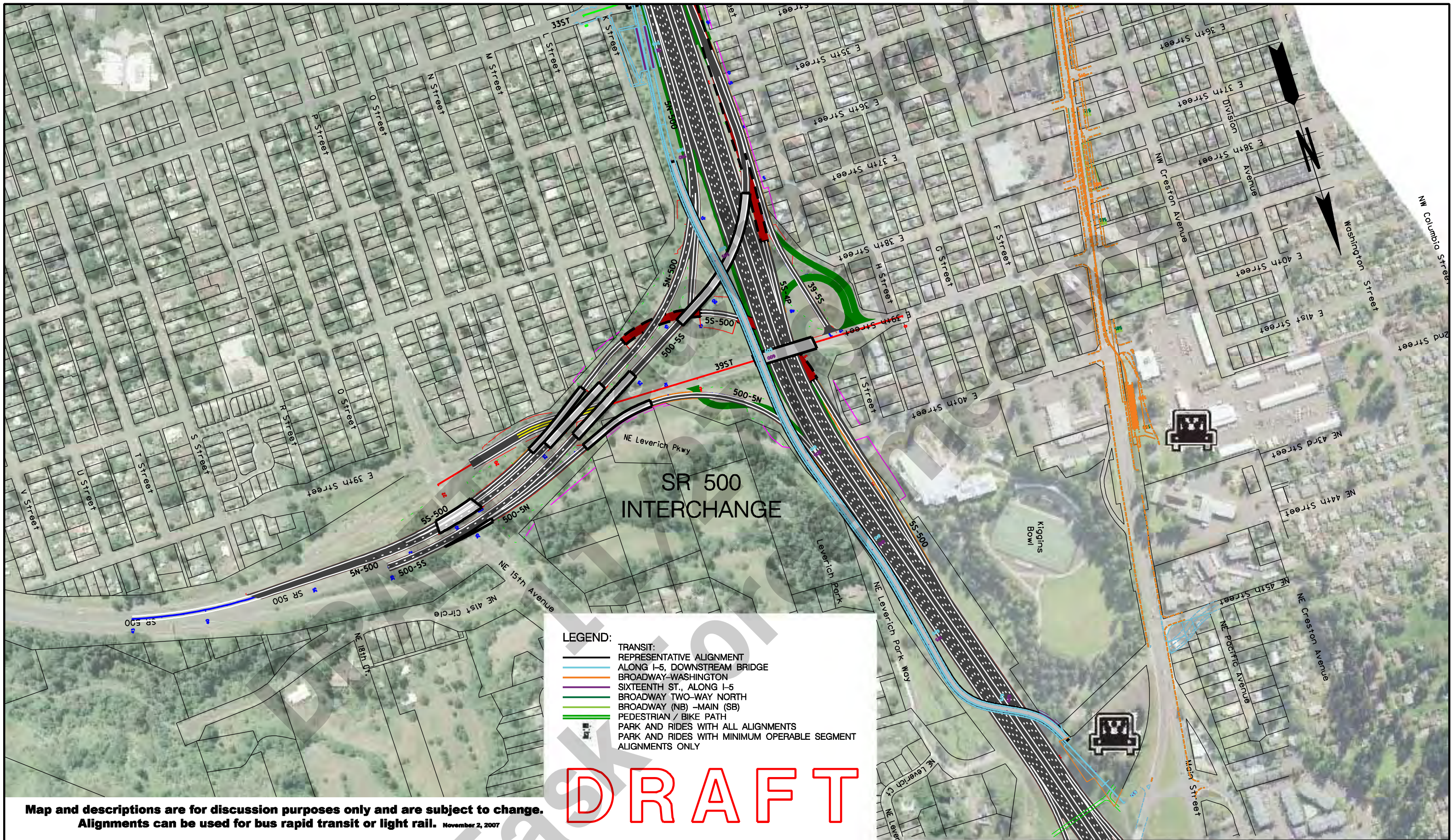
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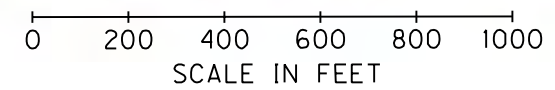


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Project Findings

- Preliminary Findings on Key Decisions for a Locally Preferred Alternative Memo
- Cost Estimate Fact Sheet and Detailed Summary

DRAFT materials for
11/27/07
Task Force meeting

November 20, 2007

TO: CRC Task Force
FROM: CRC Project Staff
SUBJECT: **Preliminary Findings on Key Decisions for a Locally Preferred Alternative**

Introduction

This memorandum describes preliminary findings for the alternatives being analyzed by the I-5 Columbia River Crossing (CRC) project in the Draft Environmental Impact Statement (DEIS). These findings provide the Task Force with important information to compare alternatives and various design options.

The DEIS and a Draft Locally Preferred Alternative are scheduled to be issued in February 2008 for formal public comment. The project findings, stakeholder input, and public comments will be considered by the Task Force in March 2008 for the purpose of making a Draft Locally Preferred Alternative (LPA) recommendation. Upon completion of the formal public comment period, and after the Task Force makes their recommendation, the Draft Locally Preferred Alternative will go to the local sponsoring agencies for their consideration. The Task Force's recommendation will be important input for these sponsor agencies during their decision making processes.

The three decisions for the LPA are:

- River crossing
 - Replacement river crossing, or
 - Supplemental river crossing
- High Capacity Transit (HCT) mode
 - Bus Rapid Transit (BRT), or
 - Light Rail Transit (LRT)
- HCT alignment
 - Vancouver alignment, or
 - I-5 alignment

The key preliminary findings that show a difference between the alternatives as they relate to the three LPA decisions are outlined in this document. A summary of the alternatives being considered and how those alternatives were developed follows the findings. The attached appendices provide more detailed findings for all of the Task Force adopted values under each decision.

Preliminary findings on river crossing options

Overall, the Replacement river crossing performs better than the Supplemental river crossing based on most values and criteria adopted by the Task Force. A Supplemental river crossing performs better in two areas: it would have less impact on historic resources and is about 10 percent to 15 percent cheaper to construct, depending upon HCT mode. A Replacement river crossing performs better for congestion relief, traffic capacity, safety design features, seismic vulnerability, Hayden Island impacts, accommodating future development, and river navigation.

Congestion Relief

A Replacement river crossing would provide more congestion relief than the Supplemental river crossing and No Build scenario. The No Build scenario accommodates about 55,000 person-trips during peak periods, and is predicted to increase congestion to 15 hours/day by 2030. The greater capacity of a Replacement river crossing – over 75,000 person-trips/day during peak commute periods, versus approximately 66,000 person-trips for a Supplemental river crossing – would reduce duration of congestion to between 3.5 to 5.5 hours/day. A Supplemental river crossing would result in about 11 hours of congestion each day.

Table 1. Interstate transportation performance	Existing	2030 No Build	2030 Replacement	2030 Supplemental
Peak-period person-trips	49,000	55,000	75,000	66,000
Duration of Congestion	6 hours	15 hours	3.5 - 5.5 hours	11 hours

Local street traffic would experience more congestion with a Supplemental river crossing than with a Replacement river crossing, particularly in lower downtown Vancouver, on Hayden Island, and near the Marine Drive interchange. The Supplemental river crossing would disrupt traffic flow on downtown Vancouver streets by closing the intersection at 6th and Washington and prohibiting a planned Main Street extension. This would result in shifting hundreds of vehicles per hour onto Columbia, which would result in over-capacity traffic conditions at many intersections as well as traffic back-ups along the SR 14 off-ramp and throughout lower downtown Vancouver.

Under the Supplemental river crossing, northbound I-5 would operate under congested conditions for multiple hours each day due to the “split” freeway system from near Marine Drive to north of Mill Plain. The outside lanes of I-5 would experience substantial congestion due to merging, weaving, and diverging maneuvers for five interchanges within the separated freeway lanes. This congestion, in turn, would limit the ability of the on-ramps from Marine Drive and Hayden Island to serve their traffic demands, resulting in ramp back-ups and arterial and local roadway congestion throughout the two interchange areas. Only about 50 percent of the Marine Drive and Hayden Island on-ramp traffic demand would be able to reach northbound I-5.

Accommodating Future Development

Plans for waterfront development in downtown Vancouver are better supported by a Replacement river crossing. A Replacement option allows Main Street to be extended south to the waterfront and also opens up the waterfront underneath the proposed bridge. A Replacement river crossing would vacate the existing I-5 right-of-way underneath the BNSF Railroad berm

and clear a path for extending Main Street south to Columbia Way. The Supplemental river crossing leaves the existing freeway in place, which does not afford space for extending Main Street, nor does it provide the opportunity to open up the waterfront area underneath the bridge. The City of Vancouver plans to extend Main Street south to strengthen the connection between downtown Vancouver and the riverfront. Improving this connection is especially important for traffic circulation needed by planned development along the Columbia River.

Traffic Safety

Existing safety hazards to freeway traffic – nonexistent shoulders, narrow lanes, poor sight distances, short merge lanes, and bridge lifts – would be fixed with a Replacement river crossing. None of these safety problems would be solved with the No Build scenario. A Supplemental river crossing would improve safety for southbound I-5 traffic and transit because those vehicles would be placed on a new structure built to current safety standards, but would only provide partial safety improvements for northbound traffic. Northbound I-5 traffic would remain on the existing bridges, and still be subjected to bridge lifts, and substandard sight distances due to the “hump” in the current structures. A supplemental river crossing would also create a divergence in the highway for northbound traffic between Marine Drive and Fourth Plain Blvd. Northbound traffic needing to exit the freeway at Hayden Island, SR-14, Mill Plain, or Fourth Plain, would need to merge into the two right lanes as the highway crosses Hayden Island. The need to make this choice so early could cause last-minute weaving between lanes and would likely increase collision rates.

Seismic Vulnerability

Both build options offer improved stability and safety during a seismic event. The new Supplemental bridge (carrying southbound Interstate traffic and HCT) and the entire Replacement river crossing would be constructed to withstand a 2,500-year seismic event, and to require only minimal repair after a 500-year event. The Existing bridges would be retrofitted to require minimal repair after a 500-year event but would only be able to withstand a 1,000-year seismic event. Any of these seismic events could force the existing bridges to collapse under the No Build scenario, and pose significant risk to any people on these structures during that event, not to mention the regional traffic and economic effects of losing the interstate connection.

Table 2. Stability during a seismic event	No Build	Replacement	Supplemental
Serviceability*	<500-year event	500-year event	500-year event
No Collapse**	<500-year event	2,500-year event	1,000-year event***

* Serviceability means that the structure would sustain only minor damage and would be operational with minimal repair

** No Collapse means that the structure(s) would remain standing during the seismic event to prevent injury and loss of life, but would need substantial repairs afterward to continue serviceability.

*** The northbound bridges would be retrofitted to withstand a 1,000 year event, but the new supplemental structure would be built to withstand a 2,500 year event.

Property Impacts on Hayden Island

A Replacement river crossing minimizes property acquisition on Hayden Island, avoiding some properties that a Supplemental river crossing cannot avoid. A Replacement river crossing can avoid acquisition of the Safeway on Hayden Island (the community's only supermarket), and affect fewer floating homes on the south shore of the island. Approximately 13-20 floating homes west of I-5 could need to be acquired with a Replacement river crossing depending upon whether HCT is aligned adjacent to, or offset from I-5. A Supplemental river crossing could acquire 22-23 floating homes and require acquisition of Safeway (though Safeway might be able to relocate on the island).

Marine Navigation Safety

The river navigation route for vessels traveling downstream between the I-5 crossing and the BNSF railroad bridge ½ mile west is substantially improved by a Replacement river crossing but worsened by a Supplemental river crossing. Currently, vessel captains making this trip must make a difficult "S" curve maneuver to navigate between the high span of the current bridges and the swing-span of the BNSF bridge because these channels are misaligned – the I-5 bridges' high span is roughly in the center of the river whereas the BNSF swing-span is closer to the north bank. During high water periods this maneuver is especially dangerous, forcing boats to frequently wait to use the lift-span that is closer to the north bank and thus better aligned with the BNSF bridge. A Replacement river crossing would be built with enough clearance to accommodate vessels without a lift-span, even during high water, and with a navigation channel aligned with the BNSF bridge. A Supplemental river crossing would make the current situation worse by adding more piers between the existing I-5 bridges and the BNSF bridge. Furthermore, a Supplemental river crossing would narrow the horizontal clearance of the high-span and lift-span channels approximately 40' to 60' each because the piers would need to be widened by the seismic retrofit.

Capital and Maintenance & Operations Costs

The Supplemental river crossing is approximately 20 percent cheaper to construct, but it is more expensive to maintain and operate. Reusing the existing bridges reduces capital costs, but would require repairs to these structures, such as resurfacing the bridge decks and repairing the lift-span equipment, through 2030. These repairs are the primary contributor to the substantially higher maintenance and operation cost of a Supplemental river crossing. The existing bridges are also required to be staffed 24 hours per day to operate the lift span.

Table 3. River Crossing

Costs	Replacement	Supplemental
Capital cost (millions \$)	\$1,240 - \$1,590	\$1,034 - \$1,310
Annual operation cost	\$700,000	\$7,700,000

Capital cost range is due to a range of contingency that is included to address risk of cost overrun, and because of the range of HCT cost.

Historic Resources

The existing northbound bridge, which was built in 1917, is a historic resource that is on the National Register of Historic Places (NHRP). The supplemental river crossing retains this bridge, and the Replacement would remove it. However, the Supplemental river crossing would include extensive seismic retrofits to the current northbound bridge and the construction of an adjacent, modern bridge would substantially change the historic setting and visual integrity of the historic bridge. The Supplemental river crossing would also have slightly less physical impact on the historic Academy property in Vancouver and the Vancouver National Historic Reserve. Mitigation for any of these impacts is not included in this report, but will be considered and identified during later phases of design.

Preliminary findings on high capacity transit mode

LRT performs better than BRT on most key measures adopted by the Task Force. LRT provides quicker and more direct access to key markets, which helps attract 30 percent to 40 percent more transit river crossing riders than BRT. BRT costs about 20 percent to 30 percent less to construct, but costs 25 percent to 50 percent more to operate than LRT (Table 5). Because LRT attracts more riders and has lower operating costs, it would have better cost effectiveness than BRT, costing about 35 percent to 95 percent less per passenger (Table 5). Additionally, research suggests that LRT is likely to attract more investment around transit stations, which better allows the cities of Vancouver and Portland to attain locally and regionally adopted land use goals.

Travel times and Reliability

LRT provides better travel times and reliability than BRT (Table 4). BRT buses travel with general traffic outside the project area, and are thus subjected to congestion-induced delays before they enter the exclusive guideway in the project area. Such delays can cause the buses to miss their schedules and increase travel-times. This introduces an element of unreliability. Also, increasing the frequency of buses (labeled “Increased Transit” in Tables 4 and 5) further increases BRT travel times by congesting the transit guideway. The larger capacity of LRT trains would mean that fewer vehicles would be required to provide the same or greater passenger capacity, which means that the guideway would not be congested under either of the operating scenarios evaluated. Thus, LRT travel times are the same for both transit operating scenarios.

Table 4. HCT Travel Times (minutes)	BRT		LRT	
	Efficient transit operations	Increased transit operations*	Efficient transit operations	Increased transit operations*
Expo Center to terminal park and ride***	13	19	12	12
Lombard TC to terminal park and ride	25	28	18	18
Downtown Portland to downtown Vancouver	38	39	32	32
Downtown Portland to terminal park and ride	46	48	40	40

* "Increased transit operations" provide more frequent BRT or LRT service

** Terminal park and ride refers to the Lincoln or Kiggins Bowl park and rides which are the terminus for the Vancouver and I-5 alignments, respectively.

Transit Ridership

All build alternatives at least double transit ridership crossing the Columbia River compared to the No Build scenario. LRT attracts approximately 30 percent to 40 percent more riders across the Columbia River than BRT (Table 5). Integration with the existing MAX system is an important benefit of an LRT option because it helps attract these additional transit riders. This integration allows transit patrons to travel between Vancouver and Portland without a transfer. Transfers add time and, more importantly, are perceived by potential transit patrons as adding even more time, unreliability, and inconvenience to their commute.

Capital and Maintenance & Operations Costs

Relative to BRT, LRT costs more to build, but is more cost effective. LRT operating cost per annual transit river crossing rider is about half the cost of BRT. LRT is also cheaper per annual transit river crossing rider when taking into account the greater annualized capital expense of LRT infrastructure. This is due to lower maintenance and operation costs as well as the additional ridership garnered by LRT.

Table 5. HCT Costs	BRT				LRT			
	Vancouver Align.		I-5 Alignment		Vancouver Align.		I-5 Alignment	
	Efficient transit ops.	Increased transit ops.	Efficient transit ops.	Increased transit ops.	Efficient transit ops.	Increased transit ops.	Efficient transit ops.	Increased transit ops.
Capital cost (millions \$)*	\$600 - \$770	\$720 - \$810	\$790 - \$940	\$910 - \$1,010	\$780 - \$940	\$880 - \$980	\$970 - \$1,130	\$1,070 - \$1,180
Annual operating cost over No Build (millions \$)	\$5.3	\$44.6	N/A	N/A	\$3.5	\$35.7	\$4.2	N/A
Total annual transit passengers over I-5 crossing (millions)	4.8	5.7	N/A	N/A	6.7	7.4	5.7	N/A
Annualized cost per transit passenger over I-5 river crossing**	\$16.82	\$27.96	N/A	N/A	\$12.29	\$16.21	N/A	N/A

* Capital cost ranges are due to the range of potential risk for cost-overruns

** Includes annualized capital costs plus annual operating costs, per transit rider

*** This number is total annual operating cost in 2030 for the No Build scenario. All build scenarios are reported by the incremental new operating cost over the No Build scenario.

Investment Potential at Transit Stations

Academic research, case studies, and public outreach suggest that both LRT and BRT can attract economic investment, but also suggests that LRT can attract more investment than BRT. Rail lines have greater visibility and appeal than buses¹, and studies have correlated this with a rider preference for trains over buses². These factors, in addition to the perception that rail infrastructure is a more permanent and fixed public investment³ indicate developers are more likely to invest around LRT stations than around BRT stations. Economic investment around transit stations leads to new, generally pedestrian-oriented and higher density, commercial and residential development that then further supports the nearby transit service. This type of development focuses growth along established transportation corridors and helps communities and the region to attain adopted land use and transportation goals for managing sprawl, decreasing automobile dependence, and increasing pedestrian-oriented development.

Preliminary findings on high capacity transit alignment

The full-length alignments north of downtown Vancouver have distinct advantages and disadvantages. The I-5 alignment would impact less property but would cost more to construct and be less integrated with the surrounding community. The Vancouver alignment costs less to construct and would be better integrated with neighborhoods and commercial areas, but would have more local traffic and property impacts.

¹ Dittmar, H. and G. Ohland. 2004. Defining Transit-Oriented Development: The New Regional Building Block. in Dittmar H & Ohland G The New Transit Town: Best Practices in Transit-oriented Development. Island Press.

² Kenworthy, Jeff. 2000. Techniques of Urban Sustainability: Quality Transit. Institute for Sustainability and Technology Policy. Accessed June 27, 2007 at: http://www.sustainability.murdoch.edu.au/casestudies/Case_Studies_Asia/qtrans/qtrans.htm.

³ WMATA (Washington Metropolitan Area Transit Authority). 2005. Columbia Pike Transit Alternatives Analysis Final Report. Arlington, VA. Accessed June 21, 2007 at: <http://www.piketranst.com/media/publications.aspx#Reports>.

Operating Characteristics and Ridership

Table 6 shows that both full-length alignments operate comparably. The I-5 alignment provides similar travel times despite a longer guideway by providing a faster average speed. Ridership is also comparable between both alignments.

Table 6. Alignment Characteristics*	Vancouver Alignment	I-5 Alignment
Total Guideway length	3.43 miles	4.21 miles
Property acquisition in northern Vancouver**	14 acres***	5-6 acres
Average Guideway speed	17.3 mph	21.5 mph
Expo Center to northern terminus	12.0 min	11.7 min
Pioneer Courthouse Square to northern terminus	39.9 min	39.6 min
Daily passenger trips on transit over I-5 crossing	20,800	21,100

* Values are for LRT, but the relationships between the alignments are the same for BRT

** Property acquisition north of 16th Street

*** Does not include 11 acres that is the existing WSDOT maintenance facility that would be used for the Lincoln Park and Ride

Property Acquisition

The I-5 alignment requires less property acquisition – only 5 or 6 acres in northern Vancouver – than the Vancouver alignment, which would acquire 14 acres of property (not including 11 acres in the existing WSDOT maintenance facility) in northern Vancouver. The Vancouver alignment would widen Main Street to accommodate the HCT guideway, whereas the I-5 alignment would largely use the existing I-5 right-of-way.

Capital and Maintenance & Operations Costs

Table 5 provides more distinction between the Vancouver and I-5 alignments. The I-5 alignment is about 25 percent more expensive to construct than the Vancouver alignment, requiring an additional 8 more months to build because it is longer, requires a new tunnel underneath I-5 to connect to the Clark College park and ride, and an elevated structure to cross back over I-5 to connect to the Kiggins Bowl park and ride. The longer and more elaborate structure of the I-5 alignment is also about 25 percent more expensive to maintain and operate than the Vancouver alignment.

Local Traffic Impacts

The Vancouver alignment has more impact on local traffic circulation because it reduces automobile capacity on Main Street (north of Fourth Plain), the only north-south arterial west of

I-5 in Vancouver. This could potentially cause more traffic congestion on Main Street. The I-5 alignment has less effect on local streets because it is primarily within the I-5 right-of-way, though it adds congestion on 16th Street or McLoughlin Street because it would use one of these streets to connect to the Clark College park and ride. The project team is just beginning to evaluate potential mitigation measures to reduce the impact of the HCT alignment on local street traffic in Vancouver. Potential mitigation measures could include peak-hour parking prohibitions, improved traffic signal timing, adding turn pockets, street conversions (e.g., two-way streets to one-way streets or vice-versa), and reclassifying streets (e.g., from a collector roadway to an arterial roadway).

Zoning and Land Use

The land use and zoning around the Vancouver alignment is more supportive of high capacity transit. The Vancouver alignment has more conducive zoning (commercial or medium-density residential) and thus greater opportunity for attracting economic investment around transit stations. Conversely, the I-5 alignment runs through the Rose Village neighborhood which is primarily a single-family residential area. Development around stations along the I-5 alignment is constrained by zoning (low-density residential) and the I-5 freeway that runs immediately west of the guideway. The Vancouver alignment places stations in areas more supportive of pedestrian use and that are more likely to develop greater concentrations of commercial and residential uses that take advantage of the improved access afforded by high capacity transit.

Alternatives considered

How were alternatives developed and evaluated?

In October 2005, the CRC Task Force adopted a Vision and Values statement that identified broad goals and priorities for this project and served as a basis for developing criteria to evaluate alternatives. In collaboration with project sponsor agencies, the CRC Task Force, and state and federal permitting agencies, the project team developed an Evaluation Framework. That document outlined a process for narrowing a wide range of possible alternatives to a short list to be evaluated in the DEIS, and ultimately for the selection of a preferred alternative. The first step in this process was to identify transportation components (i.e., river crossing options and transit modes) that might address the project's needs. Over 70 such components were identified, building from the 2002 I-5 Transportation and Trade Partnership Final Strategic Plan and through extensive public and stakeholder outreach.

After identifying components, project staff performed two rounds of evaluation and screening to narrow those options. The initial screening effort in April 2006 narrowed over 70 components using a pass/fail test to eliminate ideas that did not meet the Purpose and Need of the project. A second round of screening in June 2006 evaluated the performance of the remaining components in relation to criteria specified in the Evaluation Framework. The Task Force and general public provided input and comment on both screening processes. After the second round of screening, components were evaluated on the following values adopted by the Task Force:

- Community livability and human resources
- Mobility, reliability, accessibility, congestion reduction, and efficiency

- Modal choice
- Safety
- Regional economy, freight mobility
- Stewardship of natural resources
- Distribution of benefits and impacts

The second round of screening did not reveal any new fatal flaws, so no components were eliminated at that time. The remaining components were carried forward into the next step in the evaluation process.

What alternatives were considered and dropped prior to the DEIS?

The early screening efforts identified several promising options for further study. The river crossing options remaining were a replacement Interstate bridge, a supplemental arterial bridge, and a supplemental Interstate bridge. Express Bus, BRT, and LRT were the best performing transit modes at that time. Those river crossing and transit components were combined into 12 alternative packages designed to assess how they performed generally, and as individual features in different combinations. Each alternative package included these features: a river crossing option (existing, supplemental arterial, supplemental Interstate, or replacement Interstate bridge); a transit mode (standard buses, bus rapid transit, or light rail) option; transportation demand management options (more and less aggressive assumptions); as well as specific designs to improve safety, freight movement, highway operations, and bicycle and pedestrian access

Project staff used the criteria outlined in the Evaluation Framework to assess the performance of each alternative. The assessment focused on the performance of river crossing options and transit modes. Other elements of alternatives, such as interchange configurations and transit alignments were used for modeling transportation performance but were not individually evaluated. Those elements were developed for alternatives that were assessed in the DEIS.

Transportation modeling revealed that multi-modal packages performed the best. Alternatives that did not include a combination of both highway and transit improvements were not recommended to be analyzed in the DEIS. Options that contained either 1) only transit improvements without highway capacity, or 2) only new highway capacity without transit improvements, did not meet the Purpose and Need established for the project.

Analysis revealed that a replacement bridge performed best on nearly all criteria, and that BRT and LRT provide the best transit performance, particularly when paired with Express Bus service. In November 2006, staff recommended to the CRC Task Force that the DEIS evaluate: 1) No Build, 2) Replacement Bridge with BRT and Express Bus, and 3) Replacement Bridge with LRT and Express Bus. The CRC Task Force gave a preliminary recommendation to further develop these alternatives for evaluation in the DEIS. The Task Force also recommended the project team undertake a substantial public involvement effort to gauge public opinion on the staff recommendation.

In January 2007, staff launched an intensive public involvement effort to present the screening results and receive comments on the staff recommendation. The public and most agencies generally agreed with the staff recommendation but there was interest in further evaluation of an

alternative that would reuse the existing I-5 bridges, and maximize transit use. This interest led to the formation of a Task Force subcommittee in February 2007 to explore how the existing I-5 bridges could be reused and still meet the project's Purpose and Need. The subcommittee recommended the DEIS evaluate reusing the existing bridges. Northbound I-5 traffic and bicycles and pedestrian facilities would operate on the existing bridges while HCT and southbound I-5 traffic would function on a new supplemental crossing. The Task Force adopted the subcommittee's recommendation in March 2007.

What alternatives are being considered in the DEIS?

The DEIS evaluates a wide range of options addressing this project's Purpose and Need statement. Full build alternatives include improvements to highway safety and capacity throughout the project area, and access, reliability, and mobility for transit, bicycles, and pedestrians. There are additional options for funding and transportation demand management (TDM) and transportation system management (TSM) measures. Generally, these options are autonomous; any option for improving the river crossing (i.e. replacement or supplemental) can be paired with any transit mode and any transit alignment. This creates far too many unique combinations to feasibly or usefully evaluate each possible combination. So, the DEIS evaluates the following five different combinations or "alternatives" that represent the range of potential combinations:

Alternative	River Crossing Option	HCT Mode	Transit Alignment
1	Existing	None	N/A
2	Replacement	BRT	Vancouver or I-5
3	Replacement	LRT	Vancouver or I-5
4	Supplemental	BRT	Vancouver or I-5
5	Supplemental	LRT	Vancouver or I-5

A replacement river crossing would remove the existing highway bridge structures across the Columbia River and replace them with three new parallel structures – one for I-5 northbound traffic, another for I-5 southbound traffic, and a third for HCT, bicycles, and pedestrians. The replacement crossing would include three through-lanes (or general purpose lanes) in each direction and two or three auxiliary lanes to address the safety issues of vehicles merging on or off of the freeway.

A supplemental river crossing would build a new bridge downstream of the existing I-5 bridge and seismically upgrade the existing bridges. The new supplemental bridge would carry southbound I-5 traffic and HCT, while the existing I-5 bridges would carry northbound I-5 traffic, bicycles, and pedestrians. The supplemental crossing would include three through-lanes and one auxiliary lane in each direction. Alternatives 4 and 5 were also evaluated with a higher toll than the toll assumed for Alternatives 2 and 3. This was a recommendation from the Task Force subcommittee in an effort to evaluate the congestion relief potential of a toll.

Two HCT modes were considered – bus rapid transit and light rail transit. Both would operate in an exclusive right-of-way through the project area, and were evaluated for the same alignments

and station locations. BRT would use 60-foot long articulated buses (standard buses are 40-foot long) in exclusive guideway lanes separated from other traffic. LRT would use one and two-car trains in an extension of the MAX Yellow Line that currently ends at the Expo Center in Portland. As part of the Task Force subcommittee recommendation, Alternatives 4 and 5 increased both the number and frequency of HCT vehicles in an effort to dramatically increase the capacity of the transit system. Feeder buses were also dramatically increased from Alternatives 2 and 3, which were already significantly increased from a No Build scenario.

How to extend HCT north of downtown Vancouver is an important choice that affects transit performance, cost, and impacts in the surrounding community. Two full-length alignments were evaluated that would extend HCT through northern Vancouver. The “Vancouver” alignment would provide HCT north from downtown Vancouver, either along Broadway or on Broadway and Main Street in the Uptown Village area, then to Main Street only (north of Fourth Plain) and end at a new park and ride north of 39th and Main (site of the current WSDOT maintenance facility). The “I-5” alignment would provide HCT east from downtown Vancouver to connect with a new Clark College Park and Ride and then north along the east side of I-5 to a new park and ride north of Kiggins Bowl.

There are also two shorter alignment options, referred to as Minimum Operable Segments, (MOS’s) under consideration. After crossing the Columbia River and heading north through downtown Vancouver, HCT could end at a park and ride at Clark College, or could end on the west side of I-5 on Washington Street between 15th and 16th Streets. The Draft LPA will focus on the selection of one of the two full-length alignments. Subsequent tasks and decision-making will determine whether the full-length alignment or a shorter-length option is selected for initial construction.

Appendix A – River Crossing

1	Value	Replacement	Supplemental
	<p>Community Livability and Human Resources</p> <ul style="list-style-type: none"> ✓ Noise ✓ Neighborhood cohesion ✓ Air quality ✓ Business displacements ✓ Cultural resources ✓ Parks and recreational areas ✓ Local plans ✓ Aesthetics 	<ul style="list-style-type: none"> • Potentially 10 fewer floating home acquisitions when paired with adjacent transit alignment, 2 fewer with the offset transit alignment; • 8 partial property acquisitions in Shumway neighborhood along I-5, but similar acreage to supplemental; • Acquires Hayden Island Yacht Club, where Hayden Island Neighborhood Network meets; • Could avoid Hayden Island Safeway; • 5-6 historic resources potentially adversely affected <ul style="list-style-type: none"> ○ E.g., Fort Vancouver Historic Reserve, the Kiggins House (which will likely be relocated by other project before CRC is built), the Academy, Pier 99, Clark Public Utilities building, the I-5 bridges; ○ Would require demolition of nationally registered 1917 I-5 bridge, which would be inconsistent with local Historic Preservation Plans; • Greater potential for impact to sensitive archaeological resources due to larger footprint; • 6 Parks and Recreational resources potentially affected; • Would vacate the existing I-5 right-of-way under railroad berm in Vancouver, allowing Main Street extension between downtown Vancouver and riverfront development; • Would not require closure of Washington and 6th St intersection; • Greater interstate capacity better addresses local plans for mobility and freight 	<ul style="list-style-type: none"> • More potential acquisitions of floating homes on Hayden Island, depending on which transit alignment is paired with the river crossing; • 19 partial property acquisitions in Rose Village neighborhood along I-5, but similar acreage to replacement; • Avoids Former Hayden Island Yacht Club; • Acquires the Hayden Island Safeway; • 4 historic resource potentially adversely affected <ul style="list-style-type: none"> ○ Impacts a private residence of historic value, not affected by Replacement ○ Avoids potential adverse impact to Old Apple Tree Park and the parcel on which the Academy is located; ○ Retains historic I-5 bridge, but still adversely affects historic character; ○ Adversely affects historic Pearson Field’s airspace, more so than Replacement and “No-Build”; • Smaller footprint reduces potential for impact to sensitive archaeological resources • 4 Parks and Recreational resources potentially affected, Convention Center, and Esther Short Park; • Would not allow Main Street extension between downtown and riverfront development; • Closure of 6th and Washington intersection could impact access to adjacent businesses; Less interstate capacity fails to address local plans for mobility and freight movement

Appendix A: River Crossing- Replacement versus Supplemental

		<ul style="list-style-type: none"> movement; • Fewer distant views blocked by new bridge, and greater coherence of style 	<ul style="list-style-type: none"> • Could result in an ungainly aesthetic due to seismic retrofits of existing bridges, and inconsistent heights and bridge types
2	<p>Mobility, Reliability, Accessibility, Congestion Reduction, and Efficiency</p> <ul style="list-style-type: none"> ✓ Travel times <ul style="list-style-type: none"> ▪ SOVs ▪ Transit ✓ Congestion ✓ Accessibility ✓ Throughput <ul style="list-style-type: none"> ▪ Person ▪ Transit 	<ul style="list-style-type: none"> • Serves substantially more traffic trips; • 50% - 60% less congestion each day, compared to Supplemental <ul style="list-style-type: none"> ○ 3.5 to 5.5 hours of congestion each day, most of which would be the result from downstream congestion outside of the study area; • Serves 11% - 20% more person-trips, compared to Supplemental <ul style="list-style-type: none"> ○ 75,600 to 78,200 person-trips across the I-5 Columbia River Crossing during peak periods; • Serves 8% more vehicle-trips each day, compared to Supplemental <ul style="list-style-type: none"> ○ 178,000 vehicle-trips; • Serves 17% more vehicle-trips during peak periods <ul style="list-style-type: none"> ○ 52,200 vehicle-trips; • About 1 million or 10-15% less annual HCT passenger trips over the river. However, this difference is primarily due to longer transit headways and a lower toll on the bridge than was modeled with the Supplemental river crossing and is not directly attributable to the crossing type – including the same transit headways and toll with a Replacement crossing would result in essentially the same level of transit ridership as with the Supplemental. 	<ul style="list-style-type: none"> • Serves less traffic trips; • Greater length of congestion <ul style="list-style-type: none"> ○ 11 hours of congestion each day; • Fewer person-trips each day <ul style="list-style-type: none"> ○ 65,000 to 67,900 person-trips across the I-5 Columbia River Crossing during peak periods; • Fewer vehicle trips each day <ul style="list-style-type: none"> ○ 165,000 vehicle-trips/day, 44,600 vehicle-trips/daily peak periods; • Fewer vehicle trips during peak periods • About 1 million, or 10-15% more annual HCT passenger trips over the river than with the Replacement crossing, but this is not directly attributable to the supplement crossing, but more attributable to the increase in transit service applied to Alternatives 4 and 5.
3	<p>Modal Choice</p> <ul style="list-style-type: none"> ✓ Multi-modal choices ✓ Transit services ✓ Bike/Ped 	<ul style="list-style-type: none"> • BRT travel time from Pioneer Square to terminal P&R (Kiggins or Lincoln, depending on HCT alignment) is reduced from 54 to 46 minutes with Replacement; 	

Appendix A: River Crossing- Replacement versus Supplemental

	<ul style="list-style-type: none"> Connectivity ✓ Vehicle Occupancy 	<ul style="list-style-type: none"> • Light-rail maintains a 40 minute trip from Pioneer Square to Terminal P&R, regardless of roadway alignment; • Provides a continuous grade-separated multi-use pathway from downtown Vancouver to the Marine Drive Interchange, providing better pedestrian and bicycle connectivity than No-Build and Supplemental; • HCT travel times to and from target markets are generally shorter in 2 hour AM and PM peak than with Supplemental: <ul style="list-style-type: none"> ○ 99th St TC to Hayden Island (AM): 7.5 to 10 minutes faster, ○ Hayden Island to 99th St TC (PM): 2 to 12 minutes faster, ○ Lombard TC to Vancouver Mall (AM): approx. 8 minutes faster, ○ Vancouver Mall to Lombard TC (PM): 2 to 6 minutes faster; 	<ul style="list-style-type: none"> • Requires bicyclists and pedestrians to leave multi-use trail at Hayden Island and navigate at-grade streets and intersections; • HCT travel times to and from target markets are generally longer
4	<p>Safety</p> <ul style="list-style-type: none"> ✓ Vehicle/freight safety ✓ Bike/Ped safety ✓ Marine safety ✓ Aviation safety ✓ Life-line connectivity ✓ I-5 incident/emergency response 	<ul style="list-style-type: none"> • Improves vehicle and freight safety substantially over Supplemental, by providing full shoulders, decreasing congestion, reducing weave/merges on I-5, and eliminating bridge lifts; • Improves marine safety by eliminating “S” curve maneuver; • Improves aviation safety by eliminating lift 	<ul style="list-style-type: none"> • Provides some, but substantially fewer vehicle/freight safety improvements, as it retains existing non-standard design features, including substandard shoulders, introduces new mainline diverging and merging areas, results in more congestion and retains bridge lifts; • Would improve bike and pedestrian facilities over No-Build, but would require bikes and pedestrians to navigate at-grade streets on Hayden Island, and grade of pathway would continue to not meet ADA requirements; • Marine navigation safety decreased compared to No-build because “S” curve maneuver still required and channel width decreased (see Value 5 for more detail); • Leaving lift towers and adding Supplemental

Appendix A: River Crossing- Replacement versus Supplemental

<p>towers;</p> <ul style="list-style-type: none"> • Provides more effective incidence/emergency response, as it reduces congestion more significantly and addresses most of the existing non-standard design features 	<p>bridge congests airspace, adversely affecting aviation safety;</p> <ul style="list-style-type: none"> • Longer duration of construction due to seismic rehabilitations and retrofits could have greater impact on aviation
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Stability during a seismic event	No Build	Replacement	Supplemental
Serviceability*	<500-year event	500-year event	500-year event
No Collapse**	<500-year event	2,500-year event	1,000-year event***

* Serviceability means that the structure would sustain only minor damage and would operational with minimal repair

** No Collapse means that the structure(s) would remain standing during the seismic event to prevent injury and loss of life, but would need substantial repairs afterward to continue serviceability.

*** The northbound bridges would be retrofitted to withstand a 1,000 year event, but the new supplemental structure would be built to withstand a 2,500 year event.

5	<p>Regional Economy; Freight Mobility</p> <ul style="list-style-type: none"> ✓ Freight travel times <ul style="list-style-type: none"> ▪ In BIA ▪ I-5 corridor ✓ Marine Navigation ✓ Freight throughput ✓ Parallel corridor ✓ Facility Access 	<ul style="list-style-type: none"> • More effectively moves freight within BIA and on I-5, as congestion during midday periods (9am to 3pm) would be reduced to 2 hours in the southbound direction; • Improves freight truck travel speeds, therefore freight truck travel times; • Serves 8% more vehicle-trips each day, including freight truck trips; • Enables more freight truck trips to be accommodated during mid-day (as well as peak) periods, due to lesser amount of congestion; • Improves access to port, freight, and industrial facilities by reducing congestion, increasing vehicle throughput, increasing 	<ul style="list-style-type: none"> • Freight not moved as effectively within BIA and on I-5, as congestion during mid-day periods (9am to 3pm) would be 5 hours (2 hours SB, 3 hours NB)(more than double the duration of congestion with Replacement;
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Appendix A: River Crossing- Replacement versus Supplemental

		<p>average travel speed of freight truck traffic;</p> <ul style="list-style-type: none"> • Improves marine navigation because fewer piers (obstacles) in water (6 sets), primary navigation channels better aligned with downstream Railroad Bridge’s swing span; • Eliminates lift span, thereby improving marine safety and eliminating time of day restrictions; 	<ul style="list-style-type: none"> • Narrower marine navigation channels, caused by misaligned piers from Existing and Supplemental bridges (10 total), that do not align well with the downstream railroad bridge <ul style="list-style-type: none"> ○ Will make navigation more difficult than existing; ○ Will still have time of day restrictions for some large vessels; ○ May increase use of lift span due to increased difficulty maneuvering between I-5 river crossings and railroad bridge; • Seismic retrofits of existing bridge will increase the footprint of the piers in the water, reducing existing marine navigation channels by approx. 40-60 feet
6	<p>Stewardship of Natural Resources</p> <ul style="list-style-type: none"> ✓ Threatened/ endangered fish and wildlife ✓ Other fish and wildlife ✓ Threatened/ endangered plants ✓ Wetlands ✓ Water Quality ✓ Energy Consumption ✓ Waterways 	<ul style="list-style-type: none"> • Greater bridge deck surface area, therefore greater potential shading of habitat, though elevated structure would reduce shading and therefore impact; • Slightly less impact to wetlands (0.037 acres); • Greater surface area, but better stormwater treatment and drainage; • Fewer total piers (6 sets) in Columbia River and Oregon Slough, therefore smaller volume of concrete and fill in water; • Fewer piers in water to provide habitat for fish that prey on juvenile salmon and alter stream flow; • Lesser potential backwater effect and rise in floodwater elevation 	<ul style="list-style-type: none"> • Less total surface area, but poorer stormwater treatment and drainage because the existing bridges’ lift span would still drain directly into the Columbia River. • Slightly greater impact to wetlands (0.08 acres) • More piers in water (14 sets) in the Columbia River; • Largest extent of in-water disturbance area • More in-water work related to construction and deconstruction of bridge piers and decking, therefore greater chance of chemical spill and longer exposure of fish species to stress (e.g., dewatering, detours, noise);
7	<p>Distribution of Benefits and Impacts</p>		

Appendix A: River Crossing- Replacement versus Supplemental

8	<p>Cost Effectiveness and Financial Resources</p> <ul style="list-style-type: none"> ✓ Minimize costs ✓ Cost-effectiveness <ul style="list-style-type: none"> ▪ Construction ▪ Maintenance ▪ Operation ✓ Reliable funding plan 	<table border="1" data-bbox="871 228 1633 334"> <thead> <tr> <th>River Crossing Costs</th> <th>Replacement</th> <th>Supplemental</th> </tr> </thead> <tbody> <tr> <td>Capital cost (millions \$)</td> <td>\$1,240 - \$1,590</td> <td>\$1,034 - \$1,310</td> </tr> <tr> <td>Annual operation cost</td> <td>\$700,000</td> <td>\$7,700,000</td> </tr> </tbody> </table> <p data-bbox="871 337 1606 391">Capital cost range is due to a range of contingency that is included to address risk of cost overrun, and because of the range of HCT cost.</p>		River Crossing Costs	Replacement	Supplemental	Capital cost (millions \$)	\$1,240 - \$1,590	\$1,034 - \$1,310	Annual operation cost	\$700,000	\$7,700,000
River Crossing Costs	Replacement	Supplemental										
Capital cost (millions \$)	\$1,240 - \$1,590	\$1,034 - \$1,310										
Annual operation cost	\$700,000	\$7,700,000										
9	<p>Growth Management/Land Use</p> <ul style="list-style-type: none"> ✓ Support regional plans 	<ul style="list-style-type: none"> • Greater interstate capacity better accommodates plans for mobility and freight movement 	<ul style="list-style-type: none"> • Constrained capacity may be slightly more effective at limiting SOV trips, therefore more consistent with regional policies promoting SOV reduction 									
10	<p>Constructability</p> <ul style="list-style-type: none"> ✓ Maintain transportation ✓ Construction impacts ✓ Future Flexibility ✓ Temporary Environmental impacts 	<ul style="list-style-type: none"> • Approximately 1 year shorter total construction duration; • Access to and from Vancouver is affected for longer period of time; <ul style="list-style-type: none"> ○ Movements from Washington St to SR 14 EB, from I-5 NB to C Street and from SR 14 WB to C Street will be closed for 3.5 years (though alternative access would be provided); • Potentially greater impact on downtown Vancouver, due to larger construction footprint of three new structures; • One year less construction time for completing Hayden Island Interchange – 3 years, 6 months for Replacement versus 4 years, 6 months for Supplemental; • Removal of existing bridges and disposal of materials; • Shoulders could be utilized to provide additional travel lanes in both directions on I-5 if capacity above 30 year design life is required 	<ul style="list-style-type: none"> • Approximately 1 year greater total construction duration; • Access to and from Vancouver is affected for shorter periods of time than the Replacement; • Access to Hayden Island from I-5 SB is affected for 6 months; • Access from Hayden Island to I-5 NB will be affected for 1.5 years; • Northbound I-5 traffic will be impacted during seismic retro-fitting of the existing structures; • Nine months less construction time for completing SR 14 Interchange – 3 years, 3 months versus 4 years for Replacement; • Traffic movement from Marine Drive to I-5 NB will have to merge into the through lanes rather than enter into its own lane as currently exists for a period of 4 years; • With foundation requirements for only one structure, pile driving and time on the water is much less; however, seismic retrofitting requires pile driving; • Additional work on and in the water exceeds that 									

Appendix A: River Crossing- *Replacement versus Supplemental*

		<p>needed for simply removing the old structures by at least 6 months;</p> <ul style="list-style-type: none">• Seismic retrofitting adds time and impacts to river navigation;• Shorter duration of construction over BNSF railroad;
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DRAFT materials for
11/27/07
Task Force meeting

Appendix B – High Capacity Transit Mode

Value	Bus Rapid Transit (BRT)	Light Rail (LRT)
<p>1</p> <p>Community Livability and Human Resources</p> <ul style="list-style-type: none"> ✓ Noise ✓ Neighborhood cohesion ✓ Air quality ✓ Business displacements ✓ Cultural resources ✓ Parks and recreational areas ✓ Local plans ✓ Aesthetics 	<ul style="list-style-type: none"> • As BRT can stay within existing Right-of-Way, it would avoid some acquisitions, including impact to the US Bank building; • Unless electric buses are used, BRT will be associated with greater noise and air pollution (even with alternative fuels); • BRT maintenance facility would require acquisition of 2 occupied residences;¹ • BRT maintenance facility would require acquisition of 1 business; • Shorter headways could result in greater impacts to parking, access, visual connectivity; 	<ul style="list-style-type: none"> • One alignment variation would require acquisition of the US Bank building in Arnada neighborhood, though this is easily avoided by other alignments; • Some plans specify LRT - Vancouver Transportation Plan and Portland Comprehensive Plan; <ul style="list-style-type: none"> • The Esther Short and Hough neighborhood plans call specifically for LRT • Other plans support energy efficiency, which indirectly promotes LRT over BRT; • Perceived as more reliable, spacious, and comfortable overall by passengers • LRT maintenance facility expansion would require the acquisition of 5-6 occupied residences; • LRT maintenance facility expansion would require the acquisition of 6 businesses
<p>2</p> <p>Mobility, Reliability, Accessibility, Congestion Reduction, and Efficiency</p> <ul style="list-style-type: none"> ✓ Travel times <ul style="list-style-type: none"> ▪ SOVs ▪ Transit ✓ Congestion ✓ Accessibility ✓ Throughput <ul style="list-style-type: none"> ▪ Person ▪ Transit 	<ul style="list-style-type: none"> • Slower in every instance during 2 hour PM peak (on average 4.75 minutes slower), e.g., <ul style="list-style-type: none"> ○ Lombard TC to terminal P&R (Lincoln or Kiggins depending on HCT alignment): 7.5 minutes longer (Replacement), ○ Pioneer Square to terminal P&R: 14 minutes longer (Supplemental); ○ Expo Center to Terminal P&R: 1 minute longer (Replacement), 11 minutes longer (Supplemental) ○ Downtown Vancouver to Pioneer Square: 2 minutes longer (Supplemental), 4 minutes longer (Replacement); • About 3,000 - 4,000, or 15-23% less passengers over River Crossing per working weekday; 	<ul style="list-style-type: none"> • On average 4.75 minutes faster trips, faster in every instance during PM peak; • Sees about 3,000- 4,000 more passengers per working weekday than BRT; • Serves more river crossing trips annually: <ul style="list-style-type: none"> ○ 6.7 million river crossings per year with Replacement, ○ 7.4 million per year with Supplemental

¹ This includes the *entire* CTRAN maintenance facility expansion in East Vancouver and the *entire* Tri-Met maintenance facility expansion in Gresham.

Appendix B: HCT Mode- *Bus Rapid Transit versus Light Rail*

- Serves fewer river crossing trips annually:
 - 4.8M river crossings per year with Replacement, which is 28% fewer than LRT,
 - 5.7M river crossings per year with Supplemental, which is 23% fewer than LRT

HCT Travel Times (minutes)	BRT		LRT	
	Efficient transit operations	Increased transit operations*	Efficient transit operations	Increased transit operations*
Expo Center to terminal park and ride***	13	19	12	12
Lombard TC to terminal park and ride	25	28	18	18
Downtown Portland to downtown Vancouver	38	39	32	32
Downtown Portland to terminal park and ride	46	48	40	40

* "Increased transit operations" provide more frequent BRT or LRT service

** Terminal park and ride refers to the Lincoln or Kiggins Bowl park and rides which are the terminus for the Vancouver and I-5 alignments, respectively.

- 3
- Modal Choice
- ✓ Multi-modal choices
 - ✓ Transit services
 - ✓ Bike/Ped Connectivity
 - ✓ Vehicle Occupancy

- Generally less timely service to the target market by 1 minute to 16 minutes
 - Lombard Transit Center to Terminal P&R (2 hour PM peak): 7.5 minutes, or 30% slower (Replacement), 16 minutes, or 48% slower (Supplemental)
 - 99th Street TC to Hayden Island (2 hour AM peak): 5 minutes, or 21% slower (Supplemental)

- Generally more timely PM peak service, by a range 1 to 16 minutes per trip to target markets;
- In *one* instance, longer travel time during 2-hour PM peak:
 - Hayden Island to 99th St. TC: 8.5 minutes, or 34% slower – attributed to the transfer (15 minute transfer time) required between LRT to bus at the LRT railhead at end of line in Vancouver

- 4
- Safety
- ✓ Vehicle/freight safety
 - ✓ Bike/Ped safety
 - ✓ Marine safety

Appendix B: HCT Mode- *Bus Rapid Transit versus Light Rail*

5	<ul style="list-style-type: none"> ✓ Aviation safety ✓ Life-line connectivity ✓ I-5 incident/emergency response 		
5	<p>Regional Economy; Freight Mobility</p> <ul style="list-style-type: none"> ✓ Freight travel times <ul style="list-style-type: none"> ▪ In BIA ▪ I-5 corridor ✓ Marine Navigation ✓ Freight throughput ✓ Parallel corridor ✓ Facility Access 		<ul style="list-style-type: none"> • Additional ridership will reduce SOV trips over river crossing, leading to an incremental improvement in freight mobility compared to BRT or No-Build
6	<p>Stewardship of Natural Resources</p> <ul style="list-style-type: none"> ✓ Threatened/endangered fish and wildlife ✓ Other fish and wildlife ✓ Threatened/endangered plants ✓ Wetlands ✓ Water Quality ✓ Energy Consumption ✓ Waterways 	<ul style="list-style-type: none"> • Direct impact to 0.05 acres of wetlands for bus bays and turn-around facilities just east of the existing Expo MAX Station; • Slightly larger impervious area; • Pollutant constituents are comparable to automobiles and trucks, such as metals (e.g., copper from brake pad wear) 	<ul style="list-style-type: none"> • No direct impact to wetlands; • Not associated with many pollutants found in road runoff, therefore less impact to water resources
7	<p>Distribution of Benefits and Impacts</p> <ul style="list-style-type: none"> ✓ Low-income/minority populations <ul style="list-style-type: none"> ▪ Conditions of ▪ Benefits to 		<ul style="list-style-type: none"> • Requires the full acquisition of the Wellness Project (if Vancouver alignment is selected), which provides free mental health care to low-income and uninsured residents

Appendix B: HCT Mode- *Bus Rapid Transit* versus *Light Rail*

<p>8</p> <p>Cost Effectiveness and Financial Resources</p> <ul style="list-style-type: none"> ✓ Minimize costs ✓ Cost-effectiveness <ul style="list-style-type: none"> ▪ Construction ▪ Maintenance ▪ Operation ✓ Reliable funding plan 	<table border="1" data-bbox="636 168 1913 641"> <thead> <tr> <th rowspan="3">HCT Costs</th> <th colspan="4">BRT</th> <th colspan="4">LRT</th> </tr> <tr> <th colspan="2">Vancouver Align.</th> <th colspan="2">I-5 Alignment</th> <th colspan="2">Vancouver Align.</th> <th colspan="2">I-5 Alignment</th> </tr> <tr> <th>Efficient transit ops.</th> <th>Increased transit ops.</th> <th>Efficient transit ops.</th> <th>Increased transit ops.</th> <th>Efficient transit ops.</th> <th>Increased transit ops.</th> <th>Efficient transit ops.</th> <th>Increased transit ops.</th> </tr> </thead> <tbody> <tr> <td>Capital cost (millions \$)*</td> <td>\$600 - \$770</td> <td>\$720 - \$810</td> <td>\$790 - \$940</td> <td>\$910 - \$1,010</td> <td>\$780 - \$940</td> <td>\$880 - \$980</td> <td>\$970 - \$1,130</td> <td>\$1,070 - \$1,180</td> </tr> <tr> <td>Annual operating cost over No Build (millions \$)</td> <td>\$5.3</td> <td>\$44.6</td> <td>N/A</td> <td>N/A</td> <td>\$3.5</td> <td>\$35.7</td> <td>\$4.2</td> <td>N/A</td> </tr> <tr> <td>Total annual transit passengers over I-5 crossing (millions)</td> <td>4.8</td> <td>5.7</td> <td>N/A</td> <td>N/A</td> <td>6.7</td> <td>7.4</td> <td>5.7</td> <td>N/A</td> </tr> <tr> <td>Annualized cost per transit passenger over I-5 river crossing**</td> <td>\$16.82</td> <td>\$27.96</td> <td>N/A</td> <td>N/A</td> <td>\$12.29</td> <td>\$16.21</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <p>* Capital cost ranges are due to the range of potential risk for cost-overruns</p> <p>** Includes annualized capital costs plus annual operating costs, per transit rider</p> <p>*** This number is total annual operating cost in 2030 for the No Build scenario. All build scenarios are reported by the incremental new operating cost over the No Build scenario.</p>		HCT Costs	BRT				LRT				Vancouver Align.		I-5 Alignment		Vancouver Align.		I-5 Alignment		Efficient transit ops.	Increased transit ops.	Efficient transit ops.	Increased transit ops.	Efficient transit ops.	Increased transit ops.	Efficient transit ops.	Increased transit ops.	Capital cost (millions \$)*	\$600 - \$770	\$720 - \$810	\$790 - \$940	\$910 - \$1,010	\$780 - \$940	\$880 - \$980	\$970 - \$1,130	\$1,070 - \$1,180	Annual operating cost over No Build (millions \$)	\$5.3	\$44.6	N/A	N/A	\$3.5	\$35.7	\$4.2	N/A	Total annual transit passengers over I-5 crossing (millions)	4.8	5.7	N/A	N/A	6.7	7.4	5.7	N/A	Annualized cost per transit passenger over I-5 river crossing**	\$16.82	\$27.96	N/A	N/A	\$12.29	\$16.21	N/A	N/A
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<p>9</p> <p>Growth Management/Land Use</p> <ul style="list-style-type: none"> ✓ Support regional plans 	<ul style="list-style-type: none"> • Bus Rapid Transit may have less potential to attract economic development around transit stations. <ul style="list-style-type: none"> ○ Bus lines have less visibility than rail lines ○ Developers see bus lines as a less permanent, fixed investment than rail lines ○ People generally prefer trains over buses 	<ul style="list-style-type: none"> • Evidence and surveys suggest that Light Rail stations are more likely to attract transit-oriented-development, which is targeted by regional plans such as the Vancouver City Center Vision plan. Developers tend to see rail as a more permanent investment; Riders tend to prefer rail over buses; • Some plans specify LRT – Vancouver Transportation Plan and Portland Comprehensive Plan; • Some regional and state plans support energy efficiency, which indirectly promotes LRT 																																																													
<p>10</p> <p>Constructability</p> <ul style="list-style-type: none"> ✓ Maintain transportation ✓ Construction impacts ✓ Future Flexibility 	<ul style="list-style-type: none"> • Shorter construction duration, and therefore less temporary disruption, because there would not be any electrification or track work; • Guideway could be converted to accommodate LRT 	<ul style="list-style-type: none"> • Longer construction duration because the laying of tracks and electrification would have to occur, and more utilities relocated; • LRT would not be easily converted to support BRT 																																																													

Appendix B: HCT Mode- *Bus Rapid Transit versus Light Rail*

✓ Temporary Environmental impacts		
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DRAFT materials for
11/27/07
Task Force meeting

Appendix C – High Capacity Transit Alignment

Value

Vancouver

I-5

<p>1</p> <p>Community Livability and Human Resources</p> <ul style="list-style-type: none"> ✓ Noise ✓ Neighborhood cohesion ✓ Air quality ✓ Business displacements ✓ Cultural resources ✓ Parks and recreational areas ✓ Local plans ✓ Aesthetics 	<table border="1" data-bbox="846 256 1701 487"> <thead> <tr> <th>Acquisition Impacts*</th> <th>Vancouver Alignment</th> <th>I-5 Alignment</th> </tr> </thead> <tbody> <tr> <td>Total area acquired</td> <td>24 to 25 acres***</td> <td>5 to 6.5 acres</td> </tr> <tr> <td>Residential Buildings**</td> <td>10 to 11***</td> <td>1 to 8</td> </tr> <tr> <td>Commercial Buildings**</td> <td>8</td> <td>2 to 4</td> </tr> <tr> <td>Businesses**</td> <td>17 to 18</td> <td>2 to 8</td> </tr> <tr> <td>Employees**</td> <td>50 to 56</td> <td>10 to 31</td> </tr> </tbody> </table> <p data-bbox="846 492 1732 589"> *Ranges presented above are a result of river-crossing choice and minor HCT alignment. **Number of buildings, businesses, employees that are “displaced” as a result of this project *** These numbers include the 17 acre Lincoln Park and Ride (11 acres of which is the WSDOT maintenance facility), and the six residential displacements that this Park and Ride requires, respectfully </p> <ul style="list-style-type: none"> • Requires the acquisition of the Wellness Project building, and two medical offices in the Lincoln neighborhood; • Requires the acquisition of 6 residences for the Lincoln Park and Ride; • Affects 3 potentially historic resources on Main Street; • Would occur in a pre-existing transportation corridor (i.e., a street), therefore less visual impact; • Greatest number of on-street parking spaces and access points lost 	Acquisition Impacts*	Vancouver Alignment	I-5 Alignment	Total area acquired	24 to 25 acres***	5 to 6.5 acres	Residential Buildings**	10 to 11***	1 to 8	Commercial Buildings**	8	2 to 4	Businesses**	17 to 18	2 to 8	Employees**	50 to 56	10 to 31	<ul style="list-style-type: none"> • Avoids the Wellness Project, and medical offices on Main St; • Avoids acquisition of 6 residences for Lincoln Park and Ride; • Affects 3 potentially historic properties along McLoughlin Blvd; • Potential impact to possible archaeological site (rated as having a moderate potential) in Burnt Bridge Creek Drainage; • Could have more adverse visual affect than the Vancouver alignment because of proximity to residences along I-5 and local parks; • Fewer number of parking spaces lost, but greater percentage of total along corridor
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<p>2</p> <p>Mobility, Reliability, Accessibility, Congestion Reduction, and Efficiency</p> <ul style="list-style-type: none"> ✓ Travel times 	<ul style="list-style-type: none"> • Local and express bus routes within the corridor and bridge influence area see more delay 	<ul style="list-style-type: none"> • Less likely to impact local and express bus routes 																		

Appendix C: HCT Alignment- Vancouver versus I-5

	<ul style="list-style-type: none"> ▪ SOVs ▪ Transit <ul style="list-style-type: none"> ✓ Congestion ✓ Accessibility ✓ Throughput <ul style="list-style-type: none"> ▪ Person ▪ Transit 	<table border="1" data-bbox="879 167 1715 565"> <thead> <tr> <th>Alignment Characteristics*</th> <th>Vancouver Alignment</th> <th>I-5 Alignment</th> </tr> </thead> <tbody> <tr> <td>Total Guideway length</td> <td>3.43 miles</td> <td>4.21 miles</td> </tr> <tr> <td>Property acquisition in northern Vancouver**</td> <td>14 acres***</td> <td>5-6 acres</td> </tr> <tr> <td>Average Guideway speed</td> <td>17.3 mph</td> <td>21.5 mph</td> </tr> <tr> <td>Expo Center to northern terminus</td> <td>12.0 min</td> <td>11.7 min</td> </tr> <tr> <td>Pioneer Courthouse Square to northern terminus</td> <td>39.9 min</td> <td>39.6 min</td> </tr> <tr> <td>Daily passenger trips on transit over I-5 crossing</td> <td>20,800</td> <td>21,100</td> </tr> </tbody> </table> <p data-bbox="879 570 1650 594">* Values are for LRT, but the relationships between the alignments are the same for BRT</p> <p data-bbox="879 602 1251 626">** Property acquisition north of 16th Street</p> <p data-bbox="879 634 1671 691">*** Does not include 11 acres that is the existing WSDOT maintenance facility that would be used for the Lincoln Park and Ride</p>	Alignment Characteristics*	Vancouver Alignment	I-5 Alignment	Total Guideway length	3.43 miles	4.21 miles	Property acquisition in northern Vancouver**	14 acres***	5-6 acres	Average Guideway speed	17.3 mph	21.5 mph	Expo Center to northern terminus	12.0 min	11.7 min	Pioneer Courthouse Square to northern terminus	39.9 min	39.6 min	Daily passenger trips on transit over I-5 crossing	20,800	21,100
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<p>3</p> <p>Modal Choice</p> <ul style="list-style-type: none"> ✓ Multi-modal choices ✓ Transit services ✓ Bike/Ped Connectivity ✓ Vehicle Occupancy 	<ul style="list-style-type: none"> • Provides access to 1% more households and employment within ½ mile of a station; • Provides equal to better travel times to target markets: <ul style="list-style-type: none"> ○ PM peak travel same, except Hayden Island to 99th St TC: 10 minutes faster (32.4 minutes vs. 42.4 minutes) • AM peak travel times same, except 99th St TC to Hayden Island: 15 minutes faster (19.1 vs. 34.1) 	<ul style="list-style-type: none"> • Provides access to 1% fewer households and employment within ½ mile of a station: • Provides equal travel times, except for 99th St TC to Hayden Island, and visa versa, where the Vancouver alignment is faster 																					
<p>4</p> <p>Safety</p> <ul style="list-style-type: none"> ✓ Vehicle/freight safety ✓ Bike/Ped safety ✓ Marine safety ✓ Aviation safety ✓ Life-line connectivity ✓ I-5 incident/emergency response 	<ul style="list-style-type: none"> • Encounters more high risk hazardous material sites than I-5 alignment (3 vs. 1) 	<ul style="list-style-type: none"> • Steep slopes near Burnt Bridge Creek Greenway put LRT or BRT alignment at greater potential risk of landslides 																					

Appendix C: HCT Alignment- Vancouver versus I-5

5	<p>Regional Economy; Freight Mobility</p> <ul style="list-style-type: none"> ✓ Freight travel times ✓ Marine Navigation ✓ Freight throughput ✓ Parallel corridor ✓ Facility access 	<ul style="list-style-type: none"> • Acquires commercial properties with approximately \$7.2 - \$7.9 million in annual revenue. <ul style="list-style-type: none"> • It is important to note that all properties acquired by this project will be provided relocation assistance, so these businesses and this revenue can be retained in Vancouver. 	<ul style="list-style-type: none"> • Acquires commercial properties with approximately \$0.2 - \$3.3 million in annual revenue. This substantially lower number than the Vancouver alignment is a result of the I-5 alignment running next to a residential neighborhood, rather than through a commercial district. <ul style="list-style-type: none"> • It is important to note that all properties acquired by this project will be provided relocation assistance, so these businesses and this revenue can be retained in Vancouver.
6	<p>Stewardship of Natural Resources</p> <ul style="list-style-type: none"> ✓ Threatened/ endangered fish and wildlife ✓ Threatened/ endangered plants ✓ Wetlands ✓ Water Quality ✓ Energy Consumption ✓ Waterways 	<ul style="list-style-type: none"> • No anticipated impact to ecosystem resources; • Alignment drains into the Columbia River, therefore less severe consequences on water resources from additional impervious surface 	<ul style="list-style-type: none"> • Impact approximately 2 acres of riparian buffer deemed "sensitive" habitat under the Clark County Critical Areas Ordinance; • Greater impervious surface area and greater pollutant runoff into Burnt Bridge Creek; • Construction on steep slopes could result in erosion and subsequent sediment pollution of Burnt Bridge Creek;
7	<p>Distribution of Benefits and Impacts</p> <ul style="list-style-type: none"> ✓ Low-income/ minority populations 	<ul style="list-style-type: none"> • Impacts the Community Wellness Project (LRT only), which provides free mental health care to low-income or uninsured residents 	<ul style="list-style-type: none"> • Avoids impact to Community Wellness Project

Appendix C: HCT Alignment- Vancouver versus I-5

<p>8</p> <p>Cost Effectiveness and Financial Resources</p> <ul style="list-style-type: none"> ✓ Minimize costs ✓ Cost-effectiveness <ul style="list-style-type: none"> ▪ Construction ▪ Maintenance ▪ Operation ✓ Reliable funding plan 	<table border="1"> <thead> <tr> <th rowspan="3">HCT Costs</th> <th colspan="4">BRT</th> <th colspan="4">LRT</th> </tr> <tr> <th colspan="2">Vancouver Align.</th> <th colspan="2">I-5 Alignment</th> <th colspan="2">Vancouver Align.</th> <th colspan="2">I-5 Alignment</th> </tr> <tr> <th>Efficient transit ops.</th> <th>Increased transit ops.</th> <th>Efficient transit ops.</th> <th>Increased transit ops.</th> <th>Efficient transit ops.</th> <th>Increased transit ops.</th> <th>Efficient transit ops.</th> <th>Increased transit ops.</th> </tr> </thead> <tbody> <tr> <td>Capital cost (millions \$)*</td> <td>\$600 - \$770</td> <td>\$720 - \$810</td> <td>\$790 - \$940</td> <td>\$910 - \$1,010</td> <td>\$780 - \$940</td> <td>\$880 - \$980</td> <td>\$970 - \$1,130</td> <td>\$1,070 - \$1,180</td> </tr> <tr> <td>Annual operating cost over No Build (millions \$)</td> <td>\$5.3</td> <td>\$44.6</td> <td>N/A</td> <td>N/A</td> <td>\$3.5</td> <td>\$35.7</td> <td>\$4.2</td> <td>N/A</td> </tr> <tr> <td>Total annual transit passengers over I-5 crossing (millions)</td> <td>4.8</td> <td>5.7</td> <td>N/A</td> <td>N/A</td> <td>6.7</td> <td>7.4</td> <td>5.7</td> <td>N/A</td> </tr> <tr> <td>Annualized cost per transit passenger over I-5 river crossing**</td> <td>\$16.82</td> <td>\$27.96</td> <td>N/A</td> <td>N/A</td> <td>\$12.29</td> <td>\$16.21</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table> <p>* Capital cost ranges are due to the range of potential risk for cost-overruns</p> <p>** Includes annualized capital costs plus annual operating costs, per transit rider</p> <p>*** This number is total annual operating cost in 2030 for the No Build scenario. All build scenarios are reported by the incremental new operating cost over the No Build scenario.</p>		HCT Costs	BRT				LRT				Vancouver Align.		I-5 Alignment		Vancouver Align.		I-5 Alignment		Efficient transit ops.	Increased transit ops.	Efficient transit ops.	Increased transit ops.	Efficient transit ops.	Increased transit ops.	Efficient transit ops.	Increased transit ops.	Capital cost (millions \$)*	\$600 - \$770	\$720 - \$810	\$790 - \$940	\$910 - \$1,010	\$780 - \$940	\$880 - \$980	\$970 - \$1,130	\$1,070 - \$1,180	Annual operating cost over No Build (millions \$)	\$5.3	\$44.6	N/A	N/A	\$3.5	\$35.7	\$4.2	N/A	Total annual transit passengers over I-5 crossing (millions)	4.8	5.7	N/A	N/A	6.7	7.4	5.7	N/A	Annualized cost per transit passenger over I-5 river crossing**	\$16.82	\$27.96	N/A	N/A	\$12.29	\$16.21	N/A	N/A
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<p>9</p> <p>Growth Management/Land Use</p> <ul style="list-style-type: none"> ✓ Support regional plans 	<ul style="list-style-type: none"> • More opportunity for Transit Oriented Development (TOD) <ul style="list-style-type: none"> ○ Alignment is not constrained by I-5, and has more conducive zoning; • Greatest direct land use impact from 17 acre Lincoln Park and Ride; • Impact to medical offices could result in shift in land use on upper Main; • More consistent with current land use patterns 	<ul style="list-style-type: none"> • Benefits of HCT alignments (land values, density, mixing of land uses) will not be as effectively realized in low density residential zoned areas along I-5 																																																													
	<p>10</p> <p>Constructability</p> <ul style="list-style-type: none"> ✓ Maintain transportation ✓ Construction impacts ✓ Future Flexibility ✓ Temporary impacts 	<ul style="list-style-type: none"> • Temporarily impacts traffic on Main St north of McLoughlin Blvd, in downtown Vancouver, and on Hayden Island; • Temporary construction noise and disruption to businesses and residents on Main St north of McLoughlin Blvd, in downtown Vancouver, on Hayden Island; • 	<ul style="list-style-type: none"> • Temporarily impacts traffic on McLoughlin Blvd or 16th St, downtown Vancouver, on Hayden Island • Construction noise and disruption to residents along I-5, on McLoughlin Blvd or 16th St, in downtown Vancouver, on Hayden Island; • 																																																												

Cost Estimates

Project Overview

The Columbia River Crossing project is a bridge, transit and highway improvement project for I-5 between SR 500 in Vancouver and Columbia Boulevard in Portland. The project team is currently analyzing five alternatives as part of the Draft Environmental Impact Statement (EIS) process. The goal of the Draft EIS is to identify the best performing solution with the fewest community impacts.

The five alternatives:

- Replacement bridge with bus rapid transit
- Replacement bridge with light rail
- Supplemental bridge with bus rapid transit
- Supplemental bridge with light rail
- No build (included for comparison purposes)

Project Costs

The total preliminary cost estimates for the project alternatives are \$3.1 billion to \$4.2 billion in year of expenditure dollars.

Note: Year of expenditure assumes that construction would take place between 2010 and 2017.

These are estimated construction costs and do not include operating costs. Therefore, the numbers are presented in ranges, based on the probability that actual construction costs will fall somewhere within the range. The ultimate cost and time to complete a project is subject to many variables such as inflation, demand for materials or labor, and the availability of funding.

Challenges and Opportunities

These items could potentially affect project costs and schedule:

- Inadvertent discoveries
- Delay by local decision makers in selecting a preferred alternative
- Ability to secure funding needed for completing design and construction
- Archaeological findings
- Supplemental EIS or additional environmental work
- Compliance issues for in-water work that could add months to the project

Next Steps

October 2007: Open houses to view proposed bridge, transit and highway improvements.

November 2007: Preliminary findings released on bridge, transit and funding options.

February 2008: Draft EIS and Draft Locally Preferred Alternative (LPA) issued. Begin 60-day public comment period.

May–June 2008: Adoption of LPA for bridge, transit and highway improvements.

Project Contact Information

Email: feedback@columbiarivercrossing.org

Mail: 700 Washington St, Suite 300
Vancouver, WA 98660

Phone: 360-737-2726 or 503-256-2726

Fax: 360-737-0294

October 15, 2007

Detailed Summary of Cost Estimates

The total preliminary cost estimate for the project alternatives fall within a range of \$3.1 billion to \$4.2 billion in year of expenditure dollars. The range in cost covers the combination of four “build” alternatives that will be evaluated in the Draft Environmental Impact Statement (EIS) to be released in February 2008. (Year of expenditure assumes that construction would take place between 2010 and 2017.)

COST BREAKDOWN BY COMPONENT 10% to 90% range (See Note 1)

Total I-5 Highway Related Costs (Includes River Crossing and Interchanges)

Replacement	\$2.67 to \$3.09 billion
Supplemental	\$2.51 to \$2.88 billion

High Capacity Transit (See Note 2)

Bus Rapid Transit	\$0.46 to \$0.99 billion
Light Rail	\$0.53 to \$1.17 billion

Total Highway and Transit Costs: The 10% to 90% risk based combined total for highway and transit is \$3.1 billion to \$4.2 billion when considering the possible combination of alternatives.

Columbia River Crossing Bridge Only (Includes High Capacity Transit and I-5)

Replacement bridge	\$1.24 to \$1.59 billion
Supplemental bridge	\$1.02 to \$1.43 billion

Note 1: The ultimate cost and time to complete a project is subject to many variables that cannot all be known before hand, like inflation, demand for materials or labor, and the availability of funding. The 10% to 90% range is determined through a risk based analysis that estimates the probability that actual construction costs will fall somewhere within the range. There is 90% likelihood that the construction costs will be higher than the low number and 10% likelihood that the construction costs will be higher than the top number.

Note 2: High Capacity Transit (HCT) cost ranges reflect variations in segment lengths and alignments. Two alignments are included in the alternatives for Vancouver, both with short and long segments.

October 15, 2007

Bridge Choice

- Highway and Interchanges Fact Sheet
- Transportation Demand Management (TDM) and Transportation System Management (TSM) Program Categories and Strategies Matrix
- Project Safety Fact Sheet
- Pedestrian and Bicycle Improvements Fact Sheet

DRAFT materials for
11/27/07
Task Force meeting

Highway and Interchanges

Fact Sheet  November 2007

Project Overview

The Columbia River Crossing project will expand options for improved travel between Vancouver and Portland. Bridge, transit and highway improvements are essential to address transportation problems in the area.

Today, I-5 between SR 500 in Vancouver and Columbia Boulevard in Portland experiences two to three times more collisions than comparable urban highways in the area. Many factors contribute to these accidents:

- Six hours of congestion every weekday
- Poor sight distance on the bridge
- Closely spaced interchanges
- Short on-and off-ramps



Traffic backs up in Vancouver after an accident on the Interstate Bridge.

Safer and Better Travel on I-5

We need the project to make I-5 work better by:

- Preventing southbound congestion from starting before 6 a.m. and lasting until noon each weekday
- Preventing northbound congestion from starting at 1 p.m. and lasting until 9 p.m. each weekday
- Providing reliable high capacity transit service
- Improving safety on the I-5 bridge and highway
- Moving goods more efficiently for a healthy economy

To achieve these goals, more lanes are needed crossing the river to accommodate both through and on/off traffic. Shoulders need to be widened to improve safety. Ramps and interchanges at six locations need to be rebuilt.

New lanes are being added in the project area to make the interchanges work better, but the highway will transition back to the existing number of lanes at Delta Park in Portland and Highway 99 in Vancouver. Final designs depend on the decisions made regarding the river crossing and how well they solve the transportation problems identified in the project area. In all options being analyzed, CRC is committed to working within existing right-of-way as much as possible.

Goals and Challenges

The map on pages 2 and 3 provides an overview of the project goals and the challenges related to existing highway conditions.

Did you know?

- The Columbia River Crossing project area is 5 miles long.
- More than 50 bridges and overpasses will be improved or constructed as part of the project.
- 135,000 vehicles cross the Columbia River on I-5 daily.

I-5 Southbound to Delta Park

Goals

- Eliminate the need for southbound lane changes as people merge into traffic.

Challenges

- Minimizing right-of-way impacts and avoiding sensitive areas while connecting to Delta Park improvements.

I-5 in Downtown Vancouver

Goals

- Avoid impacts to downtown Vancouver and to the historic area on the east side of I-5.
- Accommodate four to six lanes in each direction coming off the bridge.
- Maintain existing access at all the interchanges.

Challenges

- Working in the existing right-of-way to avoid impacts to the downtown business development and the Fort Vancouver National Historic Reserve.
- Ensuring adequate spacing of vehicles between freeway, ramps and auxiliary lanes.
- Avoiding safety and operational problems resulting from the short distance between interchanges.

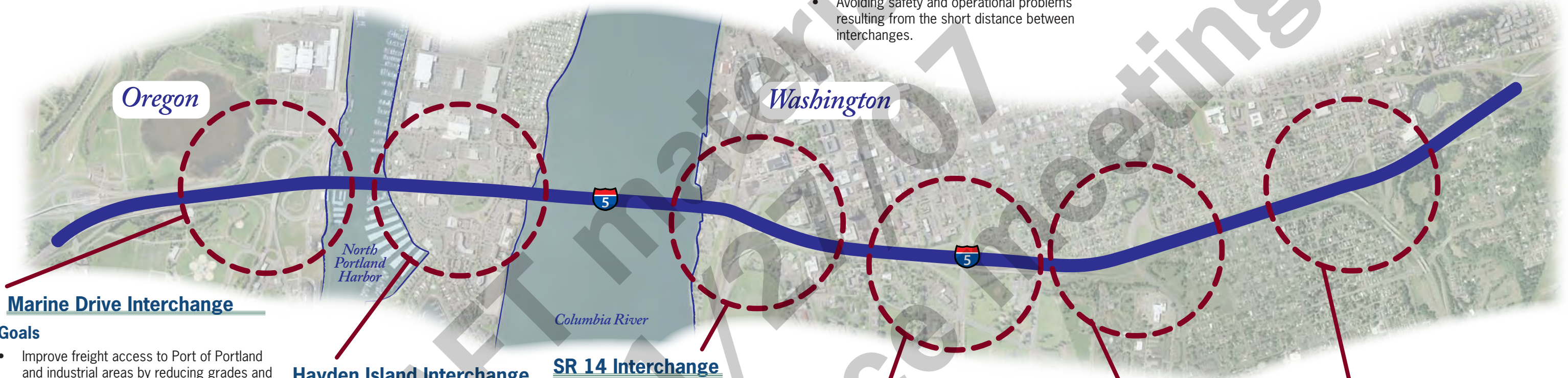
I-5 from 4th Plain to SR 500

Goals

- Eliminate the need for lane changes from on-ramps as vehicles merge into traffic.

Challenges

- Adding new lanes to make safety improvements within the existing right-of-way.



Marine Drive Interchange

Goals

- Improve freight access to Port of Portland and industrial areas by reducing grades and eliminating stops.
- Improve the safety for pedestrians and bicyclists from Columbia River to Expo Center.
- Reduce traffic back ups during peak travel times.

Challenges

- Providing direct access for trucks from arterials (Martin Luther King Blvd., Vancouver Way and Marine Drive) to I-5 while maintaining access to local businesses and Delta Park.
- Designing a more direct walking/bike route through the interchanges and North Portland Harbor that remains connected to the existing City of Portland trail network.
- Providing better access for both cars and trucks accessing I-5 in a limited amount of ramp space.

Hayden Island Interchange

Goals

- Ensure adequate access to residences and commercial businesses.
- Minimize impacts to floating homes.

Challenges

- Enhancing safety of vehicles entering and exiting I-5.
- Accommodating more vehicles on I-5 to meet current and future demands at peak times.
- Increasing I-5 and ramp capacity while staying within the existing right-of-way.

SR 14 Interchange

Goals

- Maintain access between I-5, SR 14 and downtown Vancouver.
- Minimize impacts to National Park Service, City of Vancouver and Fort Vancouver National Historic Reserve.
- Improve access to pedestrian/bicycle path across Columbia River.

Challenges

- Avoiding historic resources including Fort Vancouver National Historic Site, the Old Apple Tree and Pearson Field. Also avoiding the BNSF rail line and the soon-to-be constructed Vancouver Land Bridge between the waterfront and Ft. Vancouver.
- Providing efficient access to and from I-5 while accommodating new downtown development.
- Connecting pedestrian/bicycle route from downtown Vancouver to I-5 bridge.

Mill Plain Interchange

Goals

- Improve SR 14 and Mill Plain weave.
- Improve interchange operation.
- Maintain current access.

Challenges

- Avoiding Fort Vancouver National Historic Reserve property and structures.
- Avoiding downtown Vancouver property and structure impacts.
- Avoiding Clock Tower Development.
- Avoiding steep ramps to aid freight trucks.

4th Plain Interchange

Goals

- Increase length of northbound ramp to make it easier to merge.

Challenges

- Minimizing impacts to local streets near Clark College and the Veteran's Hospital and cemetery.

SR 500 Interchange

Goals

- Improve the connections between I-5 southbound and SR 500 eastbound and SR 500 west bound and I-5 northbound.

Challenges

- Avoiding or minimizing impacts to Leverich Park and homes south of SR 500.
- Retaining 39th Street southbound exit from I-5.

How can I get involved?

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- Attend an advisory group meeting
- Invite CRC staff to your group to discuss the project



Columbia River and Interstate Bridge looking south from downtown Vancouver.


Next Steps

November 2007	February 2007	March 2007	June 2008	March 2009	2010
Preliminary findings released on bridge, transit mode, transit alignment and funding options.	Draft Environmental Impact Statement and Draft Locally Preferred Alternative released. Begin formal 60-day public comment period.	Public Meetings on Draft EIS and Draft LPA.	Adoption of Locally Preferred Alternative for bridge, transit and highway improvements.	Federal approval expected (Record of Decision).	Earliest construction could begin.

Tell us what you think of the project's goals for highway improvements

E-MAIL feedback@columbiarivercrossing.org 


MAIL 700 Washington St., Suite 300, Vancouver, WA 98660 


FAX 360-737-0294 

PHONE 360-737-2726 or 503-256-2726 

WEB www.ColumbiaRiverCrossing.org 



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Transportation Demand Management (TDM) and Transportation System Management (TSM) Program Categories and Strategies

Program Category	Examples	Current Status	Proposed Emphasis for Alts. 2 & 3	Proposed Emphasis for Alts. 4 & 5
State Mandates in Support of TDM				
Washington Commute Trip Reduction (CTR) Law	Applies to Clark County employers with 100 or more employees reporting between 6 am and 9 am	Both states' laws and regulations are currently in effect.		CRC project assumes the law will continue to apply and might even be expanded.
Oregon Employee Commute Options (ECO) Rule	Applies to Portland area employers with 100 or more employees reporting to a site			
Region-Wide TDM Programs				
Public awareness campaigns	<ul style="list-style-type: none"> - <i>SmartTrips Portland</i> - <i>Clarkcommute.org website</i> - <i>Smart Commuter Campaign</i> - <i>Southbound Solutions</i> - <i>Drive Less Save More</i> 	These are on-going programs designed to improve awareness of transportation options.	All existing region-wide programs are assumed to continue. Expansion of programs is assumed to be likely, given the regional nature of population growth and transportation problems.	
Improving access and availability of alternative travel choices	<ul style="list-style-type: none"> - Fixed route transit systems - Park-and-ride facilities - Carpool and ride sharing (e.g. <i>Carpoolmatch.org</i>) - Vanpool (e.g. Metro and C-Tran vanpool programs) 	These are existing modes, facilities, and programs that provide options to the SOV.		
Incentives/disincentives to favor non-SOV modes	<ul style="list-style-type: none"> - Parking cash-out programs - Flexible work schedules - Subsidized or free transit passes - Ride matching and preferential parking for carpools - Incentives to bike, walk and carpool 	“Free” parking is a common transportation subsidy offered by employers and serves as an incentive to drive alone. These are some current programs that seek to offset or counteract the free parking incentive.		
Institutional and organizational approaches to TDM	<ul style="list-style-type: none"> - Employer-based TDM programs - Transportation Management Associations (TMAs) - Transit-oriented design (TOD) 	Numerous examples currently exist of all three examples in the region.		

Transportation Demand Management (TDM) and Transportation System Management (TSM) Program Categories and Strategies

Program Category	Examples	Current Status	Proposed Emphasis for Alts. 2 & 3	Proposed Emphasis for Alts. 4 & 5
Region-Wide TSM Measures				
System monitoring and traveler information systems	<ul style="list-style-type: none"> - Web-based traffic information including traffic cameras on ODOT and WSDOT web sites - Variable message signs (VMS) on I-5 and elsewhere - Transportation management operations centers (TMOCs) 	I-5 was the first facility in the region with full coverage and a comprehensive monitoring system.	Existing monitoring systems in the corridor are assumed to be upgraded or expanded. VMS will be retained or expanded. Existing TMOCs will continue their existing close coordination.	
Facility management systems	<ul style="list-style-type: none"> - Ramp meters - Preferential lanes - Signal priority for emergency vehicles - Transit priority at traffic signals - Web-based traffic information 	Most ramps in the study area already utilize meters. One HOV lane is in operation on I-5 northbound. Emergency vehicle signal priority is almost universal. Transit priority is in place in specific locations and corridors.	All ramps currently metered are assumed to be metered in the future. Existing HOV lane will be retained. Expansion of the HOV lane system remains a possibility.	
Incident management and response	<ul style="list-style-type: none"> - ODOT - WSDOT 	I-5 is currently a high priority for incident response.	Incident response will remain a high priority in the corridor.	
Facilities Planned as Part of CRC Project				
Public transit facilities	<ul style="list-style-type: none"> - High-capacity transit - Express buses - Expanded park and ride facilities 	Currently, transit capacity is constrained and buses mix with regular traffic at most times of day. Buses face potential disruption from bridge lifts.	Either LRT or BRT will provide high-capacity transit in exclusive right-of-way and utilize a fixed span bridge. Express buses and park-and-ride facilities will be added.	The same facilities and equipment will be used as with Alts. 2 and 3, but these would feature increased frequency of operation of HCT and other transit.
Bicycle and pedestrian facilities	<ul style="list-style-type: none"> - Wide, shared-use facilities - Direct, non-circuitous routing 	Existing facilities are inadequate in many respects and may even be unsafe. The current system does not	Better, less-circuitous routing and better cross-connections will be	Design details will be different than Alts. 2 and 3 but will be far superior

Transportation Demand Management (TDM) and Transportation System Management (TSM) Program Categories and Strategies

Program Category	Examples	Current Status	Proposed Emphasis for Alts. 2 & 3	Proposed Emphasis for Alts. 4 & 5
		encourage walking and bicycling.	provided. New, modern facilities will make walking and bicycling significantly more attractive and viable.	to existing facilities and will make both bicycling and walking more viable.
Ramp meters	<ul style="list-style-type: none"> - Ramp meters allow metering of traffic to protect mainline operation - Ramp meters may allow preferential treatment for certain vehicles such as buses or carpools 	Ramp meters are installed at most ramps in the study area to protect main line flow.	Ramp meters and equipment could be used to monitor traffic flows and to give preference to specific vehicles.	
Tolling of I-5	Electronic tolling can vary by time of day and by auto occupancy	Not applicable.	Tolls could help reduce overall demand in the corridor.	Higher tolls could be used to reduce demand in the corridor to match the lesser capacity afforded by these alternatives.
Tolling facilities and equipment	<ul style="list-style-type: none"> - Electronic tolling facilities - In-vehicle and roadside equipment 	None currently exists in the corridor.	Tolling equipment can be operated to adjust tolls by time of day, by vehicle type, by vehicle occupancy, or by level of congestion.	
Park and ride facilities	<ul style="list-style-type: none"> - Garages and surface lots 	Several facilities exist in the I-5 corridor today.	Approximately 2000 +/- additional park and ride spaces are anticipated in Washington at new transit stations.	
Traffic monitoring equipment and traveler information devices	<ul style="list-style-type: none"> - Traffic detection devices at ramps and in the I-5 mainline lanes - VMS signs - Traffic cameras tied to TMOCs 	The corridor is currently well equipped.	Existing equipment will be retained or upgraded and may be supplemented to give higher level of information.	

Transportation Demand Management (TDM) and Transportation System Management (TSM) Program Categories and Strategies

Program Category	Examples	Current Status	Proposed Emphasis for Alts. 2 & 3	Proposed Emphasis for Alts. 4 & 5
Upgraded highway facilities	<ul style="list-style-type: none"> - Bridge - Acceleration lanes, deceleration lanes, and ramp design - Shoulder widths 	The existing lift-span bridge causes traffic disruptions. Many deficiencies cause increased crash rates. Non-existent or substandard shoulders cause incidents to create major congestion.	A fixed bridge will eliminate delays and reduce crashes due to bridge lifts. Better geometrics will reduce crashes and delays. Standard shoulder widths will allow better incident response and allow removal of some disabled vehicles.	Half of daily traffic will not be subject to potential bridge lifts. Better geometrics will reduce crashes and delays. Standard shoulder widths will allow better incident response and allow removal of some disabled vehicles.
Potential Region-wide Strategies to Promote TDM				
Expansion of TMA programs	Provide start-up and on-going program funding for TMAs	Currently TMAs are operational in the Swan Island, Lloyd District, and Clackamas areas.	Expand to other areas, especially Hayden Island, downtown Vancouver, and Columbia Corridor.	
Expand regional TDM programs to focus on the I-5 corridor	Public awareness and focused promotional programs	Areas immediately adjacent to the BIA have not been the focus of TDM programs.	Implement specific, focused efforts on other areas, especially Hayden Island, downtown Vancouver, and Columbia Corridor.	
Evaluation of tolling/congestion pricing programs	Consider tolling programs that include variations by: <ul style="list-style-type: none"> - time-of-day - vehicle occupancy - level of congestion - vehicle type 	None.	Tolling can help reduce demand and shift to other times of day.	
Evaluate high-occupancy vehicle lanes	HOV lanes can reduce travel time and promote higher vehicle occupancy	An HOV lane is currently used only for northbound I-5 for one short section.	An HOV lane could be used to reduce travel time (especially if the corridor is congested), and promote higher vehicle occupancy (especially if used in connection with tolls that vary by vehicle occupancy).	

Project Safety

Columbia River Crossing (CRC) is a bridge, transit and highway improvement project for I-5 between Vancouver and Portland.

The project will improve conditions on I-5 by:

- Preventing southbound congestion from starting before 6 a.m. and lasting until noon each weekday
- Preventing northbound congestion from starting at 1 p.m. and lasting until 9 p.m. each weekday
- Providing reliable high capacity transit service
- Improving safety on the I-5 bridge and highway
- Moving goods more efficiently for a healthy economy
- Providing safe and direct access across the Columbia River for pedestrians and bicyclists

Safety in the I-5 Project Area

Safety issues in the CRC project area affect more than just auto commuters. When collisions occur on I-5, they create traffic back-ups, which delay freight deliveries, prevent people from reaching destinations on time, and leave cars idling on roadways. The problems impact the travel experiences of car drivers, transit riders, bicyclists, pedestrians, truck drivers and car passengers. Residents also deal with congestion when collisions on I-5 cause traffic to clog local streets.



Stalled car and backed-up traffic near the I-5 bridge

CRC Project Safety Facts

2000 - 2004

- 2,204 crashes occurred: 1,687 on the highway and 517 on ramps – an average of more than one accident per day
- In Oregon, the number of northbound crashes was double that of southbound crashes
- Serious collisions in Washington occur on I-5 southbound because motorists are traveling at faster speeds on the horizontal curve approaching the bridge, where sight distance is limited

Sources: Washington State Department of Transportation Collision Data and Analysis Branch, Oregon Department of Transportation Crash Analysis and Reporting Unit

Outdated Design

The project area includes 20 outdated highway features that create safety hazards, such as closely spaced interchanges, short off/on-ramps, and narrow shoulders. Crash data gathered by the Oregon and Washington departments of transportation show strong correlations between these sub-standard features and collisions in the project area. Some of the specific problems on I-5 include:

- Short acceleration lanes, such as the SR 14 interchange and on I-5 south between SR 500 and Fourth Plain Boulevard
- Short off/on-ramps at Hayden Island and Victory Boulevard
- Lack of safety shoulders for disabled vehicles on the Interstate Bridge

These problems are a common cause of accidents: 65 percent of collisions in the project area are rear-end crashes, and 14 percent are side-swipes. People are injured in one-third of these collisions.

Pedestrians and bicyclists also face safety challenges. Narrow pathways on the bridge make passing difficult, and both groups are exposed to flying debris from vehicle traffic. Inadequate lighting makes routes more challenging to navigate in the early morning or after sunset.



Bicyclist crossing the I-5 bridge

Bridge Lifts

Congestion and outdated design aren't the only problems. When the lift span rises on the Interstate Bridge, collisions climb too. Motorists traveling southbound in Vancouver are four times more likely to be in a crash, and northbound motorists in Portland are three times more likely to have a collision.

Rising Congestion

As the region's population continues to grow, so will the traffic – and with more cars, there will be increased opportunities for collisions. Approximately 135,000 vehicles use the Interstate Bridge daily. By 2030, this number will grow to 185,000. Right now, accidents are more than twice as likely to occur during peak traffic hours. Based on an analysis of traffic predictions, accident rates could double if no action is taken.

Solving the Problems

The CRC project includes a range of safety and design improvement projects. Here are a few examples:

- Increase the length of on-ramps to make it easier for drivers to merge into traffic, and improve connections between interchanges
- Adjust the highway grade so drivers can see over the crest of the bridge, reducing the potential for rear-end collisions during congested periods
- Build a new bridge that includes standard 10 to 12-foot wide safety shoulders for stalled vehicles and incident responders
- Build a wider and safer path for pedestrians and bicyclists

How can I get involved?

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How can I comment on the project?

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Mail: 700 Washington St, Suite 300
Vancouver, WA 98660

Phone: 360-737-2726 or 503-256-2726

Fax: 360-737-0294

October 16, 2007

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Pedestrian and Bicycle Improvements

Columbia River Crossing (CRC) is a bridge, transit and highway improvement project for I-5 between Vancouver and Portland.

The project will improve conditions on I-5 by:

- Preventing southbound congestion from starting before 6 a.m. and lasting until noon each weekday
- Preventing northbound congestion from starting at 1 p.m. and lasting until 9 p.m. each weekday
- Providing reliable high capacity transit service
- Improving safety on the I-5 bridge and highway
- Moving goods more efficiently for a healthy economy
- Providing safe and direct access across the Columbia River for pedestrians and bicyclists

Current Bridge Discourages Walking and Biking

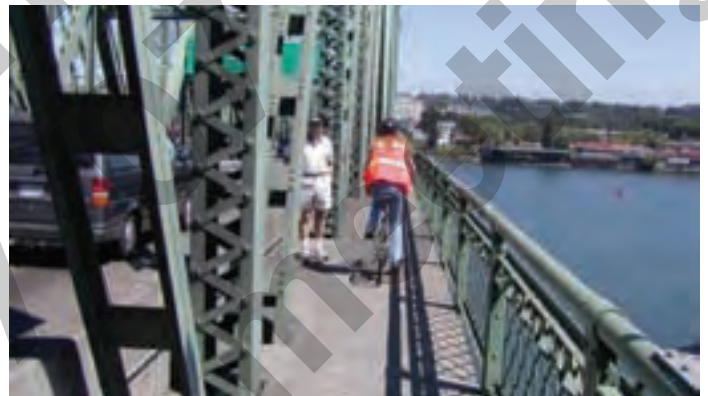
The existing bicycle and pedestrian pathways are neither attractive nor well designed. They do not encourage bicyclists and pedestrians to cross the Interstate Bridge.

Problems include:

- Bridge paths are too narrow (about 4 feet wide) especially when users try to pass each other
- Bridge paths are too close to traffic, with little protection from noise or debris
- Connections on each side of the river force users into out-of-direction travel
- Some areas leading to the bridge lack sidewalks, bike lanes and crosswalks
- Confusing and insufficient signage
- People with disabilities find it difficult to navigate the area
- Inadequate lighting

A Better Path Forward

An improved crossing of the Columbia River, whether on the existing bridge or a new bridge, will include an improved pedestrian and bicycle path meeting current design standards (at least 14 feet wide).



Today's Interstate Bridge paths are too narrow for pedestrians and bicyclists to safely pass each other.

Other improvements could include:

- Protecting pedestrians and bicyclists from traffic noise and debris
- Creating more direct connections on each side of the river and providing better links to public transit
- Adding or enhancing sidewalks, bike lanes, and crosswalks off the bridge

The project could make some improvements in the near future like added signage and smoother pavement. Other improvements would be made once a final bridge design is selected and construction begins. Construction could start as soon as 2010.

Pedestrian and Bicycle Advisory Committee

In the summer of 2006, Columbia River Crossing staff led two guided tours of the project area, on foot and by bike. Feedback from participants provided valuable information and led to the formation of a community advisory committee.

About the Committee

The committee guides the development of improvements for people who will walk or bicycle in the project area. The committee brings together more than 20 community members and agency representatives. Their role is to develop recommendations that enhance CRC facilities and connections for pedestrians and bicyclists.



Meetings

The Pedestrian and Bicycle Advisory Committee meets at least monthly at the Columbia River Crossing project office, 700 Washington Street, Suite 300, Vancouver, Washington. The public may observe these meetings, and the project welcomes written comments at any time. Please check the CRC Web site or call for meeting times.

Access meeting agendas and summaries here:

www.columbiarivercrossing.org/ProjectPartners/PedAndBike.aspx

Members

April Bertelsen, City of Portland
Todd Boulanger, City of Vancouver
Kyle Brown, Steps to a Healthier Clark County
Elicia Cardenas, Portland Bicycle Advisory Comm.
Basil Christopher, Oregon Dept. of Transportation
Seanette Corkill, Bike Gallery, Arnada Neighborhood Association
Debbie Elven-Snyder, C-TRAN
Carley Francis, Washington Dept. of Transportation
Jill Fuglister, Coalition for a Livable Future
Emily Gardner, Bicycle Transportation Alliance
Roger Geller, City of Portland
Lisa Goorjian, City of Vancouver
Joe Greulich, Clark County Bicycle Advisory Comm.
Mark Harrington, SW Washington Regional Transportation Council
Rod Merrick, Portland Pedestrian Advisory Comm.
Shayna Rehberg, Portland Bicycle Advisory Comm.
Walter Valenta, Bridgeton Neighborhood Association and CRC Task Force

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October 9, 2007

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Transit Mode and Alignment Choice

- Transit Design Options and Park and Ride Lot Recommended to be Removed from Further Consideration Memo
- Transit Choices Fact Sheet
- High Capacity Transit Alignment Options Map

DRAFT materials for
11/27/07
Task Force meeting

July 30, 2007

TO: CRC Project Team
FROM: CRC Transit Team
SUBJECT: Transit Design Options and Park-and-Ride Lot Recommended to be Removed from Further Consideration
COPY: Rex Wong, P.E.

This memorandum documents the rationale for removing three transit design options and a park-and-ride lot from further consideration, including the two-way on Broadway, the Washington/Main couplet, the Washington/Columbia couplet, and the Ross Road park-and-ride lot. An extensive review of the transportation and environmental performance of the design options and potential park-and-ride locations revealed that these three options and the park-and-ride lot have undesirable characteristics that warrant their removal from further consideration. The rationale for this action is detailed below.

The remaining options that will be evaluated in the DEIS would perform better and have lower adverse impacts than these options that would be dropped from further consideration.

Two-Way on Broadway Design Option

The two-way on Broadway option is designed with both directions of the HCT alignment on Broadway Street.

This option is recommended to be removed from further consideration for the following reasons:

- It would be inconsistent with current and planned development.
- HCT would cross the Columbia River from Hayden Island and touch down in Vancouver at Washington and 6th Street. Transitioning both directions of the HCT guideway from this touch down location to Broadway Street would require an east-west couplet, on both 6th and 7th Streets, that would:
 - Have the highest number of acquisitions in lower downtown Vancouver;
 - Conflict with traffic circulation;
 - Remove important, on-street retail parking from Main Street near the intersections of 6th and Main and 7th and Main; and
 - Have the greatest number of sharp turns in the alignment that would generate noise and vibration impacts.

The Vancouver Central City Vision Plan (VCCV), the City's plan for the future development of downtown Vancouver, shows an HCT alignment on Washington Street. According to City of Vancouver staff recent development along Washington Street, such as the Vancouver Center, has occurred with the understanding that it would be served by HCT in the future. Since the two-way on Broadway option is designed with both tracks/lanes of the HCT guideway transitioning off of Washington Street and operating along Broadway Street, this option would not serve recent and planned development, done in compliance with the VCCV, and would be inconsistent with the City's vision for transit in their downtown.

Relocating both directions of the guideway two blocks east to Broadway Street would require a cross-over couplet with one direction of travel along 6th Street and the other along 7th Street. The turning radius required to maneuver the guideway on to and off of 6th and 7th Street would result in the need to acquire a portion of the properties located on the corners of 6th and 7th Street, and Broadway Street. Constructing the cross-over couplet would require more property acquisitions in lower downtown Vancouver than any other option.

The cross-over couplet would also have the greatest impact on the east-west circulation in downtown Vancouver. Both 6th and 7th Street would be required to be one way streets, in the same direction as HCT, and each would lose one automobile travel lane; a total reduction of two east-west travel lanes (more than other options). These two east-west streets currently provide important access to nearby businesses, including the convention center at the corner of Columbia Boulevard and 6th Street and the proposed retail core at the intersection of Main Street and 7th Street. The impact of the cross-over couplet would create unavoidable auto-transit conflicts to local circulation.

To provide adequate station spacing and equivalent service with other design options, a station would be located on both 6th and 7th Streets between Washington and Main Street. Due to the short, 200-foot block length between Washington and Main, the platform for the HCT stations would extend into the right-of-way for Main Street at both 6th and 7th Streets requiring a non-standard realignment of the travel lanes to the east side of Main Street in this area. On Main Street, an important retail street in downtown Vancouver (see the discussion of impacts to Main Street in the Washington/Main couplet below), this would eliminate more than 20 on-street parking spaces.

The cross-over couplet would also require four minimum radius turns in the guideway to be made in close proximity to each other; one from Washington Street to 6th Street, a second from 6th Street to Broadway Street, a third from Washington Street to 7th Street and then the fourth from 7th Street to Broadway Street. Transit vehicles create unique noise and vibration impacts along sharp turns in the guideway; particularly “wheel squeal” which would occur regularly with the light rail transit mode. The cross-over couplet would create a permanent and negative noise and vibration effect.

Because of the inconsistency with current and planned development, greater property acquisitions, impacts to traffic circulation, and noise, it is recommended that this design option be removed from further consideration.

Washington/Main Couplet Design Option

The Washington/Main couplet is designed with the northbound direction of HCT travel on Main Street and the southbound direction on Washington.

This design option is recommended to be removed from further consideration because it would:

- Reduce parking and traffic access on Main Street, a primary commercial corridor, in downtown Vancouver where the uses are dependent on on-street parking and on-street parking has been identified as important to revitalization efforts. One side of Main Street would lose all parking spaces and direct automobile access;
- Prohibit the planned traffic circulation on Main Street, a key downtown arterial; and
- Preclude the planned connection of Main Street from the downtown to the waterfront.

The VCCV designates Main Street as an important retail and commercial street in downtown Vancouver. The City of Vancouver has identified on-street parking as an important element of the revitalization efforts because it is critical to the success of retail and commercial uses along Main Street. Of the existing angled on-street parking on Main Street, an HCT alignment on Main Street would eliminate 80 parking spaces from 5th Street to McLoughlin Boulevard. The City’s Main Street redevelopment plan proposes to change the on-street parking along Main Street from angled parking to parallel parking. With parallel on-street parking an HCT alignment on Main Street would eliminate 65 on-street parking spaces from 5th Street to McLoughlin Boulevard - about one third of the total spaces planned by the City.

The City of Vancouver's Main Street redevelopment plan states that Main Street will become one of two primary north-south arterials in downtown Vancouver (the other being Columbia Street) with a planned future extension connecting to the downtown waterfront area. Routing one direction of HCT along Main Street would prohibit this street to function as a north-south arterial because it would permanently change it to a one-way street with traffic in the northbound direction only. Construction of this design option would also permanently preclude the planned future extension of Main Street to the waterfront. The southbound direction of a future extension of Main Street to the waterfront would consequently only be accessible from 6th Street which substantially limits its usefulness.

Because of the parking, circulation, and land use impacts to an important commercial corridor and downtown arterial it is recommended that this design option be removed from further consideration.

Washington/Columbia Couplet Design Option

The Washington/Columbia couplet is designed with the northbound direction of HCT travel on Washington Street and the southbound direction on Columbia Street.

This design option is recommended to be removed from further consideration because it would:

- Impact traffic circulation on Columbia Street, a key downtown arterial. One side of Columbia Street would lose all parking spaces and direct automobile access;
- Result in out-of-direction travel; and
- Impact a historic resource that could be avoided by design options that do not use Columbia Street that perform as well, or better, than this option.

Locating one direction of HCT along Columbia Street has an impact similar to Main Street in regards to traffic circulation in downtown Vancouver. Columbia Street is currently the only north-south arterial in downtown Vancouver and the City of Vancouver has recently adopted local plans and policies that stress its importance to remain a two-way street. Columbia Street is the only street in downtown Vancouver that already extends south to the waterfront and can serve future redevelopment of the waterfront. Constructing the southbound direction of an HCT couplet along Columbia Street would permanently preclude continuous two-way automobile traffic on Columbia Street and would restrict automobile traffic to one-way in the southbound direction. Therefore, a couplet including Columbia Street would substantially impact the existing and planned traffic circulation in downtown Vancouver.

Locating HCT along Columbia Street would also affect access to the St. James Catholic Church property, an important historic resource and one of the oldest buildings in downtown Vancouver. Since there are other reasonable and better performing design options in downtown Vancouver, this historic resource effect can be readily avoided without reducing transit performance or resulting in other significant impacts.

Finally, locating one direction of the HCT alignment along Columbia Street would have the greatest out of direction travel (resulting in an additional guideway length of approximately 500 feet). This is because from the touch down point on Washington Street the guideway would head west to Columbia Street and then head back east, near McLoughlin Boulevard, to the proposed Mill District Transit Center.

Because of the impacts to traffic circulation on an important downtown arterial, the out-of-direction travel, and the historic resource impact that could be avoided with other, better performing options, it is recommended that this design option be removed from further consideration.

Ross Road Park-and-Ride

The site for the proposed Ross Road park-and-ride lot is currently undeveloped WSDOT right-of-way adjacent to I-5, located along Highway 99 at the intersection with E Ross Road. Initial modeling assumed a 500 space park-and-ride lot that would cover the whole site. However, environmental constraints on the northern portion of this property and zoning restrictions do not make this site suitable for development as a park-and-ride lot.



Alignment Options

Several alignments for high capacity transit are being considered in three areas of the project: Hayden Island, downtown Vancouver and north of downtown Vancouver.

Each option:

- Connects to the MAX light rail Yellow line at the Expo Center
- Operates in its own guideway across the Columbia River
- Meets an underserved need for transit service
- Is consistent with local neighborhood plans and land uses
- Is technically feasible

The project team is working to stay within existing right of way, but some land acquisition will be unavoidable.

Transit Alignment Choices and Issues

Tradeoffs for each area and alignment choice must be considered. Issues include the location of stations, the number of streets carrying public transit and the character of the surrounding land.

Hayden Island options	
Station next to Jantzen Beach SuperCenter	Station next to I-5
<ul style="list-style-type: none"> • Greater potential to support redevelopment of Jantzen Beach SuperCenter • Station would be within walking distance of shops • Less noise from I-5 	<ul style="list-style-type: none"> • Slightly lower construction costs • Floating home community is not divided by transit alignment across North Portland Harbor
Downtown Vancouver options	
North travel on Washington Street and south travel on Broadway Street (couplet)	North and south travel on Washington Street
<ul style="list-style-type: none"> • Easier to provide on-street parking, wider sidewalks and bike lanes • More direct access to transit on local streets • More locations for business growth around stations 	<ul style="list-style-type: none"> • Construction limited to one street • Potentially lower construction costs • One station would serve both directions of travel • Easier navigation for transit riders
North of downtown Vancouver options	
Alignment along Main Street	Alignment along east side of I-5
<ul style="list-style-type: none"> • Better access to neighborhoods • More foot traffic in Uptown Business District • Lower construction and annual operating costs • Construction time shorter by eight months • 20 percent more residents within a mile of stations • 10 percent more employment within half mile of stations 	<ul style="list-style-type: none"> • Better access to Clark College, VA Hospital, Marshall Community Center • Easier access to neighborhoods east of I-5 • Shifts highway alignment 20 feet west • Requires retaining walls and more structures • Higher construction costs

How will decisions be made about transit improvements?

The project will analyze the transit alignments for these criteria:

- Cost effectiveness
- Potential to serve the greatest number of riders
- Least impact to private property
- Potential to meet land use plans
- Reflect local community visions
- Environmental impacts

Results of the analysis will be considered, along with input from the community and project sponsors to recommend one transit alignment and one mode. 


Next Steps

November 2007	February 2007	March 2007	June 2008	March 2009	2010
Preliminary findings released on bridge, transit mode, transit alignment and funding options.	Draft Environmental Impact Statement and Draft Locally Preferred Alternative released. Begin formal 60-day public comment period.	Public Meetings on Draft EIS and Draft LPA.	Adoption of Locally Preferred Alternative for bridge, transit and highway improvements.	Federal approval expected (Record of Decision).	Earliest construction could begin.

Tell us what you think about the proposed transit options and alignments.
How will they meet your transit needs?

E-MAIL feedback@columbiarivercrossing.org 


MAIL 700 Washington St., Suite 300, Vancouver, WA 98660 


FAX 360-737-0294 

PHONE Vancouver: 360-737-2726, Portland: 503-256-2726 or Toll-Free: 866-396-2726 

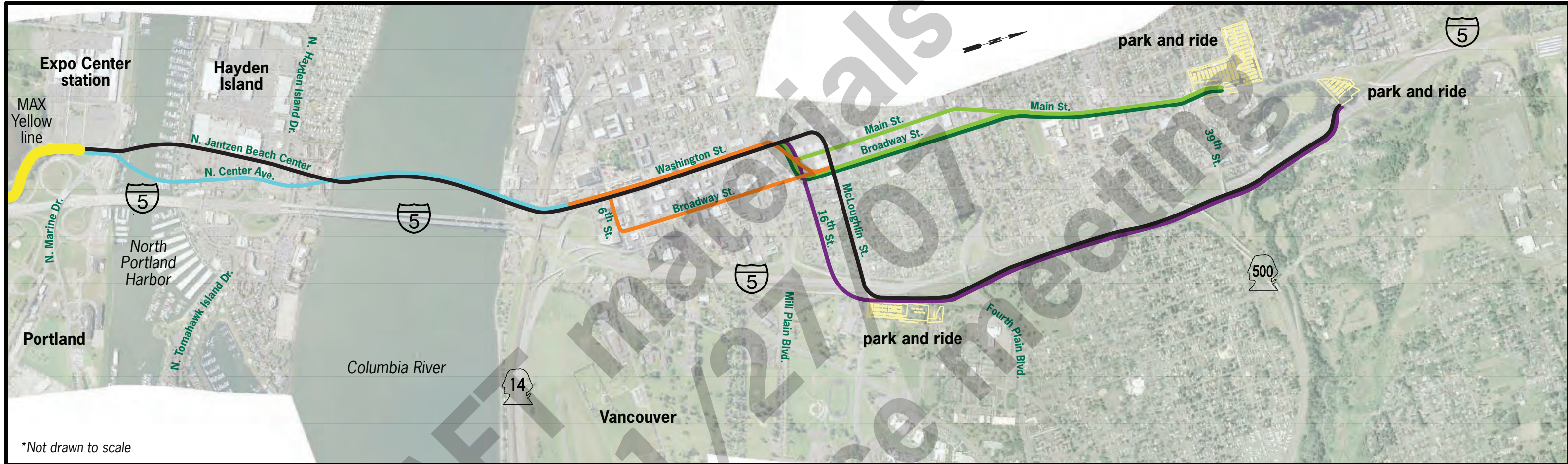
WEB www.ColumbiaRiverCrossing.org 



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Map and descriptions are for discussion purposes only and are subject to change. Alignments can be used for bus rapid transit or light rail.



*Not drawn to scale

LEGEND

HAYDEN ISLAND TO DOWNTOWN VANCOUVER

- Along I-5, Replacement Downstream Bridge**
Travel along I-5 near N. Center Avenue to connect with new bridge west of existing bridge.
- N. Jantzen Beach Center, Replacement Downstream Bridge (Representative Alignment)**
Travel beside Jantzen Beach SuperCenter to connect with new bridge west of existing bridge.

DOWNTOWN VANCOUVER TO 16TH STREET/MCLOUGHLIN

- Broadway-Washington**
Northbound transit on Broadway and Southbound transit on Washington.
- Washington Two-way (Representative Alignment)**
Northbound and southbound transit on Washington Street.

NORTH OF DOWNTOWN VANCOUVER

- Broadway Two-way North**
On Broadway Street from McLoughlin to Main Street. Continues on Main Street to park and ride at 39th Street.
- Broadway-Main**
Northbound transit on Broadway Street and southbound transit on Main Street from McLoughlin to 29th Street. Two-way on Main Street from 29th Street to park and ride at 39th Street.
- 16th St., Along I-5**
Two-way transit travels on 16th Street to eastside of I-5. Travels from Clark College, along I-5, to park and ride near Kiggins Bowl.
- McLoughlin, Along I-5 (Representative Alignment)**
Two-way transit travels on McLoughlin to east side of I-5. Travels from Clark College along I-5 to park and ride near Kiggins Bowl.

Public Involvement

- Public Comment from Open Houses Held October 17 and 20, 2007 Memo
- Public and Agency Comment, June 27 to October 16, 2007 Memo
- Environmental Justice Fact Sheet

DRAFT materials for
11/27/07
Task Force meeting

November 20, 2007

TO: Columbia River Crossing Task Force
FROM: Doug Ficco, CRC project director
 John Osborn, CRC project director
SUBJECT: Public comment from open houses held October 17 and 20, 2007

Introduction

The Columbia River Crossing (CRC) project held open houses on October 17 and October 20, 2007, to inform the public about the current status of the project, to discuss recent technical findings, and to solicit public comments about alternatives being analyzed as part of the Draft Environmental Impact Statement (EIS). Key choices presented to the public for comment included bridge, transit mode, and transit alignment alternatives. Comments received will be used to help inform project staff and advisory groups of public preferences on Draft EIS alternatives.

This update provides a summary of issues identified in the public comments. The project received a total of 196 public comments during the designated comment period of October 17 to November 4, 2007.

Locations and Attendance

The October 17, 2007, open house was held at the former Hayden Island Yacht Club from 5:30 pm to 7:30 pm at 12050 N. Jantzen Drive in Portland, Oregon. The October 20, 2007, open house was held at Lincoln Elementary School from 10:00 am to 2:00 pm at 4200 NW Daniels Street in Vancouver, Washington. A total of 123 attendees signed in at the Portland open house and 97 attendees signed in at the Vancouver open house, for a total of 220. Half of the open house attendees submitted comments (111 out of 220). Additional comment forms were submitted after the open houses via mail or the project Web site.

For a summary of methods used to advertise the open houses, please see Appendix A.

Methods of Comment Submission

Table 1 describes how the comment forms were submitted. Table 2 describes how other comments during this period were submitted.

Table 1

Method of Comment Form Submission	Quantity Received
Open house, Portland, Oct. 17	55
Open house, Vancouver, Oct. 20	56
Mailed via US Postal Service, Oct.17- Nov. 4	7
Emailed via electronic form on CRC Web site, Oct. 17- Nov. 4	13
Total	131

During the open house public comment period (Oct. 17- Nov. 4), the project also received 64 public comments via email, phone calls, and letters. Some of these came from people who may have attended the open houses or viewed open house materials online. However, since these comments were not organized according to the comment form questions, they are summarized separately in the section titled "Non-Comment Form Input" near the end of this report.

Eight comments were received by a court reporter at the two open houses. These spoken comments were not structured in the same way as responses from those who submitted comment forms. Comments to the court reporter are also included in the section titled "Non-Comment Form Input."

Table 2.

Method of Non-Comment Form Submission	Quantity Received
Spoken comment to court reporter, open house, Portland, Oct. 17	3
Spoken comment to court reporter, open house, Vancouver, Oct. 20	5
Emails, phone calls, or letters received Oct. 17-Nov. 4	56
Total	64

Methodology

The comment form contained a variety of open-ended and closed-ended questions. For a sample comment form, please see Appendix B.

The primary closed-ended questions fell into five categories:

1. Bridge Choice
2. Transit Mode Choice
3. Transit Alignment Choice – Downtown Vancouver
4. Transit Alignment Choice – North of Downtown Vancouver
5. Transit Alignment Choice – Hayden Island

Commenters were asked first to decide if they had enough information to choose among the options being considered by the project for each of the topics. If "no," they were asked to explain what additional information would be helpful. If "yes," they were given a list of options and instructed to select all they would support. Finally, commenters were asked to explain what factors were most important to them in making that specific decision.

Completed comment forms were input into a database and analyzed using data queries and word searches. The data was exported to a spreadsheet for charting purposes.

Demographics

Commenters were asked in what ZIP codes they live and work. Seventy-six percent (100 out of 131) of respondents answered one or both of these questions. Home ZIP codes show most respondents living in the project area in Vancouver near I-5. Work ZIP codes reflect a similar distribution, with jobs concentrated along I-5 in the project area, as well as southeast Vancouver and downtown Portland. Appendix C contains maps showing where respondents live and work by ZIP code.

The majority of commenters learned about the open houses through the newspaper or a CRC postcard in the mail.

Comments Prior to Open Houses, June-October

In addition to the open house events, the project team received general comments at public and agency meetings in Oregon and Washington from June 27 to October 16, 2007. These outreach efforts are

summarized in a separate, quarterly comment report titled “Public and Agency Comment, June 27 – October 16, 2007.”

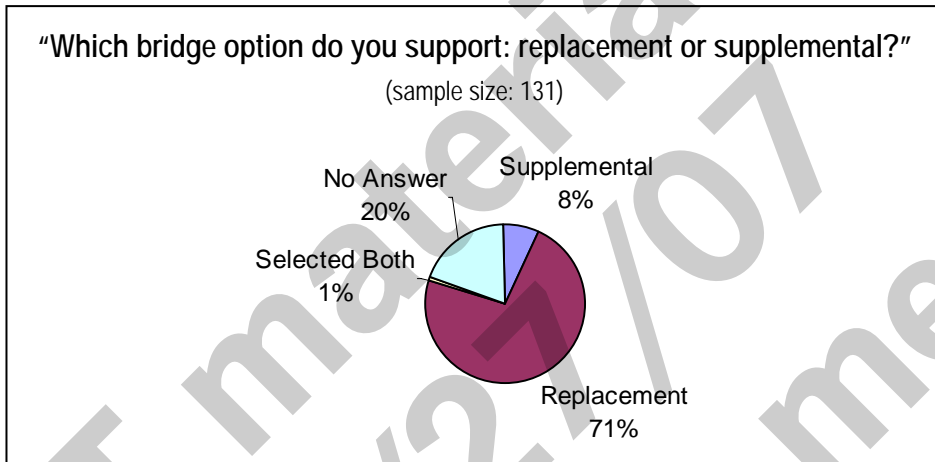
Comment Form Responses

The following section summarizes the 131 comment forms received from October 17 to November 4, 2007.

Bridge Choice | Supplemental or Replacement

More than three-quarters of respondents felt they had enough information to make a decision about the bridge choice (104 of 131). This was observed at both open houses.

Figure 1



What factors are important to you in making a decision about the bridge?

Replacement bridge supporters:

The majority of respondents (71 percent) support the replacement bridge. When asked what factors were important in this decision, answers included long term cost, safety, seismic issues, reducing congestion, and the lift span in the current bridge. Sample comments included:

- *Seismic concerns of the existing bridges and costs to upgrade to supplemental*
- *Efficiency, safety and capacity*
- *Ongoing maintenance cost associated with old bridge*
- *The age of the old bridge and its inconvenient height*

Supplemental bridge supporters:

Of those respondents who support the supplemental bridge option, many gave reasons that demonstrate some confusion about this alternative’s features. Some key reasons for their support of a supplemental bridge included higher mass transit capacity and use of existing infrastructure. Sample comments included:

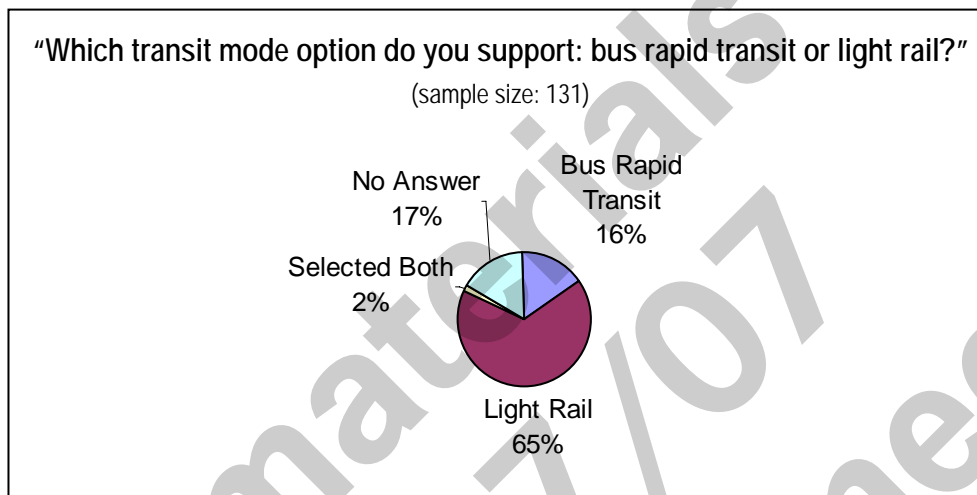
- *Seems to be the most logical, least intrusive and most beneficial to all parties involved*
- *Higher mass transit capacity*

- *Supplementing what we currently have to reduce the wasting of existing materials and keep using what we already have*

Transit Mode | Bus Rapid Transit or Light Rail

Seventy-nine percent of respondents said they had enough information to make a decision about the transit mode (104 of 131). This trend was similar at both open houses.

Figure 2



What factors are important to you in making a decision about the transit mode?

Light rail supporters:

Factors cited by light rail supporters were potential ridership and attractiveness to riders, long term operating cost, continuity with existing system, speed and reliability, and personal preference for trains. Sample comments included:

- *Light rail is faster.*
- *I've used both and prefer to ride the train.*
- *Have used BRT in other states. I like it but BRT was not popular and eventually discontinued. MAX is a world class system, very convenient and easy to use.*
- *Less costs over time: 1) No transfer for the entire community 2) More flexible as population increases 3) Much less operating cost*
- *Continuity with existing MAX line and lack of transfer*
- *Efficiency and volume of passengers*

Bus rapid transit supporters:

Those who supported bus rapid transit over light rail commonly cited factors such as initial cost, flexibility of transit vehicles, and belief that safety would be improved. Sample comments included:

- *Flexibility of bus rapid transit*
- *Security problems in Portland light rail*
- *Lower cost for number of actual riders*

If you didn't have enough information to make a decision, what information would be helpful?

Most respondents requested additional cost data, such as:

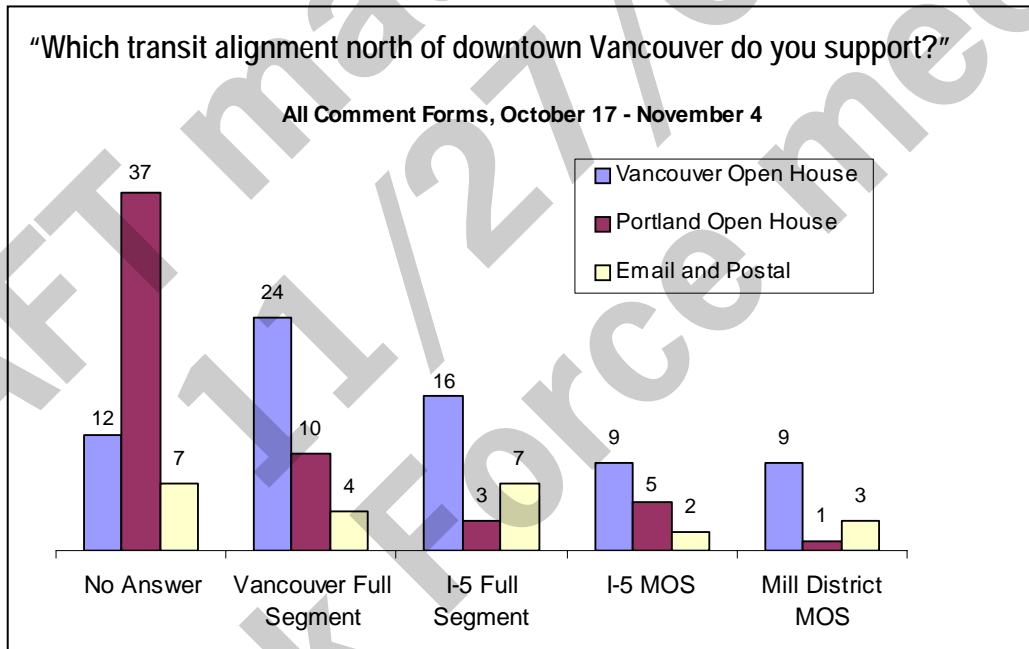
- *Cost comparisons per mile of bus vs. rail*
- *Better cost breakdowns & user numbers. Can a BRT lane later become a light rail crossing?*
- *I would like to know how the bus supports future mass transit in the county.*
- *Total costs, costs per rider, local share of costs, more proof of expected ridership and return on investment*

Transit Alignment | North of Downtown Vancouver

For this category, only about half of all respondents gave an answer. Only about one-third from the Portland open house answered, many indicating they were not familiar enough with the Vancouver area and local impacts. Conversely, 79 percent (44 of 56) who attended the Vancouver open house did indicate support for at least one transit alignment north of downtown Vancouver.

A bar chart was necessary to display comment results of the Vancouver open house because all commenters who answered this question selected multiple combinations of alignment options.

Figure 3



- **Vancouver Full Segment** = Broadway and Main streets to a park and ride near 39th Avenue
- **I-5 Full Segment** = Along I-5 to Kiggins Bowl park and ride
- **I-5 MOS*** = East on 16th or McLoughlin Blvd. to Clark College
- **Mill District MOS*** = Ending in the vicinity of Mill Plain Blvd.

*MOS = minimum operable segment

What factors are important to you in making a decision about the transit alignment?

Factors important to those who supported the transit alignment north of downtown Vancouver included impacts to local neighborhoods, access to businesses and services, economic redevelopment, and walkability. Sample comments included:

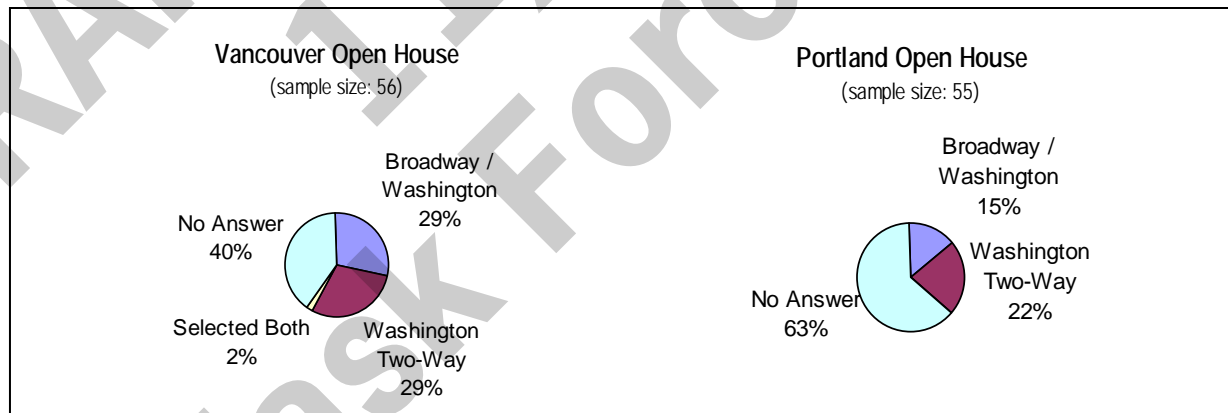
- ... walkability. Few people want to be walking next to a bus lane.
- Even with spacing you have the issues of wind wakes and noise. I simply do not see how adding transit to downtown Vancouver could improve that area.
- Main St. [at 39th] is a failing intersection, two schools are within 1/4 to 1/8 mile; size of the park-n-ride is supposedly enormous, much larger than any we've ever heard of in northwest!
- Stay with as much support for the commons. Park facilities, VA medical, college, high school, officer's row. Public transportation supporting public services!
- Broadway Main [alignment] could potentially increase growth of Vancouver business.
- Integrate transit into people's daily streetscape to make it feel more natural to ride. Open up the Uptown Village developments.

Transit Alignment | Downtown Vancouver

Slightly over half of the respondents said they had enough information to make a decision about the transit alignment in downtown Vancouver. Others indicated they were unfamiliar with the area and needed to know more about local impacts to make a decision or left this question completely blank. At the Portland open house, 63 percent of respondents did not provide an answer for this question.

Figure 4

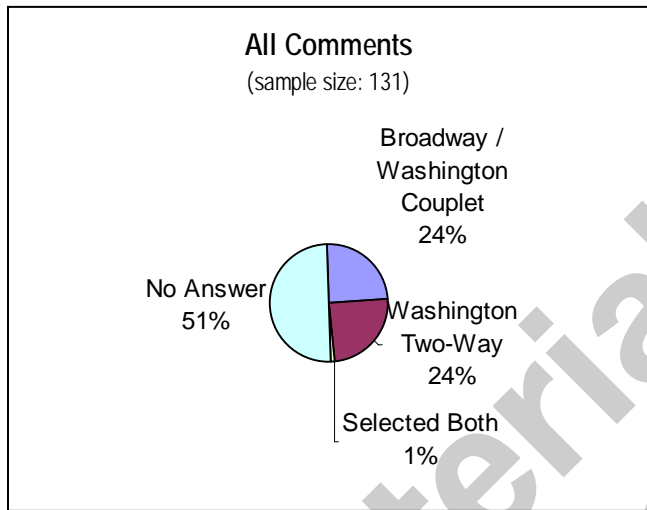
"Which transit alignment for downtown Vancouver do you support?" (by open house location)



- **Broadway/Washington** = Northbound transit on Broadway Street and southbound transit on Washington Street
- **Washington Two-Way** = Northbound and southbound transit on Washington Street

Figure 5

“Which transit alignment for downtown Vancouver do you support?” (all comments)



What factors are important to you in making a decision about the transit alignment?

Supporters of Broadway/Washington alignment:

These respondents cited impacts to local traffic as an important factor for supporting this alignment.

Sample comments included:

- *Less congested, safer*
- *Less manipulation to existing streets*
- *More parking*
- *I think that one way streets help the traffic flow downtown.*
- *Effect on street traffic*

Supporters of Washington two-way alignment:

Those who supported the Washington Two-Way alignment in downtown also cited local impacts to traffic and infrastructure. A few also noted cost and a preference for consolidating the transit route on one street.

- *Less disruption in area*
- *Have one transit corridor*
- *Simpler for riders, lower construction costs*
- *Impacts one roadway instead of two. Less confusing connections.*
- *Lower cost*

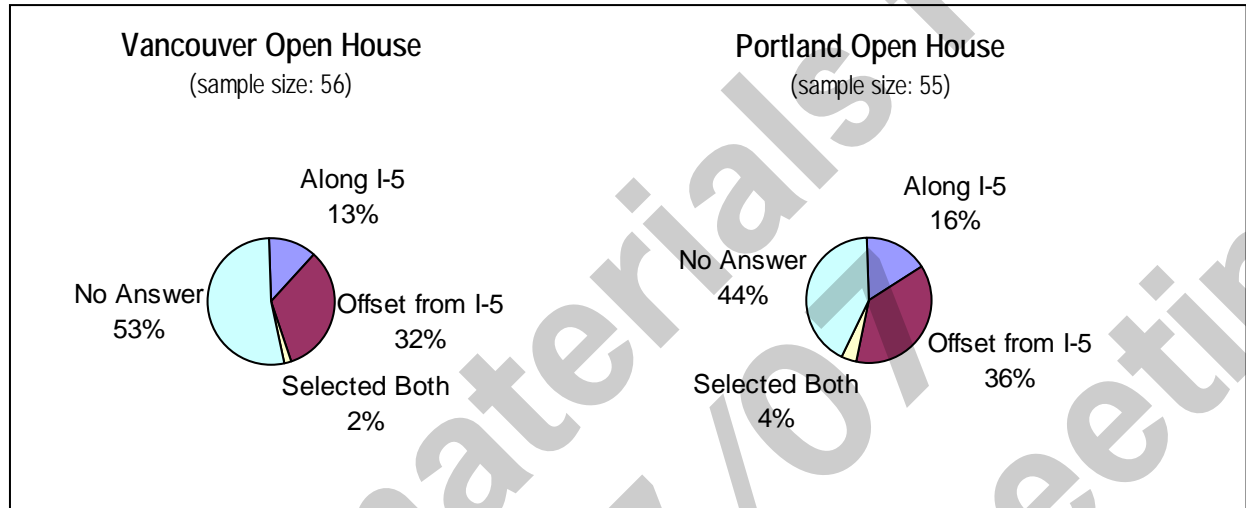
Transit Alignment | Hayden Island

About half of respondents did not provide an answer to this question. The majority (30) of those were attendees of the Vancouver open house. These respondents said they were not familiar with the area, did not have an opinion, or left this answer blank without providing a reason. Respondents at the Portland

(Hayden Island) open house who did not provide an answer said they needed more information about the alignment's placement.

Figure 6

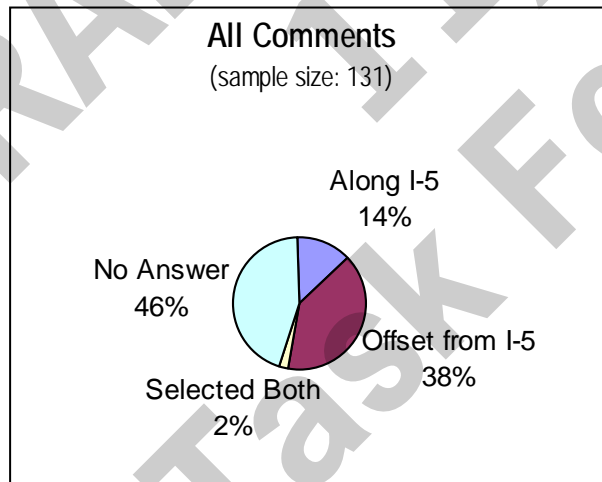
"Which transit alignment for Hayden Island do you support?" (by open house location)



- **Along I-5** = Travels along I-5 near N. Center Avenue to connect with new bridge west of existing bridge
- **Offset from I-5** (N. Jantzen Beach Center) = Travels beside Jantzen Beach SuperCenter to connect with new bridge west of existing bridge

Figure 7

"Which transit alignment for Hayden Island do you support?" (all comments)



The majority of respondents supported the "Offset from I-5" transit alignment. Reasons included access for shoppers, increased business development to the Jantzen Beach SuperCenter, and convenience. Those who supported the "Along I-5" alignment most commonly cited community impacts to Hayden Island and the moorage under the other alignment.

What factors are important to you in making a decision about the transit alignment?

Supporters of the "Offset from I-5" alignment noted:

- *Bring rapid transit closer to Jantzen Beach SuperCenter. This should help the shopping center redevelopment project.*
- *Transit should go where the people go, not where the cars go.*

Supporters of the "Along I-5" alignment noted:

- *Seems to have less impact on Hayden island*
- *Less disruption to businesses*
- *Moorage (saving you years of lawsuits) and it's cheaper to construct, too*

Tolling

Commenters were asked about their thoughts on tolling. Eighty-three percent (109 of 131) of all commenters responded to this question. Fifty-five percent (72 of 131) of these expressed support for tolling, often noting that they saw it as necessary or "fair." Those who did not support tolling expressed concern about increased traffic jams and the burden it would put on Washington commuters who already pay Oregon state income tax. The remaining respondents did not express support or dissent, indicated maybe, or asked questions about tolling. Sample comments are provided below.

Tolling is currently being discussed as a partial financing source for the project. What are your thoughts about tolling?

- *I am open to the tolling idea. Reality is that funds should come from the users.*
- *I think it's probably the right idea, especially if there's a peak traffic time differential.*
- *I pay Oregon state income tax, and do not feel a toll is fair*
- *Don't think tolling is a good idea. Coming from a state where tolling is common, it creates congestion during rush hour, easy pass system helps but one still has to slow down and it still causes traffic pattern issues*

Consideration for CRC Staff and CRC Task Force

The final open-ended question on the comment form asked commenters to describe what the CRC staff and Task Force need to know about their community and what should be considered in the next several weeks. Seventy-six responses were received and are summarized below. Verbatim comments for this question can be found in Appendix D.

Many responses covered multiple comment categories. Overall, respondents indicated concern for their community or business. Many respondents provided input about how the project could affect their home, commute, and/or daily life. Comments about transit, community effects, and public involvement and the decision-making process were most prominent in this section, with each of these topics receiving more than 20 comments. Thirteen comments specifically discussed traffic concerns and nine respondents addressed costs and/or funding. Some of these responses were phrased as questions for the project team and Task Force to consider. Sample comments for the top three topics are provided below.

What do you know about your community that should be considered by project staff and the Columbia River Crossing Task Force in the next several weeks?

Transit

Comments about transit typically discussed the need for improved transit service or effects of a specific alignment or mode.

- *There are many people in my community that would benefit from better access to mass transit and would welcome a chance at easier access to an interstate crossing.*
- *Bring the MAX to Hayden Island ASAP.*
- *I love living in downtown Vancouver and being in a small city next to Portland. And I want better access in town and to all of the light rail connections in Portland. I know I would use it a lot more and reduce the carbon I am putting into our environment. I also want the beauty that light rail brings to a community with public art and aesthetic, quiet and clean transportation.*
- *If BRT or LR is adopted I want it to stop at 16th or McLoughlin at best. I am not interested in old downtown Vancouver becoming downtown Portland!*
- *Main Street alignment of mass transit would kill Uptown Village as it exists.*
- *Balance the business needs with access issues for existing businesses.*

Community Effects

Right of way concerns, business and neighborhood effects, and access/connections to amenities were frequently mentioned in the responses grouped into this category.

- *The Shumway neighborhood (west of I-5 overpass at 33rd) to Main Street is a quiet, peaceful and lovely place to live. I do not want to lose my home or my back alley.*
- *Parts of this project are good (transit, bridge) and parts are a threat to neighborhood livability (large park and rides). It creates a multi-level struggle.*
- *Jantzen Beach Moorage can lose up to 50 houses to the project unless easements are allowed underneath transit bridge.*
- *Need Hayden Island access for (people that) live on (island) and shoppers*
- *We've lived here 29 years and enjoy the "relative" quiet of the area and the ability to walk to many things: stores, library, schools, coffee shops. It is the oldest historic neighborhood in Vancouver and prides itself on the down and uptown areas. To carve up streets and businesses for 3-4 years during construction would deal a deadly blow.*

Decision-Making Process and Public Involvement

- *My neighbors need to have the end in sight in order to be supportive of the current project.*
- *I know the City of Portland is making valiant efforts to encourage transit methods other than single occupancy vehicles AND promoting increased density which means people live closer to their jobs and their primary service needs. This entire project seems out of touch with the Portland metro area's efforts to reduce auto-based transportation...*
- *I think the work you have been doing is superb. You are keeping us informed, those who are interested, and I appreciate your efforts.*
- *Most folks with whom I've spoken are not necessarily upset about potentially losing their homes. They are more concerned with the project timeline and "not knowing when!"*

Non-Comment Form Responses

During the period of October 17 to November 4, the CRC project also received public input through a total of 64 emails and letters, phone calls, the CRC Web site, and testimony to court reporters at project open houses. The most common issues raised in these communications were discussions of transit mode and transit alignment, followed by comments on the bridge alternatives.

As was true of the comment forms, those submitting input through other means were more likely to support a replacement bridge (4 supported, 1 opposed) than a supplemental bridge (1 supported, 2

opposed). Many of the reasons given for supporting a replacement bridge echoed what was written in the comment forms. An additional reason given for favoring a bridge replacement mentioned aesthetics:

- *The old bridge doesn't add to the beauty of the area.*

Non-comment form input favored light rail over bus rapid transit (28 supported light rail and / or opposed bus rapid transit and 10 opposed light rail and / or supported bus rapid transit). Many of the reasons given for supporting or opposing light rail and bus rapid transit were similar to the feedback received through comment forms. Additional comments on transit mode included:

- *Buses generate more air pollution.*
- *Light rail is more vulnerable to weather, natural disasters and terrorism.*

Opponents of the Vancouver Full Segment transit alignment submitted more comments than supporters (9 opposed, 3 supported), with a few commenters supporting the I-5 minimum operable segment (3), the I-5 Full Segment (1), and the Vancouver minimum operable segment (1). Reasons given for support and opposition to the Vancouver Full Segment were similar to the feedback received through comment forms, with some variation, such as:

- *Light rail construction would probably wipe out most of the small businesses in Uptown Village.*
- *The Mill Plain option appears to solve transit's impacts on western Vancouver neighborhoods, including loss of homes due to construction, increased cut-through traffic, and the potential for increased criminal activities.*
- *Light rail should proceed along Main Street in Vancouver, where the most people live.*

Two comments were received in opposition to the Hayden Island transit alignment "Offset from I-5" (N. Jantzen Beach Center Dr.), and one comment was received in support of the Washington Two-Way option in downtown Vancouver. Reasons given for opposing and supporting these two options included:

- *The Jantzen Beach Moorage is a unique community; there is no need to cut through it.*
- *No need to kill downtown Vancouver retailers on two streets with construction.*

A variety of comments were also received which did not directly relate to questions on the comment forms, including two comments supportive of bicycling and pedestrian aspects of the CRC project, and one commenter opposed to the inclusion of bicycling and pedestrian infrastructure. Three comments were supportive of expanding the number of lanes on I-5 in Oregon (including Delta Park and near Jantzen Beach), while two comments relayed concerns the CRC project might "move congestion" further south into Portland. Four comments favored or inquired about a river crossing to support a new arterial or highway alignment.

Appendices

Appendix A – Public notice provided for open houses

Appendix B – Comment form template

Appendix C – Maps showing where comment form respondents live and work, by ZIP code

Appendix D – Responses to the question about community

DRAFT materials for
11/27/07
Task Force meeting

Appendix A – Public notice provided for open houses

The lists below summarize the various tools and venues used by the project team to provide notice of the two open houses.

Postal Mailings

- Postcards mailed the week of October 1 to the CRC contact database (11,000 postcards).

Newspaper Display Advertising

- Asian Reporter October 9 issue circulation = 20,000
- The Columbian October 14 issue circulation = 62,000
- El Hispanic News October 11 issue circulation = 20,000
(translated to Spanish)
- The Oregonian October 11 issue circulation = 309,467
- The Portland Observer October 10 issue circulation = 40,000
- The Portland Tribune October 12 issue circulation = 100,000
- The Reflector October 10 issue circulation = 27,840
- Senior Messenger October 2007 issue circulation = 12,000
- The Scanner October 10 issue circulation = 40,000
- St John's Sentinel October 2007 issue circulation = 19,000

Media Releases

- News release was sent to media contacts on Oct. 2, 2007.

Neighborhood Newsletters

- City of Vancouver – A total of 20,000 newsletter inserts were sent to the City of Vancouver and distributed to the following neighborhood associations as an attachment to their newsletters. Some neighborhoods in the Bridge Influence Area are not listed below because inclusion of the insert was up to each neighborhood association's leadership.

Arnada - 680	Countryside Woods - 800
Father Blanchet Park - 470	Fircrest - 1300
Fisher's Creek - 800	Fruit Valley – 2,000
Hough - 1,175	Image – 1,500
Lincoln - 1,800	Meadow Homes - 225
North Garrison Heights - 850	Riverview - 235
Rose Village – 2,200	Vancouver Heights – 1,670

Environmental Justice Communities

Postcards were hand delivered to the following low-income and senior housing facilities in Vancouver. These facilities were also offered a presentation by a CRC staff person.

- Smith Tower (6th and Washington)
- Evergreen House (5th and Main)
- Pythian Home (3409 Main St.)
- Lewis and Clark Plaza (7th and Broadway)

Emails were sent to the following:

- Slavic Coalition
- Latino Network

External Web Sites

Note: Project information often appears on Web sites the project is not aware of, so this list does not represent the full range of possible sites advertising the open houses.

- City of Vancouver Calendar: <http://www.cityofvancouver.us/calendar.asp>
- Portland Transport: <http://portlandtransport.com>
- WSDOT event calendar: <http://www.wsdot.wa.gov/news/events/>
- TriMet public meetings and hearings: <http://www.trimet.org/meetings/index.htm> and http://trimet.org/meetings/columbia_crossing/index.htm
- Kenton Neighborhood Association: <http://www.historickenton.com/events/i-5-columbia-river-crossing-open-houses.html>
- Coalition for a Livable Future: <http://www.clfuture.org/involve/crc10-07opnhs>
- Portland Tribune: http://www.portlandtribune.com/news/story.php?story_id=119248455746037900
- Overlook Neighborhood Yahoo group: <http://groups.yahoo.com/group/overlookviews/message/273>
- NW Progressive Institute: <http://www.nwprogressive.org/weblog>

Email Notification

An email announcement and a second reminder notice was sent to the CRC project update list of approximately 2,800 email addresses. In addition, email notification was sent to the following in early October:

- Neighborhood association leaders from the 16 neighborhoods in the Bridge Influence Area in Portland and Vancouver
- Neighborhood Associations Council of Clark County (NACCC) leaders and representatives (30 neighborhood groups and 40-50 others)
- TriMet email lists for (1) riders of bus line #6 and (2) TriMet Meetings and Public Hearings distribution lists
- Columbia River Crossing working groups, including Task Force, Community and Environmental Justice Group, Freight Working Group, Pedestrian and Bicycle Advisory Committee, Urban Design Advisory Group
- Columbia River Crossing partners including Federal Highway Administration, Federal Transit Administration, Sponsor Agencies Senior Staff, Project Development Team, and federal and state regulatory agencies who agreed to the Interstate Collaborative Environmental Process (InterCEP)

Posters and Flyers

Posters and flyers were distributed to the following transit centers, local businesses, CRC outreach events, and community gathering places. Every effort has been made to track distribution of these, but many more flyers were distributed than could be counted to additional places via the project's advisory group members.

Vancouver

American Cancer Society
Antiques on Main
C Roberts Hair Salon
Caffe` Umbria
Casa Grande
Clark College
Clark County Building and Regional
Transportation Council
Coffee shop near Beaches Restaurant
Columbia River Crossing public meetings (6) on
right of way issues
C-TRAN Citizens Advisory Committee
C-TRAN Salmon Creek Transit Center
C-TRAN Seventh Street Transit Center
D Side Hair Salon
Dolce Gelato
Esther Short Commons Apartments
Esther Short Neighborhood Assn.
Fort Vancouver Library
Friday's Café
Hair Styling Moe's
Harry's Key Service
Harry's Lawn and Power
Hudson's Bay Neighborhood Assn.
Ice Cream Renaissance
Indoor Farmers Market, Esther Short Park
J2 Printing
Lincoln Neighborhood Assn. ~ Fall Open House
Lincoln Neighborhood Association Meeting
Luepke Center
Main St. Bakery
Main St. Day Spa
Main St. Trader
Mermaid Music
Mon Ami Café
Moxies
Pacific Sterling and Jewelers
Peking Garden
Rotary Club, Camas-Washougal
Starbucks (Uptown Village)

Subway
Sudzee Kleen Laundromat
Uptown Attic
Uptown Village Street Festival
Urban Eccentric
Veteran's Rehabilitation Center
WSU-Vancouver Alternative Transportation Fair

Portland

Alberta Street Farmers Market
Anna Bananas
Arbor Lodge Community Fair
Baxter Auto Parts
Bicycle Transportation Association office
Bike Commute Challenge Breakfast Stop
Café de la Sol
City of Portland Pedestrian Advisory Committee
City of Portland public workshop on Hayden Island
planning
City of Portland Technical Advisory Committee
Columbia Corridor Association
Columbia Crossings Leasing Office
Drop In Event – Jantzen Beach SuperCenter
Jantzen Beach Moorage Inc.
Jantzen Beach SuperCenter
Kenton Station Pub
Lady Bug Organic Coffee Company
New Seasons (Interstate Ave)
North Portland Business Association
North Portland Library
Oregon Symphony Concert and Arbor Lodge Park
Festival
Portland Community College (Cascade Campus)
Portland Oregon Visitor's Association
Proper Eats Market Café
Safeway, Hayden Island
St. John's Food Store
Starbucks (St. Johns)
Starbucks/Barnes and Noble, Hayden Island
University of Portland

DRAFT materials for
11/27/07
Task Force meeting

Columbia River
 **CROSSING Comment Form**

Thank you for taking time to come to the open house and for sharing your comments with us.

We encourage you to review the display boards at the open house and ask questions or discuss the information with project staff before filling in this form.

Please return the completed form to the address listed on the last page, drop it directly into the comment box at the open house, or give it to a staff member. Comments also can be e-mailed to feedback@columbiarivercrossing.org.

Comments must be received by November 4, 2007.

TELL US ABOUT YOURSELF

What is your zip code at home? _____

What is your zip code at work? _____

How did you learn about this open house? *(check all that apply)*

- Newspaper _____ *(which one?)* Postcard in the mail
- Conversation Poster I saw _____ *(where?)*
- Website _____ *(which one?)* Flyer _____ *(where?)*

What is your relationship to the project? *(check all that apply)*

- Bus rider between Vancouver and Portland
- Vehicle commuter between Vancouver and Portland
- Pedestrian or bicyclist
- Resident of a neighborhood near the project area
- Have a business or job in the project area
- Person interested in transportation issues
- Other _____

BRIDGE CHOICE | Supplemental or replacement bridge

- YES **Do you feel you have enough information to choose between the supplemental (keeps the existing bridge) and replacement bridge options?** *(check one)*
- NO

If no, what additional information would be helpful?

If yes, which bridge option do you support?
(check any that you would support)

- Replacement bridge Supplemental bridge

What factors were most important to you in making this decision?

Appendix B -- Comment form template

TRANSIT MODE CHOICE | Bus rapid transit or light rail

- YES** Do you feel you have enough information to choose between the transit mode options of bus rapid transit and light rail? *(check one)*
- NO**

If no, what additional information would be helpful?

If yes, which transit mode option do you support?

(check any that you would support)

- Bus rapid transit Light rail

What factors were most important to you in making this decision?

TRANSIT ALIGNMENT | Downtown Vancouver

- YES** Do you feel you have enough information to choose between the transit alignment options for downtown Vancouver? *(check one)*
- NO**

If no, what additional information would be helpful?

If yes, which transit alignment for downtown Vancouver do you support? *(check any that you would support)*

- Broadway-Washington
Northbound transit on Broadway and southbound transit on Washington.
- Washington Two-Way
Northbound and southbound transit on Washington Street.

What factors were most important to you in making this decision?

Appendix B -- Comment form template

TRANSIT ALIGNMENT | North of downtown Vancouver

- YES** Do you feel you have enough information to choose between the transit alignment options for north of downtown Vancouver? *(check one)*
- NO**

If no, what additional information would be helpful?

If yes, which transit alignment north of downtown Vancouver do you support? *(check any that you would support)*

- Along I-5 to Kiggins Bowl park and ride (I-5 full segment)
- East on 16th or McLoughlin to Clark College (I-5 minimum operable segment)
- Broadway and Main to a park and ride near 39th Avenue (Vancouver full segment)
- Ending in the Vicinity of Mill Plain (I-5 or Vancouver minimum operable segment)

What factors were most important to you in making this decision?

TRANSIT ALIGNMENT | Hayden Island

- YES** Do you feel you have enough information to choose between the transit alignment options for Hayden Island? *(check one)*
- NO**

If no, what additional information would be helpful?

If yes, which transit alignment for Hayden Island do you support? *(check any that you would support)*

- Along I-5
Travels along I-5 near N. Center Avenue to connect with new bridge west of existing bridge.
- N. Jantzen Beach Center
Travels beside Jantzen Beach SuperCenter to connect with new bridge west of existing bridge.

What factors were most important to you in making this decision?

Appendix B -- Comment form template

Tolling is currently being discussed as a partial financing source for the Columbia River Crossing project.
What are your thoughts about tolling?

What do you know about your community that should be considered by project staff and the Columbia River Crossing Task Force in the next several weeks?

SIGN UP FOR PROJECT UPDATES | Optional

- YES** Would you like to be added to the project mailing list?
 NO

Name *(First & Last Name, Organization)*

Address *(Street, City, State, Zip)*

E-mail *(enter address to receive monthly electronic updates)*



Thank you!

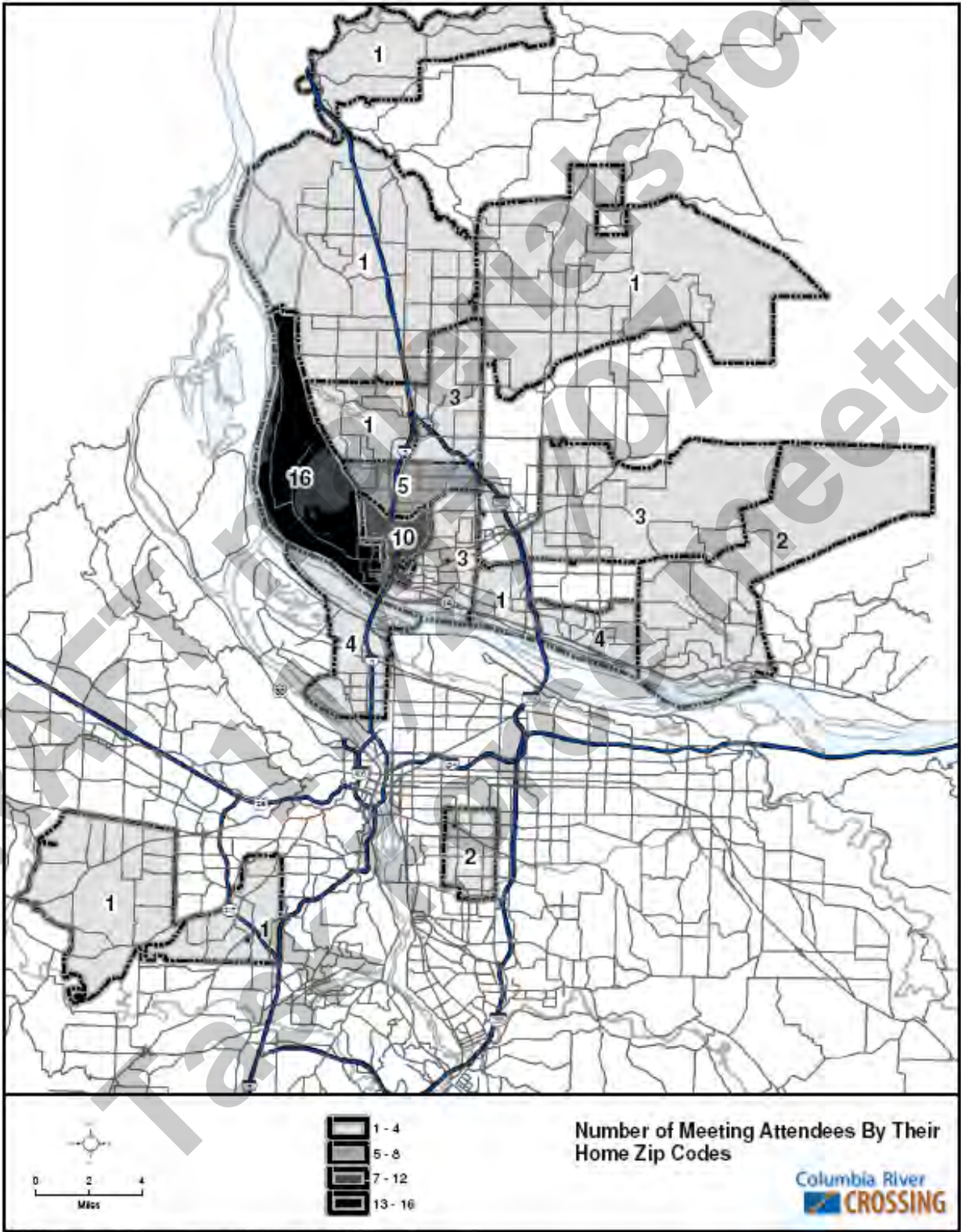
Please give this form to a staff person, drop it in a comment box at the open house, or send it to the project office by Sunday, November 4, 2007.

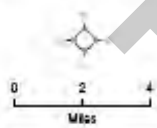
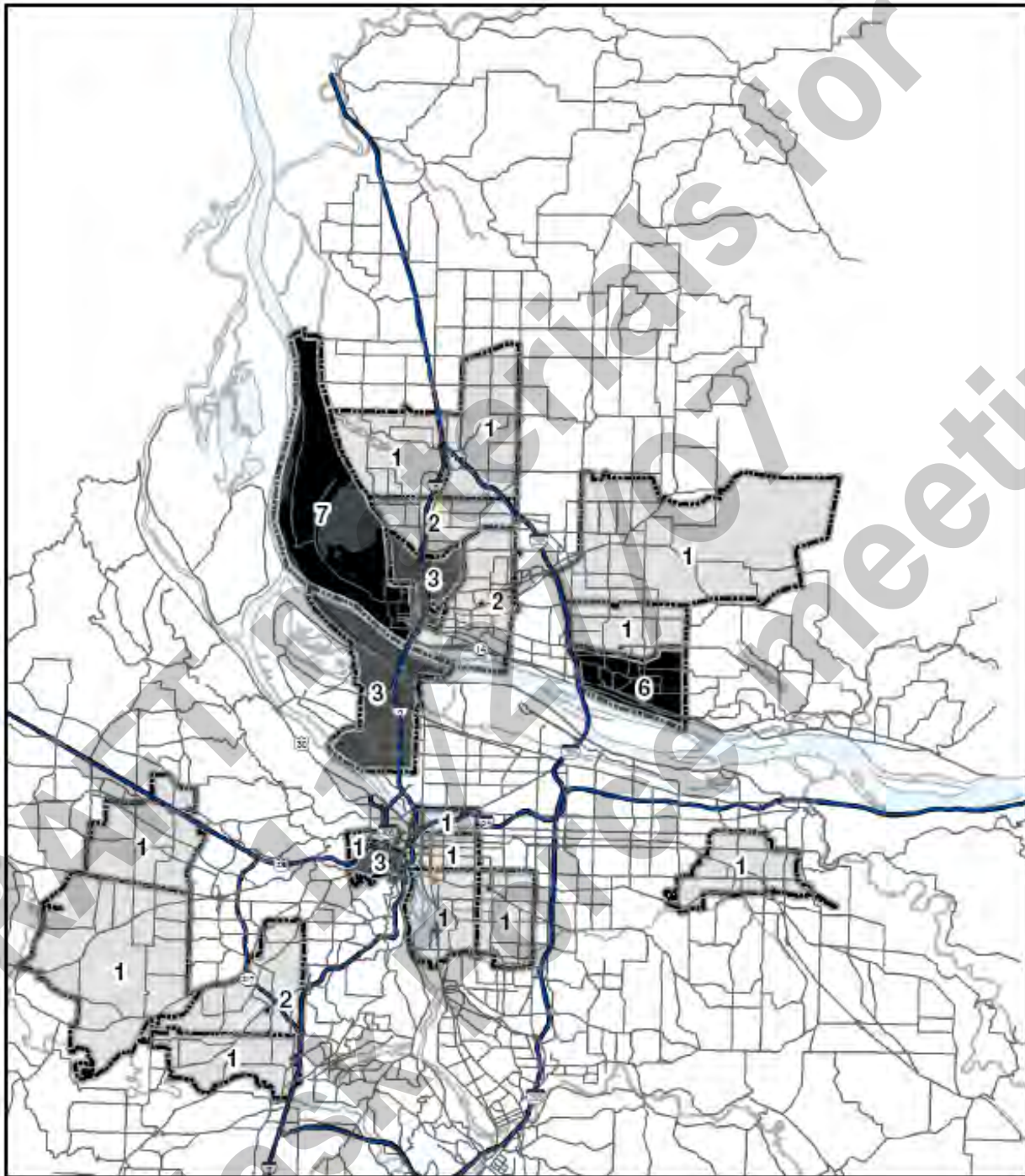
**Columbia River Crossing
700 Washington Street, Suite 300
Vancouver, WA 98660**

Fax: 360-737-0294

E-mail: feedback@columbiarivercrossing.org

Appendix C – Maps showing where comment form respondents live and work, by ZIP code





Number of Meeting Attendees By Their Work Zip Codes



Analysis by J. Kolesza; Analysis Date: 10/6/2010; File Date: 10/6/2010; File Name: F001010_101010.mxd

Appendix D – Responses to comment form question about community

Below are the 76 verbatim public comments responding to the final question on the comment form:

What do you know about your community that should be considered by project staff and the Columbia River Crossing Task Force in the next several weeks?

	Public Comment
1	My neighbors need to have the end in sight in order to be supportive of the current project. Possibly bringing up Interstate Avenue in one's mind might help in making this more favorable in neighborhood's mind.
2	I know that the City of Portland is making valiant efforts to encourage transit methods other than single occupancy vehicles AND promoting increased density, which means people live closer to their jobs and their primary service needs. This entire project seems out of touch with the Portland Metro areas efforts to reduce auto-based transportation. Also, the city and state governments of Oregon and Washington are very concerned with the impact of development patterns on climate changing green house gases. There was absolutely no mention of the impact of these transit alternatives on carbon dioxide emissions, which I believe is entirely out of touch with state-wide concerns and efforts as well as with citizen interests.
3	Downtown Vancouver has historically been defined by the commercial center abutting Main Street and Broadway. This area is the historic center of Vancouver and should not be disturbed. Early transportation planning for downtown placed larger right-of-way street at Washington and C Street which were envisioned to provide access to the commercial core. Washington and C Street have additional right-of-way widths that can easily accommodate the extra lanes needed for light rail. I strongly encourage the Task Force to take a second look at utilizing C Street as the northbound one way alignment for light rail or BRT.
4	None of your posters highlighted the project impacts (i.e. negative side of each alternative). For a project this size, I think it's important that we understand the down side, not just the up side. What about carbon dioxide emissions, what about noise and air quality, what about environmental impacts to the river (ESA fish) during construction? Does the supplemental bridge reduce the risk to fish? Etc.
5	Fix the railroad bridge first.
6	Hayden Island serves greater Portland/Vancouver as the Maritime Hub for boaters. Build on the maritime theme. Make the bridge the WELCOME SIGN for the two great states
7	Vancouver residents have talked about getting light rail over the river for like 10 years or something like that.
8	Protect the downtown business traditional core of Main and Broadway by not tearing up these streets, buildings, parking, etc. You'll have more business support the mass transit options.
9	Hayden Island Neighborhood Network (HINOON) will be working on set of official recommendations for CRC Task Force and staff over next month to give formal feedback and support for plan components.
10	Concerned about pedestrian/bike connections. Live in North Portland. Ease of access to Hayden Island is important.
11	We are Jantzen Beach Moorage and would be heavily impacted by the current options. We believe it's time for the right of way division to condemn and purchase a tract of waterfront land to move a section of our moorage to. 503.283.2151 Jan Hammer, Moorage Manager.

12	Most folks with whom I've spoken are not necessarily upset about potentially losing their homes. They are more concerned with the protracted time line and the "not knowing when"!
13	Battle Ground needs transportation to Portland downtown. Study using the BNSF rail right of way from Clark County to Portland Union Station.
14	Hayden Island residents are extremely concerned about disruptions, closings, and eminent domain. We will be very vocal and active in protecting our island.
15	Jantzen Beach Moorage can lose up to 50 houses to project unless easements are allowed underneath transit bridge. Easements needed are parking, fence, gas lines, sewer, water, pedestrian walkway, boats, cars on uplands. [Picture was drawn on comment form depicting landscape of transit bridge over North Portland Harbor. - see PDF of original form.]
16	Business owners [in] downtown Vancouver oppose the Broadway alignment.
17	Balance the transit needs with access issues for existing businesses.
18	Hayden Island is being choked by traffic. The new bridge should help that.
19	The community of Hayden Island needs to be considered a "hidden pearl" within the city of Portland; should be protected, highly considered, and...well, that's all.
20	Comment/questions:1. What will be the impacts to the I-5/405 and I-5/84 intersections which are already congested as a result of more vehicles staying on the highway and off arterials?2. In the past, Jantzen Beach businesses and Clark County residents opposed light rail. Is their support now assured?3. Industry -- trucking and manufacturers/producers - will directly benefit from the bridge. How will they pay their fair share? Increased toll fees, bridge fee assessment on business licenses, manufacturing tax????
21	I feel bad for the boat people, but they need to take one for the team -- this is a great opportunity for Jantzen Beach.
22	- Remediation of worsening air quality from more cars (capacity will fill up, so there will be more cars) - Good bike/ped options -- NOT an an afterthought
23	My community was pretty riled up about not getting to vote on the HILTON. We OVERWHELMING[ly] voted against light rail the last chance. We are disgusted that our contribution to OREGON every year has NOT been used TO FIX I-5.
24	BIKE COMMENTS: Glad to see bike path included in plans. Please keep prominent in design - and - don't forget that need bike access throughout the construction phase - like option with bike path outside the light rail track, next to water (that will be so much nicer to ride than the I-205 between the traffic) - make path a smooth surface, without big bumpy joints
25	I'm surprised the design capacity is only 2030. If the bridge will be done by 2018, then we will be over capacity in 12 years...and doing this all over again.
26	Once again residential communities on Hayden are being asked to bear the brunt of dislocation for this project while commercial interests are being spared. At a minimum, if light rail is the selected mass transit option, it should be co-located (the near I-5 option) with the new bridge.
27	The I-5 traffic congestion has become a major issue to residents of Hayden Island. Takes me up to 45 minutes to go from MLK to I-5 N and onto Hayden Island during my daily commute.
28	None of this will work without incentives or penalties for car/van/bus pooling. The number of cars with only one person from Vancouver to Portland is ridiculous! All this will do is make the commute easier for people who don't care.

29	<p>Uptown Village and adjacent neighborhoods have worked hard to achieve current livability and would be hurt by HCT. Rose Village wants it and could benefit and is along I-5 transit corridor already. Eventual connections must be to South Hazel Dell, that needs HCT and will be helped by it, and along SR 500 to Van Mall and down I-205 to PDX airport.</p> <p>Again, I'm disappointed that a presentation was promised and scheduled (I left work to make it) and then cancelled.</p> <p>Thanks for adding the option to end HCT at Main and Mill Plain.</p>
30	<p>Concerned for boat homes on the SW part of Hayden Island -- where would they be relocated and at whose cost?</p>
31	<p>Construct a replacement bridge and rapid transit that will make it easier to get to/get from Hayden Island for both residents and shoppers at Jantzen Beach SuperCenter. Make sure exit ramps have enough capacity to support anticipated traffic volume.</p>
32	<p>My community is strongly in favor of an arterial bridge for access between Portland and the island.</p>
33	<p>The following info needs to be provided to the public for each vehicular mode of transport motor vehicle (including motor freight carriers), transit, bike:</p> <p>A cost breakdown for the bridge (mode specific), connecting infrastructure (mode specific), operations and maintenance (mode specific), and the number of users (mode specific).</p>
34	<p>Two names should be added to the name of the Interstate Bridge making the new name the "Samuel Hill Interstate Bridge" [title underlined]. Mr. Hill, a visionary, promoter of good roads and most famous for the original Columbia River Highway was at the ribbon cutting ceremony of the 1917 bridge. If this bridge is taken down - some form of history must remain. Honoring Sam Hill by naming the bridge after him retains that history.</p>
35	<p>Twelve lanes seems like more than needed. While a primary goal is to reduce congestion, accommodating more cars is not what we really want. We want fewer cars.</p> <p>For mall redevelopment, I would like to see much better ped/bike sidewalks/lanes and a Community Center of some kind with dance-type studios, art classes, kids activities, etc. I am going to miss the Carousel.</p>
36	<p>There are many people in my community that would benefit from better access to mass transit and would welcome a chance at easier access to an interstate crossing.</p>
37	<p>I love living in downtown Vancouver and being in a small city next to Portland. And I want better access in town and to all of the light rail connections in Portland. I know I would use it a lot more and reduce the carbon I am putting into our environment. I also want the beauty that light rail brings to a community with public art and esthetic, quiet and clean transportation. I think we desperately need a newly built bridge that will accommodate all of the transportation needs we have and safely. I am concerned about increased noise and pollution. Thank you.</p>
38	<p>This community is auto-based. A large and fast shift to public transit is unlikely. Consider a contingency to cover the cost of low ridership while density catches up. Hope for the best, but prepare for the worst. This community will not support a large tax increase to fund 5% of the population's transit needs.</p>
39	<p>I think that a large part of the commuters live further north than the current options offered. It would be nice if light rail could go as far as Salmon Creek, but I realize that's probably not financially feasible right now. I do think that northward extension should be kept in mind for the future.</p>
40	<p>Repeat - The majority in Vancouver DO.NOT. WANT. LIGHT. RAIL.</p>
41	<p>Lincoln neighborhood hates having a park and ride. Uptown would be destroyed by mass transit.</p>
42	<p>Shumway has very vocal leadership - but not all Shumway residents and property owners are against the upper Main/Broadway alignment.</p>

43	<p>What else [underlined] would be going on at the Kiggins Bowl end? Amenities of any sort?</p> <ul style="list-style-type: none"> - Some consideration of security issues. - Something to indicate coordination with local transport -- better than it's been with MAX and TriMet (for instance, go to the end of the line at Delta Park and discover there's no bus connection still!!)
44	<p>Keep Dairy Queen at Main and Broadway -- or memorialize it. It is important to the neighborhood.</p>
45	<p>The plans for the replacement bridge and the Broadway-Main light rail system would integrate downtown Vancouver with the rest of the metropolitan area.</p>
46	<p>More park and rides on SR 14 Camas and Washougal area.</p>
47	<p>I fully support the project except [underline] for transit alignment up Main Street north of downtown. I think this will have a HUGE detrimental impact on my quiet neighborhood. MAX is best transit option but please terminate downtown or follow I-5. Park and ride north of Kiggins Bowl ok, park and ride at DOT maintenance facility a disaster!</p>
48	<p>From my observation having worked in downtown Portland (until recently) for 12 years, at least half of the people who rode light rail would never get on a bus.</p>
49	<p>Light signified [sic] for Broad and Main and Columbia so traffic would not be backed up for several blocks on W Fourth Plain Blvd.</p>
50	<p>We don't like or take over-priced transit.</p>
51	<p>My community will not buy into light rail as it is currently proposed. Start figuring out how to build a bridge and skip the unneeded transit.</p>
52	<p>Why do people travel? Because it's their right (perhaps included in the bill of rights?) Somehow the unnecessary road trips must be eliminated. Surely public money is finite, is it not?</p>
53	<p>Main Street alignment of mass transit would kill Uptown Village as it exists.</p>
54	<p>We all breathe, let's make choices that help us to do that.</p>
55	<p>Patience, patience and educate.</p>
56	<p>Eliminate the 39th Street area from any transit center plans based on traffic and pedestrian impact in the area.</p>
57	<p>We've lived here 29 years and enjoy the "relative" quiet of the area and the ability to walk to many things: stores, library, schools, coffee shops, it is the oldest historic [underlined] neighborhood in Vancouver and prides itself on the down and uptown areas. To carve up streets and businesses for 3-4 years during construction would deal a deadly blow! Yet we understand traffic woes and the old bridge problems and tie-ups from the lifts for boats....and we do like light rail. Also: this should have been planned from the "get-go" to extend into north and east county! Why aren't you addressing the build-up [underlined] in all those areas and instead bringing (in 7 + years) only about 3-5 miles!! My brother Scott Heard, head of Amtrak station in Portland and a man interested in transit, says this must [underlined twice] be addressed: a wider number of stations and areas served.</p>
58	<p>The Shumway neighborhood (west of I-5 overpass at 33rd) to Main Street is a quiet, peaceful and lovely place to live. I do [underlined twice] not want to lose my home or my back alley.</p> <p>If BRT or LR is adopted I want it to stop at 16th or McLoughlin at best. I am not interested in Old Downtown Vancouver becoming downtown Portland!!</p>
59	<p>We do not want to recreate a transfer station in downtown that becomes a hangout for ill behaved individuals. With C-Tran vacating the 7th Street Transit Mall there is optimism that the current element that frequents this area will dissipate.</p>
60	<p>People in Vancouver have not always been forward looking and have been somewhat tightfisted about paying for necessary improvements in the community (in the past -- light rail, the library, and the port).</p>

61	<p>CRC isn't the only bridge game in town -- we also need to make sure regional funding is still available to fund other bridge replacements/repair/upgrades throughout the region -- let's not repeat 1925 and rebuild the Sellwood with "what's left!"</p> <p>Please note - I am a member of Multnomah County's Sellwood Bridge Community Task Force. The opinions I've expressed are my own, not those of Mult. Co., the CTF, or anyone other than myself as a citizen, and are not in any way representative of any decision to be made pertaining to the Sellwood, as CRC is a separate project entirely.</p>
62	<p>Vancouver is a rapidly changing community. While many long-established residents hate light rail (because they fear Portlanders), newer residents have a much different and much less well defined position. A lot of people are misinformed about the costs and consequences of light rail. There is not a lot of ownership. Now's the time to build it, though.</p>
63	<p>We don't like to waste money, we don't like to waste time in traffic, we want reduced congestion at lowest life cycle cost where all costs are considered. Consider costs for everyone and benefits for everyone. Don't forget technology for transport will change in the future. More automation is coming.</p>
64	<p>We're tired and feeling threatened. Parts of this project are good (transit, bridge) and parts are a threat to neighborhood livability (large park and rides). It creates a multileveled struggle.</p>
65	<p>Include this project in a project larger context when decisions are made. ---> impacts on a longer segment of the highway...</p>
66	<p>Build it and we'll use it. Make it convenient. We'll use it. Connection times between "buses" <u>CANNOT</u> be 30-40 minutes. Must run all day -- not only at "peak" times.</p>
67	<p>- Impact of alignment through "downtown" to NEW LIBRARY EXPANSION - Impact of alignment through "Uptown" or vaguely put "NORTH of Downtown VANC." ! In relation to Arts School, Discovery School, Pythian Home, 39th and Main dysfunction <u>already existing</u> - Impact of NORTH alignment with consideration of new 39th Street RR bridge! Trucks <u>entering/exiting I-5 North and South? At 39th? East to 500??</u></p>
68	<p>As a Hayden Island resident -- I am most <u>concerned</u> about on/off ramps and traffic control. Our HI roads need improvements 1st <u>twice</u>. Thanks --</p>
69	<p>Need Hayden Island access for live on [sic] and shoppers.</p>
70	<p>I think the work you have been doing is superb. You are keeping us informed, those who are interested, and I appreciate your efforts.</p>
71	<p>Bring the MAX to Hayden Island ASAP.</p>
72	<p>I already submitted my other answers in person at open house, but now want to give additional comment. Bike/Ped comment: In design of pathway, please include pedestrian "observation bays". These would be places for ped/bikes to congregate and enjoy the view without blocking the path. Also please include directional signage for peds/bikes so that they won't be too intimidated to make the trip. And I really appreciate that the design has the path separate from the vehicle traffic -- that will be much more pleasant than current situations on I-5 or I-205. THANKS!</p>
73	<p>Most people use their cars for freedom to come and go as they please as fast as possible. People do not want to wait on a bus or train or fellow carpoolers. We need the freedom and flexibility that our individual car allows!!! So the answer is ADD MORE LANES TO THE FREEWAY AND BRIDGES FOR CARS AND TRUCKS NOT FOR MASS TRANSIT AND BIKES!!!!!!!!!!!!!!</p>
74	<p>Split the project into major phases. 1) Build the supplemental bridge as half the replacement bridge. Do not upgrade existing bridges. Operate as-is for as long as possible as northbound only. 2) Complete the replacement bridge and remove the old bridges. This approach eases congestion in the shortest time, proceeds to the ultimate goal of a non-lift crossing, and avoids costly upgrade of old bridges. Other peripheral parts (Marine Drive interchange, SR 500 improvement, etc.) of the project could be phased in before or after or in between the major phases suggested above.</p>

75	I know the current I-5 bridges are iconic beloved structures. Yes, they are old, and many factors warrant a new bridge. However, I disagree with the idea of taking down these beautiful structures and throwing them away. I would be very interested in seeing how the old bridge materials could be reused in the community (in parks, benches or other metal structure.) I also know that replacing the current bridge with a grey flat cement structure does damage to the image of the Portland/Vancouver area. This area is known for its attractive bridges. Serious effort should be make to keep this.
76	Please release this information to all officials and take this not to address appropriately. Please inform me what do they think about my letter? Smile. I want be happy to see this improving transit and roads eases, please avoid congestion! * One TOP PRIORITY for RED MAX line then TWO Priority YELLOW MAX, last MAX lines * I like widest replacement bridge and widest supplemental bridge, then historic bridge will use a low-speed mile like 35 to 45 mph for some driver do not want to go fastest, use back-up keep easing traffic, put streetcar lines. Thanks, smile. [sic]

DRAFT material 11/27/07
Task Force meeting

November 20, 2007

TO: Columbia River Crossing Task Force
FROM: Doug Ficco, CRC Project Director
John Osborn, CRC Project Director
SUBJECT: Public and Agency Comment, June 27 – October 16, 2007

Introduction

The following five alternatives will be analyzed by the Columbia River Crossing (CRC) project in the Draft EIS:

- Replacement bridge with bus rapid transit (BRT)
- Replacement bridge with light rail transit (LRT)
- Supplemental bridge with bus rapid transit (BRT)
- Supplemental bridge with light rail transit (LRT)
- No build

The project will continue seeking public and agency comment and involvement through the remainder of the project development process. The Draft EIS will be completed in February 2008 and a formal public comment period will follow with the selection of one of the five alternatives.

This draft report summarizes public and agency comments received after the June 26, 2007, CRC Task Force meeting and prior to the October 17, 2007, project open house. The comments are of two main types:

1. Written comments in the form of emails, letters, transcripts of phone calls, comment forms, and faxes
2. Outreach event summaries for CRC related public events.

The comments summarized in this memo are the result of a variety of outreach activities that occurred from June 27 to October 16, 2007, including:

- Agency coordination
- Presentations and discussions with neighborhood, civic, and business associations and governmental entities
- Booths at street fairs, festivals, community celebrations, and farmers markets
- Meetings with potentially affected property owners regarding right of way issues

The following project communications and information also generated comments. Project communications and information available from June 27 to October 16, 2007, included:

- The CRC project Web site

- Monthly email news
- Fact sheets, including new fact sheets on:
 - Highway and Interchanges
 - Property Purchases and Easements
 - Transit Park-and-Rides
 - Transit Choices
 - Cost Estimates
- Postcards advertising summer drop-in events
- Letters mailed to potentially affected property owners regarding right of way issues
- A CRC project display at the Jantzen Beach SuperCenter

Appendix A includes a listing of the frequency of comments received by comment topic. Appendix B includes a comprehensive list of the public meetings and events that occurred between June 27 and October 16, 2007, as well as an estimate of the number of public attendees.

Comments

Notes on Comment Sources

Although the public comments included in this memo were taken from a variety of sources, they were submitted primarily as emails to the project office and comments made and recorded at outreach events. Appendix C lists the methods with which comments were submitted to CRC project staff.

Readers are cautioned that the comment-gathering methods detailed in this report were not conducted as statistically valid surveys, and therefore, the results are not necessarily representative of broader public opinion. More information on comment-gathering and comment summarization is included in Appendix D.

Comment Trends

During the period of June 27 to October 16, 2007, public outreach focused on:

- Sharing updated project alternative maps with the community via fairs, festivals, and community meetings and receiving feedback
- Informing neighborhood and business groups in more detail about potential high capacity transit alignments and streetscape design tradeoffs and receiving feedback
- Sharing information about the project and potential highway and transit alignments with potentially affected property owners, to begin the conversation on right-of-way issues, introduce right-of-way staff, and set up individual follow-up meetings regarding individual circumstances

The largest comment type (135) relates to comments about, requests pertaining to, or questions asked about the CRC project process. These comments ranged from questions about how public comments will affect project decisions to conflicting comments that the decision-making process is going too fast and that the process is going too slow. Process related comments also included compliments, and criticisms, of the CRC project's public involvement process.

As in the past, transit issues also received significant interest, with LRT supporters providing more comments than bus / BRT supporters and LRT opponents combined (66 comment sources supported LRT, 19 comment sources opposed light rail and / or supported buses and BRT). A large number of comments were also received on potential transit alignments, stations, and park-and-rides, most of which focused on Vancouver, north of downtown. Alignments that received the most support and opposition included “Broadway or Main to 39th Avenue” (10 opposed and six supporting) and “I-5 to Kiggins Bowl” (eight supporting). It is important to note that transit alignment related comments were often vague on location, such as whether the comments related to the portion of a street in downtown Vancouver or in Vancouver’s Uptown Village neighborhood. Therefore, any transit alignment comment tally should be considered imprecise, and useful mostly to describe the breadth of opinions expressed.

Many comments relating to neighborhoods and business districts (101) were received, including many comments about the perceived noise, pollution, safety, livability, and business viability impacts of transit alignments, stations, park-and-rides, highway improvements, and the river crossing.

Comments relating to congestion (69) included concerns that the CRC project will only shift congestion farther south into Portland and that future traffic growth would result in I-5 congestion after the CRC project is complete.

Tolling received mixed comments (six opposed, four supported).

The following section summarizes public input received from June 27, 2007, through October 16, 2007.

General Feedback

Appendix A includes a listing of the frequency of comments received by comment topic. The comments can be organized into 12 general categories:

- River Crossing
- Transit
- Interchanges and Highway Alignments
- Congestion
- Economy and Freight
- Safety and Seismic
- Community Livability and Human Resources
- Bicycle and Pedestrian Access
- Project Financing and Funding, Tolling, and Project Costs
- Process
- Other

Methodology for Comment Tracking

Many sub-categories below note the number of comments received pertaining to that topic (*in parentheses*). These numbers include comments from outreach summaries; however, each comment from an outreach summary is counted only once. Appendix A lists the frequency of comments addressing each category being tracked. In cases where a number is not provided in

the headings below, it is because either (1) the issue corresponds to multiple topics listed in Appendix A, or (2) the number of comments in that category were not individually tracked due to the project's need to count comments using a consistent methodology and set of topics.

Comments pertaining to multiple categories appear in only one section on the following pages, so numbers in parenthesis usually do not equal the number of bullets found below the categories.

River Crossing (Included in multiple categories listed in Appendix A)

Supplemental Bridge (31 Comments)

- Support for the supplemental bridge alternative with LRT
- Support for a “supplemental bridge for LRT, bus, 3-person carpools, cyclists and pedestrians” based on the belief that such a bridge would “reduce the cost (less lanes) and provide an incentive to carpool or use public transit options”
- Support for a supplemental bridge with LRT based on the belief that it would have the least impact on Hayden Island
- Statement that if the BNSF Railroad Bridge swing span were replaced with a lift span closer to the middle of the Columbia, the number of lifts would be reduced to only one or two a month. Commenter further stated that this change would allow:
 - The supplemental bridge to be lower and therefore be more aesthetically pleasing
 - The supplemental bridge to be lower and therefore make for more passenger friendly LRT stations
 - The LRT Slough Bridge to be used for local traffic between Hayden Island and North Portland
 - LRT to use the lowered supplemental bridge, as the low number of lifts could be scheduled such that they would not conflict with LRT use of the bridge
- Question as to whether the supplemental bridge alternative would include bridge lifts
- Question as to whether “the supplemental bridge only provides two extra lanes for all that money?”
- Statement that a supplemental bridge would not fit aesthetically with the existing I-5 Bridge
- Opposition to a supplemental bridge based on statements including:
 - That such a bridge would be “messy, ineffectual, and have a large footprint on Hayden Island”

Replacement Bridge (33 Comments)

- Support for a replacement bridge based on statements including:
 - The supplemental bridge alternative does not add necessary northbound travel lanes
 - The “cost to retrofit is always more”
 - The replacement bridge approach eliminates the bridge lift

- The Minnesota bridge disaster is evidence that it can be dangerous to rely on old bridges
- Question as to the construction impacts of building a replacement bridge
- Support for an upstream replacement bridge, based on the statement that such a bridge would have a lesser impact on the Jantzen Beach Moorage’s floating homes

Existing I-5 Bridge (46 Comments)

- Support for keeping the existing I-5 Bridge
- Statement that if the existing I-5 Bridge is kept, that it should not be used for I-5 traffic due to the existing bridge lifts
- Question as to whether the existing I-5 Bridge could be kept and used for local traffic, with highway traffic using a new upstream bridge. The commenter is interested in preserving the “old Pacific Highway,” including the I-5 Bridge
- Support for removing the existing I-5 Bridge, based on statements including that the bridge:
 - “Is visually incompatible with its surroundings”
 - “Is past its useful life”
 - “Is costly to maintain”

Third Corridor (8 Comments)

- Support for a new freeway beltway connecting Portland’s suburbs and improved highways connecting the cities within the beltway
- Statement in support of new bridges at the following locations:
 - 193rd in Vancouver
 - Camas
- Question as to the status of the “Western Bypass”
- Support for a western arterial crossing, based on statements including:
 - A western arterial could include LRT
 - A western arterial would divert traffic away from I-5, easing congestion
 - The current proposed I-5 alignment fails the test that “Federal transportation agencies cannot approve the change (or use) of 4(f) resources unless there is no feasible or prudent alternative and the project includes all possible planning to minimize harm”
 - A western arterial is in the Bridge Influence Area; meets the project’s Purpose and Need statement; has been recommended for study by ODOT, WSDOT and PDOT; and is currently recommended by the following documents: Metro Corridors of Significance, the St. Johns Truck Strategy, and the I-5 Trade and Transportation Partnership
 - A western arterial helps freight mobility, transit, and communities adjacent to I-5
 - A western arterial involves no demolition of historic properties, properties in downtown Vancouver, businesses at Jantzen Beach or residences on Hayden Island

- A western arterial creates no interruption of traffic on I-5 during construction
- Support for a new highway linking communities north of Vancouver (such as Longview, Woodland, or Salmon Creek) with North Plains or Hillsboro as a way of reducing through traffic that currently uses I-5 in Portland and Vancouver
- Question as to the feasibility of shifting through traffic to I-205, “especially big trucks”

Tunnel (categorized under “Other Concepts”; please see Appendix A)

- Question whether a tunnel under the Columbia River was considered as a potential river crossing option

Other (Number of comments in this category not individually tracked)

- Question as to the cost differences between the supplemental and replacement bridge alternatives
- Support for an arterial bridge connecting Vancouver with Oregon based on the statement that such a connection would ease I-5 congestion and is warranted based on the growing population in cities throughout Clark County
- Support for the construction of two supplemental bridges now, and after they are constructed, support for the replacement of the existing I-5 Bridge. This comment was based on the belief that more lanes of traffic are needed to serve future growth
- Question as to the anticipated height of any new bridge
- Question about how to submit a multi-lane vehicle and pedestrian floating bridge concept for consideration as a project alternative
- General support for, and opposition to, the CRC project
- Support for the least expensive alternative that includes LRT and accommodates traffic over the next 15 to 25 years
- Opposition to the CRC project by those who state that they currently do not use the bridge
- Support for “whichever option closes the fewest lanes for the least amount of time during construction,” including the statement that “if you have to close a lane each direction for two years, it isn’t worth it, we’ll be in commuting hell”
- Question as to whether the Minnesota bridge collapse will affect the river crossing approach selected
- Support for two new I-5 bridges over the Columbia – an upstream bridge for northbound traffic and a downstream bridge for southbound traffic
- Statement that “two bridges are not enough, it’s a homeland security risk”
- Support for the construction of a 12 lane “fly-over bridge” over the existing I-5 Bridge, and once complete, dismantling the existing I-5 Bridge or using “it for bicycle and foot traffic”
- Support for the elimination of the upstream bridge option
- Question as to where a new I-5 bridge would land in Vancouver and Hayden Island
- Support for using an international design competition to design any new bridges

- Opposition to painting any new bridge “green, grey or any other color left over from military surplus”

Transit (included in multiple categories listed in Appendix A)

Buses and Bus Rapid Transit (51 Comments)

- Support for BRT, based on statements including:
 - “Disney has not extended the monorail to its new parks or resorts” because it is too expensive and “buses can be clean and even green (environmentally friendly), can run more frequently when needed, can be rerouted when needed, and most importantly they can be express buses!”
 - BRT has lower infrastructure costs than LRT
 - BRT lanes could be used by emergency response vehicles
 - BRT vehicles could be rerouted when needed
- Opposition to “buses getting their own lanes”
- Question as to why BRT needs dedicated lanes
- Question as to whether BRT vehicles are too long to navigate streets in downtown Portland
- Question as to whether BRT would have to stop at the Expo Center to transfer transit riders to LRT
- Concern that BRT might bring more vehicle trips through Vancouver’s neighborhoods than LRT
- Statement that if BRT is chosen, the buses should be run on biodiesel
- Question as to whether BRT lanes could be used for another type of transit in the future
- Support for maintaining bus service between downtown Vancouver and St. Mary’s Academy in downtown Portland
- Question as to why expanded express bus service is not being used as the CRC project transit alternative
- Question as to whether issues pertaining to the location of C-Tran’s bus mall will be decided as a part of the CRC project, including the statement that the bus mall decision is “another bomb to be dropped”

Light Rail Transit (106 Comments)

- Support for LRT to Vancouver, based on statements including:
 - Those living in Portland have “gotten a lot of use out of” LRT
 - Portland “neighborhoods have improved around” LRT
 - Vancouver residents that use LRT to reach their jobs in downtown Portland would no longer need to travel by car to the Delta Park park-and-ride to catch LRT
 - License plates of cars at the Delta Park and Expo Center LRT stations are “99% Washington”

- LRT has more “future benefits” than a BRT system
- LRT has a more reliable schedule than BRT
- Tourists are more comfortable with LRT than BRT
- LRT is “better for the environment” than BRT
- LRT would allow Portlanders a pleasant alternative to congested roadways when visiting downtown Vancouver
- Vancouver is a part of the Portland-Vancouver metropolitan area and “is a major community in the region and should be connected just like Gresham and Hillsboro”
- LRT is the only way to decrease traffic congestion “which will otherwise grow to overwhelm any number or size of bridges”
- Because LRT runs on electricity instead of gasoline, LRT “lessens dependence on foreign oil”
- “I work on building light rail (welding) and will be starting on the I-205 project next week. Transit is needed. I use light rail to go to Portland”
- LRT “has much more efficient utilization of labor, with a higher passenger to operator ratio”
- LRT is “more comfortable for riders”
- LRT is “less likely to be affected by... wrecks and disabled vehicles”
- LRT reduces “sprawl by focusing development around ‘permanent’ rail installation”
- “Housing construction [in Vancouver] is going to make freeways more congested”
- LRT has “multiple entrances and exits... keeps the train moving faster versus a bus with only one entrance...”
- Opposition to LRT, based on statements including:
 - LRT is “too expensive”
 - LRT will not reduce congestion
 - “It’s not worth the hassle of slow trains, crowded cars, and smelly people”
 - “Just because much of the money comes from the federal government and appears to be ‘free,’ it is still taxpayer money”
 - “I need to use my car periodically during the work day” so LRT use is not an option
 - “TriMet won’t be able to run enough light rail trains to fit all the new riders from Vancouver. So by the time a light rail train gets from Vancouver to the Humboldt neighborhood, you’ll have to stand up on a very crowded train”
 - LRT will “extend the reach of Portland developers”
 - “1/2 of the people native to the area [Clark County] don’t want it, and people like myself that moved over to Washington, came here to escape that transit crap”
 - If LRT enters Vancouver, so will TriMet’s taxing authority and METRO’s land use controls

- Statements in support of the following I-5 corridor LRT alignments:
 - A Main Street alignment in Vancouver, based on statements including that a Main Street alignment would provide opportunities for development and revitalization that an I-5 alignment would not provide, and that Main Street was improved 14 years ago in order to accommodate transit
 - I-5 to Kiggins Bowl
 - A loop between I-5 and I-205 on SR-14, including a connection to the Portland International Airport
 - A loop between I-5 and I-205 on SR-500, including a connection to the Portland International Airport
 - North to Woodland, Washington
 - North to Ridgefield, Washington
 - Route to both east and west Vancouver
 - Route to north and east Clark County
 - “Near Clark College” because “students are likely to ride transit”
 - To 134th in Vancouver
 - West, near the existing BNSF railroad bridge, with a stop at Jantzen Beach, based on the belief that it would eliminate the need for “expensive buy-outs for lost property values and floating homes directly affected” by LRT. A commenter also stated that this alignment would preclude the need for the Jantzen Beach moorage to pay for new “upgrades” as a result of LRT impacts
 - An alignment along the existing I-5 Bridges on Hayden Island, to avoid impacting the Jantzen Beach Moorage
 - East of I-5 to Kiggins Bowl, connected to a park-and-ride west of I-5 via the Burnt Bridge Creek pedestrian bridge. Support for this alignment was based on perceived cost savings of keeping LRT east of I-5 for its entire alignment and forgoing the future need of crossing I-5 to extend LRT northward into Clark County
 - An extension to Hayden Island, so Portland residents would have an easier time accessing the Jantzen Beach SuperCenter
 - Design the CRC project with the “the goal to connect... Eugene with Seattle or Vancouver, BC” via LRT
- Statements in opposition to the following LRT alignments:
 - Broadway Street, between McLoughlin Boulevard and Fourth Plain Boulevard, based on the comment that such an alignment would cause the closure of Broadway businesses due to lost parking and street access, and that Broadway Street is close enough to Main Street that a Broadway Street alignment would hurt Main Street businesses as well
 - West of I-5 alignment on Hayden Island, based in part on potential impacts to the Jantzen Beach Moorage. A related comment included the perception that “an ‘east’ [LRT] alignment appears to have been foregone without appropriate impact and cost analysis”
 - Alignments that include LRT on more than one Vancouver street

- Statement that buildings on Vancouver’s Main Street are older and might not withstand LRT construction
- Question over the potential property value and noise impacts of a Main Street LRT alignment
- Support for light rail, “but not down the center of the street”
- Statement that if the LRT alignment goes through the Jantzen Beach moorage, it should be enclosed in a tunnel to avoid noise impacts to the moorage
- Support for bringing LRT across the I-205 Bridge
- Question as to whether LRT in Vancouver would connect to the existing LRT network
- Support for “free transport” for those who want to travel from Vancouver to reach LRT in Portland
- Statement that Clark County residents will only use LRT to commute to Portland if it is non-stop service between the “Kiggins / 39th Street park-and-ride station to Downtown Portland.” The commenter further stated that anything less than non-stop service would not provide enough incentive to cause people to “give up driving passenger cars”
- Opposition to locating more than three LRT stations in Vancouver, based on the statement that “what’s important is the carless trip downtown, not the time spent walking”
- Question of how many LRT riders would be expected to cross the Columbia each day and whether the existing LRT yellow line can accommodate additional passengers
- Question as to who would operate LRT in Vancouver – C-Tran or TriMet?
- Question as to whether the CRC project has considered an elevated LRT line

High Capacity Transit (included in multiple categories listed in Appendix A)

- Opposition to transit based on statements such as “no one uses it, and we all pay for it”
- Question about the cost difference between LRT and BRT
- Support for convenient bus transportation to LRT in Vancouver
- Question as to whether BRT and / or LRT would be built entirely within the public right of way
- Statements in support of the following high capacity transit routes:
 - Broadway Street and Columbia Street based on the belief that it is a more direct path for transit coming off the I-5 Bridge, that Broadway is already impacted by transit, and that it would provide access to a new large park and ride facility at Lincoln Park
 - Broadway (2-way) “to avoid Main Street development”
 - “East on 16th rather than McLoughlin”
 - “Along Fort Vancouver Way to serve the neighborhoods east of I-5”
 - I-5, “because it moves people and traffic away from businesses” and “because it would provide access to a bunch of public services, such as the VA hospital, schools and community center”
 - To the Clark County Fairgrounds

- To Clark College now, with an extension to South Hazel Dell in the future. Arguments in favor of this approach included that South Hazel Dell has underutilized commercial land and would provide a future heavy-rail commuter connection (on existing tracks) to Battle Ground
- Main Street, “because then we could easily walk to the transit”
- To the Jantzen Beach SuperCenter, so Portland residents would have an easier time accessing the mall
- To Longview, Washington
- Statements in opposition to the following high capacity transit alignments:
 - 16th Street, due to perceived negative traffic patterns and loss of parking
 - Main Street, due to perceived negative impacts to businesses, schools, homes, and religious institutions, including congestion, air quality, crime and livability impacts
 - Washington Street
 - I-5, “it seems like... [it] won’t do anything for the community”
- Questions regarding high capacity transit alignments:
 - “...if transit is on Washington Street, would Washington become a no-car street? We don’t have enough parking already”
 - ““Why would you put transit on Washington and not pick a street with less traffic?”
 - “Is it up to business owners to acquire more parking” if public parking spaces are removed for transit?
 - “Can you loop together the I-5 and Main Street alignments?”
 - Is Fourth Plain Boulevard an option for a transit alignment?
 - How would residents of Vancouver’s Arnada neighborhood reach transit under the various alignment configurations?
 - Is there “room on Main Street north of McLoughlin for regular buses, cars and transit?”
 - If a Main Street transit alignment is chosen, “would there be removal of trees on Main Street?”
 - How will crime rates change, and how will security be handled, with the introduction of high capacity transit into Vancouver and onto Hayden Island
 - Would the I-5 high capacity transit alignment impact “low income Vancouver residents”
 - Would the I-5 transit alignment shift the highway to the west and impact property in the Shumway Neighborhood?
 - Will streets served by high capacity transit include sidewalks, parking, and auto traffic
 - “Is there an option for a shorter alignment that stops south of the Lincoln Neighborhood?” and “would you still need a park-and-ride” in the Lincoln Neighborhood if the shorter route was chosen?
 - “How would a Broadway two-way transit alignment affect C Street traffic? We’re concerned about straining relations with our residential neighbors if we push business parking into their neighborhoods”

- Concern that transit, including LRT, will make it less safe for pedestrians to cross Vancouver city streets, including the statement that it would be better to run transit on only one street to minimize the safety risks
- Support for including transit on more than one street in Vancouver

Park-and-Rides and Transit Stations (82 Comments, when included with comments on transit alignment)

- Support for locating a park-and-ride facility:
 - At the “property adjacent to the Ross BPA Complex”
 - At Kiggins Bowl, based in part on the statement that this location will have fewer impacts on Vancouver neighborhoods and will be more accessible to those who are likely to drive to the facility
 - At the Clark County fairgrounds
- Opposition to a Kiggins Bowl park-and-ride
- Statements and questions regarding the proposed Lincoln park-and-ride included:
 - That it is too large, much larger than the largest existing LRT park-and-ride at Sunset
 - That it will bring harmful “noise and pollution” into the neighborhood
 - That it will increase traffic on 39th Street, resulting in the need to widen 39th Street
 - That increases in traffic on 39th Street, Creston Avenue and other streets will lead to pedestrian safety issues
 - That it will decrease neighborhood safety
 - That “homes in the Lincoln neighborhood have a historic value that cannot be replaced”
 - That such a facility must only have vehicle access from Main Street and must dedicate at least one third of the property to the creation of a neighborhood park
 - That the park-and-ride should be located underground
 - That the park-and-ride would be located near a playground, and a question as to how this might impact the health of children using the playground
 - What is the number of parking spaces that would be included?
 - Will mitigation be provided in the neighborhood?
 - Why does the park-and-ride need so much land area? The Kiggins Bowl location is much smaller
 - “Why build a park-and-ride that doesn’t have any benefit to the City of Vancouver and residents of this neighborhood? It will only serve commuters from other parts of the County”
 - Will the park-and-ride affect the Dairy Queen?
- Question as to whether a Clark College park-and-ride would be constructed with either the I-5 or Main Street high capacity transit alignments
- Question as to the implications of Clark College’s ownership of the potential park-and-ride site

- Question as to why the CRC project is proposing several large park-and-rides instead of many, smaller park-and-rides
- Question as to the demand for park-and-ride lots
- Statement that new park-and-rides should be built to meet “concurrency,” including the statement that “there’s an issue of county vs. city concurrency”
- Question as to whether park-and-ride lots located north of downtown Vancouver do a better job of alleviating congestion on the I-5 Bridge
- Statement that park-and-rides should be called something else, to show that other modes (such as bicyclists and pedestrians) will use these facilities
- Statement that air pollution is a significant concern regarding the project and questions as to how the CRC project will address this issue, including the question of whether air can be filtered as it migrates away from park-and-ride lots
- Opposition to locating a high capacity transit station on Vancouver’s K Street, based on statements including that the Kiggins Bowl and Lincoln park-and-rides are close enough to the proposed K Street station that the station is unnecessary
- Support for a transit station “a few blocks west of downtown”
- Opposition to locating high capacity transit stops in Vancouver neighborhoods, instead of at park-and-rides, for reasons including:
 - Perceived parking impacts from those seeking to use transit
 - Making “our neighborhoods too easily accessible for non-commuters from Portland to get into our neighborhoods”
- Statement that “something like the Salmon Creek park-and-ride would be acceptable”
- Question as to whether commercial development would be a part of transit stations, including the statement that having “businesses convenient to transit for running errands” would be useful for transit riders

Other (Number of comments in this category not individually tracked)

- Statement that “mass transit, bicycle lanes and car pooling will not address...[the] needs of moving people from suburban locations, providing services to homes and businesses, or shipping volume to and from California, Seattle and points east and west”
- Statement from a Vancouver resident that they do not “believe that people want to go [to] downtown Vancouver... why would you provide transit there?”
- Statement that “it seems like the only people who would use transit are those going to Portland” from Vancouver
- Questions as to whether the CRC project has considered using existing rail infrastructure as a part of the high capacity transit system, including the possibility of commuter rail between the Amtrak stations in Vancouver and Portland
- Question as to whether a “high-speed water route for freight or passengers” between Vancouver and Portland had been considered as a part of the CRC project
- Support for allowing transit passes to be used for transit throughout the Portland metro area, including in Vancouver

- Statement that future redevelopment of Port and Boise Cascade property in Vancouver will generate significant amounts of traffic and is therefore a justification for expanded transit
- Statement that transit should be used to guide development patterns, as opposed to having development patterns guide transit planning
- Statement that transit should directly serve areas of Clark County experiencing the most growth, such as “Brush Prairie and Battle Ground”
- Statement that transit shouldn’t be a more important part of the CRC project than the highway component
- Support for shuttle service between neighborhoods and high capacity transit stations
- Support for express transit, whether it be BRT or LRT, between Vancouver and downtown Portland
- Suggestion that Clark County and North Portland residents be provided some free transit passes to allow them to gain familiarity with the transit system and build transit support
- Question as to whether transit options currently under consideration by CRC project staff could accommodate increased transit demand resulting from steep increases in the price of oil
- Statement that the CRC project should include “no bridge, just transit, all transit”
- Statement that a shuttle bus on Hayden Island is needed to encourage transit use
- Statement that Main Street north of 39th Street in Vancouver is “already squeezed,” followed by the questions as to whether “there are plans to widen or improve it [to] increase the safe flow of traffic” and “how will this area handle more traffic headed to the new transit system?”
- Statement that a Portland resident would shop in downtown Vancouver and the “Super Wal-Mart” if they could travel by transit
- Question as to whether the “signals at intersections along transit allow neighborhood streets adequate signal time for access”

Interchanges and Highway Alignments (37 Comments)

- Statement that the interchange ramps at Hayden Island need to have “sufficient width / length to accommodate large volumes of traffic” and that separate ramps for Denver Avenue might ease I-5 congestion
- Question as to whether CRC project staff have considered eliminating motorized vehicle access (while still providing bike, pedestrian and LRT access) to Hayden Island from I-5, and instead provide motorized vehicle access to Hayden Island from Marine Drive. The commenter stated that this approach would:
 - “Allow the south end of the bridge to begin ramping up quicker to meet the height requirement”
 - “Reduce the number of off ramps... and thereby reduce congestion”
 - “Provide a more serene experience to the residents on the island”
 - “It would be safer for both vehicular and non-vehicular uses”

- Concern that if the Mill Plain / I-5 Interchange becomes a single-point interchange that it will decrease the safety of pedestrians crossing I-5
- Question as to the impacts of SR-14 ramping options, including the question of how high the SR-14 East ramp would be compared to the “West Coast Bank”
- Question as to the impacts of rebuilding the “Evergreen overpass and what that will involve or how it will affect” the Hudson’s Bay Neighborhood and the Vancouver National Historic Reserve
- Question as to whether changes to the Fourth Plain Boulevard Interchange would affect properties and/or whether it would encourage more truck traffic through the interchange
- Question as to whether the CRC project would alter the route one would take to drive between Vancouver’s Arnada neighborhood and Salmon Creek
- Question as to whether there will be a new southbound I-5 on-ramp at Vancouver’s 39th Street

Congestion (69 Comments)

- Statement that the CRC project will not accomplish its goals, because “Oregon will not ever fix I-5”
- Statement that congestion currently exists on I-5 near the Jantzen Beach exit, and that congestion is not an issue on the existing I-5 Bridge
- Support for easing congestion at the Delta Park section of I-5, including the statement that Delta Park congestion is the most significant contributor to I-5 congestion
- Support for widening I-5 in Oregon and Washington
- Opposition to widening I-5 in Vancouver, based on statements including that it would result in more traffic, more crime, more litter and less affordable housing in Vancouver and Clark County
- Statement that residents living near MLK Jr. Boulevard, between Columbia Boulevard and Marine Drive, are concerned about the possible “construction, road expansion, noise, diverted traffic, etc.” impacts of the CRC project, including impacts to Delta Park and the “natural wetlands to the west of I-5”
- Statement that expanding freeway capacity into Portland will lead to congestion in Portland similar to the “gridlock hell that is Seattle,” and encourage Portland residents to move to the suburbs, decreasing Portland’s livability. Commenter further stated that by not expanding freeway capacity, and instead extending LRT, Portland is more likely to develop similarly to Vancouver, BC, where “many more people live..., so you feel safe walking around at 2 AM”
- Statement that congestion keeps people from traveling from Vancouver to Portland after work hours
- Statement that Vancouver commuters make it more difficult for those who live and work in Portland to drive to work on I-5
- Question as to whether the CRC project would lead to more congestion in Portland, including the Rose Quarter and south Portland areas
- Question as to whether lanes will be added to I-5 at the Rose Quarter

- Question as to whether the CRC project would “solve” congestion, including the follow-on questions as to whether the “problem [will] get worse as more people move into the area” and whether the CRC project is a “band aid for a larger problem beyond the I-5 corridor?”
- Statement that congestion is caused by Washington residents who have moved to Vancouver to avoid Oregon taxes, and therefore, these residents should pay a toll to compensate for the congestion they cause
- Support for HOV lanes
- Opposition to HOV lanes based on statements such as:
 - HOV lanes increase congestion
 - “Enforcement of HOV lanes in Oregon is horrible. There’s no point in having them”
- Question as to how many auxiliary lanes would be included on a new bridge
- Question as to whether the CRC project could include express lanes or an express bridge to separate through trips from local trips
- Question as to the ultimate number of lanes that will exist on I-5 in the CRC project area
- Question as to whether protections will be put into place to keep SR-500 traffic from “increasing congestion on local roads”
- Concerns over the possible indirect impacts the CRC project might have on I-205 traffic

Economy and Freight (included in multiple categories listed in Appendix A)

Economy (included in multiple categories listed in Appendix A)

- Concerns about the impacts construction and operation of the CRC project will have on businesses in Vancouver, including impacts on “mom and pop” businesses
- Statement that the businesses in Uptown Vancouver are successful, and therefore, it is “unfair” to compare the possible benefits of transit to Uptown Vancouver with the benefits experienced along Interstate Avenue. A similar comment was made to the effect that “Interstate Avenue in Portland is 100 feet wide, so comparing Broadway or Main is like apples and oranges”
- Statement that I-5 is important to the region from an economic perspective and that it therefore should not have a bridge lift
- Statement that the loss of the existing BNSF Railroad Bridge would pose greater economic impacts on the region than the loss of the existing I-5 Bridge in case of a seismic event
- Concerns that loss of street parking would make it so some Vancouver buildings could not be leased

Navigation (12 Comments)

- Statements in support of, and questions about, bridge clearance to accommodate freight and recreational navigation
- Opposition to considering “adding container ship capacity as the trucks coming from the terminals are a major part of the [congestion] problem”

Truck Freight (19 Comments)

- Statement from a former truck driver that he would “never want to get in a truck again here because of the traffic”
- Statement that the CRC project needs to ease congestion to accommodate truck freight
- Support for creating a two-level highway on I-5, from Fourth Plain Boulevard to the Freemont Bridge, to separate truck traffic from other vehicles. This recommendation was based on the belief that truck traffic slows passenger vehicle traffic due in part to the slow acceleration of, and visual obstructions caused by, trucks

Safety and Seismic (included in multiple categories listed in Appendix A)

- Statement that any new bridge should be “seismically sound, tsunamically safe, and terrorist tight,” including the comment that these criteria are “substantive reasons to remove the existing steel bridge”

Safety (10 Comments)

- Question as to whether the CRC project will “coordinate with the State Police on expanded / enhanced patrols of the new highway”
- Question as to “why crashes are higher in the” Bridge Influence Area
- Statement that “the City Center Vancouver exit off I-5 is dangerous”
- Statement that “whatever you build, it just has to be the sturdiest, safest bridge you can fund”

Seismic (6 Comments)

- Question as to the cost of providing seismic upgrades to the existing I-5 Bridge
- Question as to the seismic dangers posed to the existing I-5 Bridge, including the statement that the seismic dangers cited by the CRC project are contradicted by news accounts that the existing I-5 Bridge is safe

Community Livability and Human Resources (included in multiple categories listed in Appendix A)Vancouver (included in multiple categories listed in Appendix A)

- Statement that the Hudson’s Bay Neighborhood Association will not support any alternative that includes widening I-5 to the east of its present location nor will it support any alternative that “impairs or is detrimental to the visual impact of the Fort Vancouver Historic Reserve, disrupts historical buildings, burial grounds or relics.” The comment included the statement that “neighbors are concerned about the noise and visual impact of the high ramping option...”
- Statement that the Vancouver National Historic Reserve Trust is pleased that the CRC project has eliminated a previously developed high-ramping interchange design adjacent to the Historic Reserve and that current designs include the preservation of the Post Hospital. The comment included the statement that the new interchange design may require the elimination of Anderson Street, and if Anderson Street is eliminated, the Reserve Trust will call for the covering of I-5 from 7th Street to Evergreen Boulevard. The Reserve Trust would

consider the creation of this noise barrier and pedestrian enhancement as mitigation for the loss of Anderson Street

- Statement that the Kanaka Village and the Old Apple Tree Park sites should be protected from vehicle noise, should have good accessibility, and should be protected visually from the realigned freeway ramp
- Statement that the Fort Vancouver Historic Reserve's Development Concept Plan is not a new planning effort, as well as a request for information on how the downstream replacement bridge alternative would affect the Historic Reserve
- Statement of concern from the National Park Service that areas of the Vancouver National Historic Reserve (VNHR) could potentially be affected by the CRC project, including the "waterfront and Old Apple Tree Park, a portion of the Hudson's Bay Company village that is known to have been inhabited by Native Hawaiians and Native Americans, the Post Hospital and West Vancouver Barracks, and the first post cemetery on the western end of Officers Row." Comment included the statement that if the CRC project's Area of Potential Effect for direct impacts "was set at the existing VNHR boundary, or even farther away from the VNHR, that this would set the tone for development of feasible and prudent alternatives that will avoid direct affects to the VNHR"
- Communication from the National Park Service about the importance of protecting national and local parks, including cultural and historical resources, within the CRC project area. The communication included details of the parks and resources in the CRC project area, and National Park Service staff contacts
- Statement that "historic preservation" should not have control over the project design, including the comment that "not that many people use Pearson Field and the Fort buildings are expendable"
- Statement that the Vancouver National Historic Reserve is an "old Army post [that] is simply an anachronism that will be a sinkhole for public expenditures in future." And that the Pearson Airpark is a "source of enormous noise and pollution." The comment included a statement in support of a new upstream "eight lane super bridge" and the statement that "commerce and family wage jobs in Oregon will continue to drive the need for ease of access"
- Question as to whether the Pearson Field flight path could be shifted to the east to negate any bridge height concerns
- Question as to whether there are "archaeological issues near the bridge"
- Statement that the CRC project will have "too much impact in Vancouver," will cause "too much disruption," "is too expensive," and "is not needed"
- Statement that it is better to make I-5 double decked between the Columbia River and Mill Plain Boulevard than to damage "Central Park and downtown [Vancouver]"
- Statement that traffic noise from I-5 must not be allowed to "enter Vancouver's neighborhoods"
- Opposition to eliminating street parking from areas of Uptown Vancouver

Hayden Island (included in multiple categories listed in Appendix A)

- Question as to how the Hayden Island Neighborhood Plan would influence the CRC project's alternative selection

- Support for keeping the Safeway grocery store on Hayden Island, including:
 - Statement that it is “not acceptable” to eliminate the Hayden Island Safeway store, as it would cause those living on Hayden Island to travel off the Island to shop for groceries
 - Question as to whether the CRC project could pay the costs of moving Safeway to another part of Hayden Island
- Statement that the following issues are the most important to the livability of Hayden Island:
 - Building an arterial between Hayden Island and North Portland
 - The Hayden Island LRT station must be “as close as possible to” the Jantzen Beach SuperCenter and have adequate parking and bike access to serve the local shopping needs
 - Building I-5 and LRT structures in a manner that is in “architectural harmony” with “surrounding structures and landscaping”
 - That public transit on I-5 be “tied into” local pedestrian, bicycle, auto, and bus transit systems
- Support for elevating I-5 on Hayden Island to allow for east-west local roads
- Statement that Jantzen Beach Moorage homes should not be eliminated to relieve I-5 congestion, including the comment that if homes are displaced the CRC project should provide them a new moorage
- Statement that the LRT alignment should not go through the Jantzen Beach Moorage, including the comments that the motivation for this location is “political and money influence of the shopping center developers”
- Statement that some CRC project alternatives result in “huge traffic impacts to” N. Jantzen Avenue, impacts that will “have a devastating effect on the livability and financial viability of the entire [Jantzen Beach] moorage”

North Portland (included in multiple categories listed in Appendix A)

- Statement that “I wouldn’t mind seeing the bridge moved. I have had three friends die of cancer in the past three years, two who lived on the water along Bridgeton Road and one on Bridgeton Road. The faster we can get pollutants out of the area the happier I’ll be”
- Statement that “cut-through traffic... from people avoiding I-5 is the biggest problem” facing the Piedmont neighborhood relative to the CRC project

Other (Number of comments in this category not individually tracked)

- Statement that, because of their ownership structure, floating home communities in their entirety are impacted financially and legally if even one floating home is impacted by the CRC project
- Statement that putting a freeway or transit alignment through a floating home community is “a violation of the Environmental Justice Act”
- Statement that the CRC project should choose to negatively affect boat storage before negatively affecting floating homes

- Question as to the property value impacts to property adjacent to LRT lines and park-and-rides
- Question as to whether the CRC project would “displace low income people” and what the notification process is for right-of-way acquisition
- Statement that projects similar to the CRC project that have been built in the eastern United States have resulted in “extreme isolation” to some neighborhoods

Bicycle and Pedestrian Access (32 Comments)

- Support for including bicycle and pedestrian improvements as a part of the CRC project, including improvements leading to the river crossing and linking neighborhoods near the river crossing
- Statement that the “bike and pedestrian crossing [should be] on a separate level from [auto] traffic”
- Question as to how bridge elevation issues would affect bicyclists
- Question as to whether the bicycle and pedestrian path on the existing I-5 bridge will be improved by the CRC project
- Statement that a bicycle rider has used the I-205 bridge in order to avoid using the bicycle path on the existing I-5 bridge
- Support for “triple bike racks” on transit
- Question as to when bicycle and pedestrian aspects of the project will be designed, including the statement that an “extra foot of width on a pedestrian path would have a much more noticeable effect than an extra foot of width in a breakdown lane” and that “benches or closely-spaced decorative lamps... could make an enormous difference in the usefulness of the bridge for pedestrians and downtown residents”
- Support for more pedestrian crossings of I-5 in Vancouver, including:
 - Improved pedestrian crossing through “capping” portions of I-5
 - Improved pedestrian access to Central Park and the Marshall Center east of I-5
- Support for safety improvements, such as improved street lighting, on the McLoughlin Boulevard / I-5 overcrossing. Safety concerns included the belief that “undesirable people” are attracted to the existing overcrossing
- Question as to whether high capacity transit would reduce pedestrian access at McLoughlin Boulevard
- Statement that the replacement bridge proposal is too steep for bicyclists and pedestrians and that the supplemental bridge proposal is too vague regarding what bicyclist and pedestrian improvements would be included
- Question as to whether the CRC project staff have consulted with the Bicycle Alliance of Washington
- Statement that bicycle and pedestrian improvements should include improvements to accommodate those using the Segway vehicle

Project Financing and Funding, Tolling, and Project Costs (included in multiple categories listed in Appendix A)

- Commenter suggested the CRC project focus on resolving I-5 issues near Jantzen Beach, rather than “spend a lot of unnecessary money” replacing the I-5 Bridge
- Question as to whether it is more expensive to build a new bridge or retrofit an existing bridge
- Question as to the costs of replacing all of I-5 in Portland
- Question as to the cost of the CRC project and whether project funding has been identified
- Question as to the share of federal funds that the CRC project is likely to receive
- Statement that funding issues related to transit are complicated by the fact that some who would support transit are on fixed incomes and may not be able to afford an increase in their taxes
- Support for using the “less leak-inducing property taxes” to pay for the CRC project, along with a sales tax

Tolling (19 Comments)

- Support for tolling I-5 and support for tolling I-5 and I-205, including support for a tolling fee which is higher during periods of higher congestion
- Question as to how tourists and other non-residents would be assessed a toll if electronic tolling was used
- Comments in opposition to tolling, based on statements and questions including:
 - A toll would be a significant financial burden
 - Due to the “interstate commerce nature of the truck traffic providing goods and benefits to all, we should increase the taxes, gas and other, in both states”
 - “Tolls will create a barrier, which is inconsistent with the purpose of reducing the bottleneck and bridging the two states psychologically as well as physically”
 - A toll would cause a Vancouver resident to move back to Portland
 - “Washington residents are punished enough (taxes)”
 - “Washington residents who work in Oregon already have to pay income tax and get dinged twice”
 - Wouldn’t a toll slow traffic, causing more congestion, what kind of technology would you use to collect the tolls?
 - Tolling infrastructure would “be expensive to maintain”
 - “Both Oregonians and Washingtonians pay federal and local taxes... that both go towards this project”
- Question as to whether the CRC project will include tolls, and if yes, how much they would cost

- Statement that, if tolls are implemented, all modes of travel should be required to pay tolls for the infrastructure each particular mode uses
- Statement that “no build is a viable option if it is expected that motorized transport is to pay the crossing costs for bikes” and pedestrians and transit
- Question of whether there would be toll plazas
- Question of whether tolls would be removed, after the CRC project was paid for

Process (135 Comments)

- A commenter expressed interest in providing Japanese translation and interpreter services related to the CRC project
- Statement that the DEIS should investigate and mitigate the “noise (before and after construction), vibration, air quality and aesthetic” impacts of the project on floating homes
- Statement that the “no-build” option should include a toll for analysis purposes
- Request for the meeting schedules of the Urban Design and Bicycle and Pedestrian Advisory Committees by a commenter who wanted to attend and observe said meetings
- Question as to how project decisions will be made, including whether the following will be used in the decision making:
 - Public comments / polls
 - Public vote
 - City Council vote
- Request for a presentation to seniors living in the Piedmont neighborhood
- Question of where to submit an idea for a different solution to existing I-5 congestion problems
- Complements to the CRC outreach staff for their work on a variety of public events and the CRC Web site
- Statement that open house times (weekends) and locations (farther than one block to a transit connection) are not accommodating to people with disabilities and pedestrians
- Concern that a CRC project open house was scheduled on Hayden Island “during rush hour,” including the statement that this schedule was inconvenient for North Portland residents who would be reluctant to use I-5 during rush hour
- Question as to which events listed on the CRC Web page are open to the public to attend
- Request that the CRC Web page calendar list both dates and days of the week for each event
- A request to make the CRC Web site searchable by the key words “Columbia River Study”
- Statement that the “design-build construction approach as it’s being used on an overpass project on 65th” is a problem

- Statement that the Fourth Alternative Task Force Subcommittee:
 - “Failed” because they crafted a “compromise that was worse for motorized vehicles” and bicyclists and pedestrians, but not worse for transit
 - Is “hiding the cost breakdown for each mode of travel” and “continues to hide actual counts” of bicyclists and pedestrians using the existing I-5 Bridge
- Statement that CRC project decisions are being made too rapidly and that citizens have not been given enough time to gather information and understand the potential project related ramifications to their neighborhoods
- Statement that the CRC project decisions have already been made, and that public outreach efforts are “just a front”
- Statement that “the verbiage you [CRC project staff] print is calculated, deceptive and in all honesty, rather poorly written and not targeted at the individuals who need to understand it the most”
- Statement that the CRC project should move more quickly, including statements such as “just do something already” and “you’re not going to hear anything you haven’t already heard or considered”
- Statement that the CRC project should have been completed 20 years ago
- Statement that the CRC project will not be completed because “Oregon will study it to death”
- Statement made at an event in Battleground that people in Clark County need to “understand that change is coming, like it or not”
- Statement that the Bridge Influence Area includes the Ports of Vancouver and Portland
- Statement that the “primary financial stakeholders” for the CRC project are “gas tax payers” and therefore the project should create a “motorist commuter advisory committee”
- Statement that the CRC project staff should widen their discussions with neighborhoods to better understand what issues (even non-CRC related) are important to the community. The commenter felt this would provide neighborhood residents a clearer understanding that they are being heard by project staff. Commenter also stated that discussions with neighborhoods should start with discussions with neighborhood association presidents
- Statement that CRC project staff should have discussions with “commercial property companies in downtown [Vancouver] area”
- Statement that CRC project staff need to be clear about how project alternatives were selected, who has altered the alternatives and why, and what impact the public can realistically have on the ultimate project decisions
- Concern that letters sent from the CRC project to those potentially impacted by property acquisition were addressed as “Resident” rather than with actual property owner / tenant names
- Question as to what state and federal guidelines will pertain to the CRC project

Other (included in multiple categories listed in Appendix A)

- Questions regarding when project construction will begin, how long it will last, and what its impacts will be
- Statement that ODOT should not use herbicides to control vegetation, and instead use “manual labor and create jobs.” This comment was based on the statement that “chemicals cause air and water quality problems”
- Statement that congestion issues are best solved by deporting undocumented workers
- Statement from a Clark County resident that “Portland has transit, freeways, more traffic and more problems. You [CRC project staff] want us to do the same thing over here. I don’t understand”
- Statement that the CRC project alternatives under consideration do not adequately address “rising energy costs and reducing greenhouse gas emissions” and instead focus on “dramatically increasing transportation capacity for single occupancy vehicles”
- Support for dedicating traffic lanes to smaller, slower, more fuel efficient, and less polluting “neighborhood electric vehicles,” “street-legal three-wheeled internal combustion vehicles,” and scooters
- Question as to whether local businesses would be used to construct the CRC project
- Statement that “METRO lied to us, light rail was supposed to go up I-205,” including the comment not to let “METRO’s influence in Clark County be too big”
- Statement that any new bridge should be “iconic – something that comes to mind when people think of Portland” and a statement that the bridge should be a “landmark” which celebrates “the mighty Columbia and our two great Pacific Northwest Sister States”
- Question as to the process one would need to go through in order to rename the existing Interstate Bridge after Cesar Chavez
- Statement that a Vancouver resident does not shop in Portland because of “traffic”
- Question as to whether there are “temporary plans to fix some of the problems with congestion and on ramps until construction is finished”
- Opposition to naming any new bridges after people, based on the statement that the bridge(s) name should “be about the future, the region, the potential, the purpose and not about an individual”
- A number of property owners contacted CRC project staff in response to letters they received indicating that their property might be impacted by the CRC project. These communications have included:
 - Statements by owners that they have recently made investments in their property
 - Statements by owners that the uncertainty caused by the project makes them reluctant to invest in their property
 - Question as to whether owners of property that might be acquired should delay making property investments
 - Question as to whether there will be property impacts as “far south as Schmeer Road”
 - Statements that owners are willing to sell their property

- Statement that owners are having difficulty selling their property because of the uncertainty caused by the CRC project
- Statements that owners are concerned their property might be needed for the project
- Question as to when property owners will receive more certainty about the project alignment, including the question of whether all alignment issues will be undecided until 2009
- Question on how property impacts are assessed when only a portion of a property is purchased for project purposes
- Question as to how property prices are assessed in property acquisitions, including whether the impact of increased commute times in cases of floating home relocations are compensated for
- Question as to how compensation is determined for “mobile home owners who don’t own the land”
- Question as to whether property appraisers will be provided by the CRC project
- Question as to whether property owners would have the first right to repurchase their property if it is purchased and not used by the CRC project
- Question as to whether an appeals process exists for property acquisition, including whether mediation resources would be made available
- Statement that floating homes are not real property but personal property, and that they will therefore require “specialized assessment expertise”
- Question as to whether the CRC project can “override” Columbia Crossing’s lease”
- Question as to whether owners of floating homes impacted by the CRC project will be given a choice of moving or selling their homes
- Question as to whether, if floating home residents wanted to remain on the river, could “the federal government build a new floating home community” that they could relocate to
- Statement that their property is listed on the “historic register”
- Question as to why different right-of-way meetings were being held for the owners of property from different areas
- Statement that their property is their retirement
- Statement that the “City of Vancouver only cares about downtown, not Uptown”

Appendices

Appendix A – Frequency of Comments by Issue

Appendix B – Outreach Events in Washington and Oregon

Appendix C – Public and Agency Comment Submission Types

Appendix D – Notes on Comment Summarization

Appendix A – Frequency of Comments by Topic

The table below summarizes the number of comments that addressed a variety of topics. Comments that addressed more than one topic were counted in each applicable topic.

Issue	Number of Comments
Process	135
Light Rail	106
Neighborhoods/business districts	101
Transit alignment/stations/park and rides	82
Traffic/Congestion	69
Transit	62
Existing Bridges	46
Other Concepts	46
Interchanges/highway alignment	37
Acquisitions/ROW	37
Replacement Bridge	33
Bicycle/pedestrian access	32
Supplemental Bridge	31
Bus	31
Future/Financing	25
Archaeology/Historic/Cultural Resources	23
Project Costs	20
Freight	19
Tolling	19
Air Quality	17
Schedule	15
BRT	14
Construction Approach	13
Natural Resources	13
Environmental Justice	12
Navigation/Marine Traffic	12
Construction	12
TSM/TDM/Managed Lanes	11
Architectural/Aesthetic bridge design	11
Noise and Vibration	11
Delta Park Project	10
Highway Safety	10
Land Use	9
I-205	9
Railroad/Heavy Rail/Railroad Bridge	9
Third Corridor	8
Express Bus	6
Seismic Safety	6
Aviation	4

Appendix B – Outreach Events in Washington and Oregon

Project staff made presentations and gathered feedback at 71 neighborhood, government, business, and community meetings in Clark County and Portland between June 27 and October 16, 2007.

More than 2,352 members of the public were engaged through these events. Additionally, the project's database has grown to 2,840 email addresses and 10,467 postal mailing addresses (as of October 24, 2007, but not including new sign-ups resulting from open houses on October 17 and 20).

Note: Under "number of public participants" if an entry says n/a, it is either because the outreach event focused only on handing out project materials or because those participants have been counted before (usually for recurring jurisdictional briefings). Completed individual event summaries are available upon request.

DATE	ORGANIZATION	LOCATION	STATE	NUMBER OF PUBLIC PARTICIPANTS
7/9/2007	Neighborhood Associations Council of Clark County (NACCC)	4700 NE 78th, Vancouver	WA	24
7/10/2007	East Columbia Neighborhood Assn.	East Columbia Bible Church, 420 NE Marine Dr., Portland	OR	22
7/12/2007	Arnada Neighborhood Assn.	Arnada Park at the pergola, Vancouver	WA	25
7/13/2007	Rotary, Vancouver Sunrise	Heathman Lodge, 7805 NE Greenwood Dr, Vancouver	WA	28
7/15/2007	Vancouver Farmers Market (transit focus)	8th and Esther, Vancouver	WA	84
7/17/2007	Humboldt Neighborhood Assn.	Portland Community College, Public Services Education Building, rm. 101	OR	7
7/18/2007	West Hazel Dell Neighborhood Assn.	Clearwater Springs Assisted Living Center, 201 NW 78th Street	WA	9
7/19/2007	Bi-State Coordination Committee	1300 Franklin St., 6th floor, Vancouver	WA	n/a
7/19/2007	City Center Redevelopment Authority	Vancouver City Hall, Council Chambers	WA	n/a
7/19/2007	Six to Sunset Summer Concert Series	Esther Short Park, Vancouver	WA	50
7/20/2007	Regional Transportation Advisory Committee (RTAC)	1300 Franklin St., 6th floor, Vancouver	WA	n/a
7/20/2007	"Tour of Tomorrow" bi-state bike ride	Pearson Air Museum, 1115 E. 5th St., Vancouver	OR	10
7/21/2007	Battle Ground Harvest Days	Battle Ground fairgrounds	WA	84
7/23/2007	Vancouver City Council	Vancouver City Hall, Council Chambers	WA	n/a
7/23/2007	Hayden Island Neighborhood Network (HINooN) meeting on East Hayden Island Neighborhood Plan	South Shore Clubhouse, 12221 N. Westshore Drive, Portland	OR	15
7/24/2007	Overlook Neighborhood Assn.	Kaiser Town Hall, 3704 N. Interstate Ave (at N. Overlook Blvd).	OR	31

7/25/2007	CRC Summer Drop-In Event ~ Hayden Island	Former Hayden Island Yacht Club, 12050 N. Jantzen Dr.	OR	84
7/25/2007	Piedmont Neighborhood Assn.	Holy Redeemer School, 127 N. Portland Blvd, Clare Hall	OR	24
7/26/2007	Cowlitz-Wahkiakum Council of Governments (CWCOG) Board Meeting	Kelso	WA	21
7/27/2007	Breakfast on the Bridges for Bicyclists	Broadway Bridge and Hawthorne Bridge, Portland	OR	59
7/28/2007	Ho'ike Hawaiian Festival	Esther Short Park, Vancouver	WA	113
7/29/2007	International Festival	Esther Short Park, Vancouver	WA	n/a
8/2/2007	Rotary, Greater Clark County	Royal Oaks Country Club 8917 NE Fourth Plain Rd Vancouver	WA	64
8/3/2007	Clark County Fair	Clark County Fairgrounds	WA	n/a
8/4/2007	CRC Summer Drop-In Event ~ Vancouver Farmers Market	Esther Short Park, Vancouver	WA	230
8/8/2007	Kiwanis, Russelville chapter	Courtyard Retirement Home, corner of NE Burnside and 103rd	OR	10
8/9/2004	Arnada Neighborhood Assn.	Arnada Park, at the pergola, Vancouver	WA	32
8/9/2007	Say Hey! Partners in Diversity networking event	Two World Trade Center, Plaza Level, 121 SW Salmon St., Portland	OR	n/a
8/11/2007	CRC Summer Drop-In Event ~ Jantzen Beach SuperCenter	Jantzen Beach SuperCenter (outdoor entrance near carousel and Target)	OR	59
8/13/2007	Lincoln Neighborhood Association	First Presbyterian Church, 4300 Main Street, Vancouver	WA	125
8/16/2007	Camas-Washougal Rotary Club	Parker House Restaurant, 56 S. 1st St.	WA	48
8/16/2007	Arbor Lodge Community Fair	2209 N. Portland Blvd. (Rosá Parks Way) - Peace Lutheran Church	OR	29
8/18/07 8/19/07	Uptown Village Street Festival	Uptown Village, Vancouver, WA Main & 13th	WA	316
8/21/2007	Congressional tour	on the Interstate Bridge	OR/WA	24
8/25/2007	Seaport Celebration	Port of Portland Terminal 6	OR	n/a
8/25/2007	Oregon Symphony Concert and Arbor Lodge Park Festival	Arbor Lodge Park - N. Delaware Ave. and N. Dekum St.	OR	71
8/30/2007	Alberta Street Farmers Market	NE Alberta St. near 15 St., Portland	OR	n/a
9/4/2007	CRC public meeting on right of way	First Presbyterian Church, 4300 Main St., Vancouver	WA	38
9/5/2007	CREEK	Portland	OR	12
9/5/2007	CRC public meeting on right of way	Water Resources Center, 4600 SE Columbia Way, Vancouver	WA	7
9/6/2007	CRC public meeting on right of way	Vancouver Hilton	WA	25
9/8/2007	CRC public meeting on right of way	Hayden Island Yacht Club	OR	14
9/9/2007	"In the Neighborhood" block party, First United Methodist Church	First United Methodist Church front lawn, 401 E. 33rd St, Vancouver	WA	34
9/10/2007	CRC public meeting on right-of-way	Hough Elementary School, 1900 Daniels St (at McLoughlin)	WA	13
9/10/2007	Lincoln Neighborhood Assn. ~ Fall Open House	Lincoln Elem. School, cafeteria, 4200 NW Daniels St Vancouver	WA	70

9/16/2007	Marshall Community Center re-opening	1009 E. McLoughlin, Vancouver	WA	61
9/17/2007	CRC public meeting on right of way	Hayden Island Yacht Club	OR	6
9/20/2007	Uptown Village Association	VHA, 2500 Main Street, Vancouver WA	WA	21
9/20/2007	Esther Short Neighborhood Assn.	Hilton Vancouver	WA	39
9/24/2007	Bicycle Commute Challenge Breakfast Stop with Commissioner Adams	corner of N. Vancouver Ave. and N. Russell St.	OR	n/a
9/26/2007	SR 502 Open House	Battle Ground High School	WA	19
9/26/2007	Columbia Corridor Assn.	Hilton Airport, Portland, 12048 NE Airport Way	OR	n/a
10/2/2007	SW Washington Regional Transportation Council (RTC) board	1300 Franklin St., 6th floor, Vancouver	WA	n/a
10/4/2007	The Urban League	Portland	OR	3
10/4/2007	Shumway Neighborhood Assn.	Vancouver School of Arts and Academics, Media Center, 9101 Main St.	WA	17
10/5/2007	Oregon Business Magazine Tour	the new Columbian building, Vancouver	WA	40
10/8/2007	Portland Oregon Visitors Association	Red Lion Jantzen Beach	WA	7
10/8/2007	East Metro Economic Alliance	Gresham	OR	25
10/8/2007	Lincoln Neighborhood Association	Lincoln Elementary, 4200 NW Daniels Street, Vancouver WA	WA	30
10/9/2007	Hayden Island neighborhood plan steering committee	Former Hayden Island Yacht Club, 12050 N. Jantzen Dr.	OR	n/a
10/9/2007	Hudson's Bay Neighborhood Assn.	Harney Elementary, 3212 E. Evergreen Blvd., cafeteria	WA	9
10/10/2007	Uptown Village Association	Vancouver Housing Authority, 2500 Main Street	WA	12
10/10/2007	WSU Vancouver Alternative Transportation Fair	WSU Vancouver	WA	30
10/10/2007	Pacific Northwest Waterways Association	Red Lion at the Quay, 100 Columbia St	WA	65
10/10/2007	Portland Air Cargo Association	Sheraton Airport, 8235 NE Airport Way, Portland	OR	17
10/11/2007	City of Vancouver internal traffic safety mtg.	Vancouver City Hall, 210 E. 13th St., first floor conf. rm.	WA	15
10/11/2007	Transit Station Flyering	Salmon Creek park and ride, Clark County	WA	n/a
10/16/2007	Coldwell Banker Commercial	1500 D St., Vancouver	WA	20
10/16/2007	Uptown Village Association	Broadway Natural Health, 24th and Broadway, Vancouver	WA	5
10/16/2007	Identity Clark County, board	Vancouver	WA	n/a
10/16/2007	Transit Station Flyering	7th Street transit center, Vancouver	WA	n/a
	TOTAL for June 27 - October 16, 2007	71 events		2,352 participants

Appendix C – Public and Agency Comment Submission Types

Appendix A identifies the number of comments received by topic between June 27 and October 16, 2007. Listed below are the methods by which public comments were received during this period, along with the number of times comments were received by each method. It is important to note that the each time a comment method occurs, the comment method may include comments on multiple topics. For example, a single letter may refer to tolling, high capacity transit, interchanges, and neighborhoods, and therefore it counts as one letter and four separate comment topics.

Comments Received Via	Number of Comments
Outreach Events	115
Emails received from feedback@columbiarivercrossing.org	97
Faxes and Letters received via U.S. mail/as .pdf copies	10
Memos	14
Phone	4
Total Comments Received by Type	240

Appendix D – Notes on Comment Summarization

Because public outreach efforts are not statistically valid surveys, comment summarization includes significant imprecision. Sources of imprecision include:

- Each outreach summary is composed of comments that may have been voiced by an individual or from multiple people at a single event. Because outreach summaries usually do not indicate the number of commenters on each topic, comments from outreach summaries are treated in this memo as a single “comment source”
- Public and agency feedback includes questions (for example, “How is barge traffic affected?”) and clear preferences (for example, “...put tolls on the bridge...”). Public and agency feedback, however, also includes feedback that is hard to distinguish between a question and a preference (for example, in context, the question of “Has there been an analysis on the possibility of tunneling under the river?” appears to be a statement of preference, as it is included in a page long discussion of CRC project constraints that the commenter believes would be solved by using a tunnel instead of a new bridge)

Because comment gathering methods are imprecise, this memo is best used as a reflection of the range of issues that have been communicated with project staff. The entire set of verbatim public comments is available on request.

Environmental Justice

Environmental Justice Program

Environmental Justice is defined by the U.S. Environmental Protection Agency, or EPA, as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, culture, education or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies.

Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal and commercial operations or the execution of federal, state, local and tribal environmental programs and policies.

Meaningful involvement means that:

- Potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health;
- The public's contribution can influence the regulatory agency's decision;
- The concerns of all participants involved are considered in the decision making process; and
- The decision makers seek out and facilitate the involvement of those potentially affected.



Community and Environmental Justice Group

To achieve the goal of meaningful public involvement in the project, the Columbia River Crossing (CRC) project formed the Community and Environmental Justice Group (CEJG). The members of the CEJG come from neighborhoods in the project area and include environmental justice communities (low-income, African American, Latino), one liaison from the CRC Task Force, and five at-large members. They represent the diverse interests and perspectives of Vancouver, Portland and Hayden Island neighborhoods potentially affected by the project.

The CEJG provides input to CRC project staff in these areas:

- Identifying community concerns in the project development process
- Presenting recommendations at key milestones

- Raising relevant issues of interest (or potential impact) such as air quality, noise, highway interchange alignments and design features to help inform the project's efforts to avoid, minimize and/or mitigate potential community impacts
- Assisting CRC staff in effectively engaging the public in the project

Environmental Justice Training

On September 30, 2006, CRC hosted an environmental justice training for CEJG members, the CRC Task Force and the public. Nationally recognized environmental justice expert Running Grass led the workshop. The participants learned the basic concepts of environmental justice, identified specific environmental justice issues facing the project, and learned about resources and strategies for dealing with environmental justice concerns. Additional training sessions led by Running Grass are available to CRC project participants.

Environmental Justice Methods and Data Report

The purpose of this CRC report is to determine if uneven impacts to low income and minority residents exist within the project area. The report is part of the material collected for the Draft Environmental Impact Statement or Draft EIS. The Draft EIS serves as a tool for decision making and is required for major projects that have community and environmental effects. Decision makers consider positive and negative effects when selecting a preferred alternative.

Outreach Efforts

Since the beginning of the project, CRC staff members have talked with thousands of people at fairs, festivals, open houses, neighborhood meetings and leadership breakfasts. With the help of the Community and Environmental Justice Group, the CRC staff will



continue to engage in diverse outreach efforts to provide relevant and timely information about the project to communities in the project area.

How can I get involved?

- Visit the website at www.ColumbiaRiverCrossing.org to sign up for updates
- Attend an advisory group meeting
- Invite CRC staff to your group to discuss the project
- Attend a CEJG meeting:
CEJG meets 6:00 – 8:30 p.m. on the third Thursday of the month at the Kenton Firehouse in North Portland (2209 N. Schofield) or the Vancouver Housing Authority (2500 Main Street). The meetings are open to the public.

How can I comment on the project?

Email: feedback@columbiarivercrossing.org
 Mail: 700 Washington St., Suite 300
 Vancouver, WA 98660
 Phone: 360-737-2726 or 503-256-2726
 Fax: 360-737-0294

October 09, 2007

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