

## CHAPTER 6

# Public Input on the Draft EIS

*This chapter describes the public involvement activities that occurred from publication of the Draft Environmental Impact Statement (DEIS) through selection of the locally preferred alternative's (LPA's) river crossing, transit mode, and transit terminus. This time period extended from May 2, 2008, with initiation of the formal 60-day DEIS comment period to July 22, 2008, when the Southwest Washington Regional Transportation Council became the final Local Sponsor Agency to officially support the LPA with a resolution passed by the Board. Section 6.3 of this chapter also provides an overview of comments received during the DEIS comment period.*

*Appendix B describes the overall public involvement program for the Columbia River Crossing (CRC) project, which began formally with the publication of Notice of Intent (NOI) to prepare an environmental impact statement (EIS) in the Federal Register, Volume 70, Number 186, on September 27, 2005, and will continue through the waiting period following issuance of this Final Environmental Impact Statement (FEIS).*

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## 6.1 Draft EIS Public Review Goals

The goals and objectives for public review of the DEIS are described below. These goals and objectives are the same as for the overall CRC project public involvement program.

- Goal: Provide opportunities for meaningful public engagement in project development.
  - Objective: Keep interested and affected people, groups, and agencies informed of project developments on an ongoing basis through presentations, attendance at community-based events, open houses, print and electronic communications, and the media.
  - Objective: Encourage public feedback through public outreach activities and tools.
  - Objective: Compile and summarize public feedback on an ongoing basis. Distribute public feedback to project staff on an as-needed basis.
  - Objective: Evaluate and consider all public comments.
- Goal: Fully comply with Executive Orders 12898 and 12948 on Environmental Justice.
  - Objective: Hold regular Community and Environmental Justice Group (CEJG) meetings that provide opportunity for feedback on key project decisions.
  - Objective: Specifically target minority, low-income, and limited English-speaking populations within the project area for stakeholder outreach and feedback.
  - Objective: Translate project documents into Spanish, Russian, and Vietnamese, and provide interpreter services when needed.

## 6.2 Draft EIS Review Process

A variety of outreach activities occurred from May 2 to July 1, 2008, designed to encourage review of, and comment on, the DEIS. These outreach activities included:

- Two public open houses/public hearings. Notifications for these events included information on how to request the assistance of an interpreter, and written materials at the events were available in English, Russian, Spanish and Vietnamese.
- Four informal question and answer sessions.
- Presentations and discussions with neighborhood, civic, and business associations and governmental entities.
- Information booths at non-CRC sponsored community events such as fairs and festivals.
- The CRC Task Force, which includes representation by the Environmental Justice Action Group (EJAG), met once during the DEIS comment period, to discuss and vote on their proposed LPA resolution.
- Meetings of project advisory groups. The Pedestrian and Bicycle Advisory Committee (PBAC) and Urban Design Advisory Group (UDAG) each met once during the DEIS comment period. PBAC made a recommendation for a replacement bridge that contained an upgraded bicycle and pedestrian facility. UDAG advised CRC on the appearance and design of bridge, transit, and highway improvements.
- The CEJG submitted comments on the DEIS.

The following project communications and information were also used to encourage comments on the DEIS. Project communications and information available from May 2 to July 1, 2008, included:

- The CRC project Web site
- Email news (May 7, May 9, May 27, June 5, June 19, June 30)
- Fact sheets, including new or updated fact sheets on:
  - Highway and Interchanges
  - Property Purchases and Easements
  - Transit Park and Rides
  - Transit Choices
  - Cost Estimates
  - Columbia River Crossing Project
  - Environmental Justice
  - Tolling
  - Pedestrian and Bicycle Improvements
  - Project Background
  - Project Safety
  - What is NEPA?
  - Public Involvement

- Project Schedule
- Draft Environmental Impact Statement Guide
- Draft Environmental Impact Statement
- Table of Contents
- Mitigation Planning CRC and Climate Change
- Postcard distributed to all mailboxes in the project area (approximately 57,000) and on the project mailing list to announce the DEIS comment period and public hearing dates. Postcards were hand delivered to 13 low-income/senior housing facilities, schools, and community groups in Vancouver and Portland (these facilities were also offered a presentation).
- News releases: May 19 and May 27 news releases on the DEIS public hearings, and May and June community calendar announcements for the DEIS question and answer sessions. Two additional releases were sent on June 17 and June 25 to announce the final Task Force meeting and the group's recommendation for an LPA, respectively. News releases were distributed to local print, radio, television and Web news outlets. These included publications that target Hispanic and Asian communities (El Hispanic News, Asian Reporter, Portland Observer).
- Display ads in newspapers for the DEIS release and the open houses/ public hearings, including display ads in newspapers specifically targeting minority populations (El Hispanic News, Asian Reporter, Portland Observer). The display ad in El Hispanic News was translated in Spanish.
- Articles for print in community fliers and newsletters, including those for the Vancouver Housing Authority, New Columbia Neighborhood Association, Hayden Island Mobile Home Park, and Jantzen Beach Moorage Inc. (JBMI).

As a result of outreach activities, as of June 27, 2008, the CRC project's database had grown to 3,511 email addresses and 11,367 postal mailing addresses.

## 6.3 Comment Overview

This section provides an overview of the comments received as a result of the outreach efforts detailed above. Comments are categorized by (1) the methods by which comments were submitted during the formal 60-day DEIS comment period, (2) the demographics of those submitting comments, and (3) an overview of the content of the comments submitted.

### 6.3.1 Comment Delivery Methods

Exhibit 6.3-1 describes the methods by which public comments were submitted during this period, along with the number of times comments were submitted by each method. It is important to note that each comment submittal may include multiple comment topics. For example, a single letter (a comment submittal method) may refer to tolling, high-capacity transit, interchanges, and neighborhoods. This submittal counts as one letter but four separate comments.

A process was established to identify the number of individual commenters. An individual who submitted multiple comments through one or more comment delivery types was considered to be a single commenter, regardless of the number of submissions. Because anonymous comments were accepted, and there were some inconsistencies in how people signed their names, the number of unique, individual commenters referenced in this report may be higher than actual. Based on review, it was determined that 40 commenters submitted more than one comment, reducing the total number of commenters to 1,587.

Exhibit 6.3-1

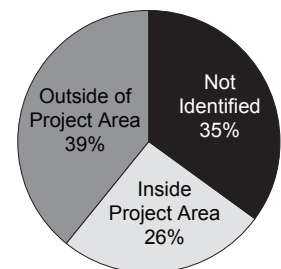
#### Number of Commenters by Comment Delivery Method

Comment Delivery Method	Number Received
Emails sent to project via website	379
Letters mailed, faxed or sent electronically to the CRC office	324
Comment forms (Web and printed)	631
Form Letters	171
Verbal comments at open houses/public hearings	122
<b>Total Comments Received by Delivery Type</b>	<b>1627</b>

### 6.3.2 Demographics of Commenters

Zip codes were used to determine whether a commenter is likely to live within the main project area or outside of the main project area. Zip codes considered to lie within the project area are 98660, 98661, and 98663 on the Washington side and 97217 on the Oregon side. Because these four zip code boundaries are partially inside and partially outside the main project area, it is likely that this analysis over-represents the number of commenters who actually reside in the main project area. Exhibit 6.3-2 shows the percentages of commenters living inside or outside of the main project area.

Exhibit 6.3-2  
Residential Locations of Commenters<sup>a</sup>

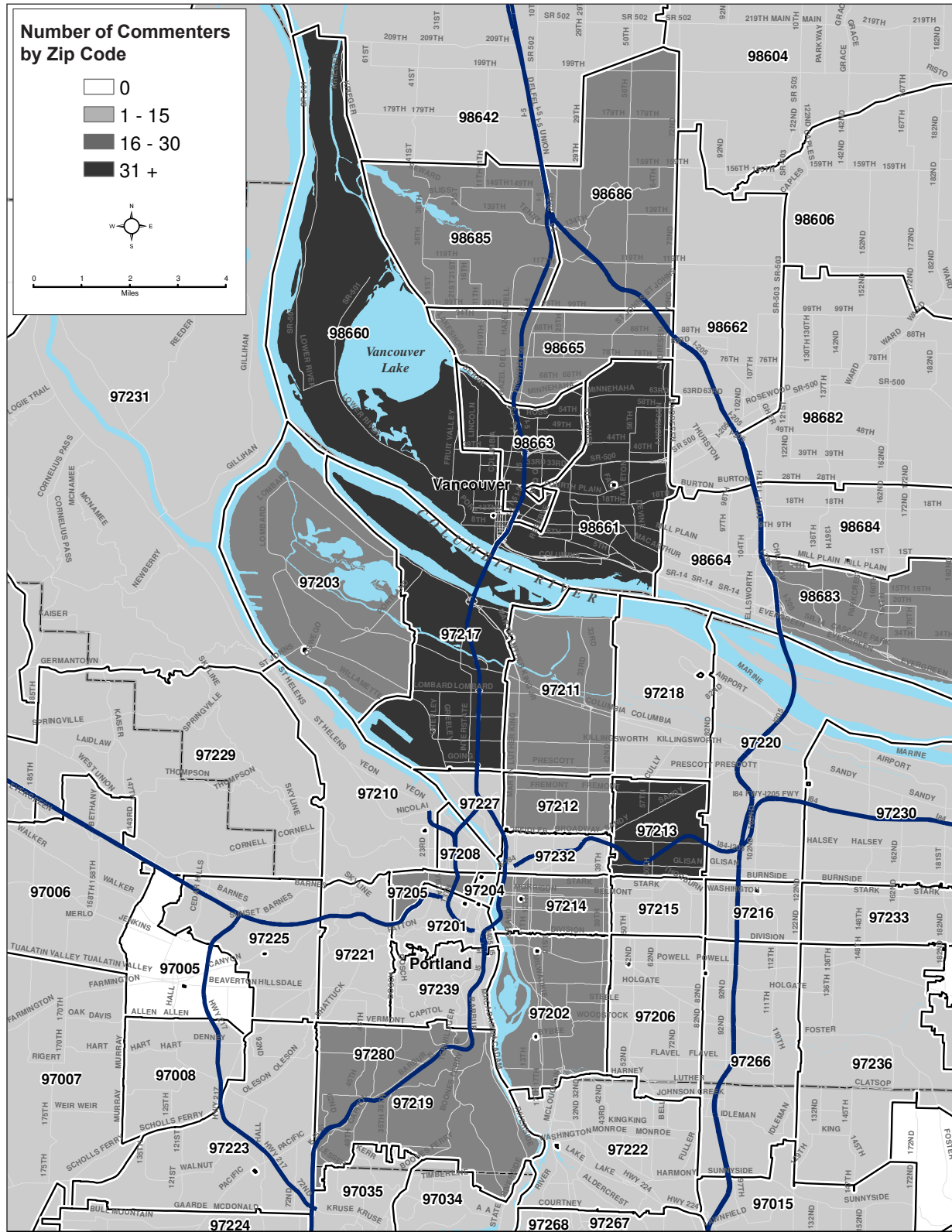


Sample size = 1,587.

<sup>a</sup> The "Inside the project area" category includes those who listed their zip code as one of the following: 98660, 98661, 98663, and 97217. The "not identified" category includes those who did not provide a zip code.

Exhibit 6.3-3 illustrates the approximate number of commenters from each zip code. Although the total number of commenters outside of the main project area is greater than the number inside the main project area, zip codes inside the main project area tend to have a greater concentration of commenters.

Exhibit 6.3-3  
**Number of Commenters by Zip Code**





Comment forms solicited information on the commenters' relationships to the main project area, with instructions to check all options that applied. Of the comment forms received, 88 percent (558 out of 631) of commenters indicated they were represented by one or more of the relevant categories. Many commenters checked multiple options, resulting in a total number of 939 "relationships" to the main project area (Exhibit 6.3-4).

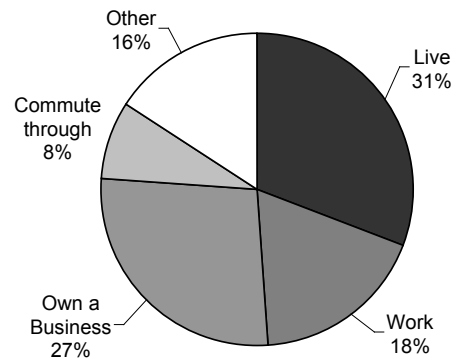
Comment forms also solicited information on commenters' modes of travel in the main project area. Commenters were directed to indicate all travel modes that applied. Of the comment forms received, 91 percent (576 out of 631) of commenters indicated they fell into one or more of the following relevant categories, for a total of 941 transportation "modes" reported (Exhibit 6.3-5).

### 6.3.3 Overview of Comments Received

This section provides an overview of the comments received relative to preference by zip code for the purpose of demonstrating general trends. This section also provides a tally of non-preference comments for the purpose of demonstrating general areas of public interest related to the project. Finally, this section responds to some frequently asked questions during the public involvement process in a representative question and answer format to provide information to a broader audience that may have similar questions. All comments received during the 60-day comment period, and responses to them, are included as Appendix P of this FEIS. Appendix P is included as a CD with printed copies of this FEIS and is also available in the folder structure of on-line postings of the FEIS.

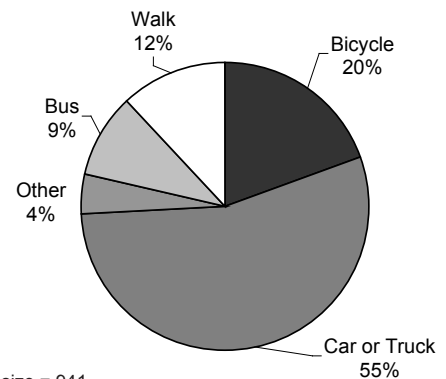
Comments have been organized according to content in two ways: "preference" comments are comments tracked based on whether the commenter made a positive, negative or neutral statement. In general, "preference" comments relate to the choices of a river crossing, transit mode, transit terminus, and tolling. For example, all comments about a "Replacement Bridge" are considered preference comments, and all such comments are labeled "Replacement Bridge Favorable," "Replacement Bridge Unfavorable," or "Replacement Bridge Other," depending on whether the commenter wanted, did not want, or had mixed feelings about the construction of a replacement bridge. "Non-preference" comments were tracked by the total number of times each was mentioned, regardless of whether it was mentioned favorably or unfavorably.

Exhibit 6.3-4  
**Commenter Relationships to the Main Project Area**



Sample size = 939.

Exhibit 6.3-5  
**Commenter Mode of Transportation in the Main Project Area**



Sample size = 941.

### Preference Comments

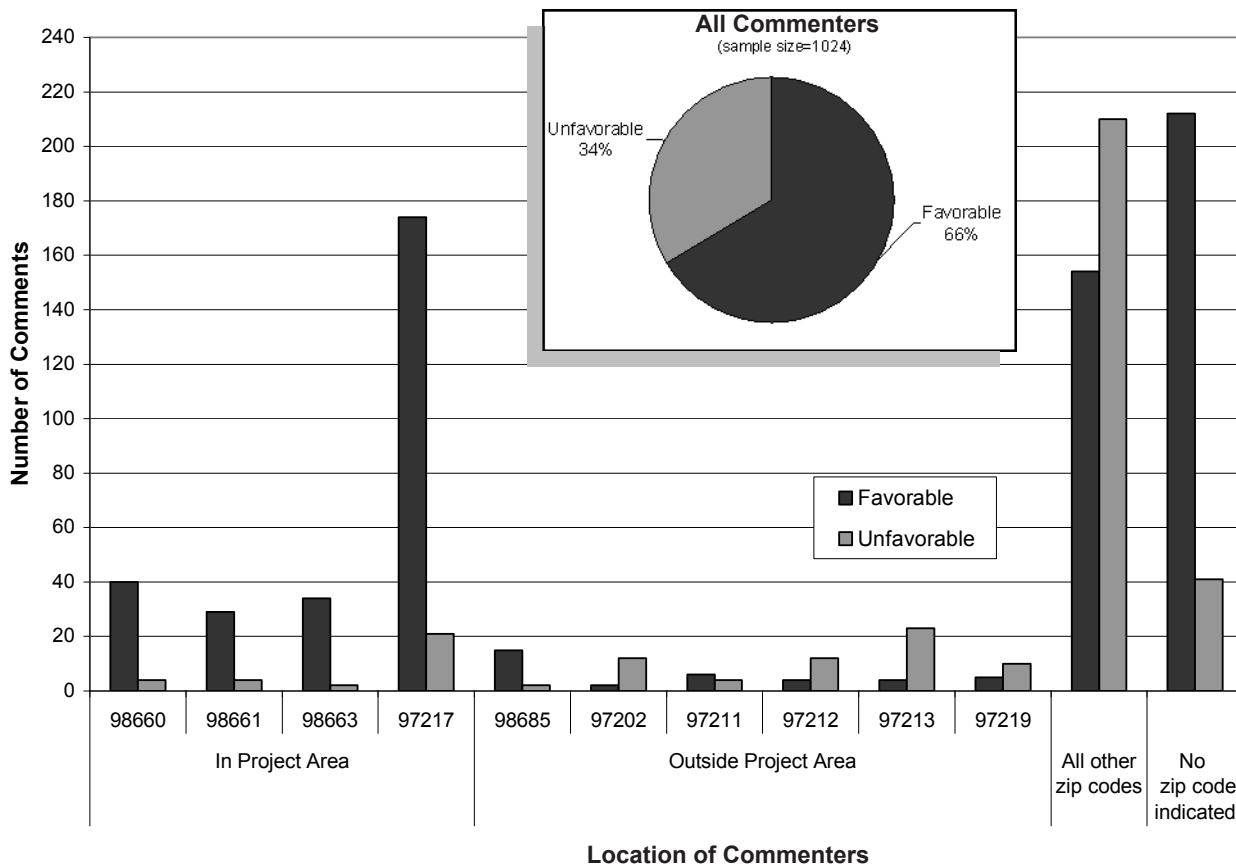
The following section summarizes comments where preferences were tracked. Comments received in these categories were analyzed to determine if they were generally “favorable” (in support of), “unfavorable” (in opposition to), or neutral. In an attempt to be as accurate as possible in portraying public preferences, a good faith effort was made to eliminate duplicate statements of support or opposition from a single individual from totals and percentages presented in the following charts and graphs. Commenters were not asked to compare or decide between components, and were able to report support or opposition to all or some of the categories below. This preference information was shared with the Task Force and partner agencies as they worked toward developing an LPA recommendation.

#### REPLACEMENT BRIDGE

1024 commenters made statements in support of (679) or opposition (345) to a replacement bridge. Zip codes were available for 771 of those expressing a preference. As illustrated in Exhibit 6.3-6, commenters both inside and outside of the main project area showed significant support for the replacement bridge, with the exception of four Portland zip codes that fall outside of the main project area: 97202, 97212, 97213, and 97219. Additionally, the sum of “all other zip codes” (i.e., zip codes with less than 20 commenters) shows more opposition than support to the replacement bridge. Commenters for whom zip code information was unavailable (Exhibit 6.3-6) also favored a replacement bridge. It is important to note that commenters could indicate support or opposition of both bridge options, and were not forced to choose between them.

Exhibit 6.3-6

#### Replacement Bridge Preferences by Zip Code

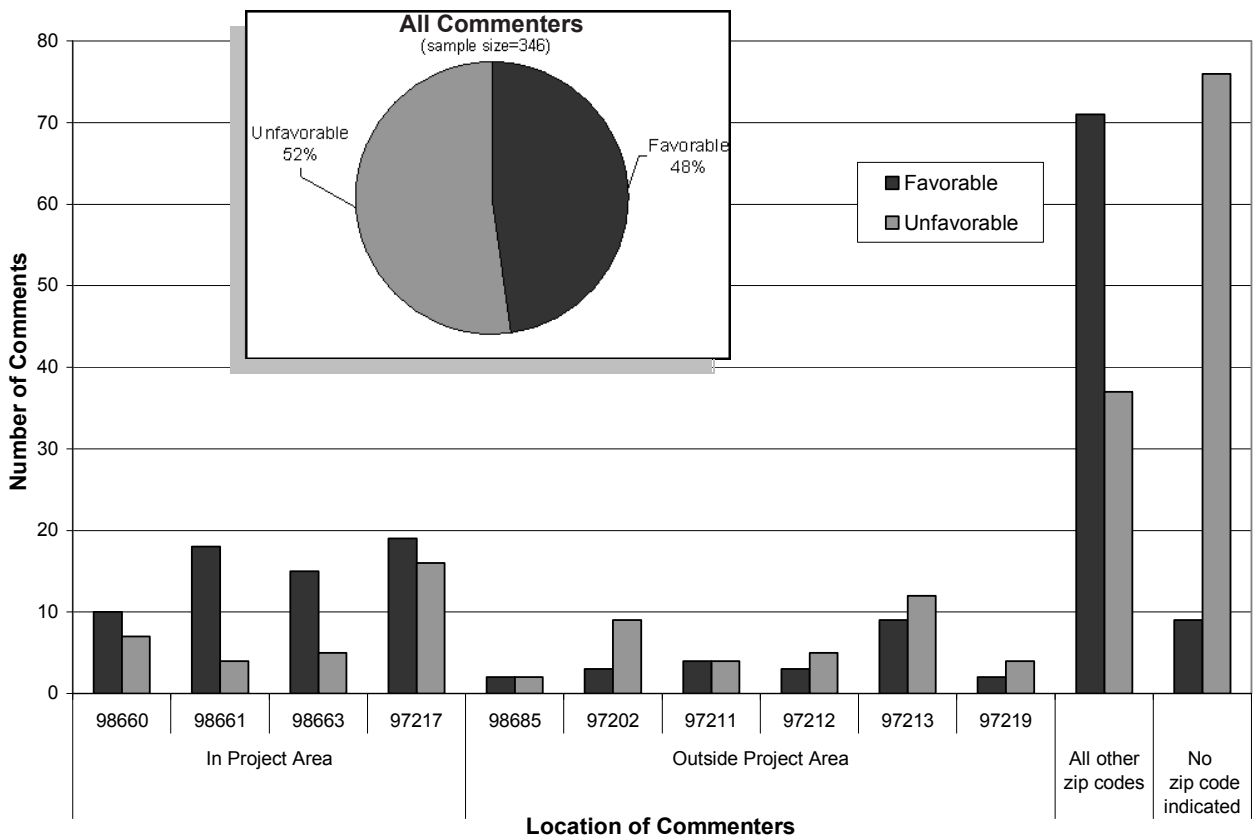




SUPPLEMENTAL BRIDGE

346 commenters made statements in support of (165) or opposition (181) to a supplemental bridge. Zip codes were available for 261 of those expressing a preference. Exhibit 6.3-7 illustrates that overall the supplemental bridge received more support than opposition within the main project area, but by a smaller margin than the replacement bridge. Alternatively, the supplemental bridge received more opposition than support outside of the main project area. Again, it is important to note that commenters could support or oppose more than one option. Therefore, support for a supplemental bridge did not necessarily indicate opposition to a replacement bridge.

Exhibit 6.3-7  
**Supplemental Bridge Preferences by Zip Code**

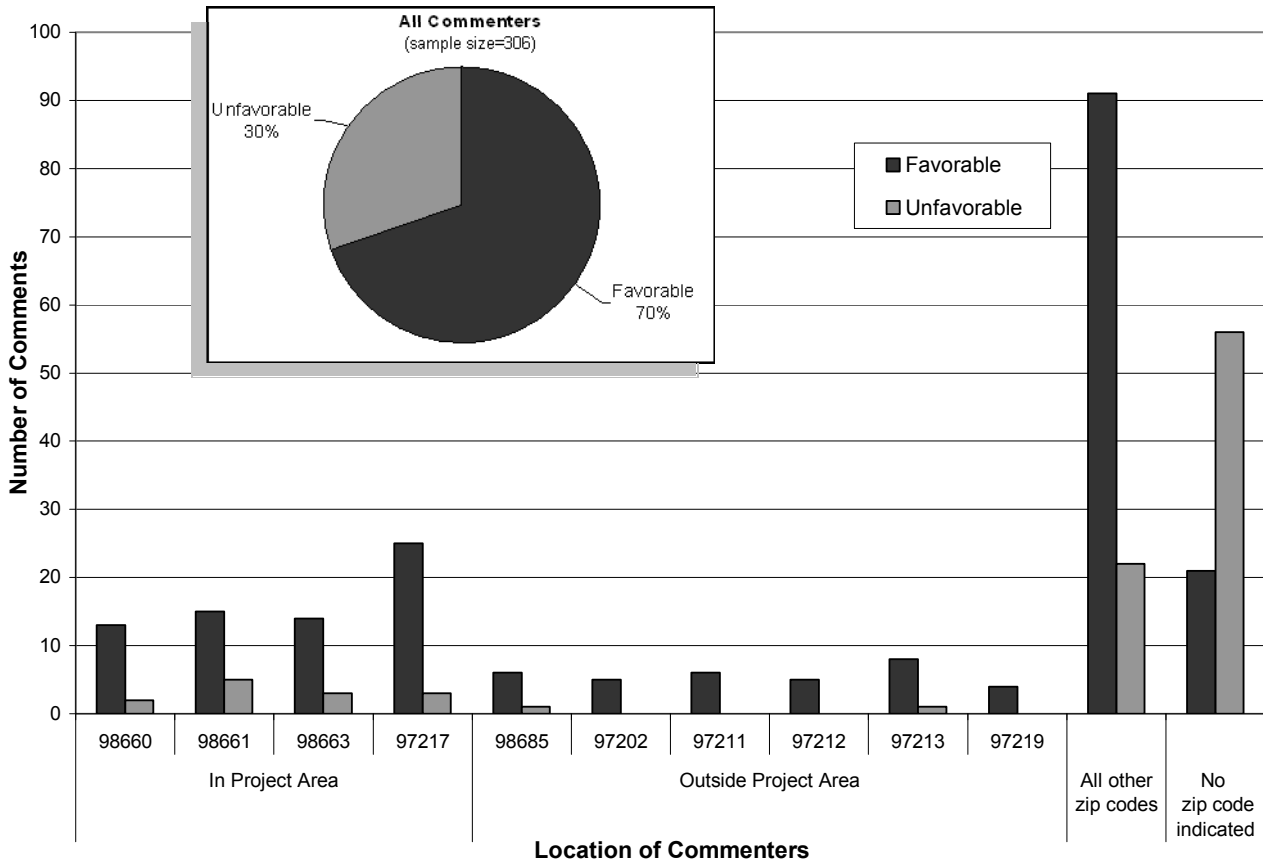


### BUS RAPID TRANSIT

306 of the commenters made statements in support of (213) or opposition (93) to bus rapid transit. Zip codes were available for 229 of those expressing a preference. As illustrated in Exhibit 6.3-8, commenters both inside and outside of the main project area expressed support for bus rapid transit. The only exception is the “other” category (i.e., those that did not provide a zip code), which shows greater opposition to bus rapid transit than support. Commenters could indicate all of the transit options that they would support and oppose, and therefore, preferences related to bus rapid transit do not indicate preferences related to light rail.

Exhibit 6.3-8

#### Bus Rapid Transit Preferences by Zip Code

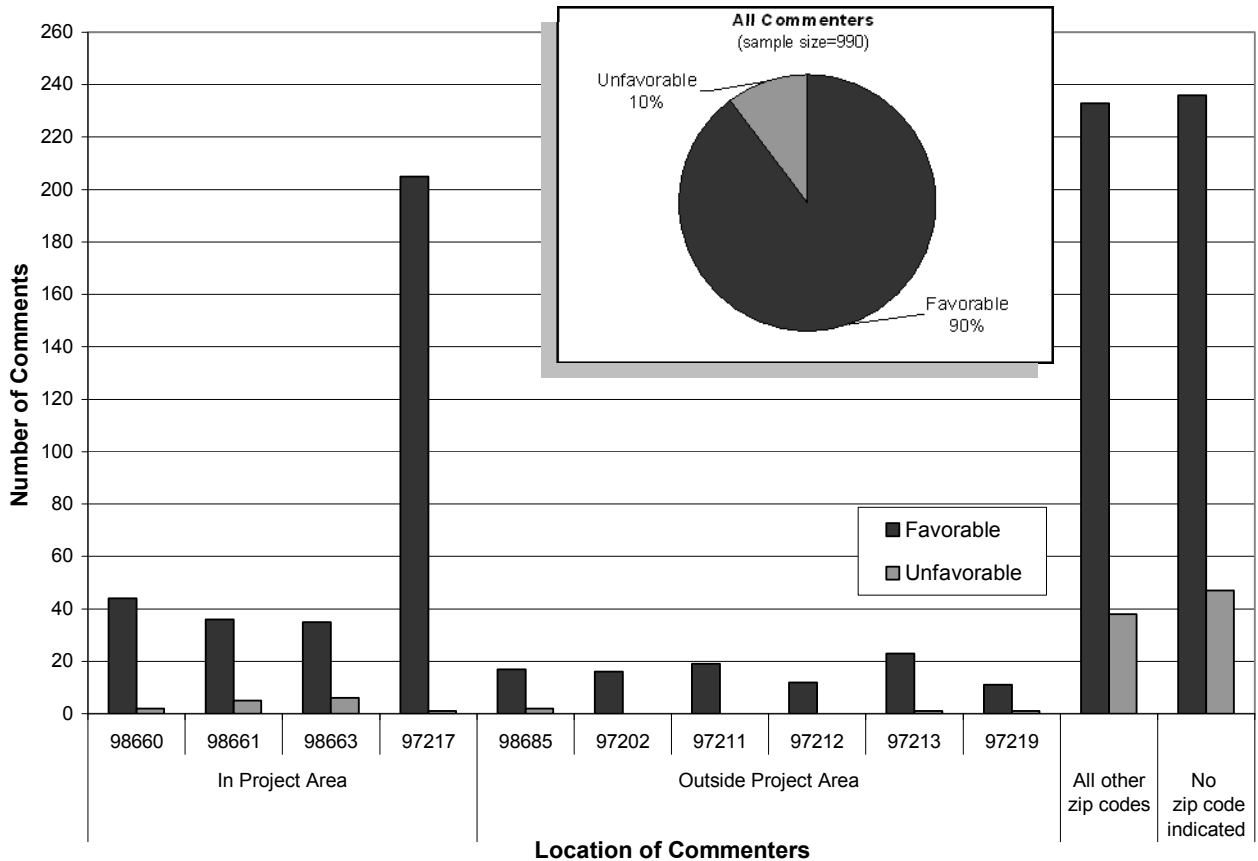


### LIGHT RAIL TRANSIT

990 commenters made statements in support of (887) or opposition (103) to light rail. Information on where people live was available for 707 of those expressing a preference. There is significant support for light rail from commenters both inside and outside of the main project area (Exhibit 6.3-9).

Exhibit 6.3-9

**Light Rail Transit Preferences by Zip Code**



**TRANSIT TERMINI**

The DEIS and the CRC project comment form included four transit terminus options: Lincoln Terminus, Kiggins Bowl Terminus, Clark College Minimum Operable Segment (MOS) Terminus, and Mill Plain MOS Terminus. Commenters could indicate all of the terminus options they would support or oppose. 465 commenters indicated support or opposition to one or more transit termini, with most commenters indicating their termini preferences by checking boxes on the comment form (few of those indicating a termini preference provided a reason for their support or opposition). The numbers of comments in support or opposition by terminus are presented in Exhibit 6.3-10.

Exhibit 6.3-10

**Transit Terminus Preferences**

	Support	Oppose
Lincoln Terminus	282	86
Kiggins Bowl Terminus	268	82
Clark College MOS Terminus	327	65
Mill Plain MOS Terminus	292	74
<b>Total Transit Termini Comments</b>	<b>1169</b>	<b>307</b>

A majority of commenters both within and outside of the main project area supported all termini options, with the Clark College MOS receiving the most support of all commenters (83 percent) and the Lincoln Terminus receiving the most opposition (86 statements of opposition or 23 percent, nearly half of which came from inside the main project area). It is important to note that many commenters expressed the same opinion regarding all termini (for or against), suggesting that, for many commenters, terminus preference is less defined than other project components. The distributions of commenter preferences are shown in 6.3-11 through 6.3-14.

Exhibit 6.3-11

**Lincoln Terminus Preferences by Zip Code**

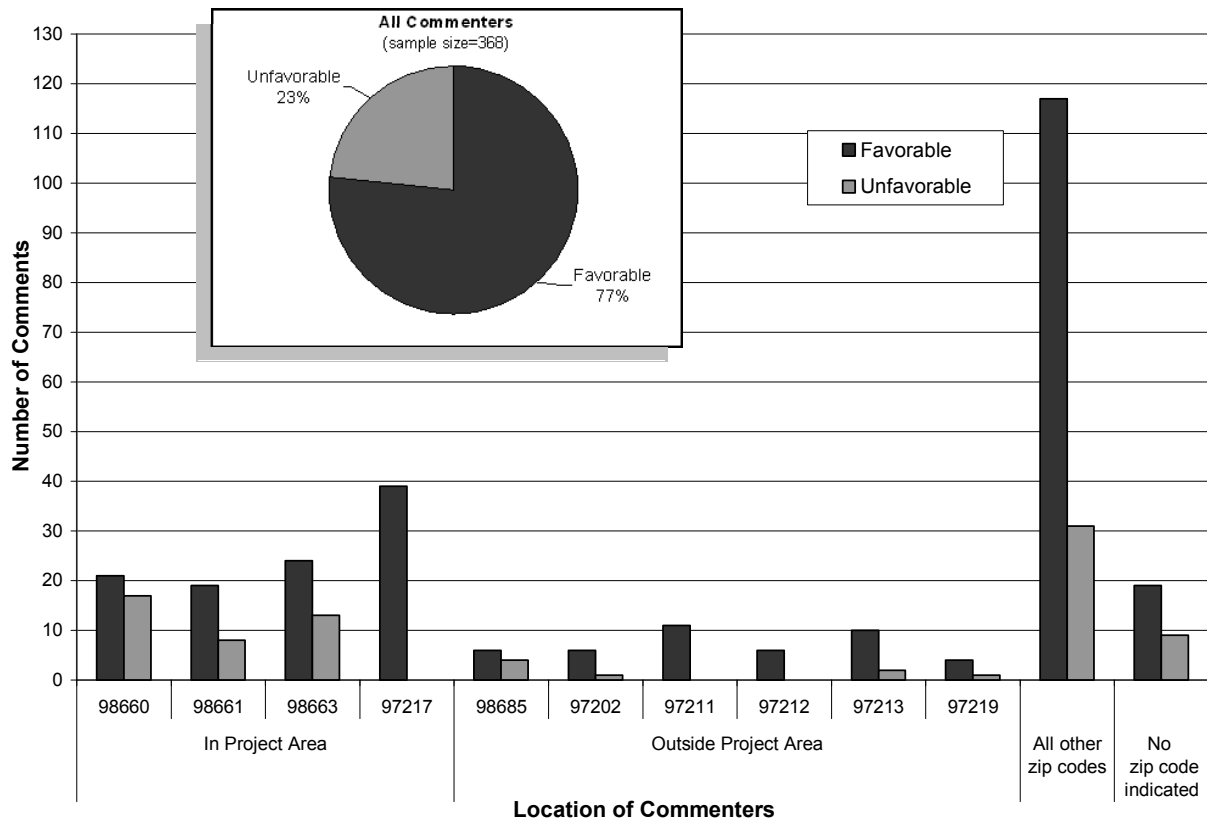


Exhibit 6.3-12

**Kiggins Bowl Terminus Preferences by Zip Code**

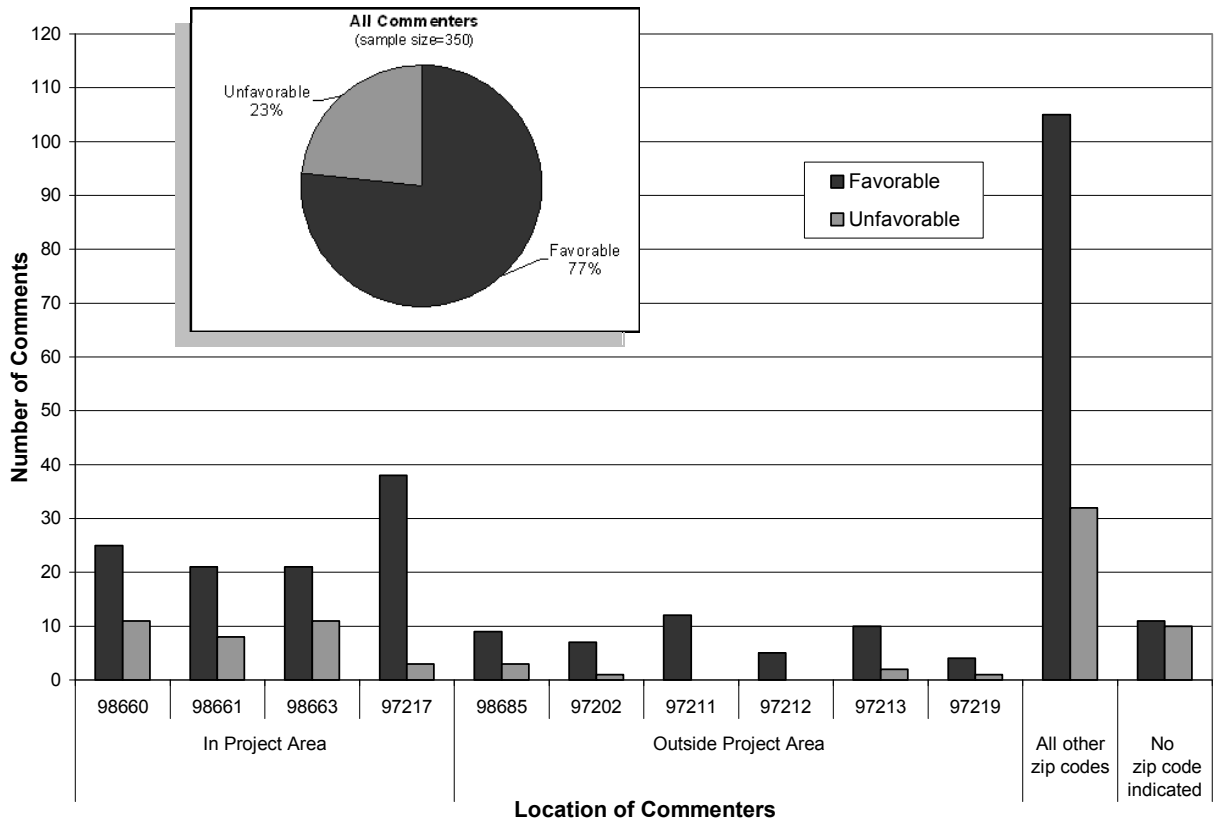


Exhibit 6.3-13

**Clark College MOS Preferences by Zip Code**

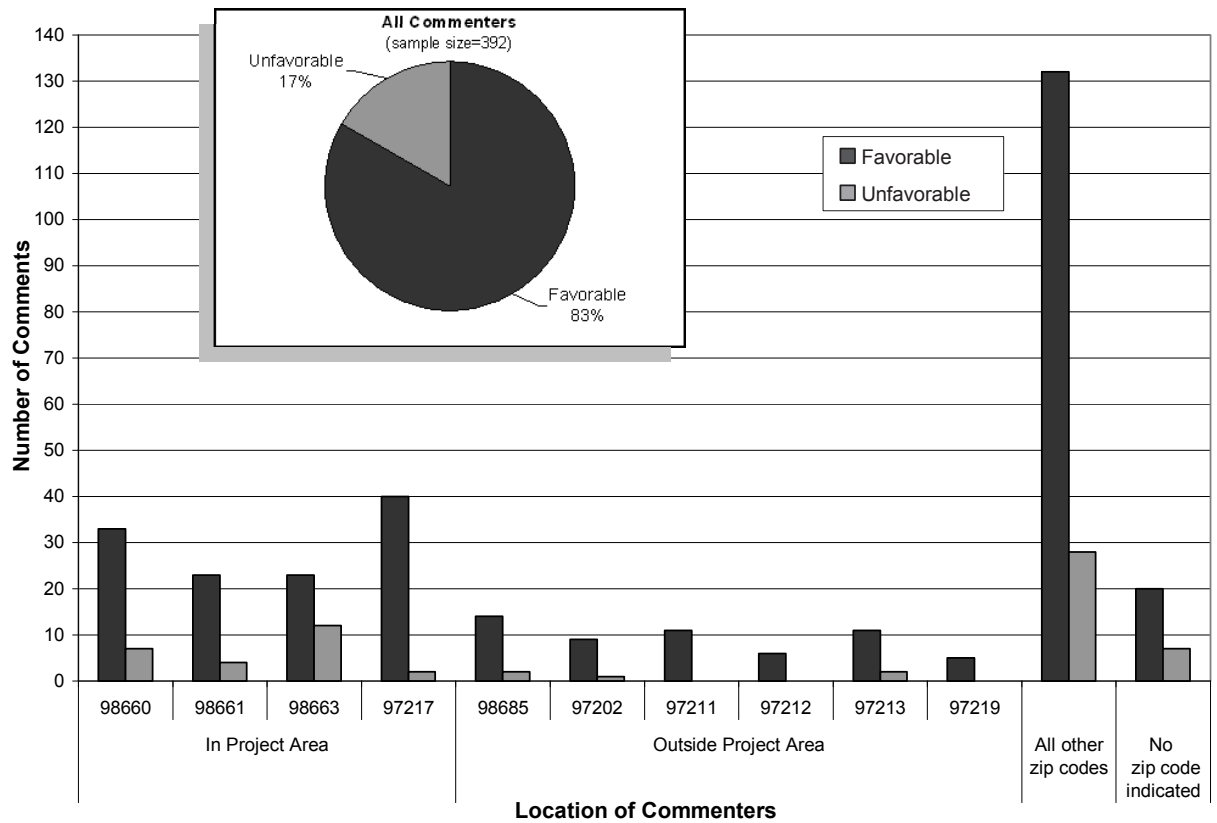
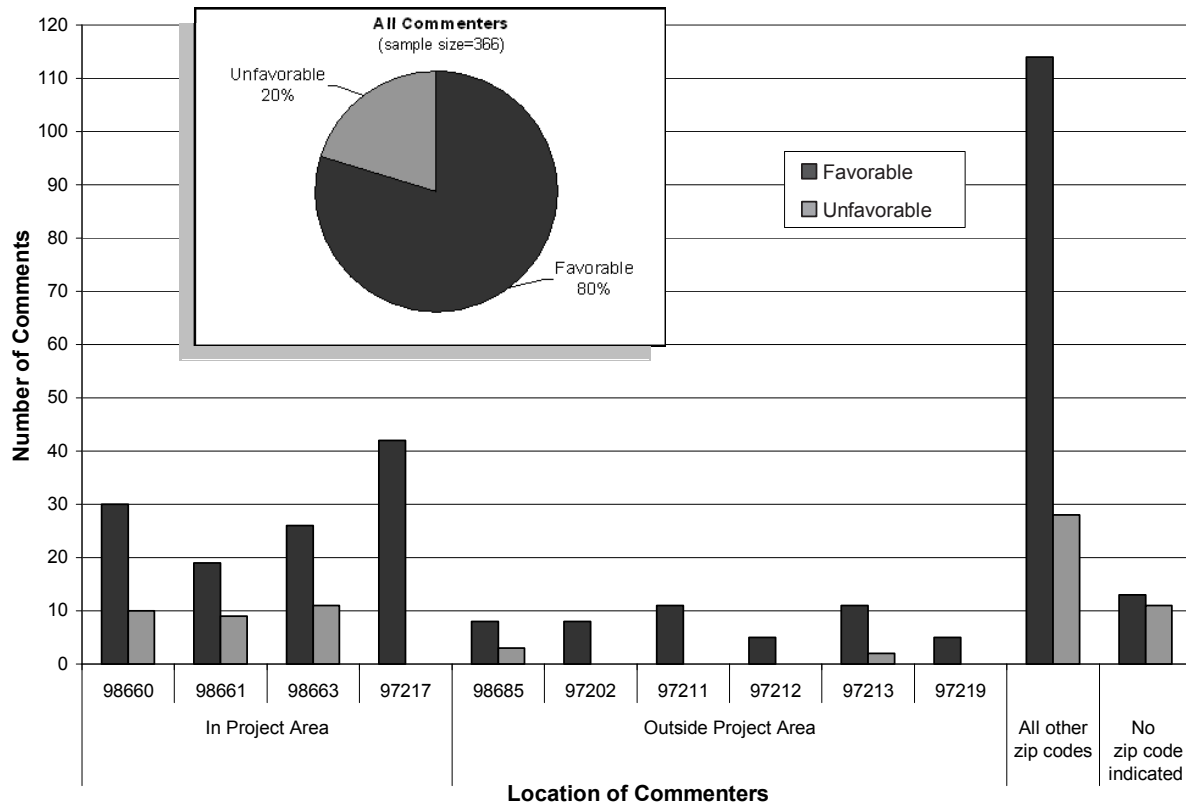


Exhibit 6.3-14

**Mill Plain MOS Preferences by Zip Code**



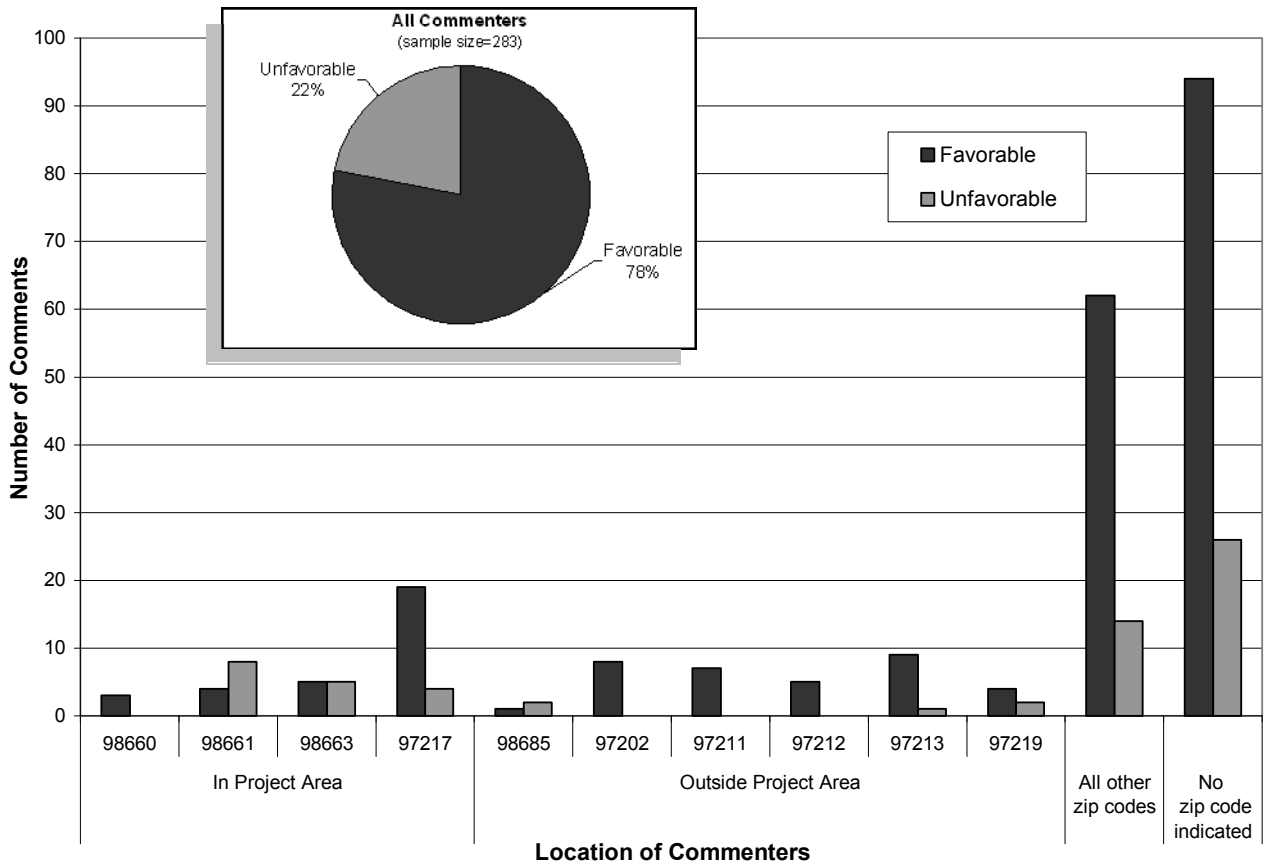
**TOLLING**

283 commenters made statements in support of (221) or opposition (62) to tolling. Zip codes were available for 163 of those expressing a preference. Commenters in zip code areas both inside and outside of the main project area show either support or an even split in opinion regarding tolling, with the exception of two Clark County zip codes that showed greater opposition: 98661 (inside the main project area) and 98685 (outside of the main project area) (Exhibit 6.3-15).



Exhibit 6.3-15

**Tolling Preferences by Zip Code**



**Non-preference Comments**

Many of the comments received did not express a preference for or against any particular alternative or option. Exhibit 6.3-16 shows the number of comments received for each of the non-preference comment categories. Most individual emails, letters, and comment forms included comments on multiple categories, and were tallied under each applicable category.

Exhibit 6.3-16

**Non-preference Comment Counts**

Non-preference Comment Category	# of Comments
Traffic and Congestion	949
Transit (other than preference comments on BRT, LRT, alignments, and termini)	711
Land Use and Economic Activity	619
Process	548
Project Cost	511
Neighborhoods	408
Bicycle and Pedestrian	405
Highway Safety	359

<b>Non-preference Comment Category</b>	<b># of Comments</b>
Climate Change	355
Existing Bridge	347
Air Quality	346
Truck Freight	330
Visual and Aesthetic Qualities	307
Range of Alternatives	297
Interchanges and Highway Alignment	279
Energy, Electric and Magnetic Fields	248
Acquisitions and Right-of-way	248
Funding and Financing	239
Environmental Justice	223
Ecosystems	208
Noise and Vibration	204
TSM - TDM and Managed Lanes	196
Geology and Soils	189
Navigation and Marine Traffic	151
Hydrology and Water Quality	115
Health	115
Construction Approach	114
Construction Effects	99
Chapter 1. Purpose and Need	99
Schedule	92
Delta Park to Lombard (I-5)	91
Historic Resources	69
Railroad Operations and Infrastructure	68
Transit Safety	63
ADA	60
Parks and Recreation	57
Parking	56
Cumulative Effects	34
Aviation	34
Public Services and Utilities	20
Hazardous Materials	20
Wetland and Jurisdictional Waters	18
Section 4(f)	14
Section 4(f) de minimis	11

The non-preference comments included questions, comments, and concerns covering a range of issues, including how the NEPA analysis was conducted, what impacts the project might have on the human and natural environment, and how the project would be funded. A sampling of the most common of

these non-preference comments, as well as responses to them, have been captured in the question and answer section below. This is not an exhaustive coverage of all non-preference comments or questions.

## ACQUISITIONS

*What has the project done to minimize displacements of homes and businesses? What actions are being taken to minimize impacts to floating homes?*

Since the publication of the DEIS in May 2008 and the selection of the LPA by project partners in July 2008, the CRC project team has been working to minimize the potential property impacts associated with the project's improvements. Property owners would receive just compensation for the estimated value of land and improvements acquired and for other impacts that result in a measurable loss of value to the remaining property. Just compensation would also be provided for displacement of personal property, including situations where there is a displacement of personal property that is not owned by the property owner or tenant (known as personal property only relocations). Following the publication of the ROD, property owners would be notified of impacts to their property and acquisition negotiations would begin. The acquisition and relocation process will meet the requirements of The Uniform Relocation Assistance and Real Property Acquisitions Policies Act.

After property acquisition funding is achieved, the acquiring agency (TriMet, ODOT, or WSDOT) will appraise each property needed for construction of the LPA. The appraiser would contact each property owner directly and give them an opportunity to accompany the appraiser during the appraisal inspection. In addition, a relocation agent would contact and interview any occupant(s) or business owner(s) who would be displaced by the required property acquisition, to determine the individual needs of each displacee. Once the appraisal and the relocation study are complete, the agent would provide the property owner with a written offer for purchase of the property. If the owner or a tenant were to be displaced from the property, they would also receive the summary of relocation benefits available. The displaced occupants would not have to move from the property for at least 90 days from the date of the Notice of Eligibility for relocation benefits or 30 days after payment for the property, whichever is later, and would be given sufficient time to consider the offer. During this time, the relocation agent would work with the displaced occupant(s) or business owner(s) to provide relocation assistance (for example, help to find a replacement home or business site). Chapter 3, Section 3.3.4 of this FEIS provides further information about this process, as did Chapter 3, Section 3.3.5 of the DEIS.

Regarding the displacement of floating homes, the CRC project team has worked to better understand the organization of the floating home communities in North Portland Harbor. As presented in Chapter 3 (Section 3.5) and Appendix B: Public Involvement of the FEIS, the team coordinated with floating home owners, moorage owners, boards and management, to gather address and ownership information for each floating home.

Given the unique ownership situation of many floating homes and the moorages, the low vacancy rates for floating homes in North Portland Harbor,

and the complications associated with relocating these homes, the CRC project team would work closely with the floating home community to develop relocation options.

Based on the current design of the LPA, up to 35 floating homes in the North Portland Harbor would be displaced. Floating homes would be treated as real property and would be purchased at fair market value. The occupants would be provided relocation assistance that may include payments, if necessary, to acquire decent, safe and sanitary replacement housing. As with any other acquisitions, the CRC project would obtain independent appraisals to determine fair market value for each home that must be displaced. If a floating home would need to be acquired, and if a property owner wishes to move it, the house may be surplussed back to the property owner and relocation eligibility amounts may be adjusted. Chapter 3, Section 3.3.4 of the FEIS provides further information about the mitigation process for displacement of floating homes.

#### AIR QUALITY

*How will the project affect air quality and what kind of modeling was done to determine the impacts of traffic after the project is built?*

The air quality evaluation presented in the FEIS assessed how the project would affect emissions of pollutants regulated by state and federal standards as well as vehicle emissions that are not regulated. Oregon and Washington, as well as the federal government, have established ambient air quality standards for criteria pollutants. These standards are based on human health risks. The evaluation included an analysis demonstrating that the CRC project will allow the region to retain conformity with state and federal air quality standards for all relevant criteria pollutants. In addition to evaluating emissions at the regional and subarea levels, the project team analyzed carbon monoxide concentrations at the intersections that would be most affected by the LPA. This intersection analysis, also referred to as hotspot analysis, is part of demonstrating conformity with federal standards. See the Air Quality Technical Report, included as an electronic appendix to this FEIS, for a detailed explanation of the state and federal regulations concerning air quality and the evaluation of how the project complies with relevant air quality regulations. Chapter 3, Section 3.10 of the FEIS provides an explanation of the pollutants regulated by state and federal law.

The FEIS also evaluated how the project alternatives would affect emissions of mobile source air toxics (MSAT) from I-5 traffic. MSAT emissions from vehicles are not currently regulated. The evaluation in the FEIS found that “future (No-Build or Build) emissions of all pollutants would be substantially lower than existing emissions for the region and the subareas” (page 3-277). These reductions in emissions would be largely the result of ongoing reductions in vehicle emissions that would occur with or without the project. The anticipated vehicle emission reductions are based largely on relatively standard assumptions regarding regulated improvements in fleet fuel efficiency standards and regulated improvements related to cleaner gasoline and diesel fuels. Any extraordinary improvements in fuel efficiency or fuels would result in even greater emission reductions. The air quality analysis presented in the FEIS was also performed for, and discussed in, the DEIS.

Although the FEIS used updated methodologies, the conclusions regarding overall decreases in emissions of regulated and MSAT pollutants were the same for both documents.

Projected vehicle fleet emissions regulations would result in substantial reduction (depending on the particular pollutant) in I-5-related emissions over existing conditions, even with the anticipated growth in population, employment, and vehicle miles traveled (VMT). In addition, the build alternatives would provide reductions in vehicle emissions at the regional level and for most pollutants in each of the subareas along I-5.

## CLIMATE CHANGE

*What are the predicted effects of the project on climate change and how accurate are these predictions? What climate changes will occur after the project is built and how is the project responding to these predicted changes?*

While there was no standard threshold or standardized methodology for estimating greenhouse gas (GHG) emissions when the DEIS was being developed, the project team worked with federal and state agencies to develop an appropriate analysis methodology that would allow disclosure of impacts and a comparison of alternatives. Chapter 3, Section 3.19.10 of the DEIS summarized the results of GHG emissions and climate change analysis conducted for the DEIS alternatives. Further detail was included in the Energy Technical Report, included as an electronic appendix along with the DEIS. Following the public comment period for the DEIS, the CRC project team was requested by the Metro Council and Portland City Council to secure an independent review of the GHG evaluation conducted for the DEIS. The Columbia River Crossing Greenhouse Gas Emission Analysis Expert Review Panel Report describes the activities and findings of the independent review panel (McGourty et al. 2009). The panel concluded that the GHG evaluation methods and the findings in the DEIS were valid and reasonable. They also found that the findings were likely conservative, and that the LPA would likely reduce GHG emissions even more than estimated in the DEIS. The GHG and climate change analysis in Chapter 3 (Section 3.19) of the FEIS updates the analysis from the DEIS, but the basic conclusion that the LPA would have lower emissions than the No-Build Alternative remains unchanged. Based on the modeling and analysis, the LPA is expected to significantly increase transit ridership and reduce the number of vehicles crossing the river. This shift toward transit, reduction in auto crossings, reduced congestion, removal of bridge lifts, and lower accident rates are all factors that contribute to lower CO<sub>2</sub> emissions with the project than without it. These factors would also make it easier for the region to meet goals for reducing GHG emissions.

While the LPA would result in a net reduction of GHG emissions compared to the “No-build” Alternative, the cumulative impact of global GHG emissions is changing temperature and precipitation trends that can, in turn, affect the frequency and intensity of storm events that can pose risks to infrastructure. The CRC project team synthesized information from scientific assessments and peer-reviewed studies to identify the known or projected consequences of climate change globally, and in the Pacific Northwest. Based on the

information available, the project has considered and used the following strategies to adapt to the effects of climate change:

- The LPA will avoid fragmentation and degradation of significant floodplain hydrology by sensitively locating new and modified transportation and utility project components.
- The LPA will maximize management of stormwater by restoring existing unused impervious paved areas to natural, permeable, and vegetated conditions to the maximum extent practical.
- The LPA bridge design will accommodate potential climate-change induced rise in the Columbia River's high water levels.

## CONGESTION

*What will traffic be like after the project is built? How accurate are these projections?*

The LPA would reduce the duration of 2030 southbound congestion in the vicinity of the I-5 crossing to 3.5 hours from 7.25 hours for the No-Build Alternative. The traffic congestion remaining at the bridge would result from the existing downstream bottleneck on I-5 north at the I-405 split. The LPA would not exacerbate or worsen this existing bottleneck, although the CRC improvements would enable an increase in vehicle throughput of about 6 percent along I-5 just north of I-405. With the LPA with highway phasing, the duration of southbound congestion is also estimated at 3.5 hours. The LPA would reduce the duration of 2030 northbound congestion in the vicinity of the I-5 crossing to less than 2 hours from 7.75 hours for the No-Build Alternative. This alternative would eliminate the northbound I-5 crossing bottleneck, as northbound queues would no longer extend from the Interstate Bridge to I-405 for multiple hours each day. The improvements proposed by the project to the highway and seven interchanges would help better accommodate increased future vehicle traffic. New auxiliary lanes and longer on-/off-ramps would allow safer and more efficient merging and weaving for vehicles entering or exiting the freeway. Narrow lanes and shoulders would be widened to current standards where possible, and widened as much as possible in all other locations. Shoulders would be added where they are currently missing. All of these changes would improve the flow of traffic in the bottleneck area of the Interstate Bridge.

Traffic modeling indicates that tolling I-5, but not I-205, would divert some traffic to I-205. However, under existing conditions, trips already divert to I-205 and would continue to do so under No-Build conditions because of the unreliability of, and congestion in, the I-5 corridor. With the CRC improvements to I-5, many of those diverted trips would shift back to I-5 because it would be a shorter and more reliable trip than I-205. Tolling the I-5 crossing would cause some trips to shift to I-205 in order to avoid the toll. Thus the net difference in the number of trips crossing on I-205 would be only slightly higher with the CRC project than without it. Chapter 3, Section 3.1 of the FEIS discusses the effects of the project on traffic levels in the I-5 and I-205 corridors.

Based on the Metro model's past ability to predict transportation effects, the CRC project is confident in the data received from Metro, and uses these



data to determine what impact the project would have on congestion. Traffic forecasts reported in the FEIS, and those reported in the DEIS that were used to inform decisions on the LPA, were derived from adopted regional employment and population forecasts and state-of-the-art modeling and evaluation conducted by Metro, RTC, and the project team, and were reviewed by all project sponsor agencies as well as by FTA and FHWA. In addition, an independent panel of traffic modeling experts was convened in October 2008 to review the modeling methods and findings. These experts concluded that the project's approach to estimating future travel demand was reasonable and that it relied on accepted practices employed in metropolitan regions throughout the country. These findings are summarized in the Columbia River Crossing Travel Demand Model Review Panel Report (Outwater et al. 2008). This independent review confirmed the approach to CRC modeling used to address multiple variables that can affect travel demand, including gasoline prices, tolling, travel demand measures, and induced development.

## COSTS

*How accurate are the project cost estimates, and how would the project be funded?*

The LPA includes the replacement of the existing I-5 bridges over the Columbia River, improvements along a 5-mile segment of I-5, including seven interchanges, and the extension of light rail from Portland to Vancouver. The projected costs to construct this large and complex project are presented in Chapter 4 of the FEIS, and are estimated in year-of-expenditure dollars to account for inflation. The estimated cost to construct this project would be covered by a variety of funding sources, as described in Chapter 4. While a portion of this cost is expected to be covered by local and state funds, federal funds and toll revenues are expected to cover the majority of the capital costs.

Cost estimates for the project were developed using the Cost Estimate Validation Process® (CEVP), a WSDOT methodology to help deliver major projects. CEVP® expresses schedule and cost as ranges rather than as single numbers, which accounts for risk factors that might otherwise cause costs to balloon over time. Accounting for these risks increases the accuracy and overall reliability of the cost estimates.

## ENVIRONMENTAL JUSTICE AND TOLLING ISSUES

*Will tolling cause a disproportionate impact to low-income communities? What options for tolling have been evaluated?*

For low-income populations in both Oregon and Washington, the impact of tolling would be offset by project benefits and the options to avoid the toll (e.g., by using transit, biking, or walking on the I-5 crossing, or driving on the I-205 crossing) or to minimize the toll's impacts (e.g., by carpooling). Transit-dependent users would experience substantial travel time and reliability benefits, whether they are riding light rail transit or one of the express buses on I-5. The use of transponders to pay for tolls has the potential to cause an adverse and disproportionate impact on some low-income drivers (because it can require that drivers have either a credit card or bank account), although it would be mitigated through outreach and special

programs. See Section 3.5.8 of the FEIS for more information on mitigation for tolling and transponders. Similar information was also provided in Section 3.5.5 of the DEIS.

Without a toll, the project likely could not be funded. Even if the project could be built without a toll, the new capacity on the bridge would be filled faster if a toll was not implemented. Including a toll would reduce congestion, improve travel times, and could result in a slight improvement in air quality by reducing emissions, which would benefit all users. See Chapter 3, Section 3.5 of the FEIS for a description of all benefits of the project, including tolling, to EJ populations. Potential impacts to EJ populations would be offset by the provision of new transit options and other benefits in the project corridor, as discussed in Chapter 3, Section 3.5.8 of the FEIS.

#### OIL DEPENDENCE

*Will the project increase or decrease dependence on oil?*

There is no single cause of changes to the region's dependence on oil. The LPA includes substantial changes to the river crossing's transportation infrastructure and operations (extension of light rail transit, addition of tolling, and elimination of bridge lifts) that would reduce, not increase, future automotive demand and petroleum use. The LPA would increase daily transit ridership and reduce the number of cars traveling over the I-5 bridges, compared to the No-Build Alternative. This increase in transit usage and decrease in auto travel is expected to reduce automotive petroleum consumption. The reduction in congestion and accidents and the elimination of bridge lifts would also improve fuel efficiency and thus further reduce petroleum use.

#### SEISMIC SAFETY

*Why should the I-5 bridges be upgraded to be seismically safe if other bridges are not? Can the existing bridges be retrofitted to make them safe?*

The I-5 bridges, like many older bridges, are not seismically sound and were not designed to survive a significant earthquake. In 1995, ODOT commissioned a study specifically to look at the lift spans of the I-5 bridges, which are considered the most vulnerable sections of the bridges. Vulnerabilities were found in the bearings, piles, piers, and lift span tower truss members. Both the northbound and southbound bridges have been identified as functionally obsolete bridges. This classification means they do not meet the geometric and/or load capacity criteria of the Interstate system. The fact that there are other bridges in the region that are seismically unsound does not diminish the importance of protecting the I-5 crossing from failure in the event of a significant earthquake.

#### OTHER HIGHWAY BOTTLENECKS

*How will the additional lanes included with the proposed bridge feed into the current two-lane segment of I-5 at Delta Park? Will this worsen the bottleneck at the I-5/I-405 split?*

The ODOT I-5 Delta Park widening project addressed the bottleneck south of the main project area. The Delta Park project, completed in fall 2010, widened the former two-lane segment of southbound I-5 to three lanes. There are

currently no specific plans to widen I-5 south of Delta Park. Neither the CRC project nor the Delta Park project is intended to address the southbound traffic congestion that currently exists near the I-5/I-405 split. The City of Portland is in the early stage of exploring options for the alleviation of congestion at this interchange; however, traffic analyses show that the I-5 CRC project would not worsen the congestion at the I-5/I-405 split.

#### INDUCED DEMAND AND DEVELOPMENT

*Will the proposed project increase urban sprawl in southwest Washington? Won't adding capacity to the highway increase traffic demand that would "clog" the new lanes?*

As described in Chapter 3, Section 3.4 of the FEIS, highway capacity improvements and access improvements can induce development in suburban and rural areas that were not previously served, or were greatly underserved, by highway access. The FEIS outlines a comprehensive analysis of the potential induced growth effects that could be expected from the CRC project. A review of national research on induced growth indicates that there are six factors that tend to be associated with highway projects that induce sprawl. These are discussed in Chapter 3 (Section 3.4) of the FEIS and the Indirect Effects Technical Report, which is included as an electronic appendix to this FEIS. Based on the comparison of those national research findings to CRC's travel demand modeling, Metro's 2001 land use/transportation modeling and 2010 Metroscope modeling, and a review of Clark County, City of Vancouver, City of Portland, and Metro land use planning and growth management regulations, the FEIS concludes that the likelihood of substantial induced sprawl from the CRC project is very low. In fact, because of its location in an already urbanized area, the inclusion of new tolls that manage demand, the inclusion of new light rail, and the active regulation of growth management in the region, the CRC project would likely reinforce the region's goals of concentrating development in regional centers, reinforcing existing corridors, and promoting transit and pedestrian-friendly development and development patterns. Similar information was also provided in Chapter 3, Section 3.4 of the DEIS.

In October of 2008, the project convened a panel of national experts to review the travel demand model methodology and conclusions that were described in the DEIS, including a land use evaluation. The panel unanimously concluded that CRC's methods and the conclusions were valid and reasonable. Specifically, the panel noted that CRC would "have a low impact to induce growth...because the project is located in a mature urban area," and that it would "contribute to a better jobs housing balance in Clark County...a positive outcome of the project." These results are summarized in the Columbia River Crossing Travel Demand Model Review Panel Report (Outwater et al. 2008).

In 2010, Metro used its Metroscope model to forecast growth associated with transportation improvements of a 12-lane river crossing and light rail to Clark College. The 12-lane option was evaluated because it would be the worst-case scenario in terms of potential induced growth impacts. The model forecasted the impacts with both a tolled and an untolled bridge. The Metroscope model showed only minimal changes in employment location and housing demand compared to the No-Build Alternative. Essentially, the model verified previous analyses that found the project would not significantly induce growth or

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

For a more detailed discussion regarding potential indirect land use changes as a result of the CRC project, including the likely land use changes associated with the introduction of light rail, please see Chapter 3 (Section 3.4) of the FEIS.

#### DEVELOPMENT OF ALTERNATIVES ANALYZED IN THE DEIS

*How were the alternatives developed? How was the public involved in recommending and evaluating alternatives? Why were “low build” alternatives not included in the analysis?*

Alternatives were selected for analysis in the DEIS based on screening and evaluation to determine how they met the project’s Purpose and Need, as well as other evaluation criteria developed through a public process. As part of this process, several options that would add little or no additional highway capacity, as well as those that would only increase capacity for autos or for trucks, were included. The analysis determined that in order for the project to meet the six “needs” included in the Purpose and Need, it had to provide at least some improvements to I-5. As described in Chapter 2, Section 2.7 of this FEIS, the public was extensively involved in the process of developing alternatives for inclusion in the DEIS. For example: public input helped develop and evaluate transit and river crossing improvements that were ultimately used to create alternatives; the public was involved in the process of evaluating the initial 12 alternative packages developed by staff; and the public provided extensive feedback on the five DEIS alternatives during the project’s formal 60-day comment period. As discussed in Chapter 2 and in Appendix B (included as an electronic appendix to the FEIS), the project team continued to involve the public in refining the selected alternative (the LPA) during the development of the FEIS.

#### PUBLIC INVOLVEMENT

*What actions were taken to involve the public in the project leading up to publication of the DEIS?*

A public involvement program has been used to educate and involve stakeholders and the public in order for them to become active participants in shaping the CRC project. At the time of DEIS publication, the project team had participated in over 350 public events, giving over 10,000 people a face-to-face opportunity to learn about the project and provide meaningful input. In order to encourage the highest levels of attendance possible, most meetings were scheduled on weekday evenings or weekends during the day. Meetings have been held primarily within the main project area to ensure proximity to those potentially most affected by the project. In addition to public events, the program also enabled significant involvement for those who are unable to

attend meetings through an extensive web site and project update notifications. Prior to publication of the DEIS, property owners potentially affected by project alternatives were notified directly via mail, and six meetings specifically focused on potential right-of-way needs were held in September of 2007.

Extensive outreach has been conducted through distribution of written information in hard copy and electronic formats, including comment forms, the creation of a project Web site, and outreach to local and regional media. At the time of DEIS publication, the project's database had grown to over 3,000 email addresses and over 10,000 postal mailing addresses. Through implementation of the public involvement program, over 3,000 public comments were received before publication of the DEIS, and over 1,600 comments were received during the 60-day DEIS comment period. See Appendix B of this FEIS for a broader discussion of the public involvement program, including a list of public involvement events that have occurred related to this project.

#### SUPPLEMENTAL DEIS

*Will a supplemental DEIS be done?*

Extensive technical and public review and input has been included in all phases of the CRC project, from developing a Purpose and Need statement, to identifying and screening a wide variety of alternatives, to developing a DEIS and FEIS. A supplemental DEIS would be required if changes to alternatives after the DEIS are significant and/or if there are new significant impacts not previously discussed in the DEIS. Neither of these conditions exists for the project. The DEIS identified potential mitigation measures for all potentially significant as well as many non-significant impacts; the FEIS further analyzes and develops mitigation measures and plans to a higher level of detail and refinement. The Council on Environmental Quality (CEQ) NEPA regulations (40 CFR 1502.9(c)) do not require agencies to prepare a supplemental DEIS if an FEIS includes refined alternatives and additional information. Such changes are typical and expected in the planning process, and are consistent with CEQ and FHWA NEPA regulations. Changes to the project since the DEIS were addressed in NEPA "re-evaluations", that outline the changes to the project and changes in impacts. The reevaluations have been reviewed by FHWA and FTA, and they have determined that a supplemental DEIS is not required.

#### DEVELOPMENT OF PROJECT PURPOSE AND NEED

*How was the project Purpose and Need developed? Was it developed to focus on highway capacity?*

The project's Purpose and Need statement is based on extensive analysis of the existing and projected transportation problems in the I-5 CRC corridor, and reflects extensive feedback from the public and from stakeholder groups. The Purpose and Need statement focuses largely on metrics that do not inherently require substantial, or exclusive, increases in highway capacity. The statement is intentionally worded to allow consideration of a wide range of solutions, including demand management, transit, highway, tolling, and other options for addressing the stated needs. Following the development of the Purpose and Need statement, analysis of a wide range of alternatives, and input from



the public, agencies, and stakeholders on those alternatives and analysis, it became clear that the Purpose and Need statement would not be met by any single type of improvement. It would best be met by a multimodal alternative that improves highway, transit, and bicycle and pedestrian facilities in the I-5 corridor and adds tolling to the highway river crossing.

#### LIGHT RAIL VERSUS BUS RAPID TRANSIT

*Why is light rail preferred over buses, and what are the advantages of light rail?*

The CRC project's six local sponsor agencies selected light rail to Clark College as the project's preferred transit mode during the public agency input following the close of the 60-day DEIS public comment period in July 2008. These sponsor agencies—the Vancouver City Council, Portland City Council, C-TRAN Board, TriMet Board, RTC Board and Metro Council—considered the DEIS analysis, public comment, and a recommendation from the CRC Task before voting on the LPA.<sup>1</sup>

As discussed in Chapter 2 of the FEIS, light rail would provide quicker and more direct access to key destinations and provide greater capacity, which would help attract more daily and peak period transit riders than bus rapid transit. Bus rapid transit would cost less to construct, but would cost more to operate each year. Although it is more expensive to build initially, light rail attracts more riders and has lower operating costs over the project lifetime, and would therefore be more cost-effective than bus rapid transit. Additionally, research suggests that light rail is more likely to attract desirable development on Hayden Island and in downtown Vancouver, which is consistent with local land use plans.

#### TRANSIT SAFETY AND SECURITY

*How will the CRC project keep users of the new light rail system safe, and prevent crime on and near the new light rail facilities?*

Safety and security on and around light rail is a top priority for C-TRAN and TriMet. The light rail system would be designed to promote safe interactions between light rail trains, cars, bicycles and pedestrians and to discourage crime. Through a cooperative effort and the systematic application of safety and security principles, the project would be designed and constructed to run safely, securely, dependably, and efficiently.

A Safety and Security Management Plan (SSMP) was created, in part to address public concerns about safety, and is a requirement for funding from the FTA (TriMet and C-TRAN 2010). Safety would be designed into every phase of the project.

Examples of safety measures which may be designed into the project include:

- Physical barriers such as medians, fencing, landscaping or chain and bollard to help channel automobiles, pedestrians and bicyclists.
- Signage, tactile pavers, audible warnings, and pavement markings at the track crossing to alert individuals they are approaching tracks.

<sup>1</sup> The CRC Task Force is a group of stakeholders representative of the range of interests affected by the project; see the FEIS Public Involvement Appendix, Appendix B, for more information.



- Active treatments such as flashing lights, bells, illuminated and audible warning devices in traffic signals.
- Creating inviting, well-lit platforms and station areas.
- Maintaining clear sight lines for the oncoming train.
- Implementing a public safety education campaign before the start of service.

Additionally, the CRC project is using design strategies that have been proven to reduce the potential for crime at stations and on trains. The project has received input from advisory groups, jurisdictions, and the public to design a system that would enhance safety and security. Recommendations include, but are not limited to: locating stations near residential and commercial buildings; controlling pedestrian access to stations through the strategic placement of entrances and exits, fencing, lighting, and landscaping; lighting stations so that all activity is easily visible; and designing a clear line of sight into and out of the station.

The CRC project is working with the City of Vancouver and City of Portland police departments and with C-TRAN and TriMet security to promote passenger security on light rail trains and at stations and park and ride facilities. The project team has developed a security plan for the transit component of the project that outlines a variety of potential safety measures, including: working with local government to develop supportive land uses near transit stations; enforcing fare payment; installing closed-circuit TV at light rail stations, park and rides, and on trains; and patrolling stations and trains by transit security and local police officers. For more information about how safety and security associated with light rail are being addressed by the CRC project, see Chapter 3 (Section 3.1) of the FEIS.

#### CONTINUED OPERATION OF PEARSON AIRFIELD

*Can operations at Pearson Field be modified to allow for a tall, iconic replacement bridge?*

The protection of Pearson Field, though important from the perspective of historic resource protection, the local economy, the provision of public services, and preferences stated by the City of Vancouver, is one of the factors dictating bridge heights over the Columbia River. Possible intrusions into Portland International Airport airspace, maintenance of marine navigation, and constraints imposed by the location and alignment of the river crossing all limit the ultimate design of the bridge.

The CRC project has assumed that the Pearson Field would continue to operate as an active air field. There are a number of reasons that the field's continued operation is assumed, including:

- The Field is a historic resource and receives protection under the National Historic Preservation Act.
- Pearson Field performs multiple functions for commercial, educational, and recreational aviation. The air field also provides emergency response facilities in the event of natural or other disasters.

- The Vancouver City Council has clearly stated its preference to maintain air field operations. The Adopted Comprehensive Plan for the City includes Policy PFS-20 Airports, which states the City’s intent to “protect the viability of Pearson Field...”

## CONSTRUCTION EFFECTS

*How will the CRC project minimize the impacts of construction on the environment and community?*

Throughout the planning process and construction, the CRC project is committed to minimizing adverse construction-related environmental and community effects. Potential temporary effects, and potential measures to avoid/reduce those effects, are described in each section of Chapter 3 of the FEIS. Proposed measures to mitigate these effects are also described in each section of Chapter 3 of the FEIS. These mitigation measures have been developed through consultation with federal, state, and local agencies and community stakeholders. These measures are intended to ensure that construction activities would comply with regulatory requirements and would minimize impacts to people living and working in the project area during construction.

As described in Chapter 3, Section 3.6 of the FEIS, the CRC project is committed to minimizing potential temporary utility service outages during construction. The project is especially aware of the sensitive circumstances on Hayden Island, where many vital utilities, such as water, sewer, and electricity, are located on bridge structures that would be replaced during construction.

The project team, through coordination with the utility owners and construction staging planning, would develop a Conceptual Utility Relocation Plan that indicates how utilities would be relocated, where they would be relocated to, how much the relocation would cost, and who would be responsible for the relocation (i.e., the DOT or the utility owner). This plan would also propose a schedule for when the utilities should be relocated in coordination with construction activities to minimize any potential temporary impacts to utility services. The project team would also work closely with the utility owners to ensure that any temporary outages are communicated to their customers.

Construction activities associated with transit and highway improvements have the potential to negatively and positively affect nearby businesses, as described in Chapter 3 (Section 3.4) of the FEIS. For example, construction could temporarily block visibility and access to specific businesses, cause traffic delays, and reroute traffic to detours, all of which could divert customers and hamper business activities. Potential positive construction effects could include increased spending in the project area during construction, which could, for example, increase sales at local shops and restaurants.

The project team would work to minimize negative business impacts and encourage positive impacts. Construction would be carefully planned to minimize road closures and to avoid completely closing access to businesses. When needed, signs would be used to identify temporary access points and the businesses they serve. Detours would be carefully routed to reduce travel

times and include signage to reduce confusion. Programs to help businesses affected during construction would include some combination of the following: business planning assistance, marketing and retail consulting, and promotions to generate patronage in construction areas. These programs would be provided by TriMet; similar programs have been employed on recent light rail extension projects. TriMet and C-TRAN are committed to small business assistance during construction. The City of Vancouver is planning to establish a Growth and Transportation Efficiency Center. This center would be charged with improving transportation efficiency and would develop and administer a construction communication and mitigation plan, which would be funded as part of the mitigation for project impacts. See Chapter 3 (Section 3.4) of the FEIS for more discussion of temporary construction effects and possible mitigation measures.

#### NUMBER OF LANES

*How many lanes will the I-5 bridge have? How was this decision made?*

The DEIS evaluated highway alternatives with cross-sections ranging from 8 to 12 lanes at the river crossing. Following the July 2008 adoption of the LPA, the CRC Project Sponsors Council (PSC) met several times to discuss the number of lanes, noting concerns and interests about this design element of the project. The discussion included how the number of add/drop lanes relates to safety and mobility, traffic diversion, greenhouse gases, and congestion; how they might indirectly affect traffic demand and land use; and the need to build this bridge to meet long-term regional needs. In addition to the technical information, PSC received input from CRC advisory groups; reviewed public comment submitted directly to the project office; and reviewed comments obtained during two public question and answer sessions in January 2009 regarding the number of lanes decision, as well as hearings conducted by Portland City Council and by Metro Council. In March 2009, PSC made a recommendation of 12 lanes, with the condition that a bi-state Columbia Crossing Mobility Council be formed to monitor the performance of the river crossings and advise WSDOT, ODOT, and the transit districts on adapting demand management measures to optimize performance. Following more than a year of additional analysis, including refined cost estimates, MetroScope modeling, and updated traffic analysis, the PSC returned to the question of the number of lanes. After considering updated analyses and after extensive input was provided by the public and key stakeholders, the PSC recommended (on August 9, 2010) that a 10-lane facility be forwarded as the Locally Preferred Alternative. For more information regarding this decision process, see Chapter 2 (Section 2.7) of the FEIS.

The proposed new lanes are add/drop lanes (i.e., lanes that connect two or more interchanges), which are used to alleviate safety and congestion issues associated with the closely spaced interchanges in the project area, and to accommodate the 68 to 75 percent of traffic that enters and/or exits I-5 within 2 miles of the Columbia River.

## HEALTH IMPACTS

*How did the CRC project evaluate potential health impacts of the proposed improvements? Did the DEIS evaluate the projects' potential effects on physical activity and obesity?*

The DEIS and FEIS analyses of impacts to air quality, noise, electromagnetic fields, and other factors that can affect human health are based on comparing the project's impacts to specific standards that have been established to protect public health. The criteria used in the DEIS and the FEIS are based on government regulatory standards, where these standards have been established (such as for criteria air pollutants). Where regulatory standards do not exist, the criteria are based on government agency guidelines or thresholds established by public health and safety professionals.

Modeling conducted for the FEIS and DEIS indicate that air emissions from I-5 traffic would be significantly lower by 2030 than they are today, and would be well below established regulatory standards designed to protect human health (see Section 3.10 of the FEIS and Section 3.10 of the DEIS). Noise impacts from I-5 traffic, with the mitigation proposed for the CRC project, would also be substantially lower than today. Noise from light rail operation can be mitigated to be below FTA's noise impact criteria as well (see Section 3.11 of the FEIS and Section 3.11 of the DEIS).

The FEIS and DEIS did not explicitly evaluate potential effects on physical activity or obesity. However, the FEIS and DEIS both discuss how the project would affect the surrounding urban form in ways that would increase opportunities for physical activity, including: improved bicycle and pedestrian facilities crossing the river; improved connections between existing and new bicycle and pedestrian paths and across I-5; the light rail transit extension and transit stations that support increased pedestrian-oriented development; improved sidewalks in Vancouver; and new pedestrian and bicycle connections crossing I-5. The project would also reduce daily hours of congestion on I-5 compared to the No-Build scenario and provide greatly improved transit service, both of which decrease the amount of time travelers spend in cars, thus further allowing for physical activity.

## FREIGHT MOBILITY

*How will the project improve freight mobility and access through the project area?*

The ability to efficiently move freight in the Vancouver/Portland region is critical to the overall health of our economy. As such, the CRC project is designed to improve freight mobility on I-5, as well as make it safer and easier for trucks to get on and off I-5 to reach businesses and port facilities. The Freight Working Group, comprised of representatives of the Vancouver-Portland metropolitan area's freight industry, met several times throughout the process to advise and inform the Columbia River Crossing project team about freight issues. The group provided insight, observation, and recommendations about the needs for truck access and mobility within the corridor; characterized the horizontal and vertical clearances, acceleration/deceleration, and stopping performance needs of trucks that must be accommodated; and provided meaningful comments on the effect

of geometric, regulatory, and capacity changes on truck movements in the corridor. See Chapter 3 (Section 3.1) of the FEIS for a detailed discussion of how the project affects freight mobility and access along I-5 and in the region.

## BICYCLE AND PEDESTRIAN IMPROVEMENTS

*How will the CRC project improve mobility and safety for bicyclists and pedestrians throughout the project area?*

As discussed in Chapter 3, Section 3.1 of the FEIS, a replacement bridge over the Columbia River would include dramatically improved bicycle and pedestrian facilities by providing:

- A new multi-use pathway over the Columbia River.
- Protections from traffic noise and debris for pedestrians and bicyclists on the river crossing.
- More direct connections on each side of the river, as well as pathway extensions that connect with existing or planned facilities and public transit.
- Many new or enhanced sidewalks, bike lanes, and crosswalks near the bridge.

Since the publication of the DEIS in May 2008, and the selection of the LPA in July 2008, the CRC project team has continued to work with the Pedestrian and Bicycle Advisory Committee and project partners to refine route and facility designs.

The CRC project team, in coordination with the CRC Pedestrian and Bicycle Advisory Committee, has looked at improved east-west connections for bicycles and pedestrians at each of the seven interchanges in the project area, and at the Evergreen Boulevard, 29th Street, and 33rd Street overpasses in Vancouver. The final design, as described in Chapter 2 (Section 2.2) of the FEIS, is the outcome of a long collaboration process.

## I-5 BRIDGE DESIGN

*How will the project team ensure the bridge is aesthetically pleasing?*

The CRC project design for interchanges, roadway elements, transit stations, and other facilities would be context-sensitive and would reflect the unique character of the surrounding area. CRC formed a 14-member, bi-state Urban Design Advisory Group (UDAG), made up of design professionals and neighborhood representatives to advise on the project's urban and architectural design. UDAG met 19 times between 2007 and 2011. All UDAG meetings are open to the public to attend and observe. Goals of the UDAG include achieving "design excellence that can be embraced by affected communities and users" and providing "a landmark bridge that is both inspired and inspiring and fully integrates the design and function of the structure with the urban design elements." Working closely with project designers, UDAG provided input and guidance on integrating the new facilities with the surrounding community. This work includes identifying significant iconography (e.g., symbols, patterns, etc.) that would reflect the history of the area, the Native American communities, early pioneers, and other significant themes.

The project team has already considered many elements in the bridge design, including visual, cost, and engineering factors related to different design options. As described in Chapter 3 (Section 3.9) of the FEIS, a new river crossing would increase the prominence of the bridge from all views, with the visual impact increasing with proximity to the bridge. The impact of this change would be lessened by the use of the stacked transit/highway bridge design, allowing the transit elements to be stacked underneath the vehicular lanes.

Possible improvements could occur as a result of the removal of the complicated truss structures and lift towers of the existing bridge. This change would open up views from I-5 of the Portland and Vancouver skylines, distant shorelines, rolling hills, and mountain profiles. Also, removal of the existing bridge structures from the immediate waterfront would visually open up much of the area immediately beneath the bridge along the river.

The project team has worked closely and extensively with the public and UDAG to address the subjective issues associated with the visual impact analysis. The project also sought to augment this analysis with a more quantifiable approach, and used the established methods of the FHWA to do so. Data collection and assessment methods follow the FHWA visual quality and aesthetics assessment methodology. This methodology was developed to provide objective consideration of the potential visual impacts resulting from transportation projects. The FHWA methodology has become an accepted framework for describing and analyzing a transportation project's visual effects and for developing the social and physical contexts for visual impact analyses. The outcome of this analysis is described in the CRC Visual and Aesthetics Technical Report, included as an electronic appendix to this FEIS. The project team has not considered this analysis to be the totality of aesthetic considerations.



## 6.4 Actions Taken in Response to Draft EIS Comments

Following the publication of the DEIS on May 2, 2008, the project actively solicited public and stakeholder feedback on the DEIS during a 60-day comment period. During this time, the project received over 1,600 written public comments. A variety of actions were taken in response to agency and public comments, such as refinements to alternatives, additional analysis, and corrections that are included in this FEIS.

All refinements to the LPA are described in Chapter 2, and changes in analysis, including updated modeling and inputs, are described in the appropriate sections of Chapter 3. Several changes to the analysis, modeling, inputs and design were the result of agency or public comments, and are highlighted below.

### 6.4.1 Tolling

There were several public and agency comments concerning the concept of tolling the project. In particular, in 2009 the Washington State Legislature directed WSDOT to evaluate tolls as a means to finance the bridge project in coordination with ODOT. In response, the CRC Tolling Study Committee was formed and charged with:

“evaluating the expected traffic diversion and funding contribution associated with tolling Interstate 5 (I-5), building awareness and engaging residents and bridge users in this preliminary discussion, coordinating with the transportation commissions and departments from both states, discussing a potential bi-state toll setting framework, and reporting back to the Governor and Legislature in 2010.”  
(Hammond et al. 2010)

As part of the evaluation, public outreach was conducted to gain information on public support and perceptions regarding tolling. The outreach found that there was support and some opposition to tolling during construction as a way to reduce costs, but there was a high level of opposition to tolling I-205. Overall, it was found that tolling as a funding source is not well understood. Many felt that federal or state funds should be sufficient. Finally, the outreach informed the committee that learning more about variable tolling did not affect attitudes.

### 6.4.2 Parks and Recreational Resources

Comments provided by the Department of the Interior on the DEIS alerted the project team to the existence of the Lewis and Clark National Historic Trail that runs through the project area on the Columbia River, and to the NPS-administered Federal Lands to Parks (FLP) Program, which conveys protection to a number of parks in the project area. Additionally, coordination with the Vancouver-Clark Parks and Recreation Department (VCPRD) and

Washington State Recreation Conservation Office revealed the state funding sources of Leverich Community Park and Vancouver Landing.

### **6.4.3 Water Quality and Hydrology**

Based on comments provided by the U.S. Environmental Protection Agency (EPA), additional information was compiled regarding the Troutdale Sole Source Aquifer (TSSA). This request was made in a letter from Christine Reichgott on July 1, 2008 (Reichgott 2008). Based on this request, the Draft TSSA report (Parametrix 2009) and SSA Checklist were completed. The project received an inquiry from a member of the Rose Village Neighborhood regarding the Sole Source Aquifer and potential impacts to the aquifer. The TSSA report was sent to this individual and subsequent discussions were had to ensure his understanding of the findings in the report. Additional comments on the TSSA Report were addressed in the FEIS Hazardous Materials Technical Report, Water Quality and Hydrology Technical Report, and Geology and Groundwater Technical Report.

### **6.4.4 Impacts at Floating Home Community and Mitigation**

In response to several comments concerning the unique aspects of relocating floating homes along the Columbia River and North Portland Harbor, additional outreach to these residents was conducted. This included a survey of potentially displaced residents, multiple meetings, and a replacement marina feasibility study.

The CRC project has worked directly with the JBMI residents, board, and moorage manager and indirectly through JBMI's membership and regular attendance at meetings of HINooN, the Hayden Island neighborhood association. Two JBMI residents, one whose home is expected to be displaced by the project, are long-standing members of project advisory groups and have provided ongoing advice on reaching out to the general public, informing moorage residents, and ensuring that comments from moorage residents reach project staff.

Due to the potential displacement of residences at JBMI, and at the request of JBMI residents, project staff conducted a specific demographic survey to better understand the characteristics of moorage residents related to race and income. Based on the need for residence-specific data, an additional moorage survey was conducted between the DEIS and FEIS to explore any site-specific potential for high, disproportionate and adverse effects to low-income or minority populations. This survey was prepared in close coordination with the JBMI Board. Board members provided feedback on draft survey questions, administration procedure, the number of residents to be surveyed, and planning for JBMI-specific right-of-way meetings.

CRC staff received inquiries about the potential for constructing a new marina to accommodate displaced floating homes. To better understand issues related to new marina permitting and construction, project staff conducted research on the development of marinas. This research found likely challenges to developing a new floating home marina, including the challenge of receiving

permits through local jurisdictions and environmental resource agencies. The project is not pursuing construction of a floating home marina.

### **6.4.5 Ecosystems**

Several comments were received about the protection of natural resources, including species and habitats. Several actions were taken in preparation of the FEIS that were at least in part due to these comments.

Stormwater treatment was an area of concern in several comments. The project team responded to these concerns and strengthened the planned best management practices (BMPs) for stormwater treatment design. This included upgrading existing water quality treatment in several areas. Additionally, stormwater quality treatment at the light rail transit facilities was increased.

Partly based on comments on the DEIS, a design option for the Marine Drive interchange that had direct impacts to the Vanport Wetlands was eliminated before the development of the FEIS. In other areas of the project, designs were refined to minimize impacts to wetlands.

Comments on the DEIS included concerns about how construction practices could impact the Columbia River. Designs were refined to minimize in-water construction impacts. This included changing bridge pier construction from large-diameter driven piles to drilled shafts, and partially vibrating-in the temporary piles that do need to be impact driven. These measures would decrease the effects of underwater noise.

## 6.5 Identification of the LPA

Outreach activities related to the selection of the LPA were conducted in conjunction with outreach on the DEIS. Outreach and public comment opportunities specific to the LPA included the following:

- CRC Task Force met June 24, 2008, to hear public testimony and vote on an LPA recommendation.
- Portland City Council voted on their LPA resolution on July 9, 2008, after hearing public testimony.
- Metro Council held a public work session on May 27, 2008, and a public hearing on June 5, 2008, and voted on July 17, 2008, on an LPA resolution.
- Vancouver City Council held a work session on June 23, 2008, and a public hearing on June 30, 2008, and voted on July 7, 2008, on their LPA resolution.
- The C-TRAN Board held a public hearing on June 10, 2008, and held a public hearing and vote on July 8, 2008, on their LPA resolution.
- The TriMet Board conducted a public work session on May 28, 2008, and voted on July 9, 2008.
- Southwest Washington Regional Transportation Council held a public work session on June 3, 2008, and a public hearing on July 9, 2008, and voted on July 22, 2008, on their LPA resolution.

Each board and council passed a resolution on the LPA, a replacement bridge with light rail to Vancouver. Agencies attached a variety of considerations to their resolutions, some of which were in conflict. CRC project staff has worked with agencies to incorporate areas of agreement and clarify areas of disagreement as the design of the project has progressed.