I-5 Willamette River Bridge

Eugene & Springfield

Revised Environmental Assessment

November 2008

Federal Highway Administration

Oregon Department
of Transportation

Federal Highway Administration
Finding of No Significant Impact
For
I-5 Willamette River Bridge Project, Bundle 220
Lane County, Oregon

The Federal Highway Administration (FHWA) has determined that the I-5 Willamette River Bridge Project will not have a significant impact on the human or natural environment. This finding is based on information provided in the Environmental Assessment (EA) (January 2008) and the attached Revised Environmental Assessment, which have been found to accurately and adequately disclose the environmental impacts of the proposed project. These documents provide sufficient evidence and analysis in determining that an environmental impact statement is not required.

The Build Alternative has been selected for implementation. This alternative will replace the existing and decommissioned I-5 bridges over the Canoe Canal and bridges over the Willamette River, Franklin Boulevard, and Union Pacific Railroad tracts with new bridges. The EA contains descriptions of the estimated impacts associated with the proposed project. Anticipated environmental impacts would include: impacts to the Willamette River from removal of existing bridge piers and construction of new piers; impacts to the Whilamut Natural Area of Alton Baker Park during construction; and noise impacts from construction and operations. The temporary occupancy of the Alton Baker Park (in Eugene) during construction will have a *de minimis* impact on the park, as defined by Section 4(f) of the Department of Transportation Act of 1966 and 23 CFR 774. Temporary occupancy of more than 180 days will also result in a conversion of the park to non-recreation use, which requires providing replacement property in accordance with Section 6(f) of the Land and Water Conservation Fund Act. ODOT will work with the Eugene Parks and Open Space Division, Oregon Parks and Recreation Department, and the National Park Service to complete the conversion requirements. The National Park Service must approve the LWCF 6f conversion prior to beginning construction action on the project. Avoidance, minimization, and mitigation measures, including meeting the Oregon Transportation Investment Act (OTIA) III Environmental Performance Standards, will offset environmental impacts.

Construction is expected to begin in 2009 and continue through 2012. The project will comply with all federal, state, and local regulations.

The FHWA takes full responsibility for the accuracy, scope, and content of the attached Revised Environmental Assessment.

11/24/08
Date

Philip A. Ji
Federal Highway Administration Official
Oregon Division

Alternative Format Availability

In compliance with the Americans with Disabilities Act, alternative formats of this document will be made available upon request.

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Acronyms and Abbreviations

ADT	average daily traffic
BMP	Best Management Practices
CAG	Community Advisory Group
CMCS	Comprehensive Mitigation/Conservation Strategy
CPC	Citizen Planning Committee
CS^3	Context Sensitive and Sustainable Solutions
dBA	A-weighted decibels
DEQ	Department of Environmental Quality
DLCD	Department of Land Conservation and Development
DPS	Distinct Population Segment
DSL	Department of State Lands
EA	Environmental Assessment
EC	Eugene Code
EPS	Environmental Performance Standards
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FT	federally threatened
GIS	Geographic Information System
I-5	Interstate 5
LCOG	Lane Council of Governments
Leq	equivalent sound level
LRAPA	Lane Regional Air Protection Agency
LWCF	Land and Water Conservation Fund
MBTA	Migratory Bird Treaty Act
Metro Plan	Eugene-Springfield Metropolitan Area General Plan
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
OAR	Oregon Administrative Rules
OBDP	Oregon Bridge Delivery Partners
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OHW	ordinary high water
OPRD	Oregon Parks and Recreation Department
ORNHIC	Oregon Natural Heritage Information Center
ORS	Oregon Revised Statutes
OTIA	Oregon Transportation Investment Act
PARIT	Programmatic Agreements Reporting and Implementation Team
PDT	Project Development Team

POS	Eugene Parks and Open Space Division
REA	Revised Environmental Assessment
ROW	right-of-way
SAFETEA-LU	Safe, Accountable, Flexible, Efficient, Transportation Equity Act; A Legacy for Users
SDC	Springfield Development Code
SHPO	State Historic Preservation Officer
T&E	threatened and endangered
TMP	Traffic Management Plan
TransPlan	Eugene-Springfield Transportation System Plan
UGB	Urban growth boundary
UPRR	Union Pacific Railroad
USACE	United States Army Corp of Engineers
USFWS	United States Fish and Wildlife Service
WPRD	Willamalane Park and Recreation District

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1.0 INTRODUCTION

1.1 Project Description

The Oregon Department of Transportation (ODOT) and the Federal Highway Administration (FHWA) propose replacing the existing bridges on I-5 over the Willamette River in Lane County. Interstate 5 (I-5) runs generally in a north-south direction, with the City of Eugene on the west side and the City of Springfield on the east side (Figure 1: Vicinity Map and Figure 2: Project Area). The project area is located within the urban growth boundary of both cities. The project would replace both the decommissioned bridge (completed in 1962) and the temporary detour bridge (completed in 2004 before the decommissioning of the existing bridge) with two new parallel bridges. In addition to crossing the Willamette River, the bridges also cross Franklin Boulevard and the Union Pacific Railroad (UPRR). The decommissioned and detour bridges over the Canoe Canal (also called "Patterson Slough") would also be replaced by two parallel bridges.

The I-5 Willamette River Bridge Project is part of the Oregon Transportation Investment Act (OTIA) III State Bridge Delivery Program, which involves the repair and replacement of more than 300 bridges statewide over a 10 year period. The I-5 Willamette River Bridge project is the largest project – both in terms of cost and the size of the bridges -- in the $1.3 billion OTIA III program.

The proposed project consists of the following main components: demolition of the decommissioned Willamette River Bridge, Canoe Canal Bridge, and detour bridges; construction of replacement bridges; and reconstruction of the roadway approaches to the bridges (I-5 and ramps). Proposed construction would include: construction and later removal of one or more temporary work bridges, rehabilitation of the project area, and completion of any required mitigation of project impacts. The new bridges would be constructed in about the same location as the decommissioned and detour bridges, but would require minor shifts of alignment, as well as adjustment of the connections to I-5 of the Franklin Boulevard ramps to meet the necessary raising of I-5 by approximately 5 to 10 feet (compared to the decommissioned bridge and depending on bridge type) where the bridge crosses Franklin Boulevard. The new bridges will be built with enough width to eventually carry up to six lanes of traffic to meet the 20-year design for future traffic needs. The width of the proposed new Willamette River Bridges would be 64 feet "curb-to-curb" for each direction (northbound and southbound); total width of each bridge would be about 68 feet. The project would also be designed to allow reasonable future improvements to the Franklin Boulevard corridor and to not prohibit possible future interchange improvements in the Franklin-Glenwood section. The bridges over the UPRR would be long enough to allow the addition of a third track. Although the bridges would be wider than the decommissioned bridge, additional travel lanes are not proposed as part of this project and the new bridge would be striped to match the existing travel lanes at both the north and south ends. The new bridges would meet current minimum safety and design standards for all travel needs typical on this section of I-5. The new bridges would have wide enough shoulders for cars and trucks to pull completely off the highway in case of emergencies. This would be a major safety improvement over the narrow shoulders of the decommissioned and detour bridges.

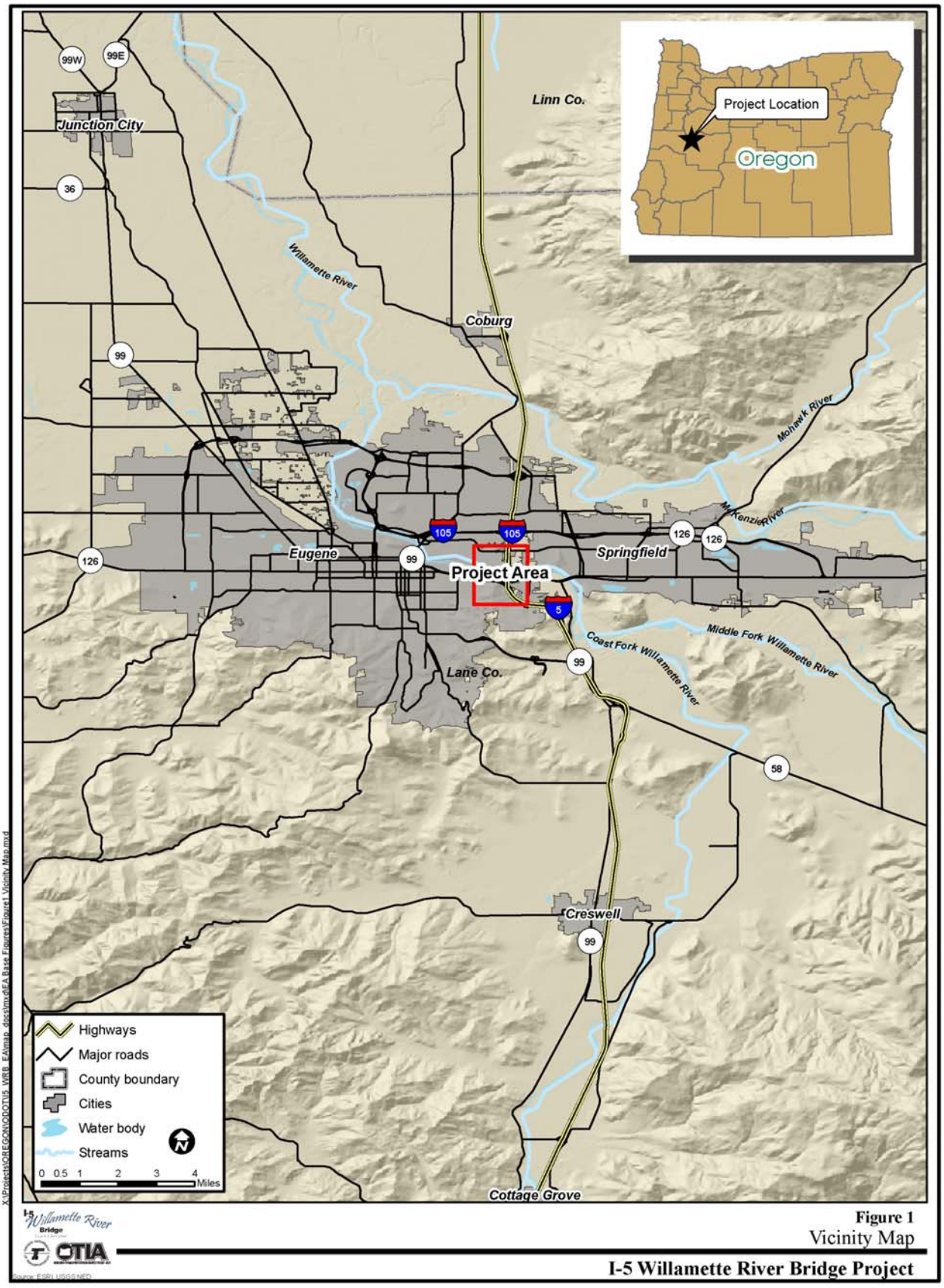
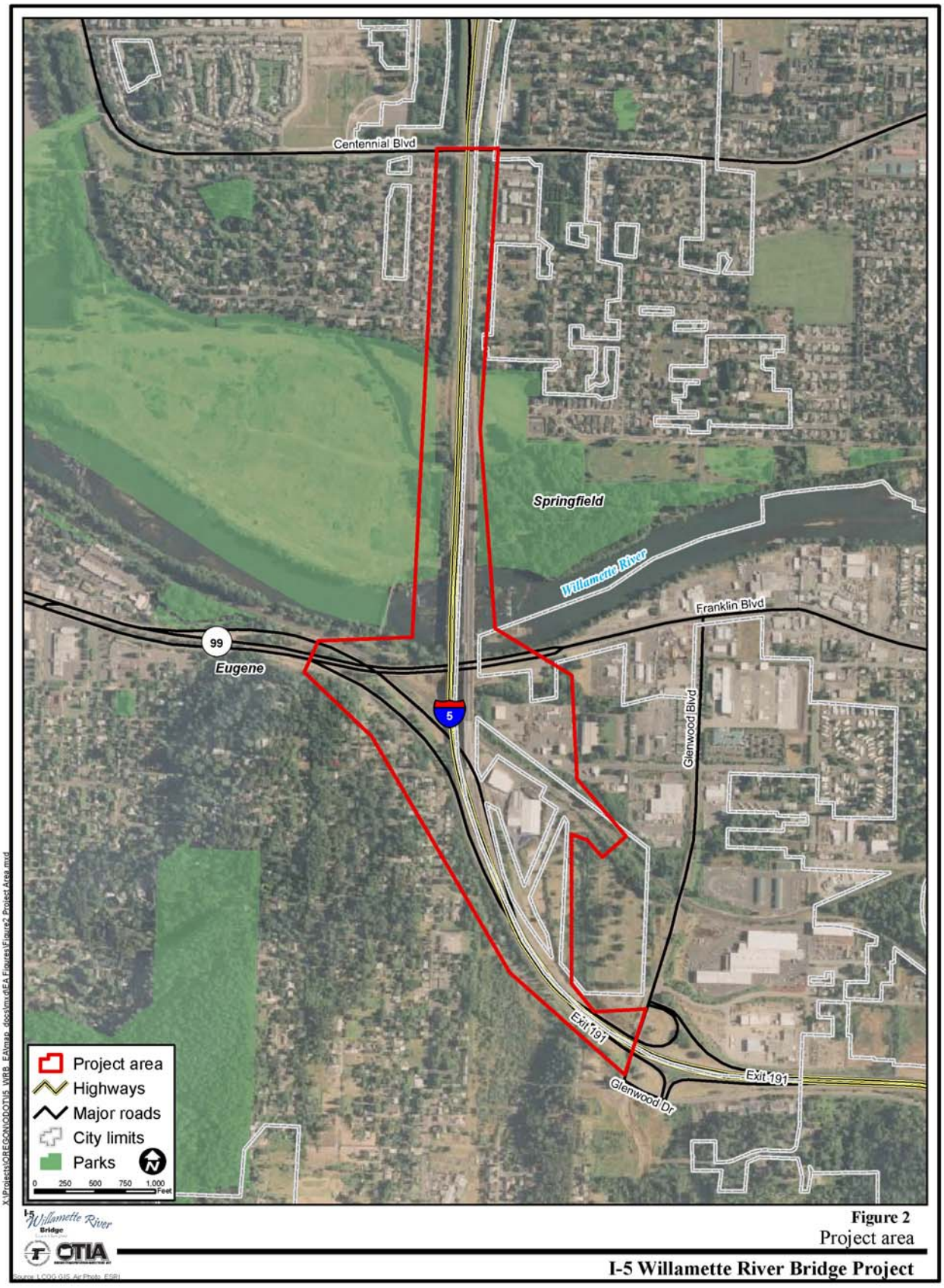


Figure 1
Vicinity Map

I-5 Willamette River Bridge Project


Centennial Blvd
Springfield
Willamette River
Franklin Blvd
99
Eugene
5
Glenwood Blvd
Exit 191
Exit 191
Glenwood Dr
Project area
Highways
Major roads
City limits
Parks
0 250 500 750 1,000 Feet
I-5 Willamette River Bridge
OTIA
Figure 2
Project area
I-5 Willamette River Bridge Project

The project is funded at $180 million, which includes NEPA (National Environmental Policy Act) review, design, right-of-way acquisition (if necessary), demolition, road work, bridges, ties to the existing transportation system, and all construction and inspection. Of the overall budget, about $70 million is for the bridges crossing the river, railroad, and Franklin Boulevard. This includes about $10 million earmarked for additional aesthetics for the bridge. Funding comes from the following sources:

- OTIA III — $150 million.

- Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA-LU), a federal transportation funding package — $30 million.

The traffic capacity of I-5 would not change as a result of the proposed bridge replacement. No additional lanes, channelization changes, or speed zone changes are planned. Temporary construction easements may be required from Willamalane Park and Recreation District and/or the cities of Springfield and Eugene for construction activities in the project area. Environmental mitigation and/or enhancement construction activities may need to be accomplished outside ODOT's current right-of-way. Impacts to riparian areas (i.e., the areas immediately adjacent to the Willamette River and the Canoe Canal) from construction activities would be mitigated on-site as much as possible. Coordination for off-site mitigation, mitigation banking, or replacement property needed for mitigation of parks impacts would be ongoing throughout project development.

1.2 Purpose and Need

1.2.1 Purpose of the Project

The purpose of the proposed project is to improve safety and maintain connectivity and mobility for all users of I-5 over the Willamette River in the Eugene/Springfield Metropolitan Area.

1.2.2 Need for the Project

An inspection of the existing I-5 Willamette River Bridge in 2002 found it to have major structural problems that threatened the stability and safety of the bridge. The bridge is cracked in many places. The inspection resulted in a sufficiency rating of 20 on a 100 point scale. A bridge qualifies for replacement funding from the Federal Highway Bridge Replacement and Rehabilitation Funding Program if it has a sufficiency rating of less than 50. Based on this analysis, weight limits were placed on the bridge that required a 200-mile detour for heavy haul trucks. To eliminate this problem, a temporary detour bridge was built in 2004 and the existing Willamette River and Canoe Canal bridges were taken out of service.

The decommissioned Willamette River Bridge (constructed in 1962) cannot feasibly be repaired or widened to accommodate the traffic flow and vehicle capacity demands that are projected 20 years in the future. ODOT estimates that it would cost about $50 million to repair the decommissioned bridge to keep it in service for 20 more years. Those repairs would not widen the bridge.

The decommissioned bridge does not meet current design standards. It was designed using bridge standards that are no longer appropriate for the size of longer, heavier

modern freight trucks. The bridge also has substandard shoulders that do not provide enough room for disabled vehicles to move completely out of the travel lanes, creating a safety problem.

The detour bridges over the Willamette River and Canoe Canal carry both the northbound and southbound lanes on a single bridge. New bridges are proposed to each carry traffic in one direction.

The existing bridges will not meet future traffic demands. The current average daily traffic (ADT) on I-5 in the project area is about 49,000 vehicles and is predicted to increase to roughly 73,000 ADT by 2030. Both the existing and detour bridges have four travel lanes, two in each direction. Six travel lanes, three in each direction, will be needed to handle the predicted 2030 traffic volumes. Replacement bridges would be wide enough for three lanes in each direction but would be striped for two lanes in each direction to match the number of lanes currently on I-5 in this area. NEPA environmental analysis will be required if and when additional lanes are added to I-5 in this area.

All traffic is now using the temporary detour bridge built in 2004, which does not meet current earthquake standards. In addition, the construction methods used to build the bridge only meet environmental requirements as they apply to temporary, not permanent, bridges.

Alton Baker Park is located on both sides of I-5 on the north bank of the river. All public parks are protected under Section 4(f) of the Department of Transportation Act of 1966, which prohibits taking land from a public park for a transportation project unless there are no prudent and feasible alternatives. It appears that the replacement bridges could be built within the existing permanent right-of-way and additional right-of-way from the park would not be needed. To fit the proposed project within ODOT's right-of-way, retaining walls along the fill slopes within Alton Baker Park would be needed. Keeping the project within permanent ODOT right-of-way bars any major alignment shift.

1.3 What is the Purpose of This Document?

This Revised Environmental Assessment (REA) for the I-5 Willamette River Bridge Project supplements the Environmental Assessment (EA) that was published in January 2008. The REA describes the selected alternative and the reasons for its selection, identifies changes and additions to the EA, summarizes the mitigation and conservation measures that will be implemented, and includes public and agency comments on the EA with ODOT and FHWA's responses. The REA provides a resource for a decision by ODOT and FHWA on moving forward with the I-5 Willamette River Bridge Project, and supports a Finding of No Significant Impact (FONSI).

The EA and the technical reports prepared to support the EA are available on ODOT's project website at http://www.oregon.gov/ODOT/HWY/REGION2/I-5WRB.shtml. Hard copies of the EA or REA are available upon request from ODOT.

1.4 How is this Document Organized?

The REA is organized in a similar fashion to the EA. General project information is presented in Section 1. Section 2 describes the Selected Alternative and the reasons for its selection.

Section 3 presents changes and additions to the information presented in Section 3 of the EA (Affected Environment and Environmental Effects). Additions and changes were made in response to public and agency comments on the EA and to incorporate updated information that has become available since publication of the EA. Changes to the EA are displayed in the "strike-through/underline" format – deleted text is crossed out (e.g., ~~crossed out~~) and new text is <u>underlined;</u> all other text in Section 3 is identical to what was in the EA. The structure of this section mirrors that of Section 3 of the EA; however, only those subsections for which there are changes are included in the REA.

Section 4 presents mitigation and conservation measures to be implemented as part of the project. Like Section 3, this section presents the identical text from the EA with changes and additions to what was presented in the EA in strike-though/underline format.

Section 5 presents a summary of the public involvement and input, including comments received on the EA. Section 6 describes compliance with federal, state and local planning and permitting requirements, and Section 7 presents the references cited in the REA. Appendices present the public comments on the EA and responses, and updated noise information.

2.0 SELECTED ALTERNATIVE AND REASONS FOR SELECTION

Two alternatives for the I-5 Willamette River Bridge Project were evaluated in the EA: the Build and the No Build. After review of the impact analysis presented in the EA, and consideration of comments received from the public and interested agencies, ODOT and FHWA have selected the Build Alternative, which includes several design options, for the I-5 Willamette River Bridge Project.

There are no major changes to the alternative descriptions presented in the EA.

The No Build Alternative assessed in the EA included demolishing the decommissioned bridges over the Canoe Canal and Willamette River, and upgrading the detour bridges to meet current earthquake standards. The upgraded detour bridge would have substandard shoulder widths. It is estimated that upgrades to the detour bridges would cost $10 million to $15 million, not including demolition of the decommissioned bridges and other related costs.

As documented in the EA, the Build Alternative includes the following elements:

- Remove the existing decommissioned I-5 bridges and temporary detour bridges over the Willamette River, Franklin Boulevard, and the UPRR tracks, and the bridges over the Canoe Canal.

- Construct new I-5 bridges over the Willamette River. These bridges would cross the river, Franklin Boulevard, and UPRR. Parallel bridges would be constructed – one for northbound and one for southbound traffic – and would be about 1800 feet long.

- Construct new I-5 bridges over the Canoe Canal; the parallel bridges would each be about 200 feet long.

- Reconstruct highway approaches to the I-5 bridges.

- Adjust the Franklin Boulevard on/off ramps to match the slightly modified bridge alignment.

Each bridge would be 64 feet wide (curb-to-curb). When construction is complete, each bridge would be striped for two lanes to match the existing approaches. The new bridges would be wider than is necessary to carry two lanes; the additional width would provide flexibility to add lanes if I-5 is expanded in the future. There are currently no plans to expand I-5.

Based on public and agency input and environmental conditions, one of the highest priority project development objectives is to minimize the number of piers in the river and riparian area. In addition, the form and architectural aesthetics of the bridge are important project objectives. Consequently, multiple bridge types have been identified that can conform to the pier placement constraint. Other important features of the proposed bridge design include avoiding or minimizing impacts to Alton Baker Park, which surrounds I-5 north of the Willamette River, and avoiding or minimizing acquisition of new right-of-way.

2.1 Design Options

The Build Alternative evaluated for the EA included design options for pier locations and bridge type. Based on the best available information at the time of the EA's preparation, all design options could have been delivered within the project budget, would occur within the same general "footprint," and would have equivalent environmental impacts. However, updated analysis based on a greater level of design and construction cost estimates indicated that several of the bridge type options that were considered cost-feasible are now beyond the budgetary limits of the project described above. Feasible bridge type options are discussed in Section 2.1.2 below.

Two pier-location design options (described below) for the bridges over the Willamette River are included in the Build Alternative. Both design options minimize the number of piers in the river and riparian areas to the extent possible while staying within the project budget; they retain design flexibility related to bridge type, materials, and aesthetic treatments.

2.1.1 Pier Location Options

Two pier-location options for the bridges over the Willamette River (Option A and Option B) are included in the Build Alternative. These options are illustrated schematically in Figure 4 in the EA. Under Option A each bridge would have two main spans about 390 feet in length. For each bridge, one pier would be located on the north shore above ordinary high water, one pier would be located near the middle of the river, and one pier would be located on the south shore (close to Franklin Boulevard) above ordinary high water.

Under Option B each bridge would have two main spans about 360 feet in length over the river. One pier for each of the bridges would be located on the north shore above ordinary high water, one pier would be located near the middle of the river, and one pier would be in the river near the south shore area below ordinary high water (near an existing power line tower).

The final location of the piers will depend on a number of factors, including aesthetics, hydraulics, bridge type, and other environmental considerations. The exact pier locations will be determined during final project design.

2.1.2 Bridge Type Options

The EA considered multiple design options for bridges that could be constructed with the two pier location options. The bridge type options were developed in part to retain design flexibility related to bridge form, materials, and aesthetic treatments as well as to allow flexibility to the engineers to design an economical bridge that also meets community requirements. As such, ODOT and FHWA did not intend to select a specific bridge design as part of the NEPA process. ODOT has worked with the bridge designer and contractor involved to evaluate the optional bridge types. Both the designer and contractor are under contract to allow for collaboration among the designer, construction contractor, ODOT, and the community to select the bridge type. ODOT has also engaged the community through public events and on-line surveys to gather information on public preferences and values regarding the bridge type and aesthetic issues.

Some of the bridge types considered could have used either of the pier location options; however, other bridge types under consideration could only have been used with one of the pier location options. These are discussed below.

The new Willamette River bridges would have three individual segments: (1) over the river; (2) over Franklin Boulevard; and (3) over the railroad. The segment over the railroad would also cross the recreation trail and the I-5 off-ramp to Franklin Boulevard. Each segment could have a different type of bridge. Selection of the bridge type for each segment is dependent primarily on meeting design standards, aesthetic considerations, and budget.

Segment over the Willamette River

In the EA, bridge type options considered for the segment over the Willamette River were: I-girder, box girder, through arch, or deck arch. The I-girder and deck arch could be used with either pier location option. A box girder or through-arch bridge over the river that continues over Franklin Boulevard could only be used with pier location Option B; however, pier location Option A could be used if a box girder or through-arch over the river is combined with an I-girder bridge over Franklin Boulevard. This is due to the depth of the box near the pier and the need to maintain a minimum vertical clearance over Franklin Boulevard. Because the arches would be located outside of the roadway portion, the through-arch bridge type would be wider than the other bridge types. Each bridge would be about 80 feet wide, including the arch. The bridge type options considered in the EA are illustrated in Figure 5 of the EA.

Following publication of the EA, ODOT selected the design firm and construction firm for the project; these firms began a collaborative, detailed evaluation of the design options with ODOT. Based on this evaluation, several of the design options were determined to be outside the budgetary limits of the project; these options included the box girder and through arch. The cost estimate differences between the concepts evaluated in the EA and the more refined alternatives are attributable, in large part, to a steep increase in the cost of steel, concrete, and other construction items. These increases far exceeded the historical yearly increases in costs and were not anticipated during preparation of the EA.

Segment over Franklin Boulevard

The new bridges would be about 10 feet higher than the decommissioned bridge to provide more clearance over Franklin Boulevard. The additional clearance at Franklin Boulevard is to provide flexibility to local jurisdictions for future improvements to the Franklin Boulevard corridor. Additional clearance is also required to meet current vertical clearance requirements for state highways. Although there are no specific plans for future improvements to Franklin Boulevard, the proposed clearances (a maximum opening width of 104 feet) would allow the addition of turning or through lanes, sidewalks or bicycle/pedestrian paths, transit lanes, aesthetic treatments, or other improvements.

Any of the bridge types described for use over the river segment could be used over Franklin Boulevard except the deck arch because it would not provide the required vertical clearance. If a deck arch is used over the Willamette River, a different bridge type will likely be needed over Franklin Boulevard and the railroad. A box girder bridge type could be used over Franklin Boulevard, but pier location Option B would have to be used.

Figure 3
Location of Proposed Replacement Bridges
I-5 Willamette River Bridge Project

Segment over the Railroad

This segment of the bridge will meet UPRR requirements and will likely be a steel or precast concrete girder type structure.

2.2 Roadway Elements

About 2,500 feet of I-5 would be reconstructed to connect with the new bridges. This would include minor horizontal realignment and raising the elevation of the roadway.

Roadway elements also include modifications to the on- and off-ramps to Franklin Boulevard. These modifications would be necessary to connect the ramps to the shifted alignment and raised elevation of I-5. The southbound on-ramp would be raised and would likely need a retaining wall on its west side to avoid impacts to adjacent power lines.

2.3 Duration and Sequence of Construction

Implementation of the Selected (Build) Alternative would take about four years. As currently planned, demolition would begin in 2009, and construction would begin in 2010 and continue through 2012. Demolition of the existing bridges and construction of the new facilities would require four summers of in-water work.

The actual sequence of construction has not been determined, but a likely sequence could be:

- Construct temporary work bridge(s) over the Willamette River (these bridges would be for construction activities only and would not carry traffic). A temporary work bridge would not be constructed for the Canoe Canal bridges.
- Remove the decommissioned bridges.
- Construct new southbound bridges and connecting roadway.
- Temporarily put both directions of I-5 traffic on the new southbound bridge.
- Remove the detour bridges and construct temporary work bridge.
- Construct the new northbound bridges and connecting roadway.
- Remove the work bridge and restore the project area.

Traffic would be maintained on I-5, Franklin Boulevard, the railroad, and the bicycle/pedestrian paths throughout construction. Some short term road closures may be required, but these would be limited to a few hours. It may be necessary to close portions of the bicycle/pedestrian paths for longer periods (i.e., up to several days). The path along the north bank may be closed for long periods of time (months) because it would not be safe to have the path open through an active construction site. A continuous route across ODOT right-of-way for the bicycle/pedestrian pathways will be maintained on both the north side and the south side of the river during construction.

The specific sequence of construction would be determined by the construction contractor with approval by ODOT. However, the contractor will not be allowed to construct the project in a manner that would increase the overall impacts of the project without addition environmental studies. Regardless of the sequence of construction, all mitigation measures would be applicable.

2.4 Rationale for Selection

ODOT has selected the Build Alternative for the following reasons:

2.4.1 Purpose and Need

The Build Alternative meets the project purpose and need and addresses the goals and objectives established in coordination with the community. The No Build Alternative does not meet the purpose and need for the project.

2.4.2 Environmental Impact

There are no significant adverse impacts associated with the Build Alternative that would result in denial of permits or needed approvals and, therefore, render the Build Alternative unacceptable.

2.4.3 Public Input

Comments received on the EA generally indicated community support for the Build Alternative. Public concerns expressed in the comments included aesthetics, protection of the Whilamut Natural Area, maintaining bicycle and pedestrian paths, and environmental protection. Community input on aesthetics, environmental protection, and parks and open space, among other concerns, shaped the development of the pier location and bridge type options that are part of the Build Alternative.

There was an extensive effort to gather and incorporate public input into the NEPA process. Public involvement activities included public open houses, a public hearing on the EA, newsletters, project website; outreach to organized groups, such as neighborhood associations, and a Community Advisory Group (CAG). Multiple methods for the public and agencies to provide input were provided, including oral testimony at the hearing, written comments at open houses and hearing, through the website, through consultation with members of the CAG, and at other public outreach activities. Public input was provided to and considered by the Project Development Team (PDT).

2.4.4 Cost

At the time of the EA's publication, cost analysis indicated that the four bridge-type options in the Build Alternative could be constructed within the available budget identified for the project. As noted in Section 2.1.2 above, cost analysis based on more refined concepts for each bridge type has shown that the deck arch and I-girder bridge types would fit within the project budget and other options would not. Based upon input from the public through a survey, input from the CAG and the PDT, and cost and constructability considerations, ODOT selected the deck arch bridge type for the segment over the Willamette River.

2.4.5 Flexibility

The Build Alternative provides the design flexibility to allow the bridge design and constructor to work collaboratively with each other, the public, and ODOT in developing the final design for the project. This process can potentially identify time and cost savings while incorporating public interests and values, such as aesthetics and environmental protection.

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3.0 ADDITIONS AND CHANGES TO THE ENVIRONMENTAL ASSESSMENT

This section presents additions and changes to information presented in Section 3 (Affected Environment and Environmental Consequences) of the EA. Changes are displayed as follows: New text is underlined and deleted text is ~~crossed-out~~. The following subsections of the EA have been revised: Biology; Land Use; Noise, Section 4(f) and 6(f); Socioeconomics and Environmental Justice; and Transportation. Revisions were made in response to public comment and to incorporate changes or refinements that have occurred since the publication of the EA. Subsections with revisions are presented in their entirety, with the unrevised text taken directly from the EA. Section 4 of the REA presents mitigation measures presented in the EA with revisions.

No changes have been made to the following subsection of Section 3 of the EA: Air Quality; Archaeology; Geological Resources; Hazardous Materials; Historic Resources; Right-of-way; Visual Quality; Water Resources; and Wetlands. No additions or changes were made to these sections because no substantive public comments were received on these sections and no changes or refinements have been made that would affect the information that was presented in these sections of the EA. The subsection headings in this section are the same as those in Section 3 of the EA. Table 1 below presents a summary of the anticipated environmental effects of the Build and No Build Alternative.

Table 1: Summary of Environmental Effects of No Build and Build Alternatives

Resource	No Build Alternative Impacts	Build Alternative Impacts
Air Quality	• Dust and construction equipment emissions • No long term impacts	• Dust and construction equipment emissions • No long term impacts
Biological Resources	• Disrupt terrestrial habitat and species during construction • Some disruption of aquatic habitat and species during construction (up to two in-water work periods) • Reduction in piers in Willamette River from removal of decommissioned bridge	• Disrupt terrestrial habitat and species during construction • Disturb aquatic species and habitat during construction (up to four in-water work periods) • Permanent reduction in piers in Willamette R. and adjacent areas
Cultural Resources	• No impacts to archaeology sites or historic properties	• No adverse effect on Eugene Mill Race and Dam or Union Pacific Railroad (properties eligible for National Register of Historic Places)
Geological Resources	• Excavation of soil and rock during construction • No long term impacts	• Excavation of soil and rock during construction • No long term impacts
Hazardous Materials	• Potential for release of hazardous substances during construction.	• Potential for release of hazardous substances during construction.
Land Use	• Temporary use of open spaces during construction • No long-term land use change	• Temporary use of open spaces during construction • No long term land use change • Exception to Statewide Planning Goal 15 (Willamette Greenway) and amendment to Metro Plan and Willakenzie Area Plan required (and have been obtained).

Table 1: Summary of Environmental Effects of No Build and Build Alternatives

Resource	No Build Alternative Impacts	Build Alternative Impacts
Noise	• Noise increases during construction • Long term noise increase by 1 to 2 A-weighted decibels (dBA). • 67 homes, 2 businesses, park and cemetery would experience noise levels in excess of ODOT noise impact criteria.	• Noise increases during construction • Long term noise impacts range from 1 dBA decrease to 3 dBA increase. • 75 homes, 2 businesses, park and cemetery would experience noise levels in excess of ODOT noise impact criteria.
Right of Way	• No acquisition of additional permanent right of way anticipated • Conversion of temporary easement with Willamalane Park and Recreation District to permanent would be required	• No acquisition of additional permanent right of way anticipated
Socio-Economics, Section 4(f) and Section 6(f)	• Temporary increase in employment during construction • Businesses would remain open/accessible • No impacts on transit services, schools, emergency services or community cohesion • Disruption of trails and park activities in vicinity of project during construction • Disruption of river recreation during construction • Temporary occupancy of Alton Baker Park would be a de minimis impact under Section 4(f) of the Department of Transportation Act of 1966, and would be a conversion of property protected under Section 6(f) of the Land and Water Conservation Fund Act	• Temporary increase in employment during construction • Businesses would remain open/accessible • No impacts on transit services, schools, emergency services or community cohesion • Disruption of trails and park activities in the vicinity of project during construction • Disruption of river recreation during construction • Temporary occupancy of Alton Baker Park would be a de minimis impact under Section 4(f) of the Department of Transportation Act of 1966, and would be a conversion of property protected under Section 6(f) of the Land and Water Conservation Fund Act
Transportation	• Short term closures of Franklin, railroad and/or trails possible during construction • I-5 open during construction • Safer bridge (seismic upgrade) ensures long term mobility • Would not support long term future traffic demands	• Short term closures of Franklin, railroad and/or trails possible during construction • I-5 open during construction • Safer bridge (build to current design standards) supports long term mobility • Standard design provides wide shoulders for drivers to pull completely off road in emergencies • Wide enough to potentially stripe for three lanes in each direction in future.
Visual Quality	• Visual impacts during construction • Long term improvement in visual quality by removal of decommissioned bridge.	• Visual impact during construction • Long term improvement in visual quality by reduction of piers, unified design of replacement bridges
Water Resources and Wetlands	• Impacts to waterways and wetlands during construction • Removal of decommissioned bridge reduces impervious areas discharging stormwater • No long term water quality impacts	• Impacts to waterways and wetlands during construction • Addition of impervious area discharging stormwater • Water quality treatment of stormwater discharge • No long term water quality impacts • About 0.3 acre of wetland impacts

All the figures referenced in this section refer to the figures presented in the EA. Revised figures are referenced as such, and are included in this REA. Unchanged figures are not presented in this section.

3.1 Air Quality

No changes have been made to this section presented in the EA.

3.2 Archaeology

No changes have been made to this section presented in the EA.

3.3 Biology

3.3.1 Methods and Coordination

The project team reviewed existing information on fish and wildlife habitat and occurrence within the project area and conducted an onsite inspection to assess the quality of fish, wildlife, and plant habitats within the project area.

Surveys for threatened and endangered (T&E) plants potentially affected by the I-5 Willamette River Bridge Project were conducted in 2003 and 2006. Vegetation information was obtained from wetland delineation and determination reports, Geographic Information System (GIS) data, observations during site visits, restoration plans prepared for the temporary detour bridge, and restoration and management plans for the Whilamut Natural Area and the Eastgate Woodlands of the Whilamut Natural Area.

Information related to federal- and state-listed and nonlisted species present within the project area was obtained from: previous environmental documentation prepared for the existing temporary detour bridge (ODOT, 2003a); species request letters from the National Marine Fisheries Service (NMFS) and United States Fish and Wildlife Service (USFWS); the restoration and management plans for the Whilamut Natural Area and the Eastgate Woodlands of the Whilamut Natural Area, an Oregon Natural Heritage Information Center (ORNHIC) database search, and observations during site surveys.

3.3.2 Baseline Conditions

3.3.2.1 Plants and Vegetation

Vegetation and habitat types within the project area are generally associated with urban development or natural/open space areas. The urban developed areas include residential, commercial, and transportation (roadways and railroads) that have been planted with landscaping. The open space areas include a combination of forested and emergent wetlands, upland forest (mixed deciduous-coniferous type), mixed deciduous-coniferous riparian, and grassland type habitats that are predominantly managed grass areas within the I-5 corridor. These natural/open space areas are vegetated with a predominance of native species, although disturbance has allowed encroachment of invasive species.

No federal or state Endangered Species Act (ESA)-listed plant species or plant habitats have been identified within the project area.

3.3.2.2 Fish

Two salmonid populations listed under the ESA are documented as occurring within the reach of the Willamette River that flows through the project area:

- Upper Willamette River spring Chinook (*Oncorhynchus tshawytscha*) and critical habitat – federally threatened (FT)
- Columbia River bull trout (*Salvelinus confluentus*) Distinct Population Segment (DPS) and critical habitat - FT

The Willamette River supports resident populations of numerous native and introduced species that are not threatened or endangered. It supports two anadromous salmonids that are not listed or proposed for listing within the project area. Specifically, it provides spawning and rearing habitat for fall Chinook and a migration route for steelhead.

Resident native fish that are likely to be present in the project area include:

- Rainbow trout (*O. mykiss*)
- Cutthroat trout (*O. clarkii*)
- Sculpins (*Cottus spp*.)
- Leopard dace (*Rhinichthys flacatus*)
- Longnose dace (*Rhinichthys cataractae*)
- Redside shiner (*Richardsonius balteatus*)
- Northern pikeminnow (*Ptychocheilus oregonensis*)
- Largescale sucker (*Catostomus macrocheilus*)

The width of the Willamette River varies from 600 feet to 800 feet in the vicinity of the bridge crossing. ~~The Willamette River is about 660 feet wide at the project site.~~ Through the project area, the Willamette River is generally confined by a bedrock channel. Near the existing bridges, the Willamette River consists of shallow riffle habitat. The River supports a productive algal community. Insects and some vertebrates feed on these plants, and, in turn, many vertebrates such as salmonids feed on stream-dwelling insects (ODOT, 2003a). Along this reach of the Willamette River, the Oregon Department of Fish and Wildlife (ODFW) designated in-water work window is June 1 to October 31. This is the time period when construction activities may occur within the active waterway.

The project-area reach of the Willamette River contains primarily salmonid migration habitat. There appears to be relatively little high-flow refuge, off-channel habitat, or other rearing habitat.

North of the Willamette River, the Canoe Canal (Patterson Slough) begins upstream from the project area through a culvert connected to the Willamette River and flows through the project area and reconnects with the Willamette River about 2.5 miles downstream. The Canoe Canal is unlikely to provide salmonid spawning habitat due to the lack of suitable spawning gravel, but likely serves as off-channel rearing habitat for steelhead and resident trout as well as Chinook salmon. This water body also provides potential Oregon chub habitat (ODOT, 2003a; ODOT, 2006a).

In the southern portion of the project area there is a small, unnamed stream that flows to the Willamette River. It is generally low quality fish habitat and there is little cover or riparian vegetation. This stream connects to the Willamette River through a culvert underneath Franklin Boulevard that drops about one foot onto riprap with no pool at the outlet, which makes this culvert a fish passage barrier. The stream provides no habitat for salmon, steelhead, or other anadromous species; however, resident cutthroat trout have been observed in the stream (ODOT, 2003a).

Augusta Creek/Laurel Valley Creek is conveyed from the west under I-5 through a box culvert near the terminus of Judkins Road. This stream flows through a concrete arch culvert and under the railroad grade to converge with the unnamed tributary (discussed above) upstream of the Franklin Boulevard culvert. Upstream of I-5 Augusta Creek/Laurel Valley Creek is likely to provide habitat for species such as sculpins (*Cottus spp.)* and resident cutthroat trout.

3.3.2.3 Terrestrial Wildlife

There are 18 amphibian, 15 reptile, 154 bird, and 69 mammal species native to the Willamette River basin. Some of these species are listed as threatened, endangered, or species of conservation concern, including 60 percent of the amphibian species. Factors contributing to these species' declines include habitat loss, introduced species, contaminants, and direct human disturbance (OBDP, 2007c).

A species list provided by ORNHIC indicated that there are no federal- or state-listed ESA terrestrial wildlife species known to reside within the project area. There are reports of sensitive or species of concern terrestrial wildlife within two miles of the project study area; however there is habitat that would support only one of these sensitive species in the project study area (i.e., the Northwestern ~~Northern Pacific~~ pond turtle; Table 2).

Table 2: Terrestrial Wildlife Species Reported to Occur Within Two Miles of Project Study Area (ORNHIC 2006)

Species	Federal status	State status	Likely to occur in study area?
Purple martin	Species of Concern	Sensitive-Critical	No
Townsend's big eared bat	Species of Concern	Sensitive-Critical	No
Clouded salamander	N/A	Sensitive-Undetermined	No
Painted turtle	N/A	Sensitive-Critical	No
Northwestern pond turtle ~~Northern Pacific pond turtle~~	Species of Concern	Sensitive-Critical	Yes

North of the Willamette River, the project area includes portions of Alton Baker Park designated as the Whilamut Natural Area, including the Eastgate Woodlands. The Eastgate Woodlands are located east of I-5, and consist of second growth forest dominated by deciduous trees. This area is also heavily infested with nonnative invasive vegetation. To the northwest of I-5 is a large meadow that is preserved as open space within the Whilamut Natural Area and is dominated with a mix of native and nonnative grasses.

There are several wetlands located throughout the project area that provide moderate habitat quality for perching birds and human-tolerant mammals. The areas north of the Willamette River within the Whilamut Natural Area~~,~~ of Alton Baker Park which includes

Eastgate Woodlands, provide high value wildlife habitat. The project area south of the Willamette River is mostly developed with scattered patches of upland and wetland.

The project area provides potential habitat for bird species protected by the Migratory Bird Treaty Act (MBTA): Cliff swallows (*Hirundo pyrrhonota*). These birds may use the existing bridges for nesting locations, although none were present during field investigations.

Human-tolerant wildlife species such as raccoons (*Procyon lotor*), coyote (*Canis latrans*), and various perching birds occur within the project area. Beavers (*Castor canadensis*), bats (*Myotis spp*.), osprey (*Pandion haliaetus*), great horned owl (*Bubo virginianus*), western meadowlark (*Sturnella neglecta*), western gray squirrel (*Sciurus griseus*), northwestern pond turtle (*Actinemys marmorata*~~Clemmys marmorata~~), river otters (*Lutra canadensis*), great blue heron (*Ardea herodias*), osprey (*Pandion haliaetus*), and other raptors may also be present. The existing bridges in the area may provide roosting habitat for bats such as the little brown bat (*Myotis lucifugus*), big brown bat (*Eptesicus fuscus*), and yuma myotis (*Myotis yumanensis*). Townsend's big-eared bats (*Corynorhinus townsendii*) are known to occur on the I-5 bridge over the McKenzie River located about four miles north of the project area (ODOT, 2007b).

Northwestern pond turtles have been reported in Canoe Canal within the project area (ORNHIC, 2006). However, much of the Canoe Canal within the project area is a concrete channel with steep banks and lack of suitable nesting habitat, which is likely to reduce the frequency of pond turtle occurrence. The northwestern pond turtle also uses the Willamette River, isolated ephemeral ponds adjacent to trails within the project study area, and upland habitat areas for nesting and overwintering.

There is a great blue heron rookery (which may have become inactive) along the Canoe Canal located about 800 feet east of the project area. City of Eugene Parks and Open Spaces Division and Willamalane Park and Recreation District staff have noted the ephemeral ponds located throughout the Whilamut Natural Area of ~~East~~ Alton Baker Park provide habitat for amphibian species (French, 2007; Taylor, 2007). Western meadowlark nesting habitat has been documented in the vicinity of the meadow immediately northwest of the project study area (ODOT, 2003b).

3.3.3 Temporary Effects

3.3.3.1 No Build Alternative

The No Build Alternative would have temporary adverse effects on biological resources within the study area because of work to upgrade the existing temporary detour bridge to standards for load rating and seismic hazards. In addition, the removal of the decommissioned bridge would cause temporary effects to biology resources from construction, such as decreased water quality, in-water work, noise increases, temporary habitat ~~alternation~~ alteration, and fish capture and release.

No listed plants are located within the project area; therefore there would be no impacts to listed plants from the No Build Alternative. (ODOT, 2003a; USFWS, 2003).

Vegetation and Habitat

The No Build Alternative would result in the clearing and temporary alteration of land in order to remove the old bridge and access the detour bridge. Temporary vegetation removal would reduce the number of plant and tree seed banks (native and nonnative), which could reduce some localized genetic diversity and increase the distances necessary for plant pollination.

Riparian vegetation removal would be necessary within the project study area. Because the Willamette River is so wide, riparian vegetation does little shading on the river system as a whole to noticeably decrease water temperatures. The amount of riparian vegetation to be cleared at the project site for construction activities is small relative to the amount of riparian vegetation available to the stream systems within the project area. This clearing would not extend more than 300 feet on either side of the proposed bridge work.

For terrestrial wildlife, temporary effects would occur from minor temporary fragmentation of habitat, habitat ~~alternation~~ alteration, and disruption of migration corridors. Construction activities would temporarily displace species and may potentially kill some individuals that are not able to move out of the area. Dust from demolition and construction activity could also affect habitat. However, this would be minimized by following state and local regulations that require dust suppression activities like applying water or other dust suppressants and washing trucks and equipment.

Implementation of the No Build Alternative also has the potential to spread invasive weeds and grasses through translocation of plants and/or seeds from the project site to other project areas on construction equipment or vehicles. In addition, disturbance associated with the project and vehicle and pedestrian use of the area may aid in dispersion of invasive species to areas of roadway construction.

Water Quality and In-Water Work

Construction activities would include vegetation removal and soil disturbance, which could lead to erosion and increased sedimentation to wetlands and waterways resulting in decreased water quality. This would affect fish downstream of the project area by interrupting fish foraging activities and movement.

Construction activities would require in-water work. Temporary effects from in-water work would include construction or removal of piers, which involves site preparation, dewatering and isolation, and rewatering once work is complete. There is also the potential for materials to drop into waterways during demolition and new construction. Increased turbidity from in-water work should be minimal because the new and temporary piers for the work bridges would be drilled or driven into bedrock. There may be an increase of turbidity during rewatering of the isolation area or from pulling isolation structure(s). This increase is anticipated to be within allowable limits (OAR 340-041-0036), which is an increase of up to10 percent over natural background turbidity 100 feet downstream of the fill point.

Proposed in-water work would require work area isolation with the use of cofferdams or similar measures designed to isolate work areas from the river. Work area isolation would require fish capture and release operations in the Willamette River, which would

affect both listed and nonlisted fish species. All fish capture and release operations would be conducted by experienced biologists following guidelines established by ODFW and NMFS.

Noise Effects to Wildlife

Effects to fish species from noise created in-water during construction include temporary disorientation and, potentially, mortality.

Temporary effects on resident wildlife would be caused by noise associated with construction activities and construction equipment moving to and from the project site. Noise levels from operation of machinery during certain construction activities would cause temporary, short-term, or localized noise increases. The blue heron rookery located northeast of the study area in Eastgate Woodlands Park would be temporarily affected by increased noise levels in combination with general construction activities.

Visual Effects to Wildlife

Temporary construction-related visual impacts would affect the No Build Alternative study area and surrounding areas from which the site is visible. These impacts would result from detours and additional signage, vegetation removal, excavated areas, and the presence of building materials and construction equipment. Construction lighting would disturb wildlife, particularly nocturnal birds and mammals. Impacts from these activities would be contained within established staging and construction limits, and would be limited to the areas adjacent to the freeway corridor, Franklin Boulevard, and UPRR tracks.

3.3.3.2 Build Alternative

The Build Alternative would have temporary effects on biological resources within the project study area from the construction of the replacement bridges, construction of temporary work bridges, removal of the decommissioned bridges and existing temporary detour bridges, and associated activities such as grading, clearing, excavation, staging, and hauling. Demolition of the four existing bridges and construction of the four new bridges would take about four years and require four in-water work periods. Temporary effects on biological resources would result from construction activities that contribute to decreased water quality, noise increases, temporary habitat alteration, and require in-water work or fish capture and release.

No listed plants are located with the project area; therefore, there would be no impacts to listed plants.

Vegetation and Habitat

The Build Alternative would result in the clearing and temporary alteration of about a 9-acre area. About 1 acre of proposed clearing would occur within developed areas and the remaining 8 acres would occur in undeveloped areas (vegetation, wetlands, and

open water[1]). The impacts of removing vegetation would include increased water runoff and erosion. Temporary vegetation removal would also reduce the number of plant and tree seed banks (native and nonnative), which could reduce some localized genetic diversity and increase the distances necessary for plant pollination. Vegetation is also a primary basis for wildlife species support, which are discussed in detail below.

Construction has the potential to spread invasive weeds and grasses, through movement of plants and/or seeds from the project site to other project areas on construction equipment or vehicles. In addition, disturbance associated with the project and vehicle and pedestrian use of the area may aid in dispersion of invasive species to areas of roadway construction.

For wildlife, temporary effects from vegetation/habitat removal would result in fragmentation of habitat during soil disturbance activities and would displace species and may potentially kill some individuals (including amphibians, reptiles, birds, and mammals) that are not able to move out of the area. Although already partially impeded by existing development, wildlife passage through riparian, wetland, and upland habitat areas would be further impeded with the clearing of vegetation and use of heavy equipment (i.e., movement and use of equipment on haul roads through Whilamut Natural Area, and equipment use along the banks of the Willamette River, and wetland areas located within the study), which provides perching and nesting habitat for birds and cover for other animals.

Dust from demolition and construction activity could also affect habitat. However, this would be minimized by following state and local regulations that require dust suppression activities like applying water or other dust suppressants and washing trucks and equipment.

Water Quality and In-water Work

Bridge and roadway construction may disturb soil and streambank/bed materials, which could increase the potential for delivery of fine sediment to streams. Short-term, localized effects of sedimentation may occur during the in-water work activities associated with bridge removal and construction; however, these impacts would be limited by the implementation of the erosion and sediment control measures outlined in the standards.

Construction activities would have similar impacts on water quality as those described for the No Build Alternative, though impacts would be greater due to the larger scope of the Build Alternative.

Construction activities would require four in-water work periods. Temporary impacts associated with the Build Alternative are similar to those described for the No Build Alternative. Proposed in-water work would require work area isolation with the use of

[1] The areas of open water described herein refer to the areas under the bridge deck that would be temporarily affected.

cofferdams or similar measures designed to isolate work areas from the river. Work area isolation would require fish capture and release operations in the Willamette River, which would affect both listed and nonlisted fish species. All fish capture and release operations would be conducted by experienced biologists following guidelines established by ODFW and NMFS.

Noise Effects to Wildlife

The Build Alternative would include excavation, drilling, and/or pile driving into bedrock substrate for construction of temporary work bridges, construction of replacement bridges, and demolition of two existing bridges. Effects of noise associated with these activities on fish species could include temporary disorientation or, potentially, mortality.

Noise levels associated with construction activities range from 70 to 100 decibels (dBA) at sites 50 feet from the activities. Construction noise in combination with general construction activities (i.e., excavation, grading, etc.) could temporarily affect the blue heron rookery, if active, located about 800 feet~~1,000 feet~~ northeast of the project study area in Eastgate Woodlands Park. Construction noise generated by the project would decrease to between 32 and 68 dBA[2] at a distance of 1,000 feet and could affect nesting success of blue heron during the nesting season (February 15 through July 31).

Visual Effects to Wildlife

Temporary construction-related visual impacts would affect the Build Alternative study area and surrounding areas from which the site is visible. These impacts would result from detours and additional signage, vegetation removal, excavated areas, and the presence of building materials and construction equipment. Construction lighting used at night would disturb wildlife, particularly nocturnal birds and mammals. Impacts from lighting could extend outside of the established staging and construction limits; however, the light would be more diffuse moving away from the construction limits and would affect the areas immediately adjacent to the freeway corridor, Franklin Boulevard, and UPRR tracks.

3.3.4 Permanent Effects

3.3.4.1 No Build Alternative

Vegetation and Habitat

The No Build Alternative would not result in the permanent removal of vegetation for new impervious surfaces. Net impervious surfaces within the project study area would be decreased with the removal of the decommissioned bridge. Areas where the decommissioned bridge was located would be replanted with native vegetation. The impacts of additional vegetation would include an increased water uptake and soil stabilization, which would result in minor decreases of water runoff and erosion.

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[2] *Attenuation noise levels were calculated using the methods in the 2007 Washington Department of Transportation Advanced Training Manual for preparing Biological Assessments.*

Permanent vegetation would also increase the number of plant and tree seed banks (native and nonnative), which could improve some localized genetic diversity and decrease distances necessary for plant pollination. The No Build Alternative would eradicate some of the noxious weeds through vegetative and seed bank removal. Conversely, there is also a potential to introduce additional invasive species with proposed improvements.

The No Build Alternative would reduce the number of piers in the Willamette River, allowing for increased opportunities for fish and aquatic resources to utilize the project area.

Fish Passage

The No Build Alternative would not obstruct native fish passage across the Willamette River, Canoe Canal, or adjacent unnamed waterways where resident fish are present.

Noise Effects to Wildlife

There would be no impacts to wildlife from increased noise levels during operational activities.

Visual Effects to Wildlife

Visual changes that would result from the No Build Alternative would not affect wildlife.

3.3.4.2 Build Alternative

Vegetation and Habitat

The Build Alternative would result in the removal of about 9 acres of vegetation, wetlands, and open water habitat[3] as a result of the new bridge and roadway development. The impacts of removing vegetation would include a reduction in water uptake and soil stabilization, which could lead to minor increases in water runoff and erosion, which would affect fish and aquatic species. Permanent vegetation removal would also reduce the number of plant and tree seed banks (native and nonnative), which could reduce some localized genetic diversity and increase the distances necessary for plant pollination. The project would eradicate some of the noxious weeds through vegetative and seed bank removal. Conversely, there is also a potential to introduce additional invasive species with proposed improvements.

Removal of the decommissioned bridge would open areas for natural habitat regeneration. This benefit would offset some of the loss of vegetation, wetlands, and open water resulting from the new bridges.

[3] *The areas of open water described herein refer to the areas under the bridge deck that would be permanently affected.*

There would be permanent direct effects to fish or aquatic resources, such as loss of habitat or habitat alteration by the placement of piers within the ordinary high water (OHW) of the Willamette. The pier placements for either Option A or B would result in direct impacts to fish habitat. Impacts from the through arch bridge design would be about 15% higher than for the other designs because it would require wider footings. Although this would be a direct impact to fish habitat within the Willamette River, it would represent a benefit when compared to the existing conditions and the number of piers currently below the OHW and within wetlands (a total of 29 piers[4]). The Build Alternative would have a smaller footprint within the Willamette River, allowing increased opportunities for fish and aquatic resources to utilize the project area.

No direct permanent impacts would occur to fish or aquatic resources from the loss of habitat or habitat alteration over the Canoe Canal.

Construction of the Build Alternative would result in permanent vegetation removal, thereby removing habitat for local wildlife species. At the bridge pier locations, abutments, and proposed retaining wall locations some vegetation would be removed, which would result in habitat alteration ~~alternation~~. The ground surface below the bridge spans should receive enough light to allow existing and replanted native vegetation to grow maintaining habitat similar to existing conditions. Although there would be some changes to existing habitats onsite, there would be no permanent impacts to wildlife movement because there is enough clearance at the site to allow continued wildlife movement beneath the bridges.

Fluvial and Hydraulic Conditions of the Willamette River

Build Alternative Options A and B would result in minimal changes to the hydraulic characteristics of the Willamette River when compared to existing conditions. The Build Alternative (both Options A and B) would satisfy the OTIA III EPS fluvial standard. No substantial geomorphic changes to the river channel would result from the Build Alternative. Further, by removing a substantial number of piers in the river, the Build Alternative would allow increased opportunities for fish and other aquatic wildlife to use the project area. The Build Alternative would not have a direct impact to existing hydraulic and fluvial conditions that would cause changes to the aquatic environment.

Fish Passage

The Build Alternative would not obstruct fish passage in the Willamette River, Canoe Canal (Patterson Slough), or adjacent unnamed waterways where resident fish are present.

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[4] *The existing bridge has five piers located within the main channel and two piers located in each overbank at a spacing of about 143 feet. The detour bridge has 7 piers (constructed from 18 columns in the Willamette River and 6 columns in adjacent wetlands and unnamed waterways) located within the main channel and one pier located in each overbank at a spacing of about 115 feet.*

Noise Effects to Wildlife

There would be no impacts anticipated to wildlife from increased noise levels during operational activities.

Visual Effects to Wildlife

Visual changes that would result from the Build Alternative would not affect wildlife.

3.3.5 Indirect and Cumulative Effects

3.3.5.1 No Build Alternative

No indirect effects to vegetation, fish, or wildlife are anticipated to result from the No Build Alternative. Demolition debris that is not be recycled or reused would be placed at a state-approves disposal site. The potential improvements to vegetation and habitat from removal of the decommissioned bridge (see Section 3.3.4.1), when considered with other actions affecting vegetation and habitat in the project area and surrounding regions, would not contribute to a significant cumulative effect on these resources.

3.3.5.2 Build Alternative

ODOT has coordinated with NMFS and USFWS and informed these agencies that, while the Build Alternative bridges would be wide enough to accommodate six lanes of traffic (three lanes in each direction), they would be striped for four lanes. Further, any future changes to the striping of the bridges would be contingent on increasing the lanes of I-5 north and south of the bridges, which would require additional review by the agencies.

NMFS and USFWS agree that there would be no additional effects to listed species beyond those analyzed in the OTIA III Biological Opinion, provided that the OITA III EPS are met.

Cumulative effects of Build Alternative on vegetation, fish, and wildlife would include the same effects as those noted for the No Build Alternative.

3.4 Geological Resources

No changes have been made to this section presented in the EA.

3.5 Hazardous Materials

No changes have been made to this section presented in the EA.

3.6 Historic Resources

No changes have been made to this section presented in the EA.

3.7 Land Use

3.7.1 Methods and Coordination

The following relevant land use plans, codes, and other documents (with published dates) were reviewed to characterize baseline conditions and potential land use impacts associated with the project:

- Oregon Statewide Planning Goals (2006)
- Oregon Transportation Plan (2006)
- Oregon Highway Plan (1999)
- Eugene-Springfield Metropolitan Area General Plan (2004)
- Eugene-Springfield Transportation System Plan (*TransPlan*; 2002)
- Eugene Code (2001)
- Springfield Development Code (2006)
- Willakenzie Area Plan (1992)
- East Alton Baker Park Plan (1996)
- Laurel Hill Plan (1982)

GIS data from the Lane Council of Governments (LCOG) (LCOG, 2007a), aerial photographs (LCOG, 2005), maps, public agency websites, and information from government agencies, local residents, and local businesses were also used to complete this analysis. The project team consulted planners from the cities of Eugene and Springfield and Lane County. Site visits were conducted on February 28 and May 31, 2007.

3.7.2 Baseline Conditions

Most of the land within the project area is within the Eugene or Springfield city limits. There are unincorporated areas within the project area, but they are within the combined Eugene and Springfield urban growth boundary (UGB).

3.7.2.1 Existing Uses

There are five residential neighborhood areas within the project area. The Harlow, Fairmount, and Laurel Hill Valley neighborhoods are located in the Eugene portion of the project area. The East Alton Baker Park ~~West Centennial~~ and Glenwood neighborhoods ~~areas~~ are located in the Springfield portion of the project area.

The parks and open spaces in the project area include the Whilamut Natural Area of Alton Baker Park, ~~the Eastgate Woodlands of Alton Baker Park,~~ Franklin Park, and Prefontaine Memorial Park. Within the project area, the North Bank Trail extends along the northern border of the Willamette River though the Whilamut Natural Area and the Eastgate Woodlands. The southeast loop of Pre's Trail is located within the Whilamut Natural Area with an extension to the Eastgate Woodlands. There are additional connecting paths throughout the Whilamut Natural Area ~~and Eastgate Woodlands~~, on the Knickerbocker Bridge, and along Franklin Boulevard.

The existing industrial uses consist of a waste management site, a Pepsi bottling plant, and other light industrial uses.

In addition to the park and open space areas mentioned above, the Laurel Grove Cemetery is located on Judkins Road, which is 0.1 mile east of the project.

3.7.2.2 Land Use Zoning Designations

Various land use zoning designations apply to lands within the project area. These Eugene and Springfield zoning designations are in compliance with the *Eugene-Springfield Metropolitan Area General Plan* (*Metro Plan)*. Unincorporated land within the cities' UGB is zoned in compliance with the cities' zoning and is also designated in compliance with the *Metro Plan*. Zoning designations include Residential, Commercial, Industrial, Agricultural, Public Land, and Open Space, Riverfront Park Special Area, Node Special Area (a mixed use zone), Water Resources Overlay Zone, and Willamette River Greenway Overlay District.

3.7.3 Temporary Effects

3.7.3.1 No Build Alternative

The No Build Alternative would require temporary occupancy of existing open space areas (along Franklin Boulevard and within Alton Baker Park) for staging and material storage. Zoning and land use plans would not be affected by construction activities.

3.7.3.2 Build Alternative

Construction impacts associated with the construction of the Build Alternative would occur during removal of the decommissioned I-5 bridge and the temporary detour bridges and construction of the new I-5 bridges, reconstruction of highway approaches, and ramp changes. The Build Alternative would require temporary occupancy of existing open space areas (along Franklin Boulevard and within Alton Baker Park) for staging and material storage. Zoning and land use plans would not be affected by construction activities.

3.7.4 Permanent Impacts

3.7.4.1 No Build Alternative

Property acquisitions would not be required for improvements under the No Build Alternative; therefore, there would be no permanent direct land use impact in terms of converting existing land uses to transportation right-of-way use or requiring a zoning change.

Table 3 summarizes the plan consistency determinations for both the No Build and Build Alternatives. (OBDP, 2007e).

Table 3: Plan Consistency Determination

Plan	Alternative	Plan Consistency Determination
Oregon Statewide Planning Goal 15	No Build	* Consistent ~~Inconsistent~~
	Build	* Consistent ~~Inconsistent~~
Oregon Transportation Plan	No Build	Consistent
	Build	Consistent
Oregon Highway Plan	No Build	* Consistent ~~Inconsistent~~
	Build	Consistent
Eugene-Springfield Metropolitan Area Plan	No Build	* Consistent ~~Inconsistent~~
	Build	* Consistent ~~Inconsistent~~
Eugene-Springfield Metropolitan Area Transportation Plan	No Build	Consistent
	Build	Consistent

Table 3: Plan Consistency Determination

Plan	Alternative	Plan Consistency Determination
Springfield Development Code	No Build	Consistent
	Build	Consistent
Eugene Code	No Build	Consistent
	Build	Consistent
Willakenzie Area Plan	No Build	* Consistent ~~Inconsistent~~
	Build	* Consistent ~~Inconsistent~~
East Alton Baker Park Plan	No Build	Consistent
	Build	Consistent
Laurel Hill Plan	No Build	Consistent
	Build	Consistent

**Plan amendments ~~proposed~~ adopted as part of the I-5 Willamette River Bridge project result in the project being consistent with these goals and plans.*

The following describes the approvals required to remove the decommissioned I-5 bridge crossing the Willamette River and upgrade the detour bridge (Greenfield, 2007). Plan inconsistencies are addressed by plan amendments.

Plan Amendments:

Amendments to statewide planning goal 15 and the Oregon Highway Plan would be required.

An amendment to the *Metro Plan*, in the form of a goal exception to Statewide Planning Goal 15 (Willamette River Greenway) as required by *Metro Plan*, Chapter III, Section D, Policy 11, may be required to authorize the placement of fill within the greenway setback associated with removal of the original I-5 Willamette River bridge and upgrades on the detour bridge.

An amendment to the Willakenzie Area Plan is needed to allow bridges and fill associated with the upgrade of the detour bridge to be constructed within the first 35 feet from the top of the riverbank in the greenway in the Willakenzie area.

Permits and Approvals:

An administrative "determination" from the Springfield Planning Director pursuant to Springfield Development Code (SDC) 31.240(2) that the removal of the original I-5 bridge and upgrades to the detour bridge, would not "diminish riparian function" of affected riparian areas.[5]

A Type II "Standards Review" approval from the City of Eugene pursuant to Eugene Code (EC) 9.4930(3)(b), 9.4980 and 9.8460 through 9.8474, etc., for any fill, grading, vegetation removal, or new bridges within a conservation area.

[5] The City recommends that this determination be made as part of the Discretionary Use Permit process.

A Type I permit from the City of Springfield to allow construction in the floodplain or floodway.

A Site Development Permit (or similar building permit), and a Federal Emergency Management Agency (FEMA) "no-rise" certification from the City of Eugene, for any construction or bridges within the floodway/special flood hazard area.

3.7.4.2 Build Alternative

Property acquisitions would not be required for improvements under the Build Alternative; therefore, there would be no permanent direct land use impact in terms of converting existing land uses to transportation right-of-way use or requiring a zoning change.

Table 3 summarizes the plan consistency determinations for the Build Alternative, as well as the No Build Alternative. (OBDP, 2007e).

The following describes the land use approvals to allow ODOT to construct a replacement I-5 bridge and remove the original I-5 bridge crossing the Willamette River in Eugene/Springfield (Greenfield, 2007).

Plan Amendments:

- An amendment to the Metro Plan[6], in the form of a goal exception to Statewide Planning Goal 15 (Willamette River Greenway), is needed to authorize a non water-dependent and non water-related use within the established greenway setback. Under Goal 15, the approaches associated with the replacement I-5 bridge are considered to be a non water-dependent and non water-related use.
- An amendment to the Metro Plan, in the form of an exception as required by Metro Plan, Chapter III, Section D, Policy 11 is needed to authorize the placement of fill within the greenway setback associated with the replacement bridge. In addition, Policy 11 exceptions may be needed to place fill in the greenway associated with (1) removal of the original I-5 Willamette River bridge, and (2) construction of a temporary work bridge to remove the detour bridge currently in use and construct new bridges. . The Metro Plan amendments would require the joint approval of the City Councils of Eugene and Springfield and the Lane County Board of Commissioners.
- An amendment to the Willakenzie Area Plan is needed to allow bridges and fill associated with the replacement I-5 bridge to be constructed within the first 35 feet from the top of the riverbank within the greenway in the Willakenzie area. This amendment would require the approval of the Eugene City Council.

[6] The *Metro Plan* serves as the comprehensive plan for Eugene, Springfield, and Lane County.

Permits and Other Approvals:

- A Type III Discretionary Use Approval from the City of Springfield under SDC 25.050 and 10.030(1), because the replacement bridge would have a significant visual impact.
- An administrative "determination" from the Springfield Planning Director pursuant to SDC 31.240(2) that the replacement bridge, and also possibly the removal of the original I-5 bridge and construction of a temporary demolition bridge for the detour bridge, would not "diminish riparian function" of affected riparian areas.[7]
- A Type III Willamette River Greenway permit from the City of Eugene under EC 9.8800 through 9.8825, because the replacement bridge is a "development" within the greenway boundary.
- A Type II "Standards Review" approval from the City of Eugene pursuant to EC 9.4930(3)(b), 9.4980 and 9.8460 through 9.8474, etc., for any fill, grading, vegetation removal, or new bridges within a conservation area.
- A Type I permit from the City of Springfield to allow construction in the floodplain or floodway.
- A Site Development Permit (or similar building permit), and a FEMA "no-rise" certification, from the City of Eugene, for any construction or bridges within the floodway/special flood hazard area.

The *TransPlan* (2002) includes two I-5 projects (No. 260 and150) in the list of Future (Beyond 20-Years) Capital Investment Actions (Chapter 3: Table 1b-Future (Beyond 20-Years) Capital Investment Actions: Roadway Projects, Page 31) described as:

> *No. 260 I-5 from 1-105 to Highway 58 (Goshen): Widen remaining sections to 6 lanes.*
>
> *No. 150 I-5 at Willamette River/Franklin Boulevard Interchange: Interchange reconstruction to create one full interchange to improve operations and safety, reconstruct ramps and bridges to modern standards, and provide for 6 lanes on I-5.*

The I-5 Willamette River Bridge Project is included in *TransPlan's* list of authorized transportation improvements by way of these two projects; therefore, an amendment to the *TransPlan* would not be required.

3.7.5 Indirect and Cumulative Effects

3.7.5.1 No Build Alternative

The No Build Alternative would not result in indirect land use impacts because it would not alter the existing transportation system, increase capacity, or facilitate development in the project area.

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[7] The City recommends that this determination be made as part of the Discretionary Use Permit process.

When considering past, present and reasonably foreseeable actions along with the No Build Alternative, there would not be cumulative impacts for land use in the project area. The cities of Eugene and Springfield plan for growth and development in the project area are consistent with existing plans and goals. The No Build Alternative would require some plan amendments and approvals, but would not contribute to a significant cumulative effect on land use.

3.7.5.2 Build Alternative

The Build Alternative would not result in indirect land use impacts. The Build Alternative would not, of itself, increase the capacity of I-5 nor facilitate development in the project area. The new bridge would be part of the transportation system needed to support the planned growth.

When considering past, present and reasonably foreseeable actions along with the Build Alternative, there would not be cumulative impacts for land use in the project area. The cities of Eugene and Springfield plan for growth and development in the project area are consistent with existing plans and goals. The Build Alternative would require some plan amendments and approvals, but would not contribute to a significant cumulative effect on land use.

3.8 Noise

3.8.1 Methods and Coordination

The technical noise analysis for this project was prepared to meet the FHWA's *Procedures for Abatement of Highway Traffic Noise and Construction Noise,* and follows the guidance contained in the ODOT *Noise Manual*. Additional details related to the analysis of highway traffic noise can be found in the *I-5 Willamette River Bridge Project Technical Noise Report* (OBDP, 2008~~7~~f).

The traffic noise abatement criteria and impact levels used to evaluate the project traffic noise levels are taken from the ODOT *Noise Manual*. The noise abatement criteria and impact levels are listed in Table 5. ODOT is responsible for implementing the FWHA regulations in Oregon, and considers an "absolute" traffic noise impact to occur if predicted noise levels are within 2 dBA of the FHWA criteria. This accounts for the 2-dBA difference between the federal abatement criteria and the state impact levels shown in Table 4. A "relative" noise impact is considered to occur if predicted noise levels substantially exceed the existing noise levels. ODOT considers a 10-dBA increase over existing noise levels to be substantial. The criteria are applied to the peak noise impact hour.

Note that parks included in the noise analysis are considered recreational uses and are judged to be noise-impacted if predicted noise levels exceed 65 dBA. The cemetery included in the noise analysis is considered to be under the same category as Churches, and so are also judged to be noise-impacted if predicted noise levels exceed 65 dBA.

Table 4: FHWA & ODOT Noise Impact Guidelines by Land Use (L_{eq} - dBA)

Land Use - Primary Activity	FHWA Noise Abatement Criteria	ODOT Noise Impact Criteria
Residential, Recreation, Churches, Schools, Hotels (Exterior Levels)	67	65
Commercial, Industrial (Exterior Levels)	72	70
Residential, Recreation, Churches, Schools, Hotels (Interior Levels)	52	50

3.8.2 Baseline Conditions

Existing noise levels were monitored at nine locations within the project area. The sites where baseline noise monitoring was conducted and the location of the receivers (noise prediction sites) included in the noise analysis are shown in Figures B1 through B6 of Appendix B. Measured noise levels at these locations ranged between 58 and 64 dBA.

Based on measured noise levels, existing sound levels were modeled at 79 receivers, representing 126~~119~~ residential properties, 7~~8~~ commercial properties, 1 park, and 1 cemetery. Model results indicated existing noise levels range from the 50s to low 70s dBA at properties located adjacent to the project area. The model results indicated 41~~34~~ residential properties, one commercial property, one park, and one cemetery have existing noise impacts (i.e., where noise levels exceed ODOT noise abatement criteria). Noise impacts under the existing condition are predicted at:

- Properties in the Anderson Lane subdivision on the north end of the project area, on the east side of I-5
- Alton Baker Park
- The residential property adjacent to Franklin Boulevard on the east side of I-5, south of the Willamette River
- One commercial property east of I-5, south of the Willamette River
- The Laurel Hill Cemetery
- Properties near I-5 in the Laurel Hill neighborhood on the west side of I-5, south of the Willamette River

Table 5 shows the modeled existing noise levels. Noise levels exceeding the ODOT noise impact levels are shown in shaded cells.

Table 5: Predicted Peak Hour Sound Levels for the Existing Condition, 2030 No Build Alternative, and the 2030 Build Alternative

Receiver	Land Use	Noise Impact Level (dBA)*	Number of Properties	Existing 2007 Noise Levels (dBA)	2030 No Build Alternative Noise Levels (dBA)	2030 Build Alternative Noise Levels (dBA)
R1	Residential	65	6	58	60	60
R2	Residential	65	2 ~~1~~	72	74	73
R3	Residential	65	6	58	60	60
R4	Residential	65	2 ~~1~~	73	74	74
R5	Residential	65	4 ~~2~~	68	70	70
R6	Residential	65	6	55	57	57
R7	Residential	65	6	58	59	60

Table 5: Predicted Peak Hour Sound Levels for the Existing Condition, 2030 No Build Alternative, and the 2030 Build Alternative

Receiver	Land Use	Noise Impact Level (dBA)*	Number of Properties	Existing 2007 Noise Levels (dBA)	2030 No Build Alternative Noise Levels (dBA)	2030 Build Alternative Noise Levels (dBA)
R8	Residential	65	4 ~~2~~	72	73	73
R9	Residential	65	2 ~~1~~	68	70	69
R10	Residential	65	1	70	72	70
R11	Residential	65	1	66	67	66
R12	Residential	65	2	62	63	61
R13	Residential	65	1	63	64	62
R14	Residential	65	2	64	65	63
R15	Residential	65	2	62	63	61
R16	Residential	65	1	61	62	60
R17	Residential	65	2	59	61	59
R18	Residential	65	4	58	59	58
R19	Park	65	-	59	61	60
R20	Park	65	-	66	67	66
R21	Park	65	-	63	65	66
R22	Park	65	-	64	65	66
R23	Commercial	70	1	65	67	67
R24	Residential	65	1	66	68	68
R25	Commercial	70	1	61	63	63
R26	Commercial	70	1	61	63	63
R27	Commercial	70	1	64	66	66
R28	Residential	65	1	59	61	62
R29	Residential	65	2	62	63	64
R30	Residential	65	1	61	63	64
R31	Residential	65	1	62	64	65
R32	Residential	65	1	63	64	65
R33	Residential	65	1	62	64	64
R34	Residential	65	1	61	63	64
R35	Residential	65	1	62	64	65
R36	Residential	65	1	63	64	65
R37	Residential	65	2	64	65	65
R38	Residential	65	1	62	63	64
R39	Residential	65	2	63	64	65
R40	Residential	65	1	62	64	65
R41	Residential	65	1	63	64	64
R42	Residential	65	1	63	65	65
R43	Residential	65	2	64	66	66
R44	Residential	65	1	65	66	66
R45	Commercial	70	1	70	72	70
R46	Residential	65	1	60	62	62
R47	Residential	65	1	62	64	64
R48	Residential	65	1	63	65	65

Table 5: Predicted Peak Hour Sound Levels for the Existing Condition, 2030 No Build Alternative, and the 2030 Build Alternative

Receiver	Land Use	Noise Impact Level (dBA)*	Number of Properties	Existing 2007 Noise Levels (dBA)	2030 No Build Alternative Noise Levels (dBA)	2030 Build Alternative Noise Levels (dBA)
R49	Residential	65	2	64	66	66
R50	Residential	65	1	65	66	66
R51	Residential	65	1	65	67	67
R52	Residential	65	1	62	63	64
R53	Residential	65	1	63	65	65
R54	Residential	65	1	64	66	65
R55	Residential	65	1	66	67	68
R56	Residential	65	2	66	68	68
R57	Residential	65	1	61	63	63
R58	Residential	65	2	62	64	65
R59	Residential	65	1	63	65	65
R60	Residential	65	1	64	66	66
R61	Residential	65	1	65	66	66
R62	Residential	65	1	66	68	67
R63	Residential	65	2	67	68	69
R64	Residential	65	2	65	66	66
R65	Residential	65	2	62	64	65
R66	Residential	65	2	67	69	68
R67	Commercial	70	1 ~~2~~	69	71	70
R68	Residential	65	2	63	65	65
R69	Residential	65	2	67	69	68
R70	Commercial	70	1	65	66	67
R71	Residential	65	2	64	66	66
R72	Residential	65	2	67	69	69
R73	Residential	65	1	67	69	69
R74	Residential	65	5	64	66	65
R75	Residential	65	3	64	66	66
R76	Residential	65	4	67	69	69
R77	Cemetery	65	-	63	65	65
R78	Residential	65	1	62	64	64
R79	Cemetery	65	-	66	67	67

Source: ODOT Noise Manual

3.8.3 Temporary Effects

Temporary noise level increases for the I-5 Willamette River Bridge project would result from normal construction activities. Construction noise would result from activities under both the No Build and Build Alternatives. The No Build Alternative includes the removal of the decommissioned bridge. The Build Alternative includes the removal of the decommissioned and detour bridges, and the construction of the new bridge; therefore, construction noise would last longer under the Build Alternative. Noise levels for these activities can be expected to range from 70 to 100 dBA at sites 50 feet from the

activities. These noise levels, although temporary in nature, can be intrusive. Measures for reducing noise from construction activities are discussed in Chapter 5.

3.8.4 Permanent Effects

3.8.4.1 No Build Alternative

Because the project would not be adding any capacity to the roadway network, traffic volumes are the same for both the No Build Alternative and the Build Alternative; however, traffic noise levels at sensitive receivers would be different for the two alternatives due to minor changes in roadway alignment, changes in shielding, and decibel rounding. The results of the analysis of the No Build Alternative for the year 2030 show that noise levels are predicted to increase by 1 to 2 dBA over existing conditions, and that 67~~60~~ residential properties, 2~~1~~ commercial properties, 1 park, and 1 cemetery are predicted to have noise impacts. Noise impact levels for each land use described are shown in Table 5. Noise impacts under the No Build Alternative are predicted at:

- Properties in the Anderson Lane subdivision on the north end of the project area, on the east side of I-5
- The western-most properties on Walnut Road, north of the Willamette River
- The park areas on the north bank and bicycle/pedestrian path on the south bank of the Willamette River
- The residential property adjacent to Franklin Boulevard on the east side of I-5, south of the Willamette River
- Commercial properties east of I-5, south of the Willamette River
- The Laurel Hill Cemetery
- Properties near I-5 in the Laurel Hill neighborhood on the west side of I-5, south of the Willamette River.

Table 6 shows the noise levels predicted under the 2030 No Build Alternative. No substantial noise level increases (i.e., an increase of 10 dBA over existing levels) would result from the No Build Alternative.

3.8.4.2 Build Alternative

The Build Alternative includes physical alterations to the existing highway that change the vertical and horizontal alignment, resulting in changes to noise levels. The results of the analysis of the Build Alternative for the year 2030 show that changes in noise levels are predicted to range from a reduction of 1 dBA to an increase of 3 dBA over existing conditions. The results also show that changes in noise levels are predicted to range from a reduction of 2 dBA to an increase of 1 dBA over the No Build Alternative noise levels. Under the Build Alternative, 75~~67~~ residential properties, 2~~3~~ commercial properties, 1 park, and 1 cemetery are predicted to have noise impacts. Noise impacts under the Build Alternative are generally predicted in the same locations as impacts under the No Build Alternative. Table 6 shows the noise levels predicted under the 2030 Build Alternative.

No substantial noise level increases (i.e., an increase of 10 dBA over existing levels) would result from the Build Alternative.

3.8.5 Indirect and Cumulative Effects

3.8.5.1 No Build Alternative

The traffic data used in the noise analysis was developed by traffic engineers using information and assumptions from locally-adopted development plans and captures indirect or secondary traffic noise effects that may result from the project. No other indirect noise impacts would occur.

The No Build Alternative would not change the roadway or bridge configuration from what exists today, or affect the volume or vehicle class mix of I-5 northbound and southbound traffic. The project is not anticipated to have cumulative impacts under the No Build Alternative.

3.8.5.2 Build Alternative

The traffic data used in the noise analysis was developed using information and assumptions from locally-adopted development plans and captures indirect or secondary traffic noise effects that may result from the project. No other indirect noise impacts would occur.

The project does not include an increase in the number of travel lanes and would construct the replacement bridge generally on the alignment of the decommissioned bridges. The Build Alternative would not affect the volume or vehicle class mix of I-5 traffic, as no capacity would be added to the system.

Changes in noise levels under the Build Alternative are minor when compared to the No Build Alternative; however, these minor changes would occur in the context of the broader noise environment (other noise sources include the interstate and local roadways in the area, the UPRR line, and light industrial commercial activities in the area east of I-5 and south of the Willamette River) and would be cumulative relative to other changes that may occur.

The cumulative effects of the project, combined with past, present, and future development in the area at residences, parks and trails, and commercial land uses between now and the project design year (2030) are likely to be minor due to the negligible changes in noise levels as a result of the project when compared to existing conditions.

3.9 Right-of-way

No changes have been made to this section presented in the EA.

3.10 Section 4(f) and 6(f)

Section 4(f) of the USDOT Act of 1966 provides protection to public parks and recreation lands, wildlife and waterfowl refuges, and historic sites. Section 4(f) prohibits the FHWA from using land from a significant publicly owned park, recreation area, wildlife or

waterfowl refuge, or from a significant historical site unless the Secretary of Transportation determines that:

- The project would not have more than a *de minimis*[8] impact on the area; or
- There is no feasible and prudent alternative to the use of such land; and
- Such action includes all possible planning to minimize harm to such park, recreational area, wildlife or waterfowl refuge, or historic site resulting from such use. Historic resources subject to Section 4(f) are described in Section 3.7.

Section 6(f) of the Land and Water Conservation Act of 1965 states that public property acquired or developed using Land and Water Conservation Fund (LWCF) monies shall not be converted to uses other than public outdoor recreation unless properties of at least equal fair market value and of reasonably equivalent usefulness and location are substituted.

3.10.1 Methods and Coordination

The project team reviewed planning documents of the City of Eugene Parks and Open Space Department and the Willamalane Park and Recreation District, including the Willakenzie Area Plan, the Restoration and Management Plan for the Landfill Cover and Adjacent Riparian Area in the Whilamut Natural Area, the East Alton Baker Park Plan, and the Alton Baker Park Master Plan, and coordinated with staff of the managing agencies, the Oregon Parks and Recreation Department and the National Park Service. The project team also reviewed the existing project documentation on the detour bridge.

3.10.2 Baseline Conditions

Alton Baker Park is a Section 4(f) resource located in the project area. The park is about 440 acres in size and is located in the cities of Eugene and Springfield; and includes ~~contains~~ the ~~235~~ 237-acre Whilamut Natural Area ~~and~~ (of which Willamalane's Eastgate Woodlands is a part). Eugene Parks and Open Space (POS) Division ~~Department~~ administers Eugene's portion of Alton Baker Park and the Whilamut Natural Area, ~~in Eugene~~ while the Willamalane Park and Recreation District (WPRD) administers Whilamut Natural Area of Alton Baker Park in Springfield. Eastgate Woodlands is part of Alton Baker Park and Whilamut Natural Area in Springfield. Activities in the park in areas adjacent to I-5 include the complex of multi-use paths than run through the area. These trails are heavily used for bicycling (both commuting and recreational), jogging and walking. Both jurisdictions' portions of the ~~The~~ Whilamut Natural Area ~~and Eastgate Woodlands~~ have open spaces and woodlands that provide habitat values. The Whilamut Natural Area also features interpretation of the natural and cultural environment, including the "talking stones" located in the area. Figure 7 in Section 3.11 (of the EA) illustrates the location of these park areas. The multiuse trails in the project area are ~~considered~~ recreational facilities under Section 4(f). There are no waterfowl or

[8] *De minimis* impacts on publicly owned parks, recreation areas, and wildlife and waterfowl refuges are defined as those that do not "adversely affect the activities, features and attributes" of the Section 4(f) resource.

wildlife refuges in the project area. Historic properties are described in Section 3.7; the Eugene Mill Race and Dam is a historic property that is considered a Section 4(f) resource.

~~WPRD~~ Lane County received LWCF grants to purchase land or develop facilities for Alton Baker Park (ODOT 2005). ~~However, there is no indication that the monies were used to purchase or develop the areas potentially affected by the proposed project. As part of the environmental process, ODOT will confirm whether LWCF monies were used for the specific portions of the park affected by the project and meet the requirements of Section 6(f)(3) of the Land and Water Conservation Act~~. Following publication of the EA, FHWA and ODOT received confirmation from Oregon Parks and Recreation Department that all of Alton Baker Park is encumbered under Section 6(f) of the LWCF Act. Section 6(f)(3) conversion requires the replacement of the converted property with property of equal cost, size and recreation value. There is an active Section 6(f) conversion process with WPRD resulting from the detour bridge.

3.10.3 Temporary Effects

3.10.3.1 No Build Alternative

The No Build Alternative would involve temporary occupancy (i.e., about four years) of some of the areas of Alton Baker Park during construction for staging and material storage. North Walnut Street in Eugene (off of Leo Harris Parkway southeast of Autzen Stadium) and the connecting path would be used as a haul route through Alton Baker Park during construction. ODOT would keep park facilities open and functioning to the maximum extent practicable. Areas disturbed during construction would be restored following construction.

The No Build Alternative would include development and implementation of a traffic management plan to keep multiuse trails in the project area open and safe during construction, or provide alternative routes. Areas affected by construction activities would be restored following construction. The temporary occupancy of the Section 4(f) property would not be considered “use” if the following conditions are met:

- The occupancy would be of a duration shorter than the period of construction
- Changes to the resource would be localized, i.e., only affect the Section 4(f) resource in the immediate vicinity of the project
- Uses, particularly multiuse trails, would be preserved during occupancy
- The temporary occupancy would not result in permanent physical effects on the Section 4(f) resource
- The property would be fully restored to a condition at least as good as that which existed prior to the proposed project.

ODOT ~~would need to reach a documented agreement~~ is working with both the Willamalane Park and Recreation District and with Eugene Parks and Open Space Division to develop agreements regarding the measures taken to avoid and minimize impacts such that the above conditions would be met and temporary occupancy of the park areas during construction would not be considered a “use” of the Section 4(f)

property. Based on this coordination with the park jurisdictions and the proposed avoidance and mitigation measures, temporary occupancy of a portion of Alton Baker Park in Eugene would constitute a *de minimis* impact on the Section 4(f) resource. Eugene Parks and Open Space Division has concurred with this finding in accordance with the Section 4(f) regulations (23 CFR 774).

In addition, according to the Oregon Parks and Recreation Department's (OPRD) Section 6(f) grants manual (OPRD, 2004), temporary occupancy of the park areas managed by POS ~~would be~~ is considered a conversion of a 6(f) property to non-recreation use. ODOT ~~will confirm whether~~ has confirmed that the affected areas are encumbered under Section 6(f) and ~~will consult~~ has consulted with the park agencies, the OPRD and National Park Service regarding necessary actions to address this conversion and resolve these issues ~~prior to the completion of the NEPA process~~.

3.10.3.2 Build Alternative

The Build Alternative would involve temporary occupancy (i.e., up to four years) of about two acres of Alton Baker Park (adjacent to ODOT right-of-way) during construction for staging and material storage (the location of the proposed staging area in Alton Baker Park is shown in Figure 3). North Walnut Street in Eugene (off of Leo Harris Parkway southeast of Autzen Stadium) and the connecting path would be used as a haul route through Alton Baker Park during construction. ~~The Build Alternative would involve temporary occupancy of portions of Alton Baker Park during construction for staging, material storage, and transportation of materials and equipment. Walnut Street and the connecting path would be used as a haul route through Alton Baker Park during construction. The occupancy would be during the term of construction (i.e., about four years) and~~ Park uses would be preserved during construction. ODOT would keep park facilities open and functioning during construction. The Build Alternative would include development and implementation of a traffic management plan to keep multiuse trails in the project area open and safe during construction, or provide alternate ~~alternative~~ routes. Areas affected by construction activities would be restored following construction. ~~If the conditions described under the No Build Alternative (Section 3.10.3.1), are met then the temporary occupancy of the Section 4(f) property would not be considered "use."~~ ODOT has coordinated and will continue to coordinate with the affected park jurisdictions and Oregon Parks and Recreation Department regarding implementation of the mitigation measures that will be enacted to offset project-related impacts. Based on this coordination with the park jurisdictions and the proposed avoidance and mitigation measures, temporary occupancy of a portion of Alton Baker Park in Eugene would constitute a *de minimis* impact on the Section 4(f) resource. Eugene Parks and Open Space Division has concurred with this finding in accordance with the Section 4(f) regulations (23 CFR 774).

Temporary occupancy of the park areas in Eugene ~~would be considered~~ is a conversion of a LWCF 6(f) property to non-recreation use ~~if the affected areas are encumbered~~ under Section 6(f). ODOT ~~will confirm whether the affected areas are encumbered under Section 6(f) and, if required, will consult~~ will work with ~~the park agencies~~ Eugene Parks and Open Space Division, the OPRD and National Park Service regarding ~~necessary actions~~ providing ~~adequate~~ suitable replacement property that meets LWCF requirements to address this conversion.

3.10.4 Permanent Effects

3.10.4.1 No Build Alternative

Under the No Build Alternative disturbed areas would be restored to a condition that is at least as good as those prior to the project. The detour bridge and roadway approaches are on fill that occupies a temporary easement in Alton Baker Park. The No Build Alternative would require either purchase of additional right-of-way or a permanent easement for the area where the fill is located.

3.10.4.2 Build Alternative

Because the Build Alternative would not require acquisition of new permanent right-of-way from Alton Baker Park and disturbed areas would be restored to a condition that is at least as good as those prior to the project, there would be no permanent effects on any 4(f) or 6(f) resources in Alton Baker Park. ~~Conversion of lands purchased or developed with LWCF funds would requires purchase of replacement property but that would not have a permanent impact on Alton Baker Park.~~ While no permanent impact would occur to Alton Baker Park, LWCF Section 6(f)(3) conversion ~~would~~ requires ~~the purchase of~~ ODOT to provide replacement property of equal or greater value, which would result in a permanent increase in park lands.

The Build Alternative would result in the removal of trees and vegetation ~~on the fill slope~~ west of I-5 within ODOT's right-of-way.

Two historic properties are located within the current I-5 right of way: the Eugene Mill Race and Dam and the Union Pacific Railroad. Since no additional part of either property would be incorporated in the project, Section 4(f) "use" would not occur.

3.10.5 Indirect and Cumulative Effects

3.10.5.1 No Build Alternative

The No Build Alternative would not alter the alignment of I-5 or result in indirect effects on park uses. The No Build Alternative would result in minor noise increases in Alton Baker Park adjacent to I-5, but the increase would not affect park uses. The No Build Alternative would not have indirect or cumulative effects on 4(f) or 6(f) resources.

3.10.5.2 Build Alternative

The Build Alternative would not substantially alter the alignment of I-5 or result in indirect effects on park uses. The Build Alternative would result in minor noise increases in Alton Baker Park adjacent to I-5, but the increases would not affect park uses. The Build Alternative would replace the existing decommissioned and detour bridges with bridges that are more harmonious with the surrounding areas and with fewer piers in the Willamette River, which would enhance the aesthetics of the parks (see Section 3.13). Therefore, the Build Alternative would not have indirect or cumulative effects on 4(f) or 6(f) resources.

3.11 Socioeconomics and Environmental Justice

The following socioeconomic elements are assessed in this section: community characteristics (including environmental justice), economic factors, community cohesion

(i.e., neighborhoods; community facilities, public safety, public transit facilities, parks and recreation, and pedestrian and bicycle facilities), and utilities.

3.11.1 Methods and Coordination

The project team reviewed the 2000 U.S. Census information on population, race and ethnicity, income levels, population ages, and housing statistics. Information was also gathered from other sources, including site visits (February 28 and May 31, 2007), aerial photographs (2005), GIS data from LCOG (2007a), public agency websites, regional and local planning documents, real estate websites, public involvement, and communication with local officials. The LCOG GIS data were used to identify the locations of community facilities important to community cohesion, such as schools, medical facilities, police and fire stations, religious institutions, cemeteries, and parks and recreational facilities. Information was verified during field visits by the project team. For the analysis of socioeconomic characteristics, the study area was defined as the area within 0.25 miles of the Build Alternative footprint.

3.11.2 Baseline Conditions

3.11.2.1 Community Characteristics

This section summarizes the population, housing, and minority and low-income populations within the study area.

Population

Table 6 presents population trends for Eugene, Springfield, and Lane County from 1970 to 2005. During this period, populations within Eugene and Springfield increased by 85 and 108 percent respectively.

Table 6: Population Growth from 1970 to 2005

Area	Year							
	1970	1975	1980	1985	1990	1995	2000	2005
Eugene	79,028	94,600	105,664	106,100	112,669	121,905	137,893	146,160
Springfield	26,874	34,900	41,621	40,690	44,683	49,005	52,864	55,860
Lane County	215,401	241,800	275,226	269,500	282,912	301,900	322,977	336,085

Source: LCOG, 2006

Housing

Table 7 summarizes the numbers and types of housing units in Eugene and Springfield. According to the 2000 US Census there are 61,332 total housing units in Eugene and 21,572 in Springfield.

Table 7: Housing Types in Eugene and Springfield in 1990 and 2000

Housing Types	Eugene		Springfield	
	1990	2000	1990	2000
Single Family Units*	29,782	36,881	11,442	13,515
Multi-family Units	15,959	21,170	4,777	6,118

Table 7: Housing Types in Eugene and Springfield in 1990 and 2000

Housing Types	Eugene		Springfield	
	1990	2000	1990	2000
Manufactured Units	1,855	3,249	1,777	1,900
Other	395	32	125	39
Total Units	47,991	61,332	18,121	21,572

**Includes attached and detached units.*

Source: U.S. Census Bureau, 2000

Environmental Justice Populations

Executive Order 12898 of February 11, 1994, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires federal agencies to consider whether federal agency actions would have a disproportionately high and adverse impact on minority or low-income populations.

This section provides information on minority and low-income populations in the study area. Census data at the block group level were used to determine the percentages of minority and low-income persons within the study area. Block groups are geographic subdivisions of counties used by the Census; the population of a block group typically ranges between 600 and 3,000 people.

Minority Populations

The United States Department of Transportation's Order on Environmental Justice defines a minority as a person who is:

- Black: A person having origins in any of the black racial groups of Africa.
- Hispanic: A person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
- Asian: A person having origins in any of the original peoples of the Far East, Southeast Asia, and the Indian subcontinent or Pacific Islands.
- American Indian and Alaskan Native: A person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition.

The study area minority population average is 18.2 percent, which is lower than the Eugene and Springfield average (22.5 percent and 23.8 percent respectively). None of the block groups in the study area have minority populations higher than those of the surrounding jurisdiction.

Low-Income Populations

A low-income individual is defined as a person whose household income is at or below the U.S. Department of Health and Human Services poverty guidelines (i.e., poverty level) (FHWA, 2000).

Based on US Census data, the overall study area low-income population (i.e., for all Census block groups that fall within the study area) average is 25.3 percent, which is

higher than Eugene (17.1 percent) and Springfield (17.9 percent). Three Census block groups (two in Eugene and one in Springfield) have higher low-income population percentages than neighboring block groups and surrounding jurisdictions.

High low-income population percentages within study area block groups may be due to the University of Oregon student population. According to the *Environmental Justice Baseline Data Summary* (LCOG, 2004b), in Lane County there were 66 block groups where the concentration of persons living at or below the poverty level was above the regional percentage. There were 34 block groups, generally located near the urban core, where 25 percent or more of the population was living in poverty. Block groups with the highest percentages were associated with the University of Oregon. (LCOG, 2004b).

3.11.2.2 Economic Elements

This section discusses the general economic conditions in the Eugene-Springfield area, including the economy, industry and employment, and income.

Economy

Historically, Lane County's economy has been based on timber and agriculture and the lumber and wood products sector is still the area's dominant manufacturing activity. However, the structure of the Eugene-Springfield metropolitan area economy is undergoing a shift away from lumber and wood products manufacturing (and other heavy industrial activities) and moving toward a more diverse economic base characterized by growth in light manufacturing activities and the nonmanufacturing activities of trade, commercial and professional services, finance, insurance, and real estate (LCOG, 2004a). In addition, the Eugene-Springfield metropolitan area is developing as a regional center for activities such as tourism, distribution, and financial services for serving the southwestern and central Oregon area.

Industry and Employment

The main industries in the Eugene-Springfield area, in terms of employment, are manufacturing, retail trade, and health and social services (LCOG 2005).

Major employment areas in the Eugene-Springfield area include the central business districts, the University of Oregon area, Sacred Heart Hospital, the west Eugene industrial area, the north (Gateway) and south Springfield industrial areas, the Highway 99N industrial area, Country Club Road, Chad Drive, and the Mohawk-Northgate area (LCOG, 2004a). Commercial and light industrial areas are located along the Franklin Boulevard corridor, both east and west of I-5, within the study area.

Income

Based on data from the 2000 U.S. Census, the per capita income in 1999 for the Eugene-Springfield metropolitan area was lower than for Oregon as a whole. In 2000, the unemployment rate in the Eugene-Springfield metropolitan area was comparable to Oregon and higher than the national rate. Median household income in Eugene was $35,850 and in Springfield was $33,031 (LCOG, 2004a).

3.11.2.3 Community Cohesion

Community cohesion refers to the nature and extent of social interactions among members of a community. This interaction may involve regular participation in community social events or neighborly exchanges on the street. Community cohesion includes the linkage of the community with churches, schools, and other community facilities and services.

- Indicators of community cohesion include:
- Neighborhoods
- Community facilities and linkages with and access to such facilities
- Public safety
- Public transit facilities
- Parks and recreation activities
- Pedestrian and bicycle facilities.

Neighborhoods

There are five residential neighborhood areas within the study area. The Harlow, Fairmount, and Laurel Hill neighborhoods are located in the Eugene portion of the study area. The East Alton Baker Park and Glenwood areas are located in the Springfield.

The Harlow Neighbors, Fairmount Neighbors, and Laurel Hill Valley Citizens associations are located in the Eugene portion of the study area. Eugene provides services to neighborhoods and neighborhood associations, including staff to support neighborhood organizations and activities, information updates, publishing of association newsletters and other public information activities, city/association collaboration, and support for the Safe Communities radar volunteer program and the Good Neighbor Agreement process.

The Harlow neighborhood is located in the northwest section of the study area. The area is bounded by I-5 on the east, the Willamette River and Alton Baker park on the south, Coburg Road on the west, and Beltline on the north. There is quick and easy access to I-5 from both the north and south portions of the neighborhood. In addition to residences, other uses in the Harlow neighborhood include parks, retail, public services, industrial, agriculture, and vacant land.

The Fairmount neighborhood is located in the southwest section of the study area. The neighborhood encompasses that area bounded by a line extending the alignment of Agate Street north in a straight line to the Willamette River. From this point of intersection, the boundary follows the river east to I-5, then south along I-5 to Franklin Boulevard, and west on Franklin to Judkins Point. The boundary is then concurrent with the boundary of the Laurel Hill Valley Citizens Association. In addition to residences, other uses in the Fairmount neighborhood include parks, retail, public service, industrial, and vacant land.

The Laurel Hill neighborhood is located in the southwest section of the study area. In addition to residences, other uses in the Laurel Hill neighborhood include parks, retail, public service, and vacant land.

Springfield provides services to neighborhoods, including the Neighborhood Watch program, which provides staff, organization, and support to participating neighborhoods.

The East Alton Baker Park neighborhood area is located in the northeast section of the study area. ~~West Centennial is a small neighborhood that shares its western border with Eugene.~~ The area includes businesses, restaurants, and shopping. Because of its convenient location, homes are in high demand in the East Alton Baker Park neighborhood. Parks and the Willamette River are located nearby.

The Glenwood area is located in the southeast section of the study area. The Glenwood area is entirely bordered by the Willamette River and Eugene. Springfield and Lane County have been planning to revitalize the Glenwood area. Glenwood has a high concentration of industrial and commercial uses and a limited supply of residential uses, most of which are older, low value residences and mobile homes (Leland Consulting Group, 2007). However, open spaces, and quiet streets are also present within the residential areas of Glenwood.

Community Facilities and Public Services

Public services, such as schools, medical facilities, emergency services, libraries, religious institutions, parks, and public transit are significant factors of community cohesion.

The study area is served by Eugene School District 4J and Springfield School District 019. There are no schools located within the study area.

There are no hospitals or medical facilities, libraries, religious institutions, or fire or police stations located within the study area

The Laurel Hill Cemetery is located on Judkins Road in Eugene in the southern portion of the study area.

Regional public transit within the study area is provided by Lane Transit District, which provides service to the Eugene-Springfield metropolitan area, as well as the cities of Coburg, Creswell, Cottage Grove, Lowell, Veneta, and Junction City. Lane Transit District operates 46 transit routes to serve the residents and students within its service area. There are currently five routes that provide service within the study area.

The parks and open spaces in the study area include the Whilamut Natural Area of Alton Baker Park, ~~Eastgate Woodlands of Alton Baker Park,~~ Franklin Park, and Prefontaine Memorial Park. Figure 7 <u>of the EA</u> identifies parks and open space areas within the study area. Alton Baker Park provides a valuable and heavily used recreational resource to residents of the study area and the Eugene-Springfield area. Alton Baker Park in Eugene is administered by the City of Eugene's Parks and Open Space Department and the park in Springfield is administered by the Willamalane Park and Recreation District. The Whilamut Natural Area of Alton Baker Park encompasses 237 acres of Alton Baker Park (which has a total area of 440 acres) and includes the Eastgate Woodlands in

Springfield. Planning and management of the Whilamut Natural Area is overseen by a Citizen~~'s~~ Planning Committee. The trails in the park are heavily used and provide connections with other park facilities as well as the local transportation network. The Whilamut Natural Area also includes environmental and cultural interpretive facilities. The Willamette River is used for recreational boating (including floating on inner tubes and rafts) and fishing. River access for boats is provided at several locations upstream of the project area.

Within the study area, there are sidewalks along portions of Garden Way, Centennial Boulevard, Walnut Road, Franklin Boulevard, and 15th Avenue. There are paths (for bicycle and pedestrian use) throughout the Whilamut Natural Area and Eastgate Woodlands, on the Knickerbocker Bike Bridge, and along Franklin Boulevard. Within the study area, there are bicycle lanes along portions of Garden Way, Centennial Boulevard, and Franklin Boulevard. Other popular biking streets within the study area include Walnut Road (closed to motor vehicles), Riverview Street, Augusta Street, and 16th Avenue.

3.11.2.4 Utilities

Utilities provide necessary amenities to residences and businesses within a community. Table 8 shows the utilities and providers that service the study area.

Table 8: Utilities and Providers Within the Study Area

Utility	Provider(s)
Electric and Water - Eugene	Eugene Water and Electric Board
Electric and Water - Springfield	Springfield Utility Board
Internet Access	CMC.Net Comcast
Natural Gas	NW Natural
Telecommunications	Qwest AT&T
Sewer/Stormwater	Metro Wastewater Commission

Source: Lane Metro Partnership, 2007

3.11.3 Temporary Effects

3.11.3.1 No Build Alternative

Construction activities associated with the No Build Alternative would result in a temporary, minor increase in population within the study area and the local communities due to construction workers and other related jobs during construction. Population would not be affected on a regional scale. Housing within the study area would not be affected by construction activities associated with the No Build Alternative.

Construction-related impacts associated with the No Build Alternative, including increased noise, traffic delays, dust, and visual impacts associated with construction activities, would be experienced by persons living near or traveling through the study area during construction. The No Build Alternative would not isolate existing neighborhoods or disrupt access to community facilities or transit services. ODOT has proposed measures to avoid and minimize temporary impacts associated with the No Build Alternative (see Section 4). As the anticipated temporary impacts of the No Build

Alternative would be minor and would be borne by all individuals in the area, it is not anticipated that minority or low-income persons would experience these impacts disproportionately in comparison to the entire study area population. Therefore, the No Build Alternative construction impacts would not be high, adverse, or disproportionately borne by low-income or minority populations.

Road closures or detours are not anticipated as a result of No Build Alternative construction. Construction activities would temporarily limit road capacity on I-5, which would result in minor delays. Any traffic interruptions due to construction activities would be temporary and access to local businesses would be maintained. Because road closures and detours are not anticipated, and traffic interruptions would be temporary, the No Build Alternative would not affect the transit routes that serve the project area.

Construction activities associated with the No Build Alternative would temporarily stimulate the economy as businesses within or near the study area would experience an increase in sales by patronage of construction workers. There would be a temporary, minor increase in construction-related employment opportunities within the study area, local communities, and the region.

As construction staging areas and haul roads would utilize park lands and facilities, park users may temporarily be inconvenienced. Temporary noise, visual, and air quality impacts may affect park users (see Sections 3.1.3, 3.8.3, and 3.13.3). Demolition and construction activities would affect river users; boating and passage through the area on the Willamette River would be restricted occasionally during construction.

Pedestrians and bicyclists utilizing facilities in the park areas or along Franklin Boulevard would experience inconveniences during construction due to construction activity. Construction activities may result in short term, temporary closures of sidewalks, paths, or bicycle lanes. Appropriately signed and/or flagged detour routes will be provided for temporary closures of sidewalks, paths, or bicycle lanes.

Construction activities associated with the No Build Alternative would not affect utilities.

3.11.3.2 Build Alternative

Construction activities associated with the Build Alternative would result in a temporary, minor increase in population within local communities due to construction workers and other related jobs during construction. Population would not be affected on a regional scale. Housing within the study area would not be affected by construction activities associated with the Build Alternative.

Construction-related impacts associated with the Build Alternative, including noise, dust, traffic, park and visual impacts, would be experienced by park users and persons living near or traveling through the study area during construction. The Build Alternative would not isolate existing neighborhoods or disrupt access to community facilities or transit services. ODOT has proposed measures to avoid and minimize temporary impacts associated with the Build Alternative (see Section 4). As the anticipated temporary impacts of the Build Alternative would be minor and would be borne by all individuals in the area, it is not anticipated that minority or low-income populations would experience these impacts disproportionately in comparison to the entire study area population. Thus, the Build Alternative construction impacts would not be high, adverse, or disproportionately borne by low-income or minority populations. Further, the public

involvement process conducted to date, and described in Section 1.4 of the EA, did not identify specific concerns regarding environmental impacts to environmental justice populations. The information gathered from public involvement, combined with census data and review of other technical reports written for this project, concludes that temporary effects associated with construction of the Build Alternative would not cause a disproportionate adverse impact on environmental justice populations.

I-5 and Franklin Boulevard would generally remain open and functioning during construction of the Build Alternative. Any traffic interruptions due to construction activities would be temporary and access to local businesses would be maintained. Road closures and detours are not anticipated, and traffic interruptions would be temporary, the Build Alternative would not affect the transit routes that serve the project area.

Construction activities associated with the Build Alternative would temporarily stimulate the economy as businesses within or near the study area would experience an increase in spending on construction materials, fuel, food, and other products during the about four years of construction activities. There would be an increase in construction-related employment opportunities and spending within the study area, local communities, and the region.

Access to community facilities, residences, and roadways would be maintained during construction.

Construction staging areas and haul roads would temporarily impact some park and recreation lands. A northern staging area would be located near the decommissioned bridge abutment near the pedestrian trail (see Figure 3). The southern staging area would be located in a clearing adjacent to the pedestrian trail east of the detour bridge. Both locations currently are undeveloped. The park trail on the north side of the Willamette River that connects with Leo Harris Parkway southeast of Autzen Stadium would be used for a haul road for the north bank location. This is the same haul road that was used for construction of the detour bridge. Park trails along the north and south shore of the Willamette River and Canoe Canal may be temporarily re-routed during construction; therefore, construction activities associated with the Build Alternative would temporarily affect users of the Whilamut Natural Area, including the Eastgate Woodlands, and park trails north and south of the Willamette River. Pedestrians and bicyclists utilizing facilities in the park areas or along Franklin Boulevard would experience inconveniences during construction due to construction activity. Construction activities may result in short term, temporary closures of sidewalks, paths, or bicycle lanes. Appropriately signed and/or flagged detour routes will be provided for temporary closures of sidewalks, paths, or bicycle lanes.

Demolition and construction activities would affect river users; boating and passage through the area on the Willamette River would be temporarily restricted during construction.

Construction activities associated with the Build Alternative would not affect utilities.

3.11.4 Permanent Effects

3.11.4.1 No Build Alternative

Operation of the No Build Alternative would not affect the study area population or the population on a community or regional scale. Housing within the study area would not be affected by operation of the No Build Alternative. Property acquisitions and resulting displacements/relocations would not be required under the No Build Alternative.

Operational impacts from the No Build Alternative would be borne by all individuals in the area. It is not anticipated that environmental justice populations would experience these impacts disproportionately in comparison to the entire study area population. For this reason, the No Build Alternative permanent impacts would not be high, adverse, or disproportionately borne by low-income or minority populations.

The No Build Alternative would provide continuance of local and regional connectivity and continuance of people and freight/goods movement. The economic base and types of employment in the area would not be altered by the No Build Alternative.

The No Build Alternative would provide continued access via I-5 to and from community facilities and parks, emergency service response, and public transit.

The No Build Alternative would not permanently affect utilities.

3.11.4.2 Build Alternative

Long term effects of the Build Alternative would not affect the study area population or the population on a community or regional scale. Housing within the study area would not be affected by operation of the Build Alternative.

The Build Alternative would result in the construction of bridges that meet the required safety standards, providing local and regional connectivity and continuance of people and freight/goods movement. A major safety improvement would be the use of standard width shoulders that would provide enough room for drivers to pull completely off the highway when they have emergencies. This would allow for the continued support of local and regional economy and employment. The economic base and types of employment in the area would not be altered by the Build Alternative.

The Build Alternative would result in the construction of bridges that meet the required safety standards and provide the continuance of access to community facilities and parks, emergency service response, and public transit. Pier location Option A may result in the relocation of the trail along the north side of the river to a location away from the river. Pier location Option B may result in realignment of the existing trail on the south side of the Willamette River (i.e., the trail adjacent to Franklin Boulevard).

3.11.5 Indirect and Cumulative Effects

3.11.5.1 No Build Alternative

The No Build Alternative would not alter the existing transportation system or increase capacity and would not support projected future traffic demands (see Section 3.12.4.1). As a result, it could influence the amount and rate of long-term development in the project area and have an indirect socioeconomic effect.

Growth in the project area, as addressed by plans and policies adopted by the cities of Eugene and Springfield, could be affected by the No Build Alternative.

The cumulative socioeconomic impacts of the No Build Alternative, combined with past, present, and reasonably foreseeable future actions in the area, would be generally minor with respect to socioeconomic conditions.

3.11.5.2 Build Alternative

The Build Alternative would not alter the existing transportation system or increase capacity; it would not result in indirect socioeconomic effects.

Cumulative socioeconomic impacts associated with the Build Alternative would be the same as those associated with the No Build Alternative.

3.12 Transportation

3.12.1 Methods and Coordination

The project team assessed transportation facilities and operations by reviewing existing plans, roadway designs, and traffic analyses. The project team also coordinated with local agencies regarding transportation facilities and traffic operations.

3.12.2 Baseline Conditions

I-5 runs in a generally north-south direction through the project area, with the City of Eugene on the west side and the City of Springfield on the east. The decommissioned I-5 bridges over the Canoe Canal and the Willamette River were completed in 1962. The temporary detour bridges were completed in 2004 following the decommissioning of the existing bridge. The bridges that cross the Willamette River also cross Franklin Boulevard and the UPRR.

Franklin Boulevard is a major east-west arterial in the Eugene-Springfield area that crosses under the south end of the Willamette River Bridge and provides a connection between the two cities. Numerous local streets connect to Franklin Boulevard in and adjacent to the project area. Interchanges with I-5 are located at Franklin Boulevard and Glenwood Drive.

Several multiuse trails are located in the project area. These trails are heavily used, but are not classified as transportation facilities in local plans.

The UPRR tracks that cross below I-5 include one mainline track and one siding track.

The Willamette River is not considered a navigable waterway for purposes of commercial navigation.

The current ADT is about 49,000 vehicles on I-5 in the project area and is predicted to increase to roughly 73,000 ADT by 2030.

3.12.3 Temporary Effects

3.12.3.1 No Build Alternative

The No Build Alternative would remove the decommissioned bridges and upgrade the detour bridges. Traffic would be maintained on I-5, Franklin Boulevard and the UPRR throughout construction associated with the No Build Alternative. Two lanes of traffic each direction would be maintained on I-5 and one lane of traffic would be maintained on each ramp at all times. Some short-term closures of Franklin Boulevard may be required during demolition, but these would be limited to a few hours.

It may be necessary to close the multiuse trails for short periods. Detours would be provided in those cases similar to what was done during construction of the detour bridge. The closures would be coordinated with park officials.

There would be short term closure of the railroad to set beams or other construction work. These would be coordinated with the UPRR to minimize rail traffic disruptions.

Franklin Boulevard would be used for access to the southern staging area. The northern staging area would be accessed via North Walnut Street off of Leo Harris Parkway southeast of Autzen Stadium, which is used as a recreation trail and closed to traffic within the park. The recreation trail would temporarily be converted to a haul route, as was done for construction of the detour bridge. Recreation trail users would be rerouted.

3.12.3.2 Build Alternative

Traffic would be maintained on I-5, Franklin Boulevard and the UPRR throughout construction of the Build Alternative. No detours would be required. Two lanes of traffic each direction would be maintained on I-5. One lane of traffic would be maintained on each ramp at all times. A detour ramp would be required during reconstruction of the Franklin Boulevard southbound on-ramp.

Some short term closures of Franklin Boulevard may be required during construction, but these would be limited to a few hours. There would likely be short periods when I-5 would be reduced to one lane in one direction, i.e., when connections to adjacent pavement or ramps are constructed.

It may be necessary to close ~~the~~ recreation trails for relatively long periods of time (i.e., days or even months at a time) ~~short periods~~, including the trail used for the haul route (Day Island Road, also called North Walnut Path)~~up to several days~~. Detours would be provided in those cases similar to what was done during construction of the detour bridge. The closures would be coordinated in advance with the ~~park officials~~ Eugene Parks and Open Space Division. Nonconstruction traffic would be restricted during closures. Signage, flagging, and other means would be provided to facilitate safe use of the trail system.

There would be short term closure of the railroad to set beams or other construction work. These would be coordinated with the UPRR to ensure rail traffic disruptions are kept to a minimum.

Standard ODOT procedures would be followed for all road and lane closures.

Franklin Boulevard would be used for access to the southern staging area. The northern staging area would be accessed via Walnut Street. The recreation trail would temporarily be converted to a haul route as was done for construction of the detour bridge. A detour would be required for the recreation trail.

3.12.4 Permanent Effects

3.12.4.1 No Build Alternative

The No Build Alternative would provide safer bridges and would ensure long-term regional and statewide mobility. It would not support projected future traffic demands.

3.12.4.2 Build Alternative

The Build Alternative would provide new and safer bridges that would support long-term regional and statewide mobility if improvements to the system are needed in the future. A major safety improvement would be the use of standard width shoulders that would provide enough room for drivers to pull completely off the highway when they have emergencies. The Build Alternative would have no long term effects on Franklin Boulevard, the UPRR, or trails.

3.12.5 Indirect and Cumulative Effects

3.12.5.1 No Build Alternative

The No Build Alternative would have no indirect or cumulative effects. No changes in system capacity would result from the No Build Alternative.

3.12.5.2 Build Alternative

The Build Alternative would have no indirect or cumulative effects. The Build Alternative would provide bridges that would be wide enough to carry three lanes in each direction, but would be striped for two lanes in each direction. Restriping of the bridges to three lanes in each direction would require the widening of I-5 north and south of the bridges, which would involve additional environmental analysis, and agency and public review. This expansion is discussed as a future project in the TransPlan but is not funded and, therefore, not a reasonably foreseeable action. As such, the Build Alternative would not change the capacity of I-5.

3.13 Visual Quality

No changes have been made to this section presented in the EA.

3.14 Water Resources

No changes have been made to this section presented in the EA.

3.15 Wetlands

No changes have been made to the text in this section presented in the EA. Figure 13 of the EA has been revised to include labeling of the frog ponds in response to public comments. The revised Figure 13 is presented below.

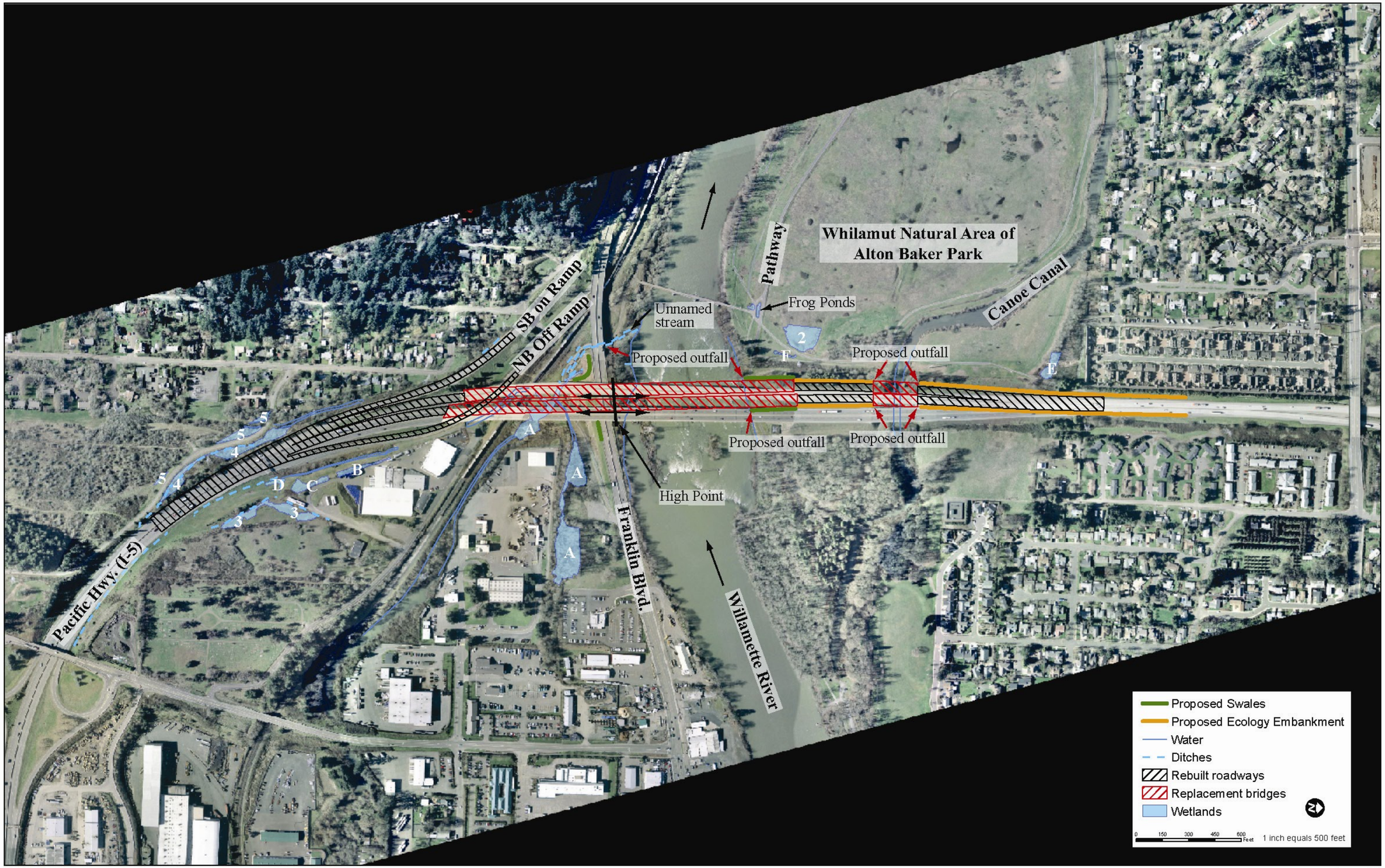

Figure 13
Location of Water Resources and Potential Water Quality Feature
I-5 Willamette River Bridge Project

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4.0 SUMMARY OF MITIGATION AND CONSERVATION MEASURES

This section identifies mitigation and conservation to be implemented as part of this project in order to avoid environmental impacts, conserve resources, and otherwise minimize environmental impacts. In addition, consistent with the project goals and objectives, ODOT looked for opportunities to incorporate environmental enhancements into the project where it's practicable. Changes and additions to the mitigation and conservation measures presented in the EA are highlighted with ~~strikethrough~~ and underline text.

The designer and construction contractor will be required to comply with the OTIA III Environmental Performance Standards (EPS) (http://www.obdp.org/files/partner/environmental/EPS_REG.pdf). These performance standards define the level of effect that a project may have upon the environment, thereby limiting or avoiding impacts.

4.1 Air Quality

Construction contractor ~~are required to~~ will comply with OAR 340-208-0210 and Lane Regional Air Protection Agency (LRAPA) 48-015, requiring that reasonable precautions be taken to avoid dust emissions during construction activities. Further, special contract provisions will require contractors to minimize fugitive dust (i.e., dust that could migrate off site).

No long-term operational air quality impacts are anticipated; therefore, no mitigation is required.

4.2 Archaeology

While every effort was made to examine the area of potential effect in a fashion that would reveal buried cultural material, it is possible that some construction activities may affect unknown intact archaeological deposits. In the event that buried cultural resources or deposits are exposed during construction, Oregon State laws (ORS 97.740 – 97.760, 358.905 – 358.955, and 390.235), as well as various federal laws and regulations require that work in the vicinity of such finds immediately be suspended. The State Historic Preservation Officer (SHPO) and ODOT should be notified, and a professional archaeologist called in to evaluate the significance of the find and recommend a subsequent course of action in consultation with SHPO, ODOT, and the appropriate tribal governments.

4.3 Biology

4.3.1 Species Avoidance

The project does have the potential to impact fish and wildlife species during construction activities. To avoid fish and wildlife species and minimize temporary impacts from construction activities, all applicable OTIA III State Bridge Delivery Program EPS will be implemented to reduce the extent of direct and indirect impacts to fish and wildlife species. These include (but are not limited to):

- Fish avoidance, including in-water work timing
- Cessation of work under high flow conditions

- Fish screens for water in-takes or diversions
- Providing for fish passage during and after construction and ~~prepare~~ preparation of a Fish Passage Plan for submittal and approval from ODFW
- Hydro-acoustic measures identified in the Noise Attenuation Plan
- Isolation of the work area and release of fish species captured during isolation~~.~~.
- Wildlife avoidance to minimize injury and death to wildlife species by incorporating timing restrictions under the MBTA, including no removal of trees being used for nesting during the breeding season~~.~~
- Apply exclusionary methods to prevent nesting activities before March 15
- Maintain existing and re-establish connectivity between aquatic and upland habitats for wildlife movement
- Incorporate bat habitat into the design of the new bridges~~.~~
- Follow the terms and conditions of ODOT's most recent Drilling Programmatic Biological Opinion

In addition to the measures outlined in the OTIA III State Bridge Delivery Program EPS, the following measures will be implemented to further avoid or minimize the impacts of the project:

- ODOT will coordinate with WPRD ~~throughout~~ during design and construction regarding the status of the great blue heron rookery located in the Whilamut Natural Area of Alton Baker Park. If the rookery is active, pile driving will be restricted during the great blue heron nesting period (February 1 – May 31).
- The contractor will minimize lighting during construction to only the areas necessary for safety, security, and operations. ODOT will encourage directional lighting for areas where lighting is required for construction, safety, or security, to minimize intrusion into the surrounding natural area.

4.3.2 Habitat Avoidance and Removal Minimization and Restoration

In addition to affecting fish and wildlife species directly, the project also has the potential to impact fish and wildlife habitat during construction activities. ODOT will coordinate with ODFW through the design process to identify opportunities to minimize habitat disturbance. To avoid and minimize potential impacts to fish and wildlife species habitat during and after construction activities, all applicable OTIA III State Bridge Delivery Program EPS and additional mitigation measures will be implemented to reduce the extent of direct and indirect impacts to habitat. These include:

- Minimize effects to natural stream and floodplain by keeping the work area within ~~to~~ the smallest footprint needed.
- Prepare and implement a plan to prevent construction debris from dropping into the Willamette River and to remove materials that may drop with a minimum disturbance to aquatic habitat.
- Prepare site restoration plans for upland, wetland, and streambank areas to include native plant species and noxious weed abatement techniques, and use large wood and rock as components of streambed protection treatments.

- Flag boundaries of clearing limits and sensitive areas to be avoided during construction.
- Coordinate with ~~Willamalane Park and Recreation District~~ WPRD, ~~and~~ the Eugene Parks and Open Space Division, and the Citizen Planning Committee (CPC) regarding sensitive areas in the Whilamut Natural Area of Alton Baker Park, ~~and the Whilamut Natural Area that~~ which should be avoided during construction.
- Restore and revegetate disturbed areas using native plant species and noxious weed abatement techniques. Disturbed areas will be restored to the same or better condition than before construction.
- Where practical, revegetate riparian areas beneath new bridges with native plants appropriate for limited light conditions.
- Employ the five-year monitoring and maintenance plan for site restoration areas as discussed in the EPS.
- ODOT will provide training for the contractor staff and construction inspectors regarding sensitive species in the project area. If Northwestern pond turtles or other sensitive species are encountered during construction, they will be relocated by qualified personnel to an appropriate area outside of the project construction area.
- The contractor will clean vehicles and equipment to prevent tracking and spread of noxious weed seeds.

ODOT has entered into formal agreements with the WPRD and Eugene Parks and Open Space Division regarding the mitigation and conservation measures that will be taken during and following construction.

In addition to the above noted mitigation measures, ODOT proposes the following measures:

- Plant the area immediately west of I-5 in Whilamut Natural Area with native vegetation to extend the riparian forest to the area between the Willamette River and the Canoe Canal.
- Remove invasive plant species from the riparian forest area immediately west of I-5 and south of the Canoe Canal.
- Plan and implement the above enhancement measures in coordination with the Eugene Parks and Open Space Division and the Citizen Planning Committee for the Whilamut Natural Area. These areas will be monitored and maintained by ODOT for one year.

4.4 Geology

All earthwork will require temporary erosion and sediment control until permanent control is established. Earthwork along the riverbanks should include engineering controls to prevent movement of loose soil into the river. Finished slopes will be constructed under the guidance of an engineer to prevent over-steepening of the slopes and to anchor loose material. In-water work should include construction of cofferdams or similar Best Management Practices (BMP) to control releases of sediment into the river. In-water work will be completed during the in-water work periods agreed to between ODOT and Oregon Department of Fish and Wildlife.

4.5 Hazardous Materials

Construction contractors will remove and properly dispose of hazardous materials, if encountered, such that any remaining material not present a risk to the general public or the environment via subsurface movement away from the source areas. The contractors will also contain demolition waste to prevent potentially hazardous components from entering the environment. The OTIA III State Bridge Delivery Program EPS includes standards for management of potentially hazardous waste materials, which require proper storage, use, and the disposal of hazardous or toxic waste materials associated with the project. In addition, the OTIA III Materials and Contamination Performance Standard will be applied, which provides direction to contractors for procurement, use, and disposal of potentially hazardous materials and waste.

The OTIA III Materials Procurement and Use Hierarchy Environmental Performance Standard, which promotes reuse and recycling of materials, minimizes disposal, and promotes sustainability, will be followed.

4.6 Historic Resources

In accordance with the requirements of Section 106 of the National Historic Preservation Act, ODOT and FHWA consulted with the Oregon State Historic Preservation Office regarding the proposed project's effects of the Mill Race. SHPO concurred with a determination that the project would have no adverse effect on the Eugene Millrace and Dam. ODOT will work with local historical societies to develop and install an interpretive sign in the vicinity of the Eugene Millrace and Dam. ODOT will minimize effects for those features of the Mill Race that will not necessarily be directly affected by the project.

4.7 Land Use

ODOT will acquire all required land use permits and approvals prior to beginning construction. See sections 4.10, 6.1, 6.2 for additional information.

4.8 Noise

4.8.1 Mitigation of Noise during Construction

The following construction noise abatement measures will be included in the project specifications:

- No construction shall be performed within 1,000 feet of an occupied dwelling unit on Sundays, legal holidays, or between the hours of 10 p.m. and 6 a.m. on other days, without the approval of the ODOT Construction Project Manager and notification of affected residents.
- All equipment used shall have sound-control devices no less effective than those provided on the original equipment. No equipment shall have unmuffled exhaust.
- All equipment shall comply with pertinent equipment noise standards of the U.S. Environmental Protection Agency.
- No pile-driving operations shall be performed within 3,000 feet of an occupied dwelling unit on Sundays, legal holidays, or between the hours of 8 p.m. and 8 a.m.

on other days, without the approval of the ODOT Construction Project Manager and notification of affected residents.

- ~~The noise from any rock crushing or screening operations, if performed within 3,000 feet of any occupied dwelling, shall be mitigated by strategic placement of material stockpiles between the operation and the affected dwelling or by other means approved by the ODOT Construction Project Manager.~~
- If a specific noise impact complaint occurs during the construction of the project, one or more of the following noise mitigation measures may be required at the Contractor's expense as directed by the ODOT Construction Project Manager:
    - Locate stationary construction equipment as far from nearby noise-sensitive properties as feasible.
    - Shut off idling equipment.
    - Reschedule construction operations to avoid periods of noise annoyance identified in the complaint.
    - Notify nearby residents whenever extremely noisy work will be occurring.
    - Install temporary or portable acoustic barriers around stationary construction noise sources.
    - Operate electrically-powered equipment using line voltage power or solar power.

4.8.2 Mitigation of Permanent Noise

The ODOT *Noise Manual* lists a number of noise mitigation measures that can be considered for reduction of noise levels at impacted properties. These include truck restrictions, speed restrictions, alignment changes, and traditional noise barriers. Mitigation of the traffic noise impacts through truck or speed restrictions, or changes in the horizontal or vertical alignment was considered but rejected as inconsistent with the purpose and nature of the project, and because of the importance of I-5 as a freight route.

The ODOT *Noise Manual* contains criteria for both noise reduction effectiveness and cost-effectiveness to be used in analyzing noise walls. For a residence to be considered to be "benefited" by a noise wall, the proposed wall must achieve at least a 5-dBA noise reduction, with a noise-reduction goal of 7 to 8 dBA. The number of residences benefited and the degree by which they are benefited determines cost-effectiveness. The ODOT *Noise Manual* states that a reasonable cost per residence for noise abatement is a maximum of $25,000. Noise wall costs are calculated using the ODOT standard cost for pre-cast post and panel walls of $20 per square foot. This cost includes a 30% engineering and contingency cost, but does not include additional costs such as right-of-way acquisition.

Noise walls are generally unable to achieve effective noise reductions when interrupted by driveways. Walls for single, isolated residences are not usually able to meet the ODOT minimum noise reduction goals and also meet the cost-effectiveness criteria. In addition, mitigation in the form of noise barriers is typically not recommended for commercial or industrial areas. Commercial properties often rely on visual exposure to the roadway to attract customers and provide convenient access to their facility.

A discussion of noise abatement is included below for those receptors predicted to have noise impacts under the 2030 Build Alternative. (Locations of the receptors are shown in Appendix B, Figures B-1 through B-6).

Receptors 2, 4, 5, 8, 9, 10, and 11

A noise wall was evaluated to reduce noise impacts predicted in the Anderson Lane subdivision on the east side on I-5 at the northern end of the project area. The noise wall was modeled in the right-of-way (ROW) between the freeway and the residences.

A 13-foot wall in this location would be able to provide at least a 5-dBA noise reduction to 11 residential properties. The total cost of the wall was calculated to be approximately $187,200, which equates to approximately $17,000 per benefited residence. A wall in this location meets the ODOT effectiveness and cost-effectiveness criteria.

The final decision on noise mitigation will be made after public input and during the final design process. Should the project design significantly change, or should the noise-impacted residents be in opposition to the recommended noise mitigation, the proposed noise mitigation may not be incorporated into the project.

~~A wall in this location was designed to provide the required noise reductions at residences behind the wall. The analysis found that the wall needed to be 13-feet high in order to provide the required noise reductions. A 13-foot wall in this location would be able to provide at least a 5-dBA noise reduction to six residential properties. The cost of the wall on a per benefited-residence basis was calculated to be about $31,200. The cost of a noise wall in this location exceeds the maximum allowable cost per benefited residence and is therefore not recommended.~~

A map of the exact location of the noise wall analyzed is shown in Appendix B, Figure B-7.

Receptors 20, 21 and 22

Receptors 20, 21, and 22 fall within the Whilamut Natural Area of Alton Baker Park ~~and Eastgate Woodlands~~ on the north bank of the Willamette River. Public use areas in this area are predominantly pedestrian pathways. There are no picnic areas, seating areas, or other use areas where members of the public would be expected to spend significant amounts of time. Noise walls were therefore not recommended for the park areas.

Receptor 24

Receptor 24 represents a single residential property with direct driveway access onto Franklin Boulevard. Noise walls are generally unable to achieve effective noise reductions when interrupted by driveways. In addition, walls for single, isolated residences are not usually able to meet the ODOT minimum noise reduction goals while also meeting the cost-effectiveness criteria.

Noise walls are unlikely to be effective in this location and are therefore not recommended in this case.

Receptors 45 and 67

Receptors 45 and 67 both represent single light industrial/commercial properties. Noise mitigation is not usually recommended for commercial properties.

Receptors 31, 32, 35, 36, 37, 39, 40, 42, 43, 44, 48, 49, 50, 51, 53, 54, 55, 56, 58, 59, 60, 61, 62, 63, 64, 65, 66, 68, 69, 71, 72, 73, 74, 75, and 76

These receptors are located in the Laurel Hill residential neighborhood on the west side of I-5, south of the southbound on-ramp to I-5 from Franklin Boulevard. A noise wall located on the south edge of the southbound on-ramp to I-5 from Franklin Boulevard was evaluated to reduce noise levels in the Laurel Hill neighborhood. The location of this noise wall is shown in Appendix B, Figures B-8 through B-11.

Noise wall panel heights in this location were optimized to between 12 and 16-feet in height to provide the required noise reductions at residences behind the wall. A 12- to 16-foot wall in this location would be able to provide between 5- and 9-dBA noise reductions to thirty residential properties. The cost of the wall on a per benefited-residence basis was calculated to be about $18,000. A wall in this location meets the ODOT noise reduction effectiveness and cost-effectiveness criteria.

The final decision on noise mitigation will be made after public input and during the final design process. Should the project design significantly change, or should the noise impacted residents be in opposition to the recommended noise mitigation, the proposed noise mitigation may not be incorporated into the project.

Receptors 77 and 79

Receptors 77 and 79 fall within the Laurel Hill Cemetery. There are no defined public use or seating areas within the cemetery grounds, and the property line facing I-5 is about 1,000 feet long. Providing a 1,000 foot noise wall would entail significant cost and is therefore not recommended.

4.9 Right-of-way

To minimize potential temporary impacts from the construction staging on park land to the extent practicable, the contractor ~~should~~ will stay within the ODOT-designated area ~~easement or right-of-way and not encroach into the park or wetland areas~~ within the Whilamut Natural Area of Alton Baker Park.

~~If construction staging is located in any park, t~~The contractor will ~~be required to~~ develop a traffic management plan for continued use of the trails. ODOT will require the contractor to meet regularly with the Eugene Parks and Open Space Division and WPRD to allow their input in the development of the traffic management plan. These meetings will also be held regularly during construction to provide advance notification of activities that may affect path traffic.

4.10 Section 4(f) and 6(f)

FHWA has determined the temporary occupancy of the Alton Baker Park in Eugene to be a Section 4(f) use. ODOT will consult with and develop a documented agreement with the Willamalane Park and Recreation District and with Eugene Parks and Open

Space Division regarding the measures taken to avoid and minimize impacts ~~such that the temporary occupancy of~~ to the park areas during construction ~~would not be considered a "use" of the Section 4(f) property~~. ~~Potential m~~ Measures to avoid and minimize impacts during construction include:

- The construction contractor will minimize the areas used for material storage and staging to the extent practicable.
- Trails will, to the maximum extent practicable, be kept open, safe, and useable during construction. A continuous route across ODOT right-of-way for the bicycle/pedestrian pathways ~~would~~ will be kept open and accessible at all times ~~maintained~~ on both the north side and the south side of river during construction. The construction contractor will, in coordination with park officials, prepare a traffic control plan for the park trail system.
- The construction contractor will coordinate with park officials, the Citizen Planning Committee for the Whilamut Natural Area, and community groups on any temporary detours of trails.
- Areas disturbed by construction will be restored to their preconstruction conditions, or enhanced where degraded conditions exist prior to disturbance by construction.
- Any reconstruction and/or realignment of trails will be done in accordance with applicable design standards.
- The construction contractor will identify when the North Walnut Path will be used as a haul route, notify the Eugene Parks and Open Space Division in advance of closures, restrict non-construction traffic during closures, and provide signage, flagging, and other means to facilitate safe use of the trail system.
- The contractor will place signs at river access points and provide media releases and other public outreach to notify river users of upcoming construction and possible hazards.
- The contractor will coordinate with Lane County Sherriff Marine Patrol to ensure adequate consideration for accident prevention, and to provide necessary warnings and lighting to allow safe river navigation around obstructions or hazards and toward safe passage through the work zone.
- In coordination with the Eugene Parks and Open Space Division, the small bike path section located west of the small pond near the end of Knickerbocker Bridge on the north side of the Willamette River will be removed during site restoration. Removal of this path will improve bike travel and aesthetics of the trail system in this area.
- ODOT will fund the creation and placement of up to five additional "talking stones" for placement within the Whilamut Natural Area (within the combined areas under the jurisdiction of the City and Willamalane Park and Recreation District). The final placement of the stones will be determined by the Eugene Parks and Open Space Division, Willamalane Park and Recreation District, and the Citizen Planning Committee for the Whilamut Natural Area.
- ODOT will, in coordination with the Eugene Parks and Open Space Division, plant native vegetation to initiate establishment of a riparian forest corridor west of I-5, outside of ODOT's right-of-way, between the existing forested areas along the Willamette River and south of the Canoe Canal, extending the forested area

southward toward the Willamette River. ODOT will coordinate with the Eugene Parks and Open Space Division to develop the planting plan and define the specific areas to be planted.

- ODOT will, in coordination with the Eugene Parks and Open Space Division, remove invasive plants from and plant native understory plants in the existing riparian forest area west of I-5 and south of the Canoe Canal. ODOT will coordinate with the Eugene Parks and Open Space Division to develop the planting plan for the re-establishment of native understory plants, and define the specific area where the invasive plants will be removed.

The Section 4(f) use of Alton Baker Park in Eugene, when considering mitigation, would be *de minimis*. Eugene Parks and Open Space has concurred with this finding.

In addition, ~~if affected park areas are~~ temporary occupancy of park areas for over 180 days ~~would be~~ is a conversion of a 6(f) property to non-recreation use. ODOT will consult with POS and Oregon Parks and Recreation Department and National Park Service ~~to confirm the area's status under Section 6(f) and regarding~~ and complete necessary actions to address ~~any~~ the conversion requirements with National Park Service approval. The approval action will be completed prior to the start of construction. As required by Section 6(f) ODOT will provide replacement property. Additionally, the conversion must be consistent with the Statewide Comprehensive Outdoor Recreation Plan.

4.11 Socioeconomics

To avoid and minimize the potential impacts of the project, measures such as the following will be incorporated into the project and implemented during construction and operation of the project.

4.11.1 Measures during Construction

A Traffic Management Plan (TMP) will be prepared and implemented. If local streets must be temporarily closed during construction, detour routes will be provided and clearly marked with signs. The TMP will include an emergency vehicle routing plan to minimize the risk of increased response times during construction.

- ODOT will coordinate and publish specific communications protocols to allow the public open communication with ODOT and the construction contractor during construction so the public can identify concerns and make suggestions.
- ODOT will coordinate with school districts prior to beginning construction activities.
- ODOT will coordinate with emergency services prior to beginning construction activities.
- ODOT will coordinate with the Lane Transit District to minimize potential effects on bus services.
- ODOT will coordinate with utilities in the project area to ensure avoidance or minimization of conflicts.
- Access to businesses will be maintained throughout the construction period through careful planning of construction activities, and through an awareness of the need to provide adjacent properties with reasonable access during business hours.

Appropriate signs will be posted communicating to potential customers that businesses are open during construction.

- Daytime street closures will be kept to a minimum to provide access to businesses during regular business hours. Where possible, construction near residences will be restricted to daytime hours. Construction will be restricted on legal holidays (see Section 4.6). Any exception will require approval by the ODOT construction Project Manager.
- Trails, bicycle lanes and sidewalks will, to the maximum extent practicable, be kept open, safe, and useable during construction. A continuous route across ODOT right-of-way for the bicycle/pedestrian pathways would be maintained on both the north side and the south side of river during construction. Where detours of trails, bicycle lanes, or sidewalks may be necessary, signing and/or flagging will be provided to direct users through the detour.
- Removal of mature vegetation will be limited to the minimum area necessary for construction and staging activities.
- OTIA III Context Sensitive and Sustainable Solutions (CS^3) measures regarding regional economic stimulus, diversity, and public involvement will be implemented and measured. Detailed information on the OTIA III CS^3 measures can be found at: http://www.oregon.gov/ODOT/HWY/OTIA/docs/PK_cs3.pdf .

4.11.2 Measures during Operation

To minimize the potential impacts of operation, ODOT may implement the following mitigation measures:

- Place additional lighting only in areas deemed necessary for safety. Use directional lighting when feasible to minimize nighttime glare to surrounding areas.

Any reconstruction and/or realignment of trails will be done in accordance with applicable design standards.

4.12 Transportation

A Traffic Management Plan (TMP) will be prepared and implemented as described in section ~~4.9~~ 4.11 above.

4.13 Visual Quality

ODOT will continue to work with the community, through the CAG and other outreach, throughout the design process to get input on the bridge type and specific bridge design features, such as architectural treatments, textures, color, illumination and landscaping. Outreach to and involvement of the community in the bridge type selection and other design issues may include: on-line surveys, public workshops, newsletters, and web-site updates.

4.14 Water Resources

Effects to water resources during construction and operation of the project will be minimized through the implementation of mitigation outlined in the OTIA III State Bridge Delivery Program Environmental Performance Standards.

Potential temporary impacts to water quality during construction will be mitigated through project-implemented measures. Standard BMPs and erosion control practices will be implemented during construction to minimize water quality impacts to water resources. These measures will follow the ODOT Hydraulics Manual, ODOT Special Specifications, and local stormwater requirements. The following measures will be implemented to minimize potential impacts to water resources:

- Prepare a Pollution and Erosion Control Plan that contains the elements outlined in Sections 280.00 and 290.30 of ODOT's *Standard Specifications for Construction* (2002) and that meets requirements of all applicable laws and regulations. The Pollution and Erosion Control Plan will include all applicable water quality measures as outlined in the OTIA III State Bridge Delivery Program Environmental Performance Standards.
- Schedule excavation, grading, and paving activities for dry weather periods, if possible.
- Comply with the requirements of the ODOT's Regional DEQ1200CA National Pollutant Discharge Elimination System (NPDES) permit for all construction runoff.
- Limit staging areas to the minimum size necessary to complete the project.
- Follow the terms and conditions of ODOT's most recent Drilling Programmatic Biological Opinion.
- Obtain and comply with all required permits and facility approvals for discharges to surface water, storm drains, or sanitary sewers or for land application.
- Prepare and implement a Stormwater Management Plan that slows the entry of water into the soil and improves the long-term water quality conditions associated with pollutant loading from the project.
- The construction contractor will provide qualified staff to monitor operations and ensure compliance with environmental requirements. ODOT environmental staff will monitor the construction contractor's environmental performance. During in-water work water quality will be measured upstream and downstream of the construction site to monitor compliance with the water quality performance criteria. ODOT will make water quality data available upon request.

4.15 Wetlands

4.15.1 Wetland and Water Impacts (Temporary and Permanent)

A Compensatory Mitigation Plan and Site Restoration Plan will be developed so the project meets regulatory requirements of the OTIA III Statewide Bridge Delivery Program as approved by regulatory agency staff. This plan will include a five-year monitoring and maintenance period for mitigation and restoration sites.

Compensatory mitigation will be consistent with all program-specific EPS and regulatory requirements, and may include:

- Re-establishment or rehabilitation of natural or historic habitat functions or wetlands functions and values when self-sustaining, natural processes are used to provide the functions.

- Coordination of ~~proposed~~ restoration in Alton Baker Park with local park agencies and the CPC. Potential mitigation sites in Alton Baker Park would receive high priority.
- Participation in ODOT's conservation banks, as approved in writing by the Services (NMFS and USFWS), Department of State Lands (DSL), and United States Army Corp of Engineers (USACE).
- Participation in federally-approved mitigation banks and regulatory or authority-approved ODOT Comprehensive Mitigation/Conservation Strategy (CMCS) mitigation sites.
- Coordination with the City of Eugene regarding potential participation in their wetland mitigation bank.

5.0 PUBLIC AND AGENCY INVOLVEMENT

Public outreach and involvement for the I-5 Willamette River Bridge project has included: project information provided to the public through newsletters and the project website, public open house meetings to provide project information and solicit public input, briefings to neighborhood and civic groups and local elected bodies, meetings of the project's Community Advisory Group (CAG), distribution of the EA, a public hearing on the EA, and opportunities to provide written and oral comments on the EA. Thirty individuals and agencies submitted comments on the EA. All comments were reviewed and considered by ODOT. The REA contains revisions to information presented in the EA that have been made in response to public comments. Appendix A presents the comments and ODOT's responses.

The 11-member CAG, composed of representatives of key community organizations, has given input on the purpose and need, goals and objectives, environmental issues, bridge type, and other project issues. The CAG has met ten times during the development of the EA. Organizations represented on the CAG are:

- Citizen Planning Committee for the Whilamut Natural Area
- Willamalane Park and Recreation District
- Eugene Parks and Open Space Division
- Laurel Hill Valley Citizens Association
- East Alton Baker Park Neighborhood Association
- Fairmount Neighbors
- Harlow Neighbors
- Glenwood Neighborhood Group
- Springfield Chamber of Commerce
- Eugene Area Chamber of Commerce
- University of Oregon

The CAG functions in an advisory role and provides recommendations to the Project Development Team (PDT). A member of the CAG is also a member of the PDT.

Resource and regulatory agency coordination and input has been provided through the Programmatic Agreements Reporting and Implementation Team (PARIT), which tracks OTIA III bridge projects and compliance with the programmatic environmental permits that have been established for the OTIA III program. The PARIT agencies were provided information about the project and identified key resources and issues of interest for the project, such as minimizing the number of bridge piers in the Willamette River. As part of the OTIA III Statewide Bridge Program, the project will comply with the OTIA III Environmental Performance Standards. If it is not possible to meet these standards, exceptions and/or standard permits/approvals will be obtained.

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6.0 CONFORMANCE WITH LAND USE, TRANSPORTATION, AND OTHER PLANNING REGULATIONS

6.1 Land Use Plans and Policies

Land use plans and policies were researched and 15 were determined to be applicable to the project. Information provided in the I-5 Willamette River Bridge Environmental Assessment and its supporting technical documents show the Build Alternative is consistent with the following 12 plans:

- Oregon Transportation Planning Rule (2006)
- Oregon Transportation Plan (2006)
- Oregon Highway Plan (1999)
- Eugene-Springfield Metropolitan Area Transportation System Plan (2002)
- Springfield Development Code (2006)
- Eugene Code (2001)
- East Alton Baker Park Plan (1996)
- Laurel Hill Plan (1982)
- Riverfront Park Study (1986)
- South Hills Study (1974)
- Entrance Beautification Study (1987)
- Statewide Comprehensive Outdoor Recreation Plan (2008)

The Selected Alternative is inconsistent with the following three identified relevant plans: Oregon Statewide Planning Goal 15 (2006), *Eugene-Springfield Metropolitan Area General Plan* (*Metro Plan*) (2004), and *Willakenzie Area Plan* (1992). ODOT has applied for and obtained amendments to the *Metro Plan* and *Willakenzie Area Plan* and an exception to Statewide Planning Goal 15. The approved goal exception and plan amendments result in the project being consistent with the applicable plans. Findings with regard to these plans are summarized below.

6.1.1 Oregon Statewide Planning Goals (2006)

Oregon Statewide Planning Goals provide documentation of the state's land use policies. Oregon Administrative Rules (OAR) chapter 660, Division 015 implements statewide goals and guidelines (DLCD, 2006). Oregon's statewide goals are achieved through the local comprehensive planning process. State law requires each city and county to adopt a comprehensive plan consistent with the Statewide Planning Goals.

The general purpose statement of Statewide Goal 15 (Willamette River Greenway) is:

"To protect, conserve, enhance and maintain the natural, scenic, historical, agricultural, economic and recreational qualities of lands along the Willamette River as the Willamette River Greenway."

An amendment to the *Metro Plan* in the form of a goal exception to Statewide Planning Goal 15 is required to authorize the bridge approach associated with the new I-5 bridges, which is a nonwater-dependent and nonwater-related use, within the established Willamette River Greenway setback. The cities of Eugene and Springfield and Lane County have approved this amendment to the *Metro Plan*. Therefore the I-5 Willamette Bridge Project is consistent with Goal 15 of the Oregon Statewide Planning Goals.

6.1.2 Eugene-Springfield Metropolitan Area General Plan (2004)

The *Eugene-Springfield Metropolitan Area General Plan (Metro Plan)* is the official long-range comprehensive plan (public policy document) of metropolitan Lane County and the cities of Eugene and Springfield. The *Metro Plan* sets forth general planning policies and land use allocations that serve as the basis for the coordinated development of programs concerning the use and conservation of physical resources, furtherance of assets, and development or redevelopment of the metropolitan area. The *Metro Plan* identifies the major public facilities required to meet the land use needs designated within the Urban Growth Boundary.

An amendment to *Metro Plan* Chapter III, Section D, Policy 11 is required to allow the placement of fill within the Willamette River Greenway setback area to remove the decommissioned and detour bridges, construct temporary work bridges, and construct the new replacement bridges. The cities of Eugene and Springfield and Lane County have approved this amendment to the *Metro Plan*. Therefore the I-5 Willamette River Bridge Project is consistent with the *Metro Plan*.

6.1.3 Willakenzie Area Plan (1992)

The *Willakenzie Area Plan* is a refinement of the *Metro Plan* that is intended to provide background information and policy direction for public and private decisions affecting the growth and development of the Willakenzie area. The plan guides the provision of public services such as sanitary sewers and street improvements. It serves as a basis for evaluating private development proposals such as zone change requests. It also provides a common framework for those engaged in the conservation, development, and redevelopment of the area.

An amendment to the City of Eugene *Willakenzie Area Plan* is required to allow structures and fill associated with the new I-5 bridges within the first 35 feet from the top of the Willamette River streambank in the Willamette River Greenway. The City of Eugene has approved this amendment to the *Willakenzie Area Plan*. Therefore the I-5 Willamette River Bridge Project is consistent with the *Willakenzie Area Plan*.

6.2 Section 4(f) of Department of Transportation Act of 1966

The Build Alternative would have a *de minimis* impact on a publicly owned park, (Alton Baker Park in Eugene) as defined in 23 CFR 774. Under the Build Alternative, a portion of Alton Baker Park west of I-5 would be occupied during the construction period for the project and the path from Leo Harris Parkway would be used as a haul route to the site. The temporary occupancy of the staging area and use of the haul route would have a *de minimis* impact within the meaning of Section 4(f) because the following conditions would be satisfied:

- The temporary use of parkland proposed for the project, including measures to avoid, minimize, mitigate, and enhance the park, would not adversely effect the features, attributes, or activities of Alton Baker Park that qualify for protection under Section 4(f).

- The Eugene Parks and Open Space Division and Willamalane Park and Recreation District have documented their agreement with ODOT and FHWA that the above conditions would be met.

Public notification of the *de minimis* finding has occurred prior to the completion of the REA.

6.3 Wetlands Finding

The Build Alternative would affect approximately one-half acre of wetlands. Executive Order (EO) 11990 "Protection of Wetlands" and U.S. Department of Transportation Order 5660.1 require consideration of potential wetland effects in project development. Efforts were made in project development to minimize the footprint of the project, and the resultant impact on wetlands, as much as possible. The Build Alternative includes all practicable measures to minimize harm to wetlands. The project will comply with the OTIA III Environmental Performance Standards, and is therefore covered under the programmatic permit for compliance with Section 404 of the Clean Water Act. A wetland mitigation plan will be prepared as part of the project design and submitted with the project's compliance documentation.

6.4 Floodplain Finding

EO 19888, "Floodplain Management," directs federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless there is no practicable alternative. FHWA policy (23 CFR 650A) requires evaluation of floodplain impacts for all projects. Further, the City of Eugene requires a Site Development Permit and a FEMA "no-rise" certification for any construction or structures within the floodway/special flood hazard area; the City of Springfield requires a Type I permit to allow construction in the floodplain or floodway. The project is to replace an existing bridge across the Willamette River and there is no practicable alternative to constructing the replacement bridge in the proposed location. The Build Alternative would substantially reduce the number of piers within the Willamette River and near-shore areas. Hydraulic analysis of the Build Alternatives, which was based on conservative assumptions with regard to pier size, indicated that the Build Alternative would have a negligible effect on the water surface elevation in the project area. More detailed analysis of the hydraulic effects of the project will be conducted in the design phase in order to satisfy applicable requirements.

6.5 Section 106 of the National Historic Preservation Act

ODOT has consulted with the Oregon SHPO regarding the Willamette River Bridge project. The SHPO has concurred that the project would have no adverse effect on historic properties.

6.6 Other Applicable Laws and Regulations

Table 9 presents the additional permits and planning actions that are required for the I-5 Willamette River Bridge Project. Because the project is part of the OTIA III program, the

project is covered under the programmatic environmental permits that have been established for the program. Key to coverage under the programmatic permits is meeting the OTIA III Environmental Performance Standards (EPS). The complete set of Environmental Performance Standards can be reviewed at: http://www.obdp.org/files/partner/environmental/EPS_REG.pdf. These performance standards define the level of effect that a project may have on the environment, thereby limiting or avoiding impacts to the environment through the use of proper planning, design, and construction activities. To meet the performance standards, projects must meet the terms and conditions specified in the relevant performance standards unless approved by ODOT ~~and Oregon Bridge Delivery Partners (OBDP), the organization managing the implementation of the OTIA III program~~.

Performance standards are goal-oriented, and offer flexibility in implementing context-sensitive environmental protection measures. Rather than prescribe how an activity must be done, performance standards set the thresholds for an activity's effects, leaving room for flexibility and creativity in how the standards are met.

Table 9: Permits and Planning Actions

Permit/Planning Action	Issuing Agency
Local development permits	Cities of Eugene and Springfield
National Pollutant Discharge Elimination System 1200 C or 1200-CA	Oregon Department of Environmental Quality
Clean Water Act Section 404 Permit	U.S. Army Corps of Engineers
Fill and Removal Permit	Oregon Department of State Lands
Clean Water Act Section 401 Water Quality Certification	Oregon Department of Environmental Quality
Endangered Species Act	National Marine Fisheries Service; US Fish and Wildlife Service

7.0 REFERENCES

References with multiple years may not be listed consecutively based on their sub-letters (2007a, 2007b, 2007c, etc.). To maintain consistency between the EA and REA, references remain as noted in the EA.

City of Eugene
- 1982 Laurel Hill Plan
- 1992 Willakenzie Area Plan
- 1996 East Alton Baker Park Plan
- 2001 Eugene Code Chapter 9 – Land Use

City of Springfield
- 2006 Springfield Development Code.

Department of Land Conservation and Development (DLCD)
- 2006 Oregon Statewide Planning Goals. OAR Chapter 660, Division 015. Latest goal amendment occurred in February 2006. http://www.lcd.state.or.us/LCD/docs/goals/goal_adoption_amendment_dates.pdf.

Federal Highway Administration (FHWA)
- 2000 An Overview of Transportation and Environmental Justice. http://www.fhwa.dot.gov/environment/ej2000.htm.

French, Pat
- 2007 Personal Communication with Pat French, Park Planner, Willamalane Park and Recreation District, April 17, 2006.

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- 2007 I-5 Willamette River Bridge Project Land Use Approvals Memorandum. Draft Memorandum prepared for Oregon Bridge Delivery Partners. April 2007.

Lane Council of Governments (LCOG)
- 2002 Eugene-Springfield Metropolitan Area Transportation System Plan.
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- 2004b Environmental Justice Baseline Data Summary. http://www.lcog.org/meetings/mpc/072004/MPC4b-Attachment1-EnvironmentalJusticeDataSummary.pdf.
- 2005 Lane County Aerial Photographs provided by LCOG.
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- 2007 Glenwood Riverfront Development Market Feasibility Analysis. http://www.ci.springfield.or.us/CMO/2007%20SEDA/GlenwoodMarketFeasibilityAnalysisLelandCG2007-06-25Draft.pdf.

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- 2007c I-5 Willamette River Bridge Project Biology/Threatened and Endangered Species Technical Report. Prepared for ODOT. December 2007.
- 2007e I-5 Willamette River Bridge Project Environmental Assessment Land Use Technical Report. December 2007.

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- 2002 Standard Specifications for Construction
- 2003a Biological Assessment I-5: McKenzie River Bridges SB (Detour) and NB (Temporary Repair) and Willamette River Bridge (Detour) Sections, KN 13164, Pacific Highway, Lane County, Oregon, Chinook Salmon (Oncorhynchus tshawytscha), Bull Trout

(Salvelinus confluentus), Oregon Chub (Oregonichthys crameri). May 15, 2003: Prepared by Mason, Bruce & Girard (MB&G). Salem, Oregon: ODOT.

2003b Habitat Protection Plan for the I-5 Willamette River Bridge (Detour) Project. Prepared June, 9, 2003 by Parametix, Inc. Salem, Oregon.

2005 Alton Baker Park Conversion Request for Approval. July 14, 2005.

2006a I-5 Willamette River Bridge (No. 08329) Project Draft Biology/Threatened and Endangered Species Technical Report. Prepared by David Evans and Associates (DEA). Portland, Oregon

2007b Personal Communication with Nicholas Testa, ODOT Region Biologist. August 16, 2007.

2008 I-5 Willamette River Bridge Project Technical Noise Report. Prepared by Oregon Bridge Delivery Partners.

Oregon Natural Heritage Information Center (ORNHIC)

2006 Data system search for rare, threatened and endangered plant and animals records for the I-5 Willamette River Bridge (No. 08329) Project. Received May 31, 2006.

Oregon Parks and Recreation Department

2004 Oregon Grants Manual & Applications Form. Federal Land and Water Conservation Fund. Oregon Parks and Recreation Department. October 2004.

Taylor, Trevor

2007 Personal Communication with Trevor Taylor, Principal Landscape Architect, City of Eugene Parks and Open Spaces Division. April 17, 2006.

United States Fish and Wildlife Service (USFWS)

2003 Letter of Concurrence for I-5 McKenzie River Bridges SB Detour and NB (Temporary repair) & Willamette River Bridge (Detour) Sections Project, Lane County, Oregon (1-7-03-I-392; USACE No: 200300297/200300338). Issued June 25, 2003.

In addition to the above references, the following technical reports and studies were prepared for the I-5 Willamette River Bridge Project. The EA and REA were developed based on the information contained in those reports. The reports and studies* are available from the project website (http://www.oregon.gov/ODOT/HWY/REGION2/I-5WRB.shtml), or by contacting ODOT directly.

Technical Reports	
Air Quality	Right of Way
Archaeology	Section 4(f) – Parks
Archaeological Assessment of the Eugene Mill Race Diversion Dam and Intake	Section 6(f)
Biology and Threatened and Endangered Species	Socio-Economics
Geological Resources	Visual Quality
Hazardous Materials	Water Resources
Hydraulics	Wetlands
Land Use	Engineering g Concepts Report
Preliminary Bridge Concepts Report	Stormwater Concept Report

* In accordance with the Archaeological Resources Protection Act, reports with information on archaeological sites are confidential and are not available for public review.

APPENDICES

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APPENDIX A

PUBLIC AND AGENCY COMMENTS ON THE ENVIRONMENTAL ASSESSMENT AND RESPONSES

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Document #	Commenter	Organization
1	Karen Pritchard	
2	Bob Cortwright	Oregon Dept. of Land Cons & Dev
3	Rory D. Westberg	National Park Service
4	Trevor Taylor	Eugene Parks & Open Space Div
5	Vicky Mello	Citizen Planning Committee for Whilamut Natural Area
6	Jody Heady	
7	David Sonnichsen	Citizen Planning Committee for Whilamut Natural Area
8	Cindy Land	
9	Pat French	Willamalane Park and Recreation Dist
10	Randy Henry	Oregon Marine Board
11	Mary Henderson	Williams Northwest Pipeline
12	Charlotte Behm	Citizen Planning Committee
13	Mark Robinowitz	
14	Tim Vohs	
15	Judith Eisen	
16	Robin Cassidy-Duran	
17	Adam Steffan	
18	Anthony Beck	
19	George Jessie	
20	David Roth	
21	Erick Gunderson	
22	William Ivanoff	
23	Gayle Jessie	
24	Gay Kramer-Dodd	
25	Zach Vishanoff	
26	Elizabeth Steffanson	
27	Bill Poole	
28	Ed Armstrong	
29	Bob Kline	Harlow Neighborhood

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Document #	Commenter	Organization	Comment #	Comment	Response
1	Karen Pritchard				
			1	The plan lacks an off-ramp onto Franklin Blvd. from the southbound lanes. I am aware the grade is very steep and a structure separate from the bridge would have to be constructed. Also more piers would be required in the Willamette River and that is an environmental concern for people. I'm not sure the number of piers is a real environmental detriment when I observe the number used in bridges in the river in the Portland area. Your bridge plan accommodates for the amount of light lost under the bridge spans by making two separate spans rather than one very wide one. If an off-ramp were to be a separate span, the light problem would be mitigated.	The primary purpose of the I-5 Willamette River Bridge Project is to replace a structurally deficient bridge while maintaining mobility and connectivity for I-5 users. Thus, the I-5 Willamette River Bridge Project does not include any changes to to the existing ramps connecting Franklin Boulevard and I-5. The proposed bridges would be designed to allow for future widening of Franklin Boulevard, allow for the possible addition of another railroad track, and *to not preclude possible future improvements to the Franklin Boulevard interchange*. The project is funded in part through the OTIA III Statewide Bridge Program, which provides funds for bridge replacement and repair but not major system improvements, like reconfiguring the Franklin and/or Glenwood interchanges. As part of another study, ODOT, in conjunction with the cities of Springfield and Eugene, is currently analyzing the Glenwood/Franklin interchange area to better understand the access and mobility issues as a first step in developing a long-term solution for this area.
			2	A lot of the traffic is due to I-5 traffic that takes the I-105 to the Ferry St Bridge to downtown and vice versa. An I-5 off-ramp onto Franklin Blvd. would help relieve some of this traffic congestion. There is a southbound off ramp further south of Franklin Blvd. at Glenwood that travelers can use to wind their way back to Franklin Blvd. but apparently they don't want to go that far and use I-105 instead. It is an expense to add a separate structure for an exit onto Franklin Blvd., but it would be less expensive and inconvenient to do it now when the new bridge is being constructed than at a later date.	See response to previous comment.
2	Bob Cortwright	Oregon Dept. of Land Cons & Dev			
			1	"…it would be helpful if the EA included more detail explaining how the proposed project will be consistent with applicable local land use requirements."	ODOT prepared a Land Use Technical Report in support of the EA. This report presents detailed information on the applicable land use requirements and how the project would be consistent with them. The EA summarizes these findings. ODOT has and will continue to work closely with the affected jurisdictions to ensure that all applicable local land use requirements, including the required amendments to Metro Plan and the Willakenzie Area plan, are met by the project. The Land Use Technical Report (and other technical reports prepared in support of the EA) can be found on the project website at: http://www.oregon.gov/ODOT/HWY/REGION2/I-5WRB/shtml
			2	Goal compliance and compatibility shall be analyzed in conjunction with the development of the Draft Environmental Impact Statement or Environmental Assessment. The environmental analysis shall identify and address relevant land use requirements in sufficient detail to support subsequent land use decisions necessary to authorize the project.	Goal compliance and local plan compatibility have been analyzed in detail as part of the environmental process. ODOT has worked with the cities of Eugene and Springfield and Lane County planning departments to identify and address all applicable goals and plans. Consistent with OAR 731-015-0075, ODOT has obtained the required plan amendments and goal exception prior to the issuance of the REA. These land use actions are documented in Section 6 of the REA.
3	Rory D. Westberg	National Park Service			
			1	It is unclear what 4(f) analysis was done for the original construction of the detour bridge. It would be helpful for this apparent gap in information to be closed in the final EA.	No Section 4(f) analysis was required for the detour bridge project. Section 4(f) applies to projects that use US Department of Transportation funding or require USDOT approval. The detour bridge project was funded entirely with state funds. Since no USDOT funding was used or approvals required, Section 4(f) did not apply to the detour bridge project.

Document #	Commenter	Organization	Comment #	Comment	Response
			2	The final EA should also include a map showing the location and details of the detour bridge.	Construction of the detour bridge was a separate action and is not analyzed in the EA. Therefore, detailed maps of the detour bridge are not included in the EA. Figures 2, 3, and 13 shows the general location of the detour bridge.
			3	We note that a permanent easement would be an actual "use" under Section 4(f), requiring all possible planning to minimize harm. The final EA should discuss specific mitigation measures.	ODOT would not acquire a permanent easement as part of the project. Activities outside ODOT's permanent right-of-way would be temporary. Specific mitigation measures for impacts to the adjacent areas, including the Whilamut Natural Area of Alton Baker Park, have been developed in coordination with the Eugene Parks and Open Space Division (POS), Willamalane Park and Recreation District (WPRD), and the Citizen Planning Committee of the Whilamut Natural Area. The mitigation measures are documented in the REA and in intergovernmental agreements with Eugene POS and WPRD. The REA describes specific measures to minimize and mitigate park impacts.
			4	The EA states that the temporary occupancy of Alton Baker Park would not be a "use," if criteria under Federal Highway Administration (FHWA) regulations are met. However, we note that one criteria is that temporary occupancy must be less than the project duration. Yet under 3.10.3.2, for the Build Alternative, the EA states that construction staging will occur for 4 years, which is the length of the project.	FHWA and ODOT have determined that Section 4(f) use would occur and have completed a de minimis 4(f) analysis.
			5	Under Section 2.1.1, the EA states that "[t]he Willamette River is about 800 feet wide at the bridge crossing…" Yet under Section 3.3.2.2, the EA states that "[t]he Willamette River is about 660 feet wide at the project site." This is a contradiction that should be clarified.	The width of the river ranges from 660 feet to 800 feet in the vicinity of the bridge crossing. Language in the REA was revised to reflect that variability.
			6	The EA consistently suggests that only those areas that received direct LWCF assistance are protected under Section 6(f) of the LWCF Act. This is incorrect. The entire Alton Baker Park is protected under 6(f).	FHWA and ODOT were unable to obtain documentation of the areas of Alton Baker Park that are encumbered by Section 6(f) before the EA was published. This issue has been clarified with the Oregon Parks and Recreation Department and all of Alton Baker Park is protected under Section 6(f). The REA includes this information.
			7	Conversions can occur due to impacts beyond the project's footprint. The NPS has concerns about staging and material storage areas, as well as the entire haul route through the park, visual impacts due to lighting, clearing, construction equipment, etc., and impacts due to noise, vibration, and recreational fragmentation.	ODOT and FHWA have coordinated and will continue to coordinate with the affected park jurisdictions and OPRD to fully assess the scope of impacts and develop mitigation measures to address those impacts.
			8	We also have concerns about impacts to boaters and fishermen, who are frequent recreational users of the park and which were not discussed in the EA.	The REA provides additional information on the recreational use of the Willamette River in the project area, as well as mitigation measures to address safe recreational use of the river. Additional information is provided in the response to comments from the Oregon State Mariine Board (commenter 10).
			9	Finally, any cumulative impact over 180 days in duration is also a conversion requiring replacement property.	Noted. Language was added to the REA stating that temporary occupancy for over 180 days is a conversion requiring replacement property.

Document #	Commenter	Organization	Comment #	Comment	Response
			10	We do not have enough information at this time to conclusively determine the extent of the conversion for the footprint and proximity effects of the temporary detour bridge. Section 6(f)(3) of the LWCF Act states that "[n]o property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than public outdoor recreation uses" (emphasis added). Secretarial approval has been delegated to the NPS. Therefore, NPS approval is required before a conversion occurs. However, the temporary detour bridge built in 2004 resulted in a conversion that was not approved by NPS. Per 36 C.F.R. Section 59.3 and Section 670.3.4.K of the current grants manual, replacement property must meet the following requirements in addition to the current fair market value and recreation utility referenced in the EA: • be part of a viable public outdoor recreation area • cannot be land currently owned by another public agency unless selling agency is required by law to receive payment for the land • cannot be land originally acquired by the sponsor or selling agency for recreation purposes • cannot have previously been dedicated to or managed for recreation purposes while in public ownership • cannot have been initially acquired with Federal assistance.	Construction of the detour bridge was a separate action with independent utility. Impacts associated with construction of the detour bridge were evaluated earlier and are not addressed in the EA. Replacement property provided for the conversion associated with the current project will meet all requirements.
			11	Finally, all conversions must be in accordance with a state's current Statewide Comprehensive Outdoor Recreation Plan (SCORP). The SCORP was not listed among the other documents cited in Section 3.7.1 of the EA, which lists the relevant land use documents.	The requirement that conversions must be in compliance with the SCORP was added to the REA.
			12	The EA states that the project team had coordinated with the NPS. We are only aware of the project's invitation to the NPS to become a cooperating agency. However, given the conversion issues that are present, we recommend further consultation with [Oregon Parks and Recreation Department and National Park Service]:	The FHWA representative on the project team contacted NPS to discuss the project and request information prior to release of the EA. Further consultations with Oregon Parks and Recreation Department and National Park Service have been and will be conducted.
4	Trevor Taylor	Eugene Parks & Open Space Div	1	The carbon footprint of the project and its contribution of greenhouse gases is not evaluated in the EA. However, as noted in similar bridge projects in the Portland Area, there will be a significant amount of greenhouse gases produced under the build alternative, and possibly with the no build alternative as well. This impact and any mitigation measures planned should be evaluated in the EA.	Construction activities associated with the No Build and Build alternatives would generate greenhouse gas emissions. Due to the larger scope of the Build Alternative, construction would generate a greater amount of greenhouse gasses than would the No Build Alternative. Mobile source emission modeling tools to evaluate greenhouse gas emissions at the project level are not available at this time. The US Environmental Protection Agency, Federal Highway Administration, and state department of transportation are currently looking at methods to provide meaningful project-level evaluations of greenhouse gases for transportation projects to be used in NEPA documents. The I-5 Willamette River Bridge Project proposes to replace existing bridges, but does not, of itself, change capacity of I-5 in a way that would lead to increased emission of greenhouse gases from highway traffic. No specific mitigation measures related to greenhouse gas emissions are proposed.
			2	3.3 Biology (p. 38, 39, 44) - The term "habitat alternation" is used on these pages. It is assumed that this should read "habitat alteration;" however, if this is not the case then the term "habitat alternation" needs to be explained.	This was a typographic error. "Alteration" is the correct term. The REA includes the correction.
			3	3.3.2.3 Terrestrial Wildlife (p. 37) – In addition to the species noted, there is an occupied bald eagle nest located at Skinner Butte. The nest is located 2.2 miles from the project area. While the nest itself is located just beyond the 2 mile limit noted in Table 3, bald eagles do forage within this boundary and should be noted as occurring within the project boundary for the purposes of the EA with appropriate mitigation considerations.	The Biological Assessment prepared for USFWS for the temporary detour bridge determined there would be no effect to the bald eagle nesting and foraging. The OTIA III State Bridge Delivery Program Environmental Performance Standards will be implemented as part of the project, which would minimize potential impacts to wildlife, including bald eagles. The OTIA III Environmental Performance Standards can be found at: http://www.obdp.org/files/partner/environmental/EPS_REG.pdf

Document #	Commenter	Organization	Comment #	Comment	Response
			4	3.3.2.3 Terrestrial Wildlife (p. 37) – The text and the table on this page refer to the "Northern Pacific Pond Turtle," while on page 38 the text refers to the "Northwestern pond turtle." While both names are often used to describe the subspecies of Western pond turtle that is present in this region, the EA should be consistent so that it is clear there are not two different species being referenced here. Note also that the scientific name for the Western pond turtle has changed from Clemmys marmorata to Actinemys marmorata.	The REA includes revisions to provide consistent references to the Northwestern pond turtle (*Actinemys marmorata*).
			5	Also note that Western pond turtle habitat is not limited to the canoe canal, but includes the river itself, the pond to the west, as well as upland habitat that is utilized for nesting and overwintering. It is possible that workers will encounter turtles during construction and these should be handled appropriately (see comments under 4.3.1 below).	The REA includes information that the northwestern pond turtle also uses the Willamette River, isolated emphemeral ponds adjacent to hiking trails within the project study area, and upland habitat areas for nesting and overwintering. Wildlife encountered during construction will be removed or allowed to be removed out of harm's way. In addition, mitigation measures regarding habitat avoidance will be developed with Eugene Parks and Open Space Division and Willamalane Park and Recreation District staff, and incorporated into the construction specifications.
			6	3.3.4 Permanent Effects – Fluvial and Hydraulic Conditions of the Willamette River (p.44)- The EA notes that the "Build Alternative Options A and B would result in minimal changes to the hydraulic characteristics of the Willamette River when compared to existing conditions." This conclusion seems unfounded and inadequately evaluated. The removal of footings from the existing bridge and construction of new footings will alter the existing hydraulics with poorly evaluated hydro-geomorphic impacts. Erosional and depositional forces will be different. Indeed the river thalwag itself could move. We acknowledge that the bedrock conditions under the current and future bridge provide a stable bed for the footings such that there may be minimal geologic changes directly under or upstream from the bridge itself.	A Hydraulics Technical Report was prepared as part of the EA. The report examined regulatory standards, site hydrology, and historic flooding, and included fluvial analysis, bridge hydraulic analysis, and countermeasure design. The findings of the analysis are summarized in the EA. The analysis documented in the report was intended to provide a comparison between the No Build and Build alternatives, and between the bridge pier location options considered in the EA. Therefore, conservative concepts regarding pier size were used in running the model. This level of analysis is customary for the development and evaluation of alternatives as documented in the EA. As the bridge design is developed and refined, more detailed hydraulic analysis of the project will be conducted. Design modifications will be incorporated to ensure the project meets the fluvial standards of the OTIA III Environmental Performance Standards.
			7	However, the hydraulics under both low flow and flood conditions should be evaluated with consideration of the new footing locations to determine potential fluvial geomorphic changes related to the altered hydraulics immediately downstream of the footings.	See previous response.
			8	Furthermore, the biological implications of altered hydraulic forces are not discussed in this section. This section should be expanded to include indirect biological effects of fluvial changes and/or the section should be included in section 3.4, Geological Resources, because the direct impacts would relate to geomorphic changes to the stream.	Fluvial and hydraulic discussion was included on p. 44 under the direct impacts section for the Build Alternative, Section 3.3.42. Detailed documentation is provided in the Biological Technical Report. (http://www.oregon.gov/ODOT/HWY/REGION2/docs/area5/I-5_WRB/TechReports/I5WRBP_BioTE_Tech_Report.pdf) Build Alternative Options A and B would result in minimal changes to the hydraulic characteristics of the Willamette River over existing conditions. To meet the fluvial standard of the OTIA III State Bridge Delivery Program Environmental Performance Standards, the minimum opening width between abutments for the bridge would need to be 1,175 feet. The proposed bridge has abutments that are approximately 1,800 feet apart; therefore, the width of the proposed Build Alternative (both Options A and B) exceed the minimum opening width of 1,175 feet, thus satisfying the fluvial standard. Additional information on the hydraulic effects on aquatic habitat has been added to the REA.
			9	3.12.3.2 Temporary Effects Built Alternative (p.77) – The third paragraph notes that "[i]t may be necessary to close the recreational trails for short periods, up to several days." The closure of Day Island Road for long periods of time will be necessary for the transport of materials to the staging area. Thus, this should be rephrased to note the certainty of closure. Perhaps, "[i]t will be necessary to close some of the recreational trails during construction, possibly for several weeks or months," or such similar language that more accurately denotes the certainty of closure of some trails for long durations.	The REA includes a revised description of trail closures as indicated in the comment. The REA will document that the temporary effects will include the closure of trails, including the trail used for the haul route (Day Island Road, also called North Walnut Path) for relatively long periods of time. ODOT will require the construction contractor to identify when North Walnut Path will be used as a haul route, notify the Eugene Parks and Open Space Division in advance of closures, restrict nonconstruction traffic during closures, and provide signage, flagging, and other means to facilitate safe use of the trail system.

Document #	Commenter	Organization	Comment #	Comment	Response
			10	4.3.1 Species Avoidance (p. 102) – First, under the seventh bullet referring to "[w]ildlife avoidance to minimize injury," it would be useful to clarify the dates of the breeding season during which tree removal will be avoided (i.e., March 15 through July 15).	To allow for flexibility with construction activities, clearing and grading may occur after March 15. However, under the OTIA III State Bridge Delivery Program Environmental Performance Standards, one of the mitigation measures is to minimize injury and death to wildlife species by avoiding the destruction of occupied nest and adult birds protected by Migratory Bird Treaty Act (MBTA). This mitigation measure describes a method for checking sites prior to clearing vegetation to determine if nesting birds are present and describes procedures for addressing birds, if present.
			11	Second, to mitigate permanent loss of riparian forest areas, we recommend adding a mitigation standard related to the removal of trees such that all trees removed will be replanted at a 3:1 ratio and maintained for 2 years to ensure establishment. Maintenance should include watering.	ODOT will coordinate with Eugene Parks and Open Space Division and Willamalane Park and Recreation District regarding mitigation of permanent loss of riparian forest, including tree replacement ratios. The OTIA III Environmental Perfomance Standards have a five year monitoring and maintenance plan for site restoration areas.
			12	4.3.2 Habitat Avoidance and Removal Minimization and Restoration (p. 102) – Any Western pond turtles that are encountered during construction shall be removed from harms way and an ODFW biologist contacted for relocation instructions.	Environmental monitors will be on-site during project construction. If Northwestern pond turtles are encountered during construction, efforts will be made to relocate the turtles out of the project construction area. In addition, during construction mitigation measures have been proposed to flag boundaries of clearing limits and sensitive areas to be avoided. Coordination with Willamalane Park and Recreation District and the Eugene Parks and Open Space Division regarding sensitive areas in Alton Baker Park and the Whilamut Natural Area that should be avoided during construction will be implemented prior to construction activities.
			13	4.3.2 Habitat Avoidance and Removal Minimization and Restoration (p. 102) – Lighting of the bridge and construction area during and after construction should be minimized to light only those areas necessary and should be directed into the construction area. Use of shields or other techniques to minimize the lighting of surrounding natural areas should be employed if possible.	Lighting during construction will be minimized to only those areas necessary for construction and operational activities. Considerations for lighting will be determined during the design stages, but ODOT will encourage directional lighting for areas where lighting is required for construction operations, safety, or security, with minimal intrusion into the surrounding natural area.
			14	4.3.2 Habitat Avoidance and Removal Minimization and Restoration (p.103)– The final bullet noting the intention to "[r]estore and revegetate disturbed areas" should be clarified to note the use of genetically appropriate native species for this action.	Under the OTIA III State Bridge Delivery Program EPS, site restoration plans prepared for upland, wetland, and streambank areas are required to include native plant species and noxious weed abatement techniques.
			15	4.15.1 Wetland and Water Impacts (p109) – Note that the City of Eugene operates a wetland mitigation bank that is approved to service wetland impacts within the project boundary.	ODOT will coordinate with the City of Eugene regarding wetland mitigation.
5	Vicky Mello	Citizen Planning Committee			
			1	The rerouting of foot and bike traffic must consider safety and security for all concerned. I am hoping we can get a permanent rerouting of the bike/pedestrian path by the canoe canal from under the Walnut Street bridge to a more safe route for during and after construction.	ODOT has been and will continue to coordinate with EPOS, WPRD, and CPC to identify and implement safe and effective re-routings where necessary, and proactively improve trails to provide safe routes during and after construction. As noted in Section 4.10 of the EA, one continuous route crossing of ODOT right-of-way, both north and south of the Willamette River, will be maintained to provide safe and operational trails throughout construction.

Document #	Commenter	Organization	Comment #	Comment	Response
			2	I would like to know specifics on water and soil testing before, during, and after construction to maintain viable floral and fauna habitat in the Willamette River and the Canoe Canal for aquatic creatures.	Construction of the project will meet the OTIA III Environmental Performance Standards. The construction contractor will be required to adhere to environmental specifications that include specific actions to avoid and minimize effects on natural resources, including water quality and wildlife. The contractor will be required to develop an erosion and sediment control plan and implement measures to prevent contruction material and hazardous materials such as petroleum products from entering waterbodies. Environmental inspectors will be on site throughout construction to monitor operations and enforce environmental requirements. Monitoring will include testing water quality downstream of the construction site to determine that water quality performance criteria are met. Soils are typically tested at sites with known or suspected hazardous materials. Construction monitoring information would be made available as part of the on-going public involvement process that will continue through design and construction of the project.
			3	I am also concerned with the dust and particulate matter from construction that will affect the surrounding vegetation. I did not see anything specific related to how these will be monitored for minimal impact.	OTIA III Environmental Performance Standards contain provisions for control of dust and particulate matter from construction activities. There are also special construction specifications that require practices to minimize dust and particulate matter. To comply with the standard, the contractor will implement best management practices (BMPs) to prevent fugitive dust. There are specific Environmental Performance Standards for Lane County and dust prevention BMPs; the project will need to meet these standards. See http://www.obdp.org/files/partner/environmental/EPS_REG.pdf
			4	I am also concerned with possible contaminants being introduced into the park by way of invasive seeds or insects that may travel in on construction equipment. How will this be monitored and removed?	The OTIA III Environmental Performance Standards contain provisions to avoid and minimize introduction of invasive plant species. To avoid the spread of noxious weeds, project specifications will include requirements to clean vehicles and equipment to prevent tracking and spread of noxious weed seeds.
			5	It would be best if there could be something set up for two-way communication between the Kalapuya and ODOT so that all parties will be kept informed of the progress and potential concerns that may arise during this project.	ODOT conducts regular general coordination with tribes in Oregon. Regarding this project, ODOT will coordinate with the Confederated Tribes of the Siletz and the Confederated Tribes of Grand Ronde, the tribal organization in which most Kalapuya descendents are enrolled, regarding the project's progress.
			6	There is a park plan for restoration of various areas in the park for removal of invasive species and replacement with native plants. There may be changes that occur in the park around the bridges….This would be a good time to evaluate how plant restoration will occur after construction is complete. This plan should be in place before construction begins with agreements between ODOT, CPC, and Eugene and Springfield Parks Departments.	ODOT has been and will continue to coordinate with EPOS, WPRD, and CPC. Based on coordination to date, ODOT intends to enter into formal agreements with EPOS and WPRD regarding measures that will be taken to avoid, minimize, and mitigate effects on the park and, specifically, the Whilamut Natural Area. As suggested in the comment, the agreements will be in place prior to the start of construction.
			7	I am hoping that as much of the removed material can be recycled or reclaimed close to the Eugene/Springfield area as possible.	The OTIA III Materials Procurement and Use Hierarchy Environmental Performance Standard will apply to the project. This EPS promotes materials reuse and recycling, minimizes disposal, and promotes sustainability.
			8	The use of toxic or poisonous material should be minimal. Is there a list of potential toxic material that will be used? How will their use be documented?	The OTIA III Deleterious Waste Materials Environmental Performance Standard will apply to the project. This EPS provides requirements for the proper storage, use, and disposal of hazardous, toxic, and waste materials associated with the project. In addition, the OTIA III Materials and Contamination Performance Standard will be followed. This standard directs how contractors procure, use, and dispose of potentially hazardous materials and waste to protect the environment.

Document #	Commenter	Organization	Comment #	Comment	Response
			9	It would be most fitting to name the I-5 bridge with a Kalapuya name in honor of the native people who lived here in the past. How can this become a reality?	Naming of the proposed bridge is not a decision to be made as part of the environmental process. It is a local initiative unrelated to ODOT's efforts to replace the decommissioned I-5 Willamette River Bridge. ODOT does not typically name highway facilities. However, given the level of public comment and interest on this matter, ODOT will consider naming this bridge if there is broad local support for a particular name. If the bridge is to be named, consensus on a name must be developed locally. To move forward with naming the bridge, ODOT needs to receive information documenting support for a specific name from the City of Springfield, City of Eugene, and Lane County. ODOT has no set process for naming; however, there are several requirements that must be met if ODOT were to name the bridge: • The Oregon Transportation Commission has a policy against naming transportation facilities *for individuals*. The policy applies to this bridge. • Any name has to be approved by the Oregon Geographic Names Board. Information needed for OGNB approval will need to be developed by the naming advocates. • Any name honoring the Kalapuya or any other tribal group must be acceptable to the Confederated Tribes of Grand Ronde, or other appropriate tribal organizations, depending on the recommended name. Tribal coordination will be done by ODOT after local consensus is reached. • The name must be acceptable to ODOT.
6	Jody Heady				
			1	An off-ramp from I-5 onto Franklin Boulevard is vital to reduce the use of imported oil for public safety and environmental responsibility.	See Document 1, Comment 1 response regarding Franklin Boulevard Ramp.
			2	I have been told that it would take 170 million dollars for a ramp, yet the entire project, with two three lane bridges… demolition of the temporary bridge, etc., will cost 180 million.	ODOT has not developed any cost estimates for potential revisions to the Franklin/Glenwood interchange area. See Document 1, Comment 1 response regarding Franklin Boulevard Ramp.
7	David Sonnichsen	Citizen Planning Committee			
			1	I would like to see the inclusion of a 2-way communication regime in the EA through which the public–especially those who live near or regularly travel through the area of potential effect–is made aware of how to contact key ODOT/general contractor officials, either to ask questions or to report emergent situations. The full details of such a regime would not have to be given in the EA; a simple declaration of intent would be sufficient.	ODOT intends to maintain communication with the public throughout the design and construction of the project. The Community Advisory Group (CAG) will continue to meet, public forums (such as design workshops) will be held, and other outreach activities (such as newsletters and the project website) will continue. The public will be able to contact ODOT and/or contractor personnel during construction in order to raise concerns or make suggestions. ODOT will work with the CAG to identify specific communications protocols and methods.
			2	Factual and wording corrections provided throughout the EA.	Changes made as suggested. The REA sections contain text revised as suggested.
			3	A reader could be confused by the river width estimate of 800 feet (p. 20, lines 13-14), when compared with p. 36, paragraph 6, line 1, which states that the river is 660 feet wide.	See Document 3, Comment 5 response. The REA contains consistent information regarding river width.
			4	… [I]nclude a map or maps depicting all possible staging areas in the [area of potential effects].	The REA contains a figure showing the maximum extent of areas that may be used for staging, storage, parking, or transport during construction.
			5	Add "(which may have become inactive)" between "rookery" and "along"; add "the" before "Canoe Canal." Also note that the estimate of the rookery distance from project area is "800 feet" on p. 38 and "1000 feet" on p. 42. Rewrite the relevant sentence on p.42, para. 1 to read "... the project study area in Eastgate Woodlands."	The REA contains the suggested revisions.

Document #	Commenter	Organization	Comment #	Comment	Response
			6	p. 52, pgph 6, line 2: Delete “the Eastgate Woodlands of Alton Baker Park…” Existing phrasing suggests that the Eastgate Woodlands are separate from the Whilamut Natural Area.	The REA text consistently refers to “Whilamut Natural Area of Alton Baker Park.”
			7	p. 64, pgph 2, lines 2-9: Rewrite sentences to read, “…and includes the 237-acre Whilamut Natural Area (of which Willamalane's Eastgate Woodlands is a part). Eugene's Parks and Open Space (POS) Division…administers Alton Baker Park and its portion of the Whilamut Natural Area, and the Willamalane Park and Recreation District (WPRD) administers the Whilamut Natural Area of Alton Baker Park in Springfield. Activities in the park areas adjacent to I-5 include the complex of.... These trails are heavily used.... Both jurisdictions of the Whilamut Natural Area have open spaces and....”	The REA contains the suggested revisions.
			8	p. 66 pgph 4, lines 1-2: Would not the Build Alternative result in “indirect effects” as a result of the deforestation of the fill slope immediately west of I-5 in the Whilamut Natural Area?	The Build Alternative would result in removal of trees and herbaceous vegetation on the fill slope west of I-5. This would be a direct effect of the proposed action. The REA will contain text to document this fact and characterize the associated environmental effects.
			9	p. 66, pgph 6, final sentence: Should not the study area be broadened to 0.25 miles?	The study area for Socioeconomics used a 0.25 mile radius around the limits of the project in order to assess population, business, and public facilities that are not necessarily adjacent to the project. The study area for Socioeconomics is specific to that discipline. It is typical in NEPA analyses for study areas for different resources to be different based on resource characteristics. Because several of the primary data sources used for socioeconomic analysis, such as Census data, provide data from geographic units that extend well beyond the limits of the project, it is useful to expand the study area for this resource to be somewhat larger than for other resources.
			10	P. 72 Map: Please make changes suggested for p. 11 above….The term “Willakenzie Area” should not be superimposed on ABP parkland; the specific residential area is known as Chevy Chase section. The term “Alton Baker” should be deleted. The name “Whilamut Natural Area of Alton Baker Park” should be superimposed across BOTH Eugene and Springfield portions of ABP parkland. The term “East Alton Baker” should be deleted from the Springfield side. The title “West D Greenway” should be included on the Springfield side of I-5 just north of the Willamette River, east of the Eastgate Woodlands. The two uppermost references to Franklin should be deleted. Finally, I dispute your positioning of the “Prefontaine Memorial,” it is not in the Laurel Hill Valley Neighborhood.	The figure has been revised as suggested.
			11	P. 103, fifth bullet point beneath 4.3.2: Rewrite sentence to read: “Coordinate with WPRD, POS, and CPC regarding sensitive areas in the Whilamut Natural Area of Alton Baker Park, which should be avoided during construction.”	The REA contains the revision as suggested.
			12	p. 103, proposed addition (seventh) bullet point beneath 4.3.2: “Explore the revegetation of riparian areas beneath new bridges with native plants appropriate for limited light conditions. Prepare this riparian zone for these plantings, rather than leaving a sterile, rocky site.”	The REA contains the revision as suggested.
8	Cindy Land				
			1	Approaching the project from the south may also include reaching the southern staging area down Franklin Blvd. to Glenwood Blvd. and the I-5/Glenwood Overpass with extremely heavy supplies and equipment. It will also be a convenient detour route. Rebuilding, reinforcing, and/or expanding this early ‘60s Glenwood Overpass (#191) should be addressed in advance to prevent catastrophic damage to this structure. Its integrity needs to be protected by ODOT for public safety by the thousands who drive over it, and the estimated 49,000 people per day who drive under it. Hundreds of residents, tourists, businesses, and the general public depend on this East Eugene/Glenwood exit.	The project proposes to replace the I-5 crossing of the Canoe Canal, Willamette River, Franklin Boulevard, and UPRR. The project does not include plans to refurbish or rebuild the Glenwood overpass. ODOT routinely inspects their bridges to ensure they can safely handle traffic. Regular inspection of the Glenwood overpass did not identify any maintenance issues that need attention. If inspection did indicate problems with the structure, ODOT would take appropriate action.

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9	Pat French	Willamalane Park and Recreation Dist			
			1	Section 3.3.2.3 (p. 38) “There is a great blue heron rookery along the Canoe Canal located about 800 feet east of the project area.” It should be noted that the viability of that rookery location is in question due to decline of the black cottonwood in which the herons have been nesting. The rookery originally contained about five nesting pairs. Those herons appear to be moving out to other locations. One pair of herons is now nesting near the edge of the Willamette River and less than 400 feet east of the project area. This is the second year at this new nest location, so continued nesting in that tree is likely. Because herons tend to nest in colonies, it is possible that others may join the pair at this new nest location. It will be prudent to watch each spring for new nest locations close to the project site as this rookery location is in flux.	ODOT will coordinate with Willamalane Park and Recreation District and the Eugene Parks and Open Space Division regarding this and other sensitive areas in Alton Baker Park and the Whilamut Natural Area that should be avoided during construction and measures to avoid and/or minimize impacts will be implemented. ODOT will continue coordinating with WPRD throughout design and construction to refine mitigation measures, if needed.
			2	Section 3.10.2 “WPRD had received LWCF grants to purchase...” Please note that Willamalane was not the one who received LWCF grants to purchase the Eastgate Woodlands property. Lane County received the LWCF grants and Willamalane subsequently acquired the property.	ODOT has confirmed that LWCF grants were used by Lane County and Willamalane Park and Recreation District to develop portions of Alton Baker Park. The REA includes this information.
			3	Section 3.10.4.2 (p. 66) “Conversion of lands developed with LWCF funds…” This sentence should read, “Conversion of lands purchased or developed with LWCF funds….”	The REA contains the revision as suggested.
			4	Section 4.8.1 Mitigation of Noise During Construction (p 104) and/or Section 4.3.1 Species Avoidance (p.102) There is no mention of potential noise disruption to nesting great blue herons in Eastgate Woodlands. Their nesting period is approximately February 1 through May 31. From February through May, pile driving or excessively noisy construction activities can be disruptive to nesting activities. To complicate the issue, the former nest tree is in decline and doesn’t seem to be occupied by herons this year. Unfortunately, one nesting heron pair has instead chosen to move to the river’s edge closer to the bridge project area, less than 400 feet east of the project area.	The REA documents that construction noise would cause a disruption to the heron rookery. Studies of effects of development on heron nesting have indicated that buffers of 250 feet or greater reduce the disturbance to nesting activities (Boyd 2001). Mitigation measures have been revised to include a restriction on pile driving during heron nesting in order to minimize disturbances. It is likely that pile driving activities would occur during the ODFW in-water work window, June 1 through October 31, which is after heron nesting season. Given the dynamic nature of the nesting activities, ODOT will meet regularly with WPRD throughout design and construction regarding the status of the heron rookery/nesting.
			5	Section 4.9 (p. 107) “If construction staging is located in any park, the contractor will be required to develop a traffic management plan for continued use of the trails.” The contractor needs to let Willamalane and/or the City of Eugene review the traffic management plan for use of the trails prior to it being finalized. This plan also needs to apply to any disruption of path traffic, not just to construction staging.	ODOT will require the contractor to meet with EPOS and WPRD to get their input in the development of the traffic management plan, as well as during construction to provide advance notification of activities that affect path traffic.
10	Randy Henry	Oregon Marine Board			
			1	It is imperative that the public be given fair warning when approaching the construction site and that they have the opportunity to pass safely by and around any construction-related obstructions or hazards.	ODOT will require the contractor to coordinate with Lane County Sherriff Marine Patrol to provide necessary warnings and lighting to address safe river navigation through the project area. The REA contains specific mitigation measures to address safety issues associated with recreational use of the Willamette River.
			2	[A]ccess points upriver from the construction site must be signed with a warning that passage at the construction location will be constricted. If there are dates when particular activities represent a specific hazard, then these dates will be explicitly listed. In addition, media releases should notify local river users of upcoming construction and possible hazards.	ODOT will require the contractor to place signs at river access points, as well as provide media releases and other public outreach to notify river users of upcoming construction and possible hazards. The REA contain specifics mitigation measures to address safety issues associated with recreational use of the Willamette River.
			3	The actual construction area should be signed and lighted, as necessary, to direct water recreationalists away from obstructions and toward safe passage.	ODOT will coordinate with the Lane County Sheriff regarding lighting and signing to direct boaters and other river users away from obstructions or hazards and toward safe passage through the work zone.
			4	We request you work closely with the Lane County Sheriff's Marine Patrol to assure that accident prevention is adequately considered.	See responses above.
11	Mary Henderson	Williams Northwest Pipeline			
			1	We have a high pressure gas line that runs along the freeway. It appears it will be impacted by roadways, slopes, and walls.	Noted. ODOT will require the designer and construction contractor to coordinate with Williams to ensure requirements are met.

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			2	We have specific requirements for crossing our pipeline and any encroachments. (Developer's Handbook was included with comments.) Once you have preliminary plans you will need to meet with me regarding any encroachments or inspection requirements of our line.	See response above.
			3	Our easements do not allow construction or improvements over [our line] or any excavation or fill without prior written consent.	See response above.
12	Charlotte Behm	Citizen Planning Committee			
			1	page 7… under "How would environmental …" First sentence, add lighting: effect on [sic] construction activities, such as dust, noise, LIGHTING….page 29, 2.3.6… add lighting restrictions at night.	The REA includes a discussion on lighting restrictions.
			2	page 41… For many centuries, the Kalapuyas had natural methods to (re)move wildlife before they did their field burnings throughout the Willamette Valley. What if we hired them to do that for us before construction crews come in?	ODOT will coordinate with the Confederated Tribes of the Grand Ronde, the tribal organization in which most Kalapuya descendents are enrolled, regarding the project's progress. As part of that coordination, ODOT will discuss the Tribes' interest and ability to employ some of the traditional methods to move wildlife in advance of the start of construction.
			3	page 42 Visual Effects to Wildlife, line 8. This statement is not strong enough and does not convey the responsibility to the construction firm that they need to minimize the light at night. It needs to say something like: "lighting, especially when the construction has stopped, will have minimum trespass into the park and the river."	ODOT will require the contractor to direct lighting only to those areas where it is required for construction operations, security, and safety, and minimize light emissions into other areas surrounding the project, including the park. Some amount of lighting will be necessary to maintain safety and security. This comment is addressed in Section 4.3.1 of the REA.
			4	Page 43. 3.3.4.2 Vegetation and Habitat, line 1. The 9 acres, I hear, is south of the river; maybe we can mitigate in the park.	On site mitigation for wetlands, waters, and other potentially affected resources is preferred and could include mitigation in the parks.. The 9 acres cited in the EA is a very conservative figure that includes all waters (including the crossing of the Willamette River). Precise wetlands/waters impacts will be determined during design and are likely to be less than 9 acres.
			5	Page 43. 3.3.4.2…. Second paragraph, "removal of the decommissioned…" I don't understand this because there will be another bridge there.	This refers to the removal of some of the fill east of I-5. The Build Alternative would be contained within the permanent ODOT right-of-way.
			6	Page 52, 3.7.2.1 I'm not sure what West Centennial area is. If that's my neighborhood, it's East Alton Baker Park neighborhood. If correct on page 69….	Noted. Changed to East Alton Baker Park Neighborhood.
			7	Page 65, 3.10.3.2 Build Alternative. The first paragraph should look like the first 7 lines of the first paragraph of 3.10.3.1 No Build Alternative, except for the time of occupancy. The problem with what's now in 3.10.3.2 is that it sounded like, to one key person on the CPC, that you are coming through Eastgate because Walnut Street starts in Springfield and the road is not usually called Walnut Street (except maybe officially) in the Eugene portion.	Noted. First paragraph in section 3.10.3.2 revised per suggestion.
			8	Page 70, Neighborhoods. Line 25 of the page, paragraph starting with the East Alton Baker Park…. Is the West Centennial another neighborhood or the one next to the park? I don't know that name. If it's not, you could put: … "the study area. This neighborhood is a small...."	The West Centennial neighborhood is part of the East Alton Baker Park neighborhood. A search and replace will be performed to remove reference to the West Centennial neighborhood.
			9	Page 97-8 Table 16. I'm not sure where E, 2, and 3 are. Are they in the Whilamut? It's not clear….	Wetlands E, 2, and 3 are shown on Figure 13. These wetlands include the frog pond north of the Knickerbocker Bridge. These are within the Whilamut Natural Area.
			9a	Is this where to put that the frog pond just north of the Knickerbocker bridge needs to be protected?	The figure will be revised to identify the frog ponds. The frog ponds would not be affected by the project and will be buffered to avoid impacts.
			9b	Also, I'd like to see the small bike path section west of that vernal pond removed. It was added during the detour bridge construction.	The small bike path section referenced in the comment will be removed during site restoration.
			10	Page 103, 4.3.2 5th bullet. Can you add the Citizen Planning Committee?	ODOT will coordinate with the Citizen Planning Committee (CPC) through design and construction. The REA includes coordination with the CPC.

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			11	Page 104 4.8.1 5th bullet. Is this stockpile in the Whilamut? How big is it? Where would it be?	The mitigation measure referred to in the comment was included based on an assumption that some rock crushing may occur in the project area. Upon further consideration, ODOT has determined no rock crushing or screening will occur within the project area. Therefore, the proposed measure has been deleted.
			12	Page 105. Since the project area is defined as going up to Centennial Boulevard, could the sound wall be extended farther north in Springfield? The population density increases as one moves north.	The technical noise analysis for this project follows the guidance contained in the ODOT Noise Manual and was prepared to meet FHWA's Procedures for Abatement of Highway Traffic Noise and Construction Noise. Noise was analyzed within the limits of construction for the project, consistent with the ODOT Noise Manual; the actual limits of construction do not extend to Centennial Boulevard. Noise walls are only proposed in locations within the limits of construction that meet ODOT noise reduction effectiveness and cost-effectiveness criteria. Extending the noise wall north would not meet the criteria.
			13	Page 110. Line 1. Could the Citizen Planning Committee be added?	ODOT will coordinate with the Citizen Planning Committee (CPC) through design and construction. The REA will add coordination with the CPC.
13	Mark Robinowitz				
			1	I strongly support the No Build Alternative to ensure the existing detour bridge can remain in use for decades (i.e., through the rest of the oil era).	Noted.
			2	When it was determined that the original I-5 bridge was cracked and deteriorating at dangerous levels, the original proposal to do a seismic safety upgrade to the bridge was abandoned. It is astounding that ODOT and FHWA did not decide to replace the bridge only one time, instead of twice. While several staff from these agencies have patiently explained the various regulations that they thought forced them to make this choice, as energy costs increase and energy availability decreases, wasting nonrenewable resources on the rebuilding of the same bridges over and over will become more difficult. The highway construction lobby will still make money fixing broken bridges.... While some will think this is outside the scope of this EA and therefore moot, it points to the need for a policy review of the way Oregon's bridge replacement program is being run -- without any consideration of the arrival of Peak Oil.	The detour was constructed as a temporary bridge due to the need to maintain traffic flow on I-5 and to do it on an expedited basis. Keeping the old bridge in service while a permanent replacement was designed and constructed would have required placing weight restrictions on the bridge. Such restrictions would have resulted in a 200 mile detour for heavy haul trucks, which would result in considerable disruption to and wear on alternative routes. This, in turn, would have considerable short- and long-term costs associated with longer travel distances, delays, and maintenance and repair requirements. Moreover, the detour bridge was constructed with the most cost effective design, which did not meet the bridge and highway design standards for a permanent bridge. For example, it does not have standard shoulders or meet seismic standards for a permanent facility.

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			3	The main point of these comments is that “Peak Traffic” caused by Peak Oil means that there is no need to widen I-5 through the study area (future traffic increases are not likely given increasing fuel prices and decreasing fuel availability). Widening this section of Interstate 5 risks violating Federal Highway Administration policies and regulations about “independent utility” that address segmentation of large projects. (Later on Page 5) ... Traffic projections for the design year of this project and all other highway projects need to factor in reasonable estimates of oil decline that will impact traffic levels two decades in the future. [Note: the commenter provided several reports and articles on the subject of peak oil.]	Peak oil refers to the point in time at which the maximum global petroleum production rate is reached, after which the rate of production enters a terminal decline. The comment is correct that peak oil was not factored into the estimates of future traffic demand. Future traffic projections were based on standard methods used by ODOT and approved by FHWA, and incorporating land use projections developed by the Lane Council of Governments (TPAU, 2006). The I-5 Willamette River Bridge Project does not include improvements that change the capacity of I-5 to handle traffic. Most estimates place peak global production occurring some time between 1990 and 2040. When oil production drops below oil demand, it is likely to cause petroleum prices to increase. There are uncertainties, however, regarding peak oil’s timing and the availability of substitute fuels. Peak oil’s effect on transportation fuel prices and travel behavior will depend largely on when peak oil occurs and the availability of substitute fuels. However, even substantial fuel cost increases may not significantly change driving habits. The American Automobile Association reported in their July 30, 2008 Fuel Gauge Report that the national average price for regular unleaded gasoline was $3.93/gallon compared to $2.88/gallon one year earlier: an increase of over 36%. The FHWA’s monthly Traffic Volume Trends report for May 2008 states that there was a 3.2% reduction in miles traveled on US Highways between May 2007 and May 2008 as a result of higher gas prices. Because fuel costs represent only a portion of total transportation costs (which include everything from car payments, to insurance and maintenance) even large growth in fuel costs translates to a smaller growth rate in total transportation cost, which is what most directly affects travel demand in the long term. Given that the design life for the bridge is 100 years or more, the potential for I-5 to be widened in the future north and/or south of the bridge led the Federal Highway Administration to direct that the design of the replacement bridge be of sufficient width to accommodate future widening without reconstruction, even though widening of I-5 is not currently planned. In addition, the wider bridge section could be used for alternative transportation modes such as transit if it is not needed for roadway capacity. Regarding whether the project lacks “independent utility,” the project involves replacement of an existing bridge and does not change the capacity of I-5. 23 CFR 771.111(f) states: “In order to ensure meaningful evaluation of alternatives and to avoid commitments to transportation improvements before they are fully evaluated, the action evaluated in each EIS or finding of no significant impact (FONSI) shall...have independent utility or independent significance, i.e., be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made....” The FHWA has affirmed that the proposed dimensions of the replacement bridges represent an appropriate design for the project (Taylor, 2007).
			4	The No Build/Low Build alternative is the most cost effective and least energy consumptive means of meeting the purpose and need of having a bridge across the river likely to withstand seismic shaking.	The No Build Alternative would require less short term energy expenditures than the Build Alternative. However, the No Build Alternative does not meet the purpose and need of the project.

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			5	Traffic projections for the year 2031 (the design year for the project) are unrealistic since by then the world will be on the downslope of Hubbert's curve. The National Environmental Policy Act…states that environmental documents need to factor in "new circumstances" that are relevant. The fact that we have reached Peak Oil (for conventional oil) and climate change is happening faster than climatological models predicted suggests these physical limits need to be factored into this and all other transportation studies.	There is substantial uncertainty regarding the timing of peak oil, the future availability of substitute fuels and technology, and the effects of peak oil on transportation. Numerous factors will influence the timing and impact of peak oil at the global and local scale. These factors include national and international energy policies, international relations, fuel and transportation taxes and fees, alternative fuel and technology research and development, fuel efficiency, agricultural policy and practices, and local land use regulations. How these factors and others will combine with peak oil to affect travel demand is unknown and subject to broad speculation. FHWA and ODOT have agreed that the appropriate place to address comments on peak oil is in these responses to comments. Global climate change is addressed in the response to Document 4, Comment 1.
			6	The EA needs to study how merely replacing the damaged bridge with a new bridge that is designed for four lanes (plus an emergency shoulder) would allow more resources to be used to repair or replace other damaged bridges.	As noted in the response to Comment 3, the FHWA has provided direction on the number of lanes for the bridge. This was a primary criterion in project development. State funding from the OTIA III program and federal funding have been identified for the project, as documented in Section 1.1 of the EA. This funding is provided to develop and deliver a project that meets the purpose and need. How funding is apportioned for the statewide bridge program is detrermined by the Oregon Legislature, ODOT, and the Oregon Transportation Commission not within the scope of the NEPA analysis for the project.
			7	[T]his stretch of I-5 would be widened under the Build option, part of a larger effort throughout Lane County, which would have substantial financial impacts and possibly displace several businesses. These impacts need to be included in the analysis of cumulative impact of building a six lane bridge.	Under the Build Alternative, only the bridges and the approaches to the bridges would be widened. Even though the bridges would be physically wider than the existing bridges, they would be striped for two lanes in each direction, to match the existing lanes of I-5. No additional lanes on I-5 are included in this project. Widening of I-5 north or south of the bridge is not a programmed or funded improvement in the 20 –year Region Transportation Plan and, therefore, ODOT and FHWA did not identify it as a "reasonably foreseeable future action" and therefore it was not included in the cumulative effects analysis for the project. It should be noted that any potential future project to widen I-5 would be far greater in scope than the I-5 Willamette River Bridge replacement project and would require a substantial environmental review under NEPA.
			8	[Spread of invasive plants] would be a greater problem for the Build alternative than the No Build alternative, since there would be far greater construction activities if a six lane bridge were built over a four year period.	This is correct. The REA text will indicate that the larger project with longer duration would have a greater likelihood to introduce or spread invasive plants.
			9	[I]t is obvious that the County and ODOT are quietly piecemealing plans for widening of the interstate and a cumulative EIS analysis is needed for the entire project. If ODOT's position is there are no plans to widen I-5, then there is no need to plan a six lane bridge that would cost considerably more than merely replacing the existing bridge….	See response to Comment 7 above regarding future widening of I-5.
			10	The U.S. could immediately reduce oil consumption by an estimated 4% by rolling back highway speed limits to 55 mph.	Noted. It is not within the scope of the I-5 Willamette Bridge Project to change the speed limit on I-5.
			11	Widening I-5 to facilitate an increase in traffic is intended to facilitate more travel and therefore would contribute to an increase in combustion of fossil fuels.	The project does not involve widening of I-5. The bridge will be striped for two lanes in each direction. If widening of I-5 is considered in the future, it would be subject to environmental review under NEPA. At that time, an evaluation of fuel consumption and energy use consistent with adding capacity to the transportation system would be conducted. See response to Comment 7 above regarding future widening of I-5.

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			12	The EA needs to include the cumulative impact of using cement and concrete that was made with incinerated hazardous wastes.	The OTIA III Materials and Contamination Performance Standards contain specific standards for material procurement and use. The standard for concrete allows the use of concrete that contains fly-ash (which is generally from coal-fired electric generation) in accordance with ODOT specifications. The contractor will not use any material for this project that is not in accordance with ODOT specifications. ODOT's policies include the removal or remediation of hazardous waste from existing conditions and do not allow for the use of known hazardous materials that would endanger the public..
			13	The EA also needs to include the full impact of mining ores and gravels to produce the raw material for the new, larger bridge, as well as the environmental and toxic impacts of the paints, bolts, girders, wire, lighting systems, and all other components of the new, larger bridge.	Selection and procurement of the materials for construction would be the responsibility of the construction contractor. The type of materials (such as steel vs. concrete) to be used in the bridge construction will not be selected as part of the NEPA process. These will be determined as part of the design process. Materials will be procured in accordance with the Materials Procurement and Use Hierarchy from the OTIA III Materials and Contamination Performance Standard. The hierarchy specifies utilization of products and materials in a manner that prevents waste generation, promotes materials reuse and recycling, minimizes disposal, and promotes sustainability. For the details of the Materials and Contamination Performance Standards, see: http://www.obdp.org/files/partner/environmental/MaterialsandContaminationManual.pdf
			14	The "prudent and feasible" alternative is to select the No Build (Low Build) alternative.	Regarding Section 4(f), the proposed temporary occupancy of Alton Baker Park would constitute a *de minimis* use (consistent with 23 CFR 774.17) hence alternative analysis is not required. Further, the prudent and feasible test only applies to alternatives that meet the purpose and need of the project. The No Build alternative does not meet the purpose and need of the project. It should be noted that ODOT has been actively coordinating with the Eugene Parks and Open Space Division and Willamalane Park and Recreation District, as well as the Citizen Planning Committee for the Whilamut Natural Area, regarding measures to avoid, minimize and mitigate construction impacts associated with the project. This process will be memorialized in a formal agreement between the park administrators and ODOT. The mitigation measures were considered in making the *de minimis* determination. Further, Eugene Parks and Open Space Division has concurred with this determination.
			15	Four years of proposed construction in the park is not a "*de minimus*" impact on the park.	See Comment 14 response above.
			16	Putting heavy equipment, construction materials, gravel, etc. on natural soils results in compaction and other ecological damage that can take decades to reverse. The construction would cause essentially permanent damage to the park and would also have "constructive use" impacts on the park; therefore, minimizing the time of construction via the No Build alternative is mandatory. Even building a new four lane bridge (versus a six lane bridge) would reduce construction time over a six lane expansion.	A constructive use impact occurs when a project does not directly take land from a Section 4(f) resource, but the project's proximity impacts substantially impair activities, features, or attributes of the affected property. The temporary occupancy of a portion of the park during construction and proposed mitigation measures are documented in the EA. It should be noted that the project proposes to temporarily occupy approximately 2 acres of Alton Baker Park adjacent to the bridge for staging; the overall area of Alton Baker Park is 400 acres. ODOT is coordinating with Eugene Parks and Open Space Division regarding the location of temporary staging areas and measures to avoid and mitigate park impacts.
			17	The EA needs to state whether LWCF funds were used or not.	ODOT and Oregon Parks and Recreation Department concluded that LWCF funds were used for the acquisition of Alton Baker Park. ODOT is proceeding with analysis of conversion in accordance with Section 6(f) of the Land and Water Conservation Fund Act. The REA will include this information and commitments regarding replacement property.

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			18	The scale of these bridges suggest the No Build (Low Build) Alternative needs to be adopted to free up funds to repair or replace other defective structures in the state highway system.	See Comment 6 response above.
			19	Public input ignored…The comments that were submitted to ODOT to factor Peak Oil and climate change into traffic projections were completely ignored in the EA, even though some of the staff privately admitted these concerns have merit.	ODOT conducted public involvement activities, including two open house meetings during the development of the EA. All comments submitted through this process were carefully considered by the project team, ODOT and FHWA, even if they were not specifically addressed in the EA.
			20	Sustainability really means zero use of fossil fuels and zero use of mined mineral ores.	Because this project is part of the OTIA III program and to maintain consistency with other projects in the program, the EA used the definition of "sustainability" adopted for the program.
			21	If a new bridge is built next to the allegedly temporary bypass bridge, it should be the design that would be strongest to resist the Cascadia Subduction Zone earthquake and the potential dam failure on the Middle Fork and damns [sic] upstream from Cottage Grove (the latter were not designed with any seismic safety criteria, according to the City of Eugene)	The replacement bridges will be designed to the current design standards, including seismic standards.
			22	It is unlikely that compacted soils would be quickly regenerated with their full range of microbial and mycological diversity. The EA needs to include scientific analysis of how diverting park land to construction for a period of years has allegedly resulted in full recovery of the original soils -- and if this information is unavailable, then the "use" of the park land for construction must be considered a permanent "use" of the 4(f) resource.	The construction contractor will be required to monitor and ensure the success of the revegetation and wetland restoration/creation for five years, consistent with the OTIA III Environmental Performance Standards. Also of note, the area of Alton Baker Park proposed for temporary occupancy for staging would be approximately 2 acres, representing a small area of Alton Baker Park, which is 400 acres.
			23	I realize that "highway modernization" money cannot be diverted to upgrading the railroads of Oregon (and that there isn't excess highway construction money that could be diverted anyway). Nevertheless, as Peak Oil becomes harder to deny, it would be nice for ODOT to upgrade the priority for railroad infrastructure while we still have at least some rail connections to other parts of North America.	Noted.
			24	The "spaghetti bowl" of a potential I-5 interchange [at Franklin Boulevard] would have major riverfront impacts, would cause residential displacements and disruption to neighborhoods, would be very expensive, and would be less than one mile from the I-105 interchange (improper spacing according to ODOT design standards). The money for the interchange would be better spent on seismic upgrades to the dangerous dams upstream from Glenwood.	As noted in previous comment responses, the project does not involve changes to I-5/Franklin Boulevard access other than minor modifications of the existing ramps. Further, no permanent right-of-way acquisition would result from the I-5 Willamette River Bridge Project. The current temporary easement east of I-5 in the Whilamut Natural Area would be vacated and some of the fill that supports the detour would be removed. No residential or business displacements or relocations would result from the project. State or federal transportation monies cannot be spent of dam upgrades.
14	Tim Vohs				
			1	My thought is to keep it simple. I don't support the "No Build" but my preference would be to avoid the "frills." Archways to me are overdoing it. There are probably 100 people who go over this bridge for every person who goes under it.	At this time, ODOT is developing the project to retain design flexibility related to bridge form, materials, and aesthetic treatments as well as to allow flexibility to the engineers to design an economical bridge that also meets community requirements. Therefore, a specific bridge design will not be selected in the NEPA process. Following the NEPA process, there will be additional opportunities to allow the community to provide input on selecting the bridge type.
15	Judith Eisen				
			1	Bridge type options. I prefer either deck arch or through arch and don't like the others.	Noted.
16	Robin Cassidy-Duran				
			1	I like the through arch design for the bridge. It reminds me of the Peter DeFazio bridge in Alton Baker Park – one of my favorites!	Noted.

Document #	Commenter	Organization	Comment #	Comment	Response
17	Adam Steffan				
			1	Interested and welcome the opportunity to further explore potential optional uses of ODOT/I-5 right-of-way land *under* and around bridge, particularly for mountain bike “skills and challenge” park. We look forward to further exploring this opportunity.	ODOT has discussed this possibility with Lane County Mountain Bike Association (LCMBA) representatives. While ODOT would not construct such a park with state funds, it may be possible to allow another entity to construct a park if appropriate agreements are implemented.
18	Anthony Beck				
			1	The LCMBA represents the mountain bike (MTB) community in Eugene. Specifically we focus on advocacy and working with land managers to provide more MTB access and opportunities. One of the main goals of the LCMBA is the creation of an urban MTB skills park. The I-5 bridge project provides an opportunity for incorporating the skills park as part of the plan. A skills park provides many positive benefits to the community and further enhances the showcasing of the bridge. Please see the email I sent on Jan. 31 to both ODOT and the consulting firm’s project managers and public liaison persons. Thank you for considering this option!	See response to Document 16, Comment 1, above.
19	George Jessie				
			1	I propose that the replacement bridge be built in the most cost effective manner feasible. The “girder style” appears to be easier for long term maintenance, minimum nuisances (birds, etc.) and yet be aesthetically pleasing. I emphasize cost concerns because of the increasing competition for scarce transportation and public dollars available.	Noted.
20	David Roth				
			1	I like the “through arch” design the best. If we’re spending big bucks on a new bridge, let’s make it look good! Stay in contact with the LCMBA on a potential mountain bike challenge and skills park on the south side of the bridge. (Area II) This would be a great way to turn a “negative space” into a positive community asset. Thanks!	Noted.
21	Erick Gunderson				
			1	The Willamette River Bridge is an important gateway to Eugene/Springfield and the southern end of the Willamette Valley. The bridge design should be a visible marker for drivers on I-5 and those crossing along Franklin Blvd. I support designs that include an arch, pylon or marker visible above the bridge deck. The through arch most closely appears to do this. I am opposed to large sound walls, which are visual barriers. They are really ugly. Thanks for the chance to comment.	Noted.
22	William Ivanoff				
			1	For visual impact, could it be considered to bring a historical look to the above part of the bridge? Try to copy the above deck green girders like the Ferry Street and Springfield bridges. The city of Eugene overwhelmingly wanted to keep the Ferry Street Bridge as is. It would be easier to light the bridge that way using the feature above the deck. The green girder bridges are rare today. Please build a set of twins over the Willamette for I-5. Do whatever they want for the lower portion, (deck and below). The other green girder bridges also have three piers.	Noted.
23	no name				
			1	Best design (for vehicles above and boats, bikes, hikers, walkers below) is the “Through Arch Bridge.” Best design of the three less expensive options is the “I Girder Bridge.”	Noted.
24	Gayle Jessie				
			1	Consider the park, river, and path usage that occurs below the bridge. A design that is pleasing and not distracting from the surrounding landscape. I prefer the “box girder” – clean and simple. / Will paths have detours for bike and pedestrian travel between Eugene and Springfield? This is a heavy use area for recreation and commuting. / Noise issues for surrounding community should be a priority when considering design and placement.	Noted.

Document #	Commenter	Organization	Comment #	Comment	Response
25	Gay Kramer-Dodd				
			1	I like the 2-bridge (one each direction) plan and the potential designs are attractive. My main comment on design is that view is important. It's so beautiful in Oregon – please leave the view from cars as unobstructed as possible. It's discouraging to cross a bridge and have a wall block the view.	Noted.
26	Zach Vishanoff				
			1	There are a couple of things I see as piecemeal with what's going on…they were able to review parts of the Mill Race [for the EA] as far as historic significance or eligibility…. Unless [the Mill Race] is evaluated as an entire little system…they would miss some opportunities to maybe open the whole Mill Race in a way that makes sense, as opposed to treatment of one end of the Mill Race one way and then.. the rest treated a separate way.	ODOT evaluated the potential effects of the project in accordance with the requirements of Section 106 of the National Historic Preservation Act. Evaluation and interpretation of the entire Mill Race is beyond the scope of the I-5 Willamette River Bridge Project.
			2	I think that if you are going to do funding for plaques [interpretive signs for Mill Race], better to do them all along the Mill Race. So it would go off site, but it would start…with your project.	ODOT reviewed project-related effects to the Millrace. The project would affect only a small portion of the Eugene Mill Race and would preclude any potential efforts to address the Mill Rrace as a larger resource. As part of this project, ODOT will work with local historical societies to design and install an interpretive sign in the vicinity of the Eugene Mill Race and Dam (Section 4.6).
			3	It's real important to have bike traffic not be precluded, if possible. I noticed last time there was bridge work done they had to shut down one side of the river for bike traffic for a significant amount of time.	Trails will, to the maximum extent practicable, be kept open, safe and useable during construction. A continuous route across ODOT ROW for the bike/ped pathways will be maintained on both the north and south side of the river during construction (Section 4.10). In addition, the construction coordinator will coordinate with park officials and community groups on any temporary detours of trails.
			4	If you create a tunnel, at night that area is kind of…spooky. So if there's a lot of extra lighting…you feel safe at night riding your bike through there.	Adequate lighting will be provided to maintain a safe environment for path uses. There have been many discussions about whether to provide lighting under the bridge at night or until a set time (i.e., 10 p.m.). ODOT will continue coordination with park officials regarding lighting details.
			5	I think [ODOT] could ask [Eugene] to begin to talk about what riverfront development would be like and what the Mill Race frontage development would be like, because it doesn't seem like there's any funding or desire to study how complicated that could be and maybe how good it could turn out... so [ODOT] could request some catching up, basically.	Future proposals for riverfront development would be evaluated and approved by the City of Eugene. No proposals for riverfront development were considered reasonably foreseeable and therefore were not included in this EA.
			6	You might do a study of Mill Race right-of-way so that if you have a pedestrian-friendly bridge that you could end up not having to get your car.	A pedestrian bridge is not proposed as part of the project.
			7	Bike trails along the river are kind of piecemeal right now…. But maybe a holistic look at do we want to save the greenway down here and if we improve bikeways what would it look like. That conversation isn't happening. That could be enhanced.	Planning for the bicycle systems in Eugene and Springfield are the responsibility of those jurisdictions and beyond the scope of this project. Any reconstruction and/or realignment of trails will be done in accordance with applicable design standards. Also, see above, Document 28, comment 3
			8	There's a report…called the Farkas Report. This is a privately funded refinement plan….So I think -- just so that people on the bridge project know that the development in the Farkas Report doesn't reflect the community's values. It just reflects those who funded the plan's values.	The proposed project would not preclude any future developments to Franklin Blvd. The project is not being designed to accommodate any specific future development in the Franklin Blvd area.
			9	It would be great to have a construction impact hotline so if anybody sees sediments in the river that shouldn't be there or something hazardous or they have trouble getting through at night or maybe concerns over something they see that might be of archaeological importance or something like this.	ODOT is committed to maintaining open public communication throughout the project, and will consider a "construction hotline", and other ways for the public to easily and quickly get in contact with ODOT and contractor personnel regarding concerns about the project.
27	Elizabeth Steffanson				
			1	I would like the bridge to have no ramps. That would be very disturbing to the park.	The project would modify the existing ramps to and from Franklin Boulevard. No new ramps are proposed as part of the project.

Document #	Commenter	Organization	Comment #	Comment	Response
			2	I would also like the bridge to be aesthetically very pleasing.	Noted.
			3	I would like to see more arches… and minimum abuse to the river.	Noted.
28	Bill Poole				
			1	My initial thought in coming in was to ask for the extension of the sound wall (north part of project), going further south …. I would feel good it that were extended here.	See Document 13, comment 12 response. The technical noise analysis for this project follows the guidance contained in the ODOT Noise Manual and was prepared to meet the FHWA's Procedures for Abatement of Highway Traffic Noise and Construction Noise. The noise analysis concluded that extending a noise wall further south would not appreciably lower noise levels at residences east of the project such that it would meet ODOT's noise reduction and cost-effectiveness criteria. Noise walls are proposed in locations that meet ODOT noise reduction effectiveness and cost-effectiveness criteria.
			2	It would be my question to see if you can't put some "no jakes" [related to "jake braking" by truckers] signs and see if we can stop that.	Jake breaks are also known as exhaust breaks or engine breaks. ODOT cannot prohibit or restrict their use because they are safety features on heavy trucks.
29	Ed Armstrong				
			1	I think that the motorist driving over the I-5 bridges does not notice what sort of structure supports the roadway. However the through tied arch or suspension type bridge would be very noticeable and should be aesthetically pleasing to the eye. I understand that costs do enter into the equation and future maintenance must be considered also.	Noted.
30	Bob Kline	Harlow Neighborhood			
			1	Traffic during construction period along Martin Luther King Blvd., in Alton Baker Park/Autzen Stadium areas, and North Walnut Path where there will be construction vehicles entering and exiting for several years.	Construction traffic will use Martin Luther King Boulevard to access the project area. The contractor will be required to prepare a traffic management plan to address, among other issues, traffic access to the construction site. The plan will include measures to minimize disturbances and delays to adjacent areas.

Document #	Commenter	Organization	Comment #	Comment	Response
			2	The noise level in the residential areas to the west of the bridge along Alton Baker Park and to the north of the park along I-5, which the EA does not, in my opinion, fully address specifically about the noise level and possibility of mitigation by the use of sound walls.	The noise analysis that is documented in the EA was conducted in accordance with the ODOT and FHWA guidelines for noise analyses for highway projects. The noise analysis predicted existing and future noise levels at first-row residences on the west side of I-5, between the park and the northern limits of project construction. Defining the noise analysis area (i.e. the area for which receptor noise levels were predicted and noise mitigation is analyzed) by the limits of construction is consistent with the ODOT highway noise policy. Regarding the area mentioned in the comment, Figure B-1 in Appendix B of the EA shows the locations of the receptors used for this area of the project. The four receptors in this area (R1, R3, R6 and R7) represent the housing development located immediately west of Interstate 5, north of the park, and on either side of Covey Lane. These are the first-row receptors in this area. The development is comprised of town houses and the eastern wall of this development (the wall that faces I-5) and the southern wall (the wall that faces the park) are tall, flat concrete walls with no windows or doors. The concrete walls of this development are not typical noise walls such as ODOT might build, but act as large noise walls shielding the properties behind (both those in the Covey Lane development, as well as those further to the west) because the units are continuous (with no gaps in the rear walls between dwelling units to let sound through). The ODOT noise policy looks to assess impacts, first and foremost, at outdoor use areas with frequent human use. Therefore, noise impacts were assessed for these properties in the courtyards off Covey Lane. The east and south solid concrete walls of this development were included in the modeling as a barrier as they have a significant effect on the propagation of highway traffic noise from I-5 on the west side of the freeway in this location. The results of the analysis at the receptors representing these properties showed that noise impacts were not predicted (based on the ODOT noise impact criteria); therefore no additional noise mitigation was proposed. Further, from a practical standpoint, a second noise wall on the right-of-way between the freeway and these properties would be unlikely to change noise levels at the properties behind unless it was taller than the 25-foot tall solid concrete wall that makes up the south-facing and freeway-facing walls of the development. Walls of the kind that ODOT employs for noise mitigation taller than 16 feet are not usually practical.

References:

Boyd, Lynn. July 2001. *Buffer Zones and Beyond: Wildlife Use of Wetland Buffer Zones and their Protection under the Massachusetts Wetland Protection Act*. Wetland Conservation Professional Program, Department of Natural Resource Conservation, University of Massachusetts.

Taylor, Phil. 2007. Letter to Tim Dodson, ODOT. July 27, 2007

-----Original Message-----
From: Walter [mailto:walterpritchard@comcast.net]
Sent: Thursday, February 21, 2008 11:30 AM
To: COX Jim B
Subject: comment on new I-5 bridge

Document # 1

Dear Mr. Cox,

First of all I would like to thank ODOT for keeping me informed on the I-5 bridge construction project over the Willamette River in Eugene/Springfield. Due to being away, I wasn't able to attend the Jan. 31 Open House and my letter of comment has missed the Feb. 19 deadline.

Following is my concern with the bridge project. The plan lacks an off ramp onto Franklin Blvd. from the southbound lanes. I am aware the grade is very steep and a structure separate from the bridge would have to be constructed. Also more piers would be required in the Willamette River and that is an environmental concern for people. I'm not sure the number of piers is a real environmental detriment when I observe the number used in bridges in the river in the Portland area. Your bridge plan accommodates for the amount of light lost under the bridge spans by making two separate spans rather than one very wide one. If an off ramp were to be a separate span, the light problem would be mitigated.

I live in the Ferry Street Bridge area of Eugene and am very familiar with the congestion on the Ferry St. Bridge. A lot of the traffic is due to I-5 traffic that takes the I-105 to the Ferry St Bridge to downtown and visa versa. An I-5 off ramp onto Franklin Blvd. would help relieve some of this traffic congestion. There is a southbound off ramp further south of Franklin Blvd. at Glenwood that travelers can use to wind their way back to Franklin Blvd. but apparently they don't want to go that far and use I-105 instead. It is an expense to add a separate structure for an exit onto Franklin Blvd, but it would be less expensive and inconvenient to do it now when the new bridge is being constructed than at a later date.

Thank you for reading my comment and again for the bridge updates.

Karen Pritchard

-----Original Message-----
From: Bob Cortright [mailto:Bob.Cortright@state.or.us]
Sent: Thursday, January 17, 2008 12:02 PM
To: Jim B Cox
Cc: MOORE Ed W

Document # 2

Subject: Willamette River Bridge EA

Hi Jim

I just received this EA and skimmed though it.

The land use discussion seems pretty thin. If I'm reading correctly the EA identifies the need for a goal exception and plan amendments but does not identify or address the relevant standards that would have to be met - it simply says ODOT will acquire the needed approvals before construction.

My understanding of ODOTs SAC Rule is that the EA should not only identify the required land use approvals but is also supposed to address the relevant standards and criteria to assure that the project is located and designed in a way that it is likely to obtain the required approvals when they are applied for (and so that ODOT does not have to reconsider or revise the project to comply with any applicable requirements.) The relevant part is 0075(2):

"Goal compliance and compatibility shall be analyzed in conjunction with the development of the Draft Environmental Impact Statement or Environmental Assessment. The environmental analysis shall identify and address relevant land use requirements in sufficient detail to support subsequent land use decisions necessary to authorize the project."

Perhaps I'm missing a supplemental memo or appendix that addresses these issues. Could you or someone on the project team clarify what your approach is?

Given the level of contention associated with land use issues in the Eugene Springfield area, I think it would be particularly prudent to make sure this is done thoroughly to avoid complication or delay later.

Thanks

Bob

Robert Cortright
Transportation Planning Coordinator
Department of Land Conservation and Development
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Document #3

United States Department of the Interior

NATIONAL PARK SERVICE
Pacific West Region
909 First Avenue, Fifth Floor
Seattle, Washington 98104-1060

IN REPLY REFER TO:
EC-No ER

February 19, 2008

Jim Cox, Assistant Branch Manager
ODOT Major Projects Branch
680 Cottage Street NE
Salem, OR 97301
Jim.B.Cox@odot.state.or.us

Dear Mr. Cox:

The National Park Service (NPS), Pacific West Region-Seattle, offers the following comments regarding the Environmental Assessment (EA) for the Interstate 5 Willamette River Bridge Project:

Section 4(f) of the Department of Transportation Act

The Build Alternative would construct two one-way bridges within existing Oregon Department of Transportation (ODOT) right-of-way. The No Build Alternative would leave the existing detour bridge, constructed in 2004, in place and require acquisition of a permanent easement or fee simple.

It is unclear what 4(f) analysis was done for the original construction of the detour bridge. It would be helpful for this apparent gap in information to be closed in the final EA. The final EA should also include a map showing the location and details of the detour bridge. We note that a permanent easement would be an actual "use" under Section 4(f), requiring all possible planning to minimize harm. The final EA should discuss specific mitigation measures.

The EA states that the temporary occupancy of Alton Baker Park would not be a "use," if criteria under Federal Highway Administration (FHWA) regulations are met. However, we note that one criteria is that temporary occupancy must be less than the project duration. Yet under 3.10.3.2, for the Build Alternative, the EA states that construction staging will occur for 4 years, which is the length of the project.

Under Section 2.1.1, the EA states that "[t]he Willamette River is about 800 feet wide at the bridge crossing…" Yet under Section 3.3.2.2, the EA states that "[t]he Willamette River is about 660 feet wide at the project site." This is a contradiction that should be clarified.

Without more information, the NPS is unable to concur with the 4(f) findings represented in the EA at this time.

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Section 6(f) of the Land and Water Conservation Fund (LWCF) Act

The EA consistently suggests that only those areas that received direct LWCF assistance are protected under Section 6(f) of the LWCF Act. This is incorrect. The entire Alton Baker Park is protected under 6(f).

Conversions can occur due to impacts beyond the project's footprint. The NPS has concerns about staging and material storage areas, as well as the entire haul route through the park, visual impacts due to lighting, clearing, construction equipment, etc., and impacts due to noise, vibration, and recreational fragmentation. We also have concerns about impacts to boaters and fishermen, which are frequent recreational users of the park and which were not discussed in the EA. Finally, any cumulative impact over 180 days in duration is also a conversion requiring replacement property.

We do not have enough information at this time to conclusively determine the extent of the conversion for the footprint and proximity effects of the temporary detour bridge.

Section 6(f)(3) of the LWCF Act states that "[n]o property acquired or developed with assistance under this section shall, *without the approval of the Secretary*, be converted to other than public outdoor recreation uses" (emphasis added). Secretarial approval has been delegated to the NPS. Therefore, NPS approval is required *before* a conversion occurs. However, the temporary detour bridge built in 2004 resulted in a conversion that was not approved by NPS.

Per 36 C.F.R. Section 59.3 and Section 670.3.4.K of the current grants manual, replacement property must meet the following requirements in addition to the current fair market value and recreation utility referenced in the EA:

- be part of a viable public outdoor recreation area
- cannot be land currently owned by another public agency unless selling agency is required by law to receive payment for the land
- cannot be land originally acquired by the sponsor or selling agency for recreation purposes
- cannot have previously been dedicated to or managed for recreation purposes while in public ownership
- cannot have been initially acquired with Federal assistance

Finally, all conversions must be in accordance with a state's current Statewide Comprehensive Outdoor Recreation Plan (SCORP). The SCORP was not listed among the other documents cited in Section 3.7.1 of the EA, which lists the relevant land use documents.

Under Section 3.10.1, the EA states that the project team had coordinated with the NPS. We are only aware of the project's invitation to the NPS to become a cooperating agency. However, given the conversion issues that are present, we recommend further consultation with the following individuals:

Ms. Gloria Shinn
LWCF/UPARR Project Manager
National Park Service
Pacific West Region
909 1st Avenue, 5th Floor
Seattle, WA 98104-1060
Voice: (206) 220-4126
Fax: (206) 220-4161
Gloria_Shinn@nps.gov

Ms. Marilyn Lippincott
Oregon Parks and Recreation Department
725 Summer Street NE, Suite C
Salem, OR 97301-1271
Voice: (503) 986-0711
Fax: (503) 986-0794
Marilyn.Lippincott@state.or.us

We appreciate the opportunity to provide these comments. For questions concerning 4(f), please contact Ms. Kelly Powell, Environmental Compliance Specialist, 168 South Jackson Street, Seattle, Washington, 98104-2853, 206-220-4106 (phone), 206-447-4246 (fax), Kelly_Powell@nps.gov.

Sincerely,

/s/ signed original on file

Rory D. Westberg
Deputy Regional Director

cc:

Ms. Marilyn Lippincott
Oregon Parks and Recreation Department
725 Summer Street NE, Suite C
Salem, OR 97301-1271

Document # 4

EUGENE
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Open Space

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PARKS AND OPEN SPACE PLANNING

PARK OPERATIONS

URBAN FORESTRY

NATURAL RESOURCES

2/19/2008

Jim Cox, Assistant Branch Manager
ODOT Major Projects Branch
680 Cottage Street NE
Salem, OR 97301

Dear Mr. Cox:

Thank you for the opportunity to review the I-5 Willamette River Bridge Project Environmental Assessment. We appreciate the thorough and thoughtful effort that went into producing the Environmental Assessment. On behalf of the City of Eugene Parks and Open Space division, here is a summary of our comments:

3.1 Air Quality (p.31)
The carbon footprint of the project and its contribution of greenhouse gases is not evaluated in the EA. However, as noted in similar bridge projects in the Portland Area, there will be a significant amount of greenhouse gases produced under the build alternative, and possibly with the no build alternative as well. This impact and any mitigation measures planned should evaluated in the EA.

3.3 Biology
3.3 Biology (p. 38, 39, 44) - The term "habitat alternation" is used on these pages. It is assumed that this should read "habitat alteration", however if this is not the case then the term "habitat alternation" needs to be explained.

3.3.2.3 Terrestrial Wildlife (p. 37) – In addition to the species noted, there is an occupied bald eagle nest located at Skinner Butte. The nest is located 2.2 miles from the project area. While the nest itself is located just beyond the 2 mile limit noted in Table 3, bald eagles do forage within this boundary and should be noted as occurring within the project boundary for the purposes of the EA with appropriate mitigation considerations.

3.3.2.3 Terrestrial Wildlife (p. 37) – The text and the table on this page refer to the "Northern Pacific Pond Turtle", while on page 38 the text refers to the "Northwestern pond turtle". While both names are often used to describe the subspecies of Western pond turtle that is present in this region, the EA should be consistent so that it is clear that there are not two different species being referenced here. Note also that the scientific name for the Western pond turtle has changed from *Clemmys marmorata* to *Actinemys marmorata.*

Also note that Western pond turtle habitat is not limited to the canoe canal, but includes the river itself, the pond to the west, as well as upland habitat that is utilized for nesting and overwintering. It is possible that workers will encounter turtles during construction and these should be handled appropriately (see comments under 4.3.1 below).

3.3.4 Permanent Effects – Fluvial and Hydraulic Conditions of the Willamette River (p.44)- The EA notes that the "Build Alternative Options A and B would result in minimal changes to the hydraulic characteristics of the Willamette River when compared to existing conditions." This conclusion seems unfounded and inadequately evaluated. The removal of footings from the existing bridge and construction of new footings will alter the existing hydraulics with poorly evaluated hydro-geomorphic impacts. Erosional and depositional forces will be different. Indeed the river thalwag itself could move. We acknowledge that the bedrock conditions under the current and future bridge provide a stable bed for the footings such that there may be minimal geologic changes directly

under or upstream from the bridge itself. However, the hydraulics under both low flow and flood conditions should be evaluated with consideration of the new footing locations to determine potential fluvial geomorphic changes related to the altered hydraulics immediately downstream of the footings. Furthermore, the biological implications of altered hydraulic forces are not discussed in this section. This section should be expanded to include indirect biological effects of fluvial changes and/or the section should be included in section 3.4 Geological Resources since the direct impacts would relate to geomorphic changes to the stream.

3.12 Transportation

3.12.3.2 Temporary Effects Built Alternative (p.77) – "The third paragraph notes that "[i]t may be necessary to close the recreational trails for short periods, up to several days." The closure of Day Island Road for long periods of time will be necessary for the transport of materials to the staging area. Thus, this should be rephrased to note the certainty of closure. Perhaps, "[i]t will be necessary to close some of the recreational trails during construction, possibly for several weeks or months," or such similar language that more accurately denotes the certainty of closure of some trails for long durations.

4.3 Biology

4.3.1 Species Avoidance (p. 102) –First, under the seventh bullet referring to "[w]ildlife avoidance to minimize injury", it would be useful to clarify the dates of the breeding season during with tree removal will be avoided (I.E. March 15 through July 15).

Second, to mitigate permanent loss of riparian forest areas, we recommend adding a mitigation standard related to the removal of trees such that all trees removed will be replanted at a 3:1 ratio and maintained for 2 years to ensure establishment. Maintenance should include watering.

4.3.2 Habitat Avoidance and Removal Minimization and Restoration (p. 102) – Any Western pond turtles that are encountered during construction shall be removed from harms way and an ODFW biologist contacted for relocation instructions.

4.3.2 Habitat Avoidance and Removal Minimization and Restoration (p. 102) – Lighting of the bridge and construction area during and after construction should be minimized to light only those areas necessary and should be directed into the construction area. Use of shields or other techniques to minimize the lighting of surrounding natural areas should be employed if possible.

4.3.2 Habitat Avoidance and Removal Minimization and Restoration (p.103)– The final bullet noting the intention to "[r]estore and revegetate disturbed areas" should be clarified to note the use of genetically appropriate native species for this action.

4.15 Wetlands

4.15.1 Wetland and Water Impacts (p109) – Note that the City of Eugene operates a wetland mitigation bank that is approved to service wetland impacts within the project boundary.

If you have any questions or need clarification in regards to any of the comments, please contact me at (541) 682-4882 or trevor.h.taylor@ci.eugene.or.us.

Sincerely,

Trevor Taylor
Natural Area Restoration Supervisor

From: Vicky Mello [vmlo@efn.org]

Document # 5

Sent: Monday, February 18, 2008 8:19 PM

To: COX Jim B

Cc: Vicky Mello

Subject: I-5 Bridge replacement project through Alton Baker Park

Hi Jim,

I am a member of the Citizen's Planning Committee of the Whilamut Natural area of East Alton Baker Park. I have read the EA and have some concerns and questions on the project. I will try to be brief yet specific on these items.

1. I use the park to bike and walk along the paths. The impact of construction should be as minimal as possible. I hope that the project team becomes familiar with the use of the park, especially around the affected area to see exactly how the construction will impact park users. This goes for both human and nonhuman users. The rerouting of foot and bike traffic must consider safety and security for all concerned. I am hoping we can get permanent rerouting of the bike/pedestrian path by the canoe canal from under the Walnut Street bridge to a more safe route for during and after the construction is complete.

2. I would like to know specifics on water and soil testing before, during and after construction to maintain viable floral and fauna habitat in the Willamette River and the Canoe Canal for aquatic creatures. I am also concerned with the dust and particulate matter from the construction that will affect the surrounding vegetation. I do not see anything specific related to how these will be monitored for minimal impact. I am also concerned with possible contaminants being introduced into the park by way of invasive seeds or insects that may travel in on construction equipment. How will this be monitored and removed?

3. I know the CPC has a representative on the project team. It would be best if there could be something set up for two way communication between the Kalapuya and ODOT so that all parties will be kept informed of the progress and potential concerns that may arise during this project. How can this be accomplished?

4. There is a park plan for restoration of various areas in the park for removal of invasive plant species and replacement with native plants. There may be changes that occur in the park around the bridges areas. This would be a good time to evaluate how plant restoration will occur after construction is complete. This plan should be in place before construction begins with agreements between the ODOT, CPC, Eugene and Springfield Parks Departments.

5. I am hoping that as much of the removed material be recycled or reclaimed as close to the Eugene/Springfield area as possible. The use of toxic or poisonous material should be minimal. Is there a list of potential toxic material that will be used? How will their uses be documented?

6. This bridge will be cuts right through the Whilamut Natural Area. This is the previous home of the Kalapuya Indian people. The park honors the Kalapuya with the Talking Stones throughout the

Natural area. It would be most fitting to name the I-5 Bridge with a Kalapuya name in honor of the native people who lived here in the past. How can this become a reality?

These are my major concerns. I hope we can work together to complete this project with minimal impact to the Park and waterways that it will traverse.

Thank you for your time and consideration in these matters.

Vicky Mello
Member of Citizen's Planning Committee of the
Whilamut Natural area of East Alton Baker Park

From: W. Jody Heady, AIA [jody@heady-architect.net]

Sent: Monday, February 18, 2008 7:17 PM

Document # 6

To: COX Jim B

Cc: jheady@hacsa.us; W. Jody Heady, AIA

Subject: I-5 WILLAMETTE RIVER BRIDGE ~ Comments

Jim Cox, Assistant Branch Manager

ODOT Major Projects Branch

680 Cottage Street NE / Salem, OR 97301

I-5 WILLAMETTE RIVER BRIDGE PUBLIC COMMENTS

Mr. Cox,

Thank you for the opportunity to provide comments on the I-5 Willamette River Bridge project.

There is a larger issue that needs to be addressed before the look of the bridge can be 'designed'. An off-ramp from I-5 onto Franklin Boulevard is vital to reduce the use of imported oil, for public safety, and environmental responsibility. An off-ramp at this location is necessary to:

1) Minimize wasted petroleum use by providing a better route from the North into Eugene from I-5. Rather than forcing everyone onto I-105, over the congested Ferry Street Bridge, and then back-tracking approximately a mile to get to the University area, the ramp would eliminate 2 miles of wasted fuel and time.

This reason alone is enough to provide the off-ramp. The Eugene City Council does not appear to have asserted this necessity as part of their stated goal of reducing imported oil. While many in the local community wish otherwise, there will always be cars. Hopefully soon there will be electric, hydrogen, or bio-fuel cars. Even 'clean' cars will save fuel with an off-ramp from I-5 onto Franklin Blvd. It will take at least 20 years to replace all the petroleum vehicles. Reducing travel distance will reduce the need for imported oil and as we know, reducing imported oil is vital to national security and our environmental responsibilities.

2) Assure better response time for emergency access and first-responders from the River Bend Hospital to the University and surrounding areas.

3) Provide additional efficient public transportation routes between north Springfield and east Eugene.

4) Provide a real 'gateway' into Eugene and Springfield, instead of a disconnected 'symbolic' gateway into the Willamette Valley on I-5.

5) Provide better access to the new U of O Basketball Arena instead of forcing everyone over the congested Ferry Street Bridge.

This need has existing since I moved to Eugene in 1970. I have noted this concern to others involved in the required Public Outreach for this project. I have received conflicting reasons why a ramp is not planned to be built. The main reason given is money. As I recall, I have been told it would take 170 million dollars for a ramp yet the entire project, with two 3-lane bridges (6 lanes total), demolition of the temporary bridge, etc., etc. will cost 180 million.

Thank you for your time.

Respectfully,

Mr. W. Jody Heady, AIA
2008 President AIA-Southwestern Oregon

From: lita@efn.org

Sent: Tuesday, February 19, 2008 3:24 AM

Document # 7

To: COX Jim B

Subject: From CAG member D. Sonnichsen: response to ODOT I-5/Willamette EA

NOTE: Text is identical to previous sending, with the exception of a spelling correction for p. 103 below.

Hello Mr. Cox,

I appreciate the opportunity to comment on ODOT's I-5/Willamette River Bridge (Eugene-Springfield) Environmental Assessment from the perspective of a Community Advisory Group member representing the Citizen Planning Committee (CPC) for the Whilamut Natural Area of Alton Baker Park.

In general, I find the EA to be a well-researched and fairly comprehensive document, reflecting ODOT's awareness of its important fiduciary responsibility to care for land belonging to the citizens of Oregon.

It would be desirable if, just as there is a requirement that responses to the EA be solicited from the public, the document itself suggested a means of ongoing responsiveness: I would like to see the inclusion of a two-way communication regime in the EA through which the public -- especially those who live near or regularly travel through the area of potential effect -- is made aware of how to contact key ODOT/general contractor officials, either to ask questions or to report emergent situations. The full details of such a regime would not have to be given in the EA; a simple declaration of intent would be sufficient to assure interested parties of ODOT's desire to maintain an open channel of communication throughout the lengthy construction process.

My specific comments on the EA are addressed below, beginning with the Table of Contents and extending to p. E-1. I look forward to being part of a meeting involving yourself and CPC members to exchange additional information and ideas.

David Sonnichsen
chair
government relations subcommittee
Citizen Planning Committee for the
Whilamut Natural Area of
Alton Baker Park

First Table of Contents page, Executive Summary, line 4:

Change "What are..." to "What is...".

First Table of Contents page, line 16:

"Socio-economics" is hyphenated, as it is on p. 6, when used as a heading. However, on T of C page 5, line 2 it appears as

"Socioeconomics...", as it does in heading and text on p. 66, and as it does on T of C page 6, line 18, and p. 107, as a heading.

P. 9, pgph 1, line 10:

Insert "Alton Baker Park" between "the" and "Canoe Canal". Change parenthetical material to read "(called "Patterson Slough" in some ODOT documents; Patterson Slough is located between the east Autzen Stadium parking lot and Martin Luther King Jr. Boulevard, and flows into the Alton Baker Park Canoe Canal east of N. Walnut Rd.)". All subsequent references to Patterson Slough in the EA should be deleted.

P. 11 map:

Reposition textual "Centennial Blvd [add period]" to a position east of I-5; replace with "Martin Luther King Jr. Blvd." on west side of I-5.

P. 14, first "1.3.3 Recreation" bullet point:

Rewrite text in line three, dropping parens, adding a comma after "...Park" and continuing, "which includes the Willamalane Park and Recreation District's Eastgate Woodlands portion of the Whilamut Natural Area of Alton Baker Park, on the Springfield side of I-5." There are several references in the EA which are phrased so that a reader might conclude that the Eastgate Woodlands is not part of the WNA.

P. 16, first bullet point:

Add "of Alton Baker Park" after "Area".

P. 19, final paragraph, lines 1-6:

A good summary statement of the project's relationship to the Willamette River and Alton Baker Park.

P. 20, lines 13-14:

A reader could be confused by this river width estimate of 800 feet, when compared with p. 36, paragraph 6, line 1, which states that the river is 660 feet wide.

P.24, paragraph 4, line 6:

Add an "s" to "type" in "...multiple bridge type have...."

P. 29, accompanying the "Temporary Construction Facilities" section, include a map or maps depicting all possible staging areas in the APE.

P. 32, pgph 2, line 3:

Change "met" to "meet".

P. 32, pgph 5, lines 2-3:

Reposition the parenthetical text from line 3 to line 2, between "ventilation" and "traps".

P. 32, pgph 8, line 5:

Edit sentence to read, "As a result, ozone production continues over longer periods...."

P. 38, pgph 1, line 1:

Delete comma between "Area" and "of".

P. 38, pgph 5, line 1:

Add "(which may have become inactive)" between "rookery" and "along"; add "the" before "Canoe Canal...". Also note that estimate of rookery distance from project area is "800 feet" on p. 38, and "1,000 feet" on p. 42, pgph 1. [Rewrite the relevant sentence on p. 42, pgph 1 to read "...the project study area in the Eastgate Woodlands."

P. 38, pgph 5, line 2:

Delete second "s" from "Spaces".

P. 38, pgph 5, line 4:

Delete "East".

P. 45, pgph 6, line 3:

Rewrite sentence to read, "...number of possible failures, if any...."

P. 50, pgph 6, line 1:

Edit "mill race" to read "Millrace".

P. 51, pgph 7, lines 3-4:

Edit "Mill Race" to read "Millrace".

P. 52, pgph 6, line 2:

Delete "the Eastgate Woodlands of Alton Baker Park...." Existing phrasing suggests that the Eastgate Woodlands are separate from the Whilamut Natural Area.

P. 53, pgph 1, line 1:

Delete "...and Eastgate Woodlands...."

P. 56, bullet point 2, line 4:

Reduce type size of numerical reference to footnote "8".

P. 62, pgph 7, line 9:

Insert "the Whilamut Natural Area" between "of" and "Alton".

P. 64, pgph 2, lines 2-9:

Rewrite sentences to read, "..; and includes the 237-acre Whilamut Natural Area (of which Willamalane's Eastgate Woodlands is a part). Eugene's Parks and Open Space (POS) Division [rather than "Department"] administers Alton Baker Park and its portion of the Whilamut Natural Area, and the Willamalane Parks and Recreation District (WPRD) administers the Whilamut Natural Area of Alton Baker Park in Springfield. Activities in the park in areas adjacent to I-5 include the complex of.... These trails are heavily used.... Both jurisdictions of the Whilamut Natural Area have open spaces and...."

P. 65, third full pgph, line 9:

Substitute "...or provide alternate [rather than "alternative"] routes."

P. 66, pgph 4, lines 1-2:

Would not the Build Alternative result in "indirect effects" as a result of deforestation of the fill slope immediately west of I-5 in the Whilamut Natural Area?

P. 66, pgph 6, final sentence:

Should not the study area be broadened from 0.25 miles?

P. 71, pgph 3, line 2:

Delete reference to "Eastgate Woodlands of Alton Baker Park...."

P. 71, pgph 3, line 11:

Rewrite sentence to read, "...Citizen Planning Committee."

P. 72 map:

This map is a mess! Please make changes suggested for p. 11 above. In addition, the term "Willakenzie Area" should not be superimposed on ABP parkland; the specific residential area is known as the Chevy Chase section. The term "Alton Baker" should be deleted. The name "Whilamut Natural Area of Alton Baker Park" should be superimposed across BOTH Eugene and Springfield portions of ABP parkland. The term "East Alton Baker" should be deleted from the Springfield side. The title "West D Greenway" should be included on the Springfield side of I-5 just north of the Willamette River, east of the Eastgate Woodlands. The two uppermost references to "Franklin" should be deleted. Finally, I dispute your positioning of "Prefontaine Memorial"; it is not in the Laurel Hill Valley neighborhood.

P. 74, pgph 6, line 11:

Insert "including" between "...Area," and "the".

P. 79, pgph 3, lines 2-3:

Rewrite second sentence to read, "Assessments of visual quality will yield visual quality scores which can be used to compare project alternatives."

P. 81, pgph 2, line 5:

Rewrite sentence to read, "...located on the eastern slope of Judkins Point rise above...."

P. 81, pgph 4, line 5:

Substitute "detract" for "distract".

P. 82, pgph 2:

This is a succinct definitional statement. Please add "(...of Alton Baker Park)" to your parenthetical text in line 5.

P. 83, pgph 2, line 3:

Amend sentence to read "...UPRR, and construction of two new I-5 bridges, as well as reconstruction of the roadway...."

P. 83, pgph 3, line 10:

Write a sentence which better defines "within the ped landscape unit...."

P. 91, pgph 2, line 5:

Insert "the" between "for" and "Canoe".

P. 91, pgph 5, line 1:

Rewrite sentence to read, "The Alton Baker Park Canoe Canal is a human-engineered side channel of the Willamette River, built shortly after the closure of the Day Island landfill in 1974."

P. 94, pgph 2, line 3:

Insert "the" between "at" and "Canoe".

P. 94, pgph 6, line 5:

Insert "the" between "into" and "waterway".

P. 95, pgph 7, lines 6-7:

How is it possible to postulate "an increase in pollutant loads" if "the new construction" provides stormwater treatment?

P. 97, pgph 7, line 2:

Edit sentence to read "...in Figure 13."

P. 98, pgph 1, line 9:

Delete parenthetical reference to "Patterson Slough"; insert 'the" between "Although" and "Canoe".

P. 99, pgph 3, line 4:

Substitute "...about 0.02" for "0,02".

P. 102, bullet point 4:

Rewrite sentence to read, "...after construction and preparation of a Fish Passage Plan...." Also, make the punctuation (or lack of it) consistent at the end of each bullet point, continuing into p. 103.

P. 103, top bullet point, line 1:

Insert "additional" between "re-establish" and "connectivity".

P. 103, initial bullet point beneath 4.3.2:

Substitute "within" for second "to".

P. 103, fifth bullet point beneath 4.3.2:

Rewrite sentence to read, "Coordinate with the WPRD, POS and CPC regarding sensitive areas in the Whilamut Natural Area of Alton Baker Park which should be avoided during construcion."

P. 103, proposed additional (seventh) bullet point beneath 4.3.2:

"Explore the revegetation of riparian areas directly beneath new bridges with native plants appropriate for limited light conditions. Prepare this riparian zone for these plantings, rather than leaving a sterile, rocky site."

P. 103, pgph 3, line 5:

Add period at end of sentence.

P. 104, pgph 1, line 3:

Rewrite sentence to read, "...proposed project's effects on the Millrace."

P. 104, bullet points 1 and 4:

Consistent with and reinforcing bullet point 10, add the phrase "and notification of affected residents" to the end of points 1 and 4, after the word "Manager".

P. 107, second bullet point, line 3:

Substitute "kept open and accessible at all times" for "maintained".

P. 107, third bullet point, line 1:

Rewrite sentence to read, "...coordinate with park officials, the CPC and community groups...."

P. 109, fourth bullet point:

Please explain in lay language the meaning of "drilling programmatic biological opinion."

P. 110, first bullet point:

Rewrite sentence to read, "Coordination of proposed restoration in the Whilamut Natural Area of Alton Baker Park with local park agencies and the CPC."

P. 116, "Bents", line 2:

Add a "t" to parenthetical "weigh".

P. E-1, "Lane County":

Substitute "Citizen Planning Committee for the Whilamut Natural Area of Alton Baker Park" for the existing incorrect and truncated reference.

****

Document # 8

February 18, 2008

Mr. Tom Lauer, Manager
Mr. Jim Cox, Assistant Branch Manager
OREGON DEPT. of TRANSPORTATION
Major Projects Branch
680 Cottage St. NE
Salem, OR 97301

Key No. 14259, I-5 Willamette River Bridge
Page One of Three

Dear Sirs,
This letter is in regards the currently planned I-5 Willamette River Bridge Project, Lane County Oregon Key No. 14259. The EA I-5 Willamette River Bridge Project discusses the staging & storage of equipment & supplies at the southern end of the project. (Page 29, Item 2.3.6)

Approaching the project from the south may also include reaching the southern staging area down Franklin Blvd. to Glenwood Blvd. & the I-5/Glenwood Overpass with extremely heavy supplies & equipment. It will be a convenient detour route also. Rebuilding, reinforcing and/or expanding this early '60s Glenwood Overpass (#191) should be addressed in advance to prevent catastrophic damage to this structure. Its integrity needs to be protected by ODOT for public safety by the thousands who drive over it, and the estimated 49,000 people per day who drive under it. Hundreds of residents, tourists, businesses and the general public depend on this East Eugene/Glenwood exit.

Multiple PUDs on the Eugene side of I-5 have been approved for hundreds of homesites and streets, sewers & waterlines have been built. Currently, negotiations in the past 30 days are in progress with McKenzie/Willamette Hospital to site a proposed Eugene Hospital on 78 acres west of I-5 just southeast of Glenwood Blvd (E. 24th) in Eugene. (See Addendum #1) It is a rare strategic site, south of the Willamette River, just 2 miles east of the University of Oregon, Eugene-based and centrally located for doctors, patients & the public. Industrial and commercial traffic use the Glenwood Exit to access I-5 for local, regional and national freight. Potential damage or destruction of this valuable exit resource would be devastating. The Glenwood Exit is critical as a major link to I-5.

There are four major concerns:

- Short term Ingress & Egress at I-5 and Glenwood Blvd (Exit #191) during potential hauling & detours causing congestion or impeding traffic & freight deliveries.
- Long term Stress/Wear & Tear on Glenwood Blvd Overpass by heavy equipment and rerouted traffic on an overpass that was built in the early '60s.
- Accelerated deterioration and earlier replacement needs of the Glenwood Overpass.
- Do it now while a proactive approach means Lower Costs to update, Faster Modernization, Safer Construction site and roadway for overpass and the public while personnel & equipment are in the area.

Prior to any construction on the I-5 Willamette River Bridge Project, the I-5/Glenwood Overpass should be modernized and widened to ensure the public safety, efficient delivery routes, solve economic & city transportation challenges both before, during and after construction on the Willamette River Bridge Project.

Proactive approach will save time, save resources, save money and most importantly, protect lives.

Respectfully request that this information be strongly considered and included as an environmental necessity of the I-5 Willamette Bridge Project.

Thank you for your attention to this matter. Your assistance is greatly appreciated.

Cindy Land
2705 E. 43rd Ave.
Eugene, OR 97405

Home: (541) 344-2932
Day: (541) 342-4983
Cell: (541) 953-2107

See Addendum #1 attached below

Addendum #1
Key No. 14259, Lane Co. I-5 Willamette Bridge Project

I-5 Willamette River Bridge Project

I-5/Glenwood Blvd. EXIT #191

Proposed McKenzie/Willamette HOSPITAL SITE

Document # 9

Willamalane
Park & Recreation District

February 19, 2008

Willamalane Comments – I-5 Willamette River Bridge EA Key No. 14259

Section 3.3.2.3 Terrestrial Wildlife (pg. 38)

"There is a great blue heron rookery along Canoe Canal located about 800 feet east of the project area."

It should be noted that the viability of that rookery location is in question due to decline of the black cottonwood in which the herons have been nesting. The rookery originally contained about five nesting pairs. Those herons appear to be moving out to other locations. One pair of herons is now nesting near the edge of the Willamette River and less than 400 feet east of the project area. This is the second year at this new nest location, so continued nesting in that tree is likely. Since herons tend to nest in colonies, it is possible that others may join the pair at this new nest location. It will be prudent to watch each spring for other new nest locations close to the project site since this rookery location is in flux.

Section 3.10.2 Baseline Conditions (pg 64)

"WPRD had received LWCF grants to purchase...."

Please note that Willamalane was not the one who received LWCF grants to purchase the Eastgate Woodlands property. Lane County received the LWCF grants and Willamalane subsequently acquired the property.

"...there is no indication that the monies were used to purchase or develop the areas potentially affected...."

It is Willamalane's understanding that all of Eastgate Woodlands was purchased using LWCF grants, and therefore, any impacts of 6 months duration or longer to any part of the park would need to be mitigated.

Section 3.10.4.2 (pg 66)

"Conversion of lands developed with LWCF funds ...."

www.willamalane.org
Community Recreation Center • 250 South 32nd Street • Springfield, OR 97478-6302
(541) 736-4544 • FAX (541) 736-4025

This sentence should read, “Conversion of lands purchased or developed with LWCF funds….”

Section 4.8.1 Mitigation of Noise During Construction (pg. 104) and/or Section 4.3.1 Species Avoidance (pg. 102)

There is no mention of potential noise disruption to nesting great blue herons in Eastgate Woodlands. Their nesting period is approximately February 1 through May 31. From February through May, pile driving or excessively noisy construction activities can be disruptive to nesting activities. To complicate the issue, the former nest tree is in decline and doesn’t seem to be occupied by herons this year. Unfortunately, one nesting heron pair has instead chosen to move to the river’s edge closer to the bridge project area, less than 400 feet east of the project area.

Section 4.9 (pg 107)

“If construction staging is located in any park, the contractor will be required to develop a traffic management plan for continued use of the trails.”
The contractor needs to let Willamalane and/or City of Eugene review the traffic management plan for use of the trails prior to it being finalized. This plan also needs to apply to any disruption of path traffic, not just to construction staging.

Thank you for the opportunity to submit comments.

Submitted by:

Pat French
Willamalane Park Planner

Document # 10

Oregon
Theodore R. Kulongoski, Governor

Oregon State Marine Board
435 Commercial St. NE, #400
P.O. Box 14145
Salem, OR 97309-5065
(503) 378-8587
Fax 378-4597

January 23, 2008

Jim Cox, Assistant Branch Manager
ODOT Major Projects Branch
680 Cottage Street NE
Salem OR 97301

Dear Mr. Cox:

Thank you for this opportunity to comment on the I-5 Willamette River Bridge Project. The Oregon State Marine Board does have concerns that don't appear to be addressed in the EA. I will address them here.

ORS 830.110 directs the Marine Board to maintain free navigation of Oregon's waterways. While we do recognize and understand that navigation must be restricted in certain circumstances for a period of time during warm weather to accommodate this project, it is imperative that the public be given fair warning when approaching the construction site and that they have the opportunity to pass safely by or around any construction-related obstructions or hazards.

Though this particular section of river is not widely used during certain periods of the year, rafters, tubers and other water recreationalists are very likely to access the waterway. To prevent accidents, injuries or fatalities, we request that the following actions be taken when construction obstructions or other hazards are placed or created within the waterway:

First, access points up river from the construction site must be signed with a warning that passage at the construction location will be constricted. If there are dates when particular activities represent a specific hazard, then these dates will be explicitly listed. In addition, media releases should notify local river users of upcoming construction and possible hazards.

Second, the actual construction area should be signed and lighted, as necessary, to direct water recreationalists away from obstructions and toward safe passage. Certain types of obstructions – especially those that strain water or allow water to pass beneath a partially submerged structure – are especially dangerous and must be protected and signed. Sharp protrusions, such as scaffolding or coffer dams, are also serious hazards that can injure and trap recreationalists or their watercraft.

As this plan is developed, we request that you work closely with the Lane County Sheriff's Marine Patrol to assure that accident prevention is adequately considered. Deputy Paul Vitus is very familiar with the uses on this section of the river and will be a valuable resource as the construction process progresses. His telephone number is (541) 682-8599. I have already spoken with him regarding this issue.

Please call me if you have any questions. You can reach me at (503) 930-6727 or via e-mail at Randy.H.Henry@state.or.us .

Sincerely,

Randy Henry
Operations Policy Analyst
Oregon State Marine Board

Document # 11

Mary Henderson
Land Representative
Williams Northwest Pipeline
8907 NE 219th Street
Battle Ground, WA 98604

(360) 666-2106 Phone
(360) 666-2117 Fax

January 24, 2008

Jim Cox, Assistant Branch Manager
ODOT Major Projects Branch
680 Cottage St. NE
Salem, OR 97301

RE: I-5 Willamette River Bridge Project

Thank you for the information regarding your I-5 Willamette River Bridge Crossing Project in Lane County. We have a high pressure gas line that runs along the freeway, it appears will be impacted by roadways, slopes and walls.

We have specific requirements for crossing our pipeline and any encroachments. Attached to this email is our Developers Handbook. It will be helpful in designing your project. Once you have preliminary plans, you will need to meet with me regarding any encroachments or inspection requirements of our line. Our easements do not allow construction or improvements over them or any excavation and fill without prior written consent. They are recorded documents and available through the courthouse or title company.

Please call me if you have further questions regarding our existing easements or to discuss a needed encroachment agreement.

Sincerely,

Mary Henderson
Land Representative

Att:email

-----Original Message-----
From: Charlotte Behm [mailto:charlotte@cluelessatthetop.com]
Sent: Saturday, February 16, 2008 1:19 PM
To: COX Jim B
Subject: EA feedback

Document # 12

Hi Jim et al.

Here are my suggestions for the EA. Overall, it looks good. These are mainly details. Thanks for your work.
Charlotte

page 7, line 32. under "How would environmental. .
First sentence, add lighting: effects on construction activities, such as dust, noise, LIGHTING

page 29, 2.3.6 line 5, add lighting restrictions at night

page 31, 3.0 line 8 Change Centennial Boulevard to MLK/ Centennial Boulevard [see page 34, 3.2.1 lines 2 and 3 that do acknowledge that the name is different in Eugene and Springfield. This was a very contentious issue a few years ago here.]

page 41. line 10. For many centuries, the Kalapuyas had natural methods to (re)move wildlife before they did their field burnings throughout the Willamette Valley. What if we hired them to do that for us before the construction crews come in?

page 42 Visual Effects to Wildlife. line 8. This statement is not strong enough and does not convey a responsibility to the construction firm that they need to minimize the light at night. It needs to say something like: lighting, especially when the construction has stopped, will have minimum trespass into the park and the river.

page 43. 3.3.4.2 Vegetation and Habitat, line 1. The 9 acres, I hear, is south of the river, maybe we can mitigate in the park

page 43. 3.3.4.2 Vegetation and Habitat, Second paragraph,

"removal of the decommissioned. . ." I don't understand this because there will be another bridge there.

page 52 3.7.2.1 I'm not sure what the West Centennial area is. If that's my neighborhood, it's East Alton Baker Park neighborhood. It's correct on page 69 3.11.2.3 Neighborhoods line 3.

page 65 3.10.3.2 Build Alternative. The first paragraph should look like the first 7 lines of the first paragraph of 3.10.3.1 No Build Alternative, except the time of occupancy. The problem with what's now in 3.10.3.2 is that it sounded like, to one key person on the CPC, that you are coming through Eastgate because Walnut Street starts in Springfield and the road is not called usually Walnut Street (except maybe officially) in the Eugene portion.

page 70, Neighborhoods. line 25 of the page, paragraph starting with The East Alton Baker Park . . . Is the West Centennial another neighborhood or the one next to the park? I don't know that name. If it's not, you could put: . . . the study area. This neighborhood is a small. . .

page 97-8 Table 16. I'm not sure where E, 2, and 3 are. Are they in the Whilamut? It's not clear to me.
Is this where to put that the frog pond just north of the Knickerbocker bridge needs to be protected? Also, I'd like to see the small bike path section west of that vernal pond be removed. It was added during the detour bridge construction.

page 103, 4.3.2 5th dot. can you add the Citizen Planning Committee?

page 104, 4.8.1 5th dot. Is this stockpile in the Wilamut? How big is it? Where would it be?

page 105. Since the project area is defined as going up to Centennial Boulevard, could the sound wall be extended farther north in Springfield? The population density increases as one moves north.

page 110. Line 1. Could the Citizen Planning Committee be added?

Document # 13

Troubled Bridges Over Water

Comments on the I-5 Willamette River Bridge Environmental Assessment
February 19, 2008

prepared by:

Mark Robinowitz

www.Road-Scholar.org
Peak Traffic: Planning NAFTA Superhighways at the End of the Age of Oil

www.GreenwashEugene.com
Green Eugene or Greenwash?
Steps toward sincere sustainability

Most people do not enjoy having their entire worldview discredited; it sets them uncomfortably adrift. Scientists are no exception. A paradigm tends to be so greatly cherished that, as new knowledge or evidence turns up that contradicts it or calls it into question, the paradigm is embroidered with qualifications and exceptions, along with labored pseudo-explanations--anything, no matter how intellectually disreputable or craven, to avoid losing the paradigm. If a paradigm is truly obsolete, it must finally give way, discredited by the testing of the real world. But outworn paradigms ordinarily stand staunchly until somebody within the field makes a leap of insight, imagination, and courage sufficient to dislodge the obsolete paradigm and replace it.
-- Jane Jacobs, "Dark Age Ahead"

No Build Alternative is a "Low Build" option

> The No Build Alternative would include demolishing the decommissioned bridges and upgrading the detour bridges to meet current earthquake standards. It is estimated that upgrades to the detour bridges would cost $10 million to $15 million, not including demolition of the decommissioned bridges and other related costs. EA, p. 3

I strongly support the No Build Alternative to ensure the existing detour bridge can remain in use for decades (ie. through the rest of the oil era).

No bridge, even a so-called temporary bridge, should be allowed to be constructed in western Oregon if it is not strengthened for the extreme potential seismic risks of the Cascadia Subduction Zone. While there is not a public relations effort from the State government to warn people, especially new immigrants to Oregon, about the dangers of a Richter 9 earthquake off the Oregon coast, the State leadership is aware of the full risks to the region and should prohibit any use of state funds to build critical infrastructure such as Interstate highway bridges that are deliberately not designed to withstand seismic energy.

Should have built it once, not twice

> All traffic is now using the temporary detour bridge built in 2004. The detour bridge does not meet current earthquake standards and the construction methods used to build the bridge only meet environmental requirements as they apply to temporary, not permanent, bridges. p. 13

When it was determined that the original I-5 bridge was cracked and deteriorating at dangerous levels, the original proposal to do a seismic safety upgrade to the bridge was abandoned. It was astounding that ODOT and FHWA did not decide to replace the

bridge only one time, instead of twice. While several staff from these agencies have patiently explained the various regulations that they thought forced them to make this choice, as energy costs increase and energy availability decreases, wasting non-renewable resources on rebuilding the same bridges over and over will become more difficult. The highway construction lobby will still make money fixing broken bridges, and our money (and the oil and steel and concrete) would be better invested on repairing all of the faulty structures instead of repeatedly fixing some of the bridges more than once. While some will think this is outside the scope of this EA and therefore moot, it points to the need for a policy review of the way Oregon's bridge replacement program is being run - without any consideration of the arrival of Peak Oil.

Factor in Peak Oil to traffic modeling

The main point of these comments is that "Peak Traffic" caused by Peak Oil means there is no need to widen I-5 through the study area (future traffic increases are not likely given increasing fuel prices and decreasing fuel availability). Widening this section of Interstate 5 risks violating Federal Highway Administration policies and regulations about "independent utility" that address segmentation of large projects.

most cost effective alternative should be selected

ODOT doesn't have funds to fix all broken bridges on the state highway system, so the 50% widening for WRB should be used to repair other cracked bridges instead.

In future, as energy prices continue to climb, the resources to repair the bridges will become less. Therefore, the No Build / Low Build alternative is the most cost effective and least energy consumptive means of meeting the purpose and need of having a bridge across the river likely to withstand seismic shaking.

Peak Traffic and highway plans

The article "Peak Traffic: Planning NAFTA Superhighways at the End of the Age of Oil" archived at www.road-scholar.org/peak-traffic.html has been submitted separately. It details why Peak Oil needs to be included in traffic models for highway construction - since the traffic projections for the year 2031 (the design year for this project) are unrealistic since by then the world will be on the downslope of Hubbert's curve. The National Environmental Policy Act (signed into law by Richard Nixon) states that environmental documents need to factor in "new circumstances" that are relevant. The fact that we have reached Peak Oil (for conventional oil) and climate change is happening faster than climatological models predicted suggests that these physical limits need to be factored into this and all other transportation studies. The fact that these realities are being ignored suggests entrenched corruption from the construction industry and political cowardice are making these decisions on the public's behalf.

The Oregon Transportation Commission has been briefed on some of the better information about Peak Oil. Oregon Secretary of State Bill Bradbury has publicly confirmed what many in the oil industry know - we have reached Peak Oil. Nevertheless, no politician seems interested in translating geological reality into efforts to scale back the appetite of the highwaymen for more roads and wider roads.

It is also worth noting that **despite lots of rhetoric about "sustain a bull" from local and state politicians and bureaucrats, no road projects have been scaled back or canceled to help the region reach a reduction in fossil fuel combustion that is one of the causes of anthropogenic climate change.** It is a dangerous illusion to pretend that we can continue business as usual and solve the climate crisis simultaneously. Oregon needs to pick either continued exponential growth or ecological sanity based on finite limits to the Earth.

Indirect and Cumulative Effects of Six Lanes

The Build Alternative, by building a six lane bridge (instead of a replacement bridge) would divert resources away from fixing other damaged bridges on the state highway network. The EA needs to study how merely replacing the damaged bridge with a new bridge that is designed for four lanes of traffic (plus an emergency shoulder) would allow more resources to be used to repair or replace other damaged bridges.

> *3.7.5.2 Build Alternative*
> The Build Alternative would not result in indirect land use impacts. The Build Alternative would not, of itself, increase the capacity of I-5 nor facilitate development in the project area. The new bridge would be part of the transportation system needed to support the planned growth.
> When considering past, present and reasonably foreseeable actions along with the Build Alternative, there would not be cumulative impacts for land use in the project area. The cities of Eugene and Springfield plan for growth and development in the project area are consistent with existing plans and goals. The Build Alternative would require some plan amendments and approvals, but would not contribute to a significant cumulative effect on land use.
>
> It is not the purpose of the project to modernize I-5. p. 19

Nevertheless, this stretch of I-5 would be widened under the Build option, part of a larger effort to widen I-5 throughout Lane County, which would have substantial financial impacts and possibly displace several businesses. These impacts need to be included in the analysis of cumulative impact of building a six lane bridge.

> Implementation of the No Build Alternative also has the potential to spread invasive weeds and grasses through translocation of plants and/or seeds from the project site to other project areas on construction equipment or vehicles. In addition, disturbance associated with the project and vehicle and pedestrian use of the area may aid in dispersion of invasive species to areas of roadway construction.
> 39

Actually, this would be a greater problem for the Build alternative than the No Build alternative, since there would be far greater construction activities if a new six lane bridge were built during a four year period.

> The existing bridges will not meet future traffic demands. The current average daily traffic (ADT) on I-5 in the project area is about 49,000 vehicles and is predicted to increase to roughly 73,000 ADT by 2030. Both the existing and detour bridges have four travel lanes, two in each direction. Six travel lanes, three in each direction, will be needed to handle the predicted 2030 traffic volumes. Replacement bridges would be wide enough for three lanes in each direction but would be striped for two lanes in each direction to match the number of lanes currently on I-5 in this area. p.13

As stated previously, predictions of future traffic demand are unrealistic given Peak Oil's impact on fuel availability and price.

> **3.12.5 Indirect and Cumulative Effects**
> *3.12.5.2 Build Alternative*
> The Build Alternative would have no indirect or cumulative effects. The Build Alternative would provide bridges that would be wide enough to carry three lanes in each direction, but would be striped for two lanes in each direction. Restriping of the bridges to three lanes in each direction would require the widening of I-5 north and south of the bridges, which would involve additional environmental analysis, and agency and public review. This expansion is discussed as a future project in the TransPlan but is not funded and, therefore, not a reasonably foreseeable action. As such, the Build Alternative would not change the capacity of I-5.

Several construction projects on I-5 in southern Lane County are being completed that show potential for future "ultimate lanes" on the highway (Creswell interchange, new overcrossing of I-5 south of Creswell). Therefore, it is obvious that the County and ODOT are quietly piecemealing plans for widening of the interstate and a cumulative EIS analysis is needed on the entire project. If ODOT's position is there are no plans to widen I-5, then there is no need to plan a six lane bridge that would cost considerably more than merely replacing the existing bridge (albeit with a shoulder for safety).

Why "replacements for oil" do not change Peak Traffic

Some apologists for expanded highways suggest that as cheap oil winds down there will be "alternatives" magically appearing through unspecified processes. However, petroleum has the highest ratio of "Energy Return on Energy Invested," and no substitutes currently under discussion come close to replacing existing energy sources. Tar sands, shale oil, turning trees into biofuels, turning food into biofuels, turning agricultural wastes into biofuels, coal to liquids and similar proposals have their merits (and their problems), but none are going to be able to replace the current level of oil consumption / combustion. Therefore, traffic projections for the design year of this project and all other highway projects need to factor in reasonable estimates of oil decline that will impact traffic levels two decades in the future. While no one knows

precisely what the economic and transportation impacts will be from Peak Oil, it is obvious that the impacts will be massive.

55 mph needed

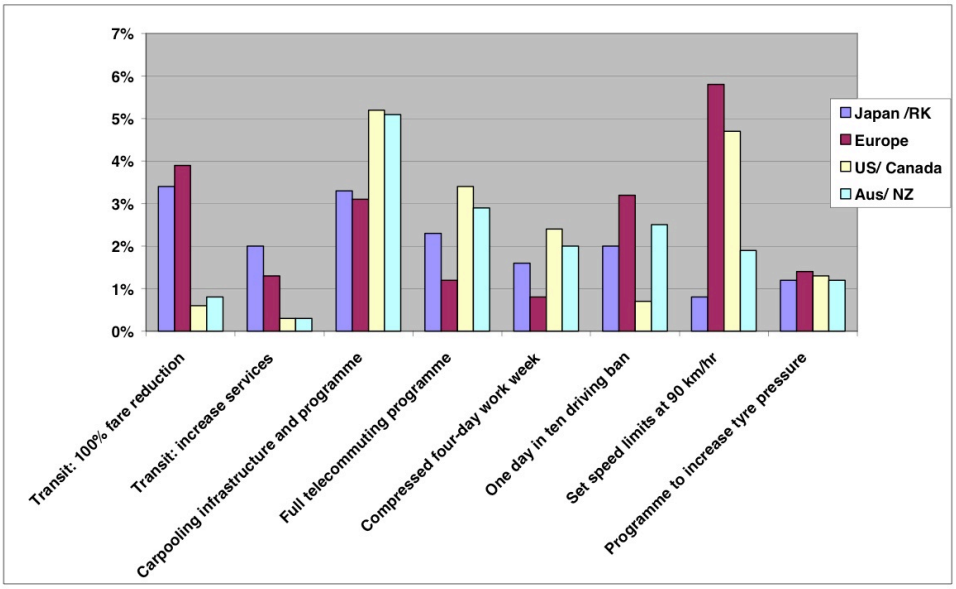
The US could immediately reduce oil consumption by an estimated 4% by rolling back highway speed limits to 55 mph (90 kph), a policy originally enacted by Richard Nixon in the wake of the 1973 Saudi Oil Embargo. This would reduce more oil consumption than the current flow through the Alaska Pipeline and would not require any technological innovations, merely psychological acceptance of the need for conservation. (statistic source: "Saving Oil in a Hurry: Oil Demand Restraint in Transport," by International Energy Agency, Workshop: Managing Oil Demand in Transport, Paris, 7-8 March, 2005)

US oil consumption - about 20 million barrels per day
over 7 billion barrels per year
4% of 7 billion = 280 million
Alaska pipeline flow in 2006: 277 million barrels (annual)
www.oilempire.us/55mph.html

The fact that this simple solution, which only requires new signs, not new technologies, is not considered politically realistic shows that addressing the energy and climate crises is not really a priority.

If ODOT and the State of Oregon want to move toward “sustainability” and address the Climate and Peak Oil crises, then implementation of a 55 mph speed limit for Interstate 5 would be an easy way to address “low hanging fruit” for reducing energy consumption as we leave the era of cheap oil.

Percent reduction in total fuel use by IEA region, selected measures



Imperial College London

from www.iea.org/textbase/work/workshopdetail.asp?id=210
Saving Oil in a Hurry: Oil Demand Restraint in Transport
Workshop on Managing Oil Demand in Transport (2005)
Workshop: Managing oil demand in transport. by IEA - International Energy Agency
European Conference of Ministers of Transport
WORKSHOP: MANAGING OIL DEMAND IN TRANSPORT, Paris, 7-8 March, 2005

Air Quality

Air Quality
Roadway construction activities can temporarily create dust and small amounts of other pollutants. Heavy trucks and construction equipment powered by gasoline and diesel engines would generate exhaust emissions. These effects would be reduced by following applicable state regulations. The project would not result in long term air quality impacts.

Widening I-5 to facilitate an increase in traffic is intended to facilitate more travel and therefore would contribute to an increase in combustion of fossil fuels.

Toxic Cement

Hazardous Materials
Several sites with known environmental contamination are

present within the project area. Demolition and excavation activities could affect two of the areas of concern that have been identified. No long term effects on hazardous materials sites are anticipated.

The EA needs to include the cumulative impact of using cement and concrete that was made with incinerated hazardous wastes, if this is the fuel used to produce this material. The EA also needs to include the full impact of mining ores and gravels to produce the raw material for the new, larger bridge, as well as the environmental and toxic impacts of the paint, bolts, girders, wire, lighting systems and all other components of the new, larger bridge (versus the No Build / Low Build option).

A detailed article about the problems of toxic cement is archived at www.oilempire.us/cement.html
and was submitted separately for consideration.

Section 4(f) prohibits "use" of park land if there is a "prudent and feasible" alternative

Land Use (including Sections 4(f) and 6(f))
Alton Baker Park, which includes the Whilamut Natural Area and the Eastgate Woodlands, is located on both sides of I-5 in the project area. Adjacent land uses include transportation, industrial, residential, and open space uses. The project would not change existing land use in the project area. The project would need the following land use actions: Willamette Greenway (statewide planning goal #15) exception; amendments to Eugene-Springfield Metropolitan Area Plan and the Willakenzie Area Plan; and land development permits

The "prudent and feasible" alternative is to select the No Build (Low Build" alternative. The No Build alternative would have much less impact on the park lands (both direct impact and in terms of duration) so it comes closest to the requirement for mitigation. Four years of proposed construction in the park is not a "de minimus" impact on the park.

The project would not have more than a *de minimis*[9] impact on the area; or
There is no feasible and prudent alternative to the use of such land; and
p. 63

The "no action" alternative - to strengthen the allegedly temporary bridge - would have much less damage (fewer years) to the 4(f) resources and therefore needs to be implemented as the prudent and feasible option.

The temporary occupancy would not result in permanent physical effects on the Section 4(f) resource, p. 65

Putting heavy equipment, construction materials, gravel, etc. on natural soils results in compaction and other ecological damage that can take decades to reverse. The construction would cause essentially permanent damage to the park, and would also have "constructive use" impacts on the park. **Therefore, minimizing the time of construction via the No Build alternative is mandatory. Even building a new four lane bridge (versus a six lane bridge) would reduce the construction time over a six lane expansion.**

Land and Water Conservation Fund Act (LWCF) grant money may have been used in the development of the park.

The EA needs to state whether LWCF funds were used or not.

The I-5 Willamette River Bridge project is the largest project – both in terms of cost and the size of the bridges -- in the $1.3 billion OTIA III program.

The scale of these bridges suggests the No Build (Low Build) Alternative needs to be adopted to free up funds to repair or replace other defective structures in the State highway system.

Public Input ignored

Public Open Houses
Seventy people attended the meetings and submitted 36 comments on the proposed action that were recorded on comment cards and flip charts. (EA)

The comments that were submitted for ODOT to factor Peak Oil and climate change into the traffic projections were completely ignored in the EA, even though some of the staff privately admitted these concerns have merit.

Sustain A Bull

Sustainable design essentially means taking a long-term view. It is defined as using, developing, and protecting resources at a rate and in a manner that allows people to meet their needs today, while ensuring that future generations can meet their own needs (OBDP, 2007b). Sustainability also includes reuse and recycling of materials from the removal of the decommissioned and detour bridges.
30

Sustainability really means zero use of fossil fuels and zero use of mined mineral ores. Reusing some of the structural supports of the old bridge(s) is probably a good thing, but it is not a “sustainable” activity that could be continued after the oil is gone.

Details about genuine sustainability related to transportation planning are posted at www.road-scholar.org/peak-traffic.html (sent separately for the comment period). A 100 mile per gallon (42 kilometers per liter) car is efficient, but not “sustainable.”

different designs for a new, wider bridge:

If a new bridge is built next to the allegedly temporary bypass bridge, it should be the design that would be strongest to resist the Cascadia Subduction Zone earthquake and the potential for damn failure on the Middle Fork and the damns upstream from Cottage Grove (the latter were not designed with any seismic safety criteria, according to the City of Eugene).

> Wetlands temporarily affected during construction would be restored to pre-construction conditions following the completion of work. p. 98

It is unlikely that compacted soils would be quickly regenerated with their full range of microbial and mycological diversity. The EA needs to include scientific analysis of how diverting park land to construction use for a period of years has allegedly resulted in full recovery of the original soils - and if this information is not available, then the “use” of the park land for construction must be considered a permanent “use” of the 4(f) resource.

Trains need to be prioritized by ODOT

I realize that “highway modernization” money cannot be diverted to upgrading the railroads of Oregon (and that there isn’t excess highway construction money that could be diverted, anyway). Nevertheless, as Peak Oil becomes harder to deny, it would be nice for ODOT to upgrade the priority for railroad infrastructure while we still have at least some rail connections to other parts of North America.

The Federal Department of Transportation has plans for high speed rail between Eugene and Vancouver, B.C., but they aren't going anywhere.

Washington State is making some modest efforts to realign curves (and making a short cut near Tacoma) to speed up the Amtrak Cascades service. The Washington DOT website has some details about these projects, but none of them are upgrades for bullet train type service.

If the State of Oregon is doing anything for trains, it's hard to notice. Oregon's government is too busy talking about Sustain a Bull to bother with such details as making the trains run on time.

In the past half year:

- the train line to Coos Bay via Mapleton has been closed (lack of maintenance)
- the short line to Tillamook washed out in the December 2007 storm, probably closing the line forever
- the main UP line near Oakridge was wrecked by a US Forest Service clearcut
- the tracks between Ashland OR and Weed CA are possibly going to be closed, too.

The "Talgo" train between Eugene and Seattle can go about 200 kph (120 mph) but that's not quite bullet train performance. However, the train tracks are not capable of handling this speed, and train service is slower than driving Interstate 5 at the speed limit (or even at the more efficient 55 mph / 90 kph limit imposed by Nixon to conserve some oil).

As far as I know, no governmental authority has been planned for fast trains in Cascadia.

The Oregon environmental groups don't seem interested in this. Perhaps if their funders (foundations) decide to prioritize train service then there could be more interest.

Upgrading the train tracks from Eugene to Portland would require a couple hundred million (new rail? grade separated crossings for roads).

ODOT has a report on their website about the need for extra freight rail lines around Portland to cope with train congestion (mostly caused by importing huge amounts of crap from Chinese sweatshops). The price tag would be $169 million - curiously the same price as one of the many versions of the West Eugene Porkway.

The only noise I've seen (letters to the R-G) about better trains around Eugene seem more focused on having a passenger train to Mapleton (and then a shuttle bus to Florence? proposals are vague) although the train track between Mapleton and Veneta is very winding and no train could possibly go at a decent speed due to its condition - intercity bus service between Eugene and Florence is much more practical, although not as sexy. (The train line also does not go to Florence, and it is unlikely that a spur would ever be built there to haul tourists or gamblers at the casino.). Focusing on upgrading Amtrak is more urgent than a train to almost nowhere (no offense to anyone in Mapleton, but it's not a realistic destination for a passenger train line).

In California, the High Speed Rail Authority seems more interested in planning their project (SF - LA) for another decade or two, not actually building anything. It's the transportation equivalent of "vaporware" (software that is promised for a long time but is never completed).

The Wall Street Journal had an article a couple days ago about the revival of freight rail in the US, but in Oregon we will be lucky the way things are deteriorating to have any train service at all.

Wall Street Journal - New Era Dawns for Rail Building: Lines Add Tracks, Upgrade Tunnels To Take On Trucks, By DANIEL MACHALABA February 13, 2008; Page A1

Comments submitted to the EA Scoping Meetings

Interstate 5 Willamette River Bridge replacement

ODOT held a public "Open House" on Wednesday April 5, 2006 for the I-5 Willamette River Bridge project:

11:30 am - 2 pm
Springfield City Hall Library Meeting Room
3 pm - 7 pm
Eugene Library meeting room

ODOT is planning to spend $114 million to rebuild the I-5 bridge over the Willamette River in Glenwood.

A few years ago, ODOT had planned to perform a seismic upgrade to this bridge to make it resistant to large earthquakes, but when engineers examined the structure, they realized it was cracked and a seismic upgrade would have been a waste of money. (One of them told me that they were glad it was not a flood year, since they were not confident of the bridge's continued strength.) The heaviest trucks were rerouted onto circuitous routes and ODOT scrambled to build a "temporary" parallel bridge (over $20 million) that is now in operation.

Unfortunately, the new "temporary" bridge was not built to withstand earthquakes, and now ODOT wants to build a SECOND replacement bridge on the alignment of the original bridge. Since money is no object to some transportation planners, they ignored suggestions that the first replacement bridge be a permanent structure, which would have been much cheaper and simpler.

ODOT's website on the new bridge project is http://www.oregon.gov/ODOT/HWY/REGION2/I-5WRB.shtml

If you attend these forums or send comments to ODOT, please urge them to consider the projections of Peak Oil and climate change in their traffic projections for this project. The US Army Corps of Engineers has now admitted that Peak Oil probably happened in 2005, and the military is taking steps to ensure that its installations have renewable energy systems to guard against energy disruptions.

Scoping issues for the I-5 Willamette Bridge replacement project:

ODOT should have replaced the cracked bridge once, not twice. The so-called temporary bridge could be permanent if energy rationing or economic downturn prevents a quick replacement of the bridge. The curvature of the "temporary" re-route of I-5 north of the temporary bridge is more than adequate to meet Interstate design standards and is not a safety hazard.

ODOT and FHWA should consider these alternatives in the upcoming Environmental Assessment:

ODOT should examine the feasibility of upgrading the "temporary" bridge to be a permanent structure capable of being strong enough to withstand earthquakes. Since ODOT is retrofitting other Interstate highway bridges for seismic safety, it is reasonable to assume this solution is possible for the "temporary" bridge. If it is not feasible, this fact should be documented through independent peer review, not merely through assertions.

Whether upgrading the "temporary" bridge is feasible or not, ODOT and FHWA need to include the reality of Peak Oil into the Purpose and Need for the project, and to include Peak Oil into the long term traffic projections used to justify any action taken in this effort.

Peak Oil is a reality that the Oregon Secretary of State, numerous members of Congress and even the United States Vice President and President have confirmed. Much media attention has been focused on Peak Oil in recent years, and many

employees of ODOT and other transportation agencies privately admit that it is a real concern that needs to be addressed.

While no one, not even the Vice President, knows precisely what will happen with Peak Oil, it is obvious that petroleum prices will increase sharply before the design years of 2025 and 2030. Perhaps ODOT could explore a range of scenarios: gasoline at $5 per gallon in 2025, gasoline at $50 per gallon in 2025, and gasoline not available to the public in 2025 (only to elites and the military). No prediction is likely to be accurate, but to pretend that gasoline prices and availability will remain constant is even more delusional than the expectations of some that old growth forests could be liquidated forever without economic and ecological consequences.

Since the proposed replacement bridge is planned to be an eight lane span, I formally request the inclusion of a "Twin Span, Staggered Construction" alternative in the Environmental Assessment.

Part of the problem with the single span structure over the river was that it was not possible to repair one direction of travel at a time. A twin span structure would avoid this problem.

Staggering the construction - building a four lane structure (either an upgrade to the existing temporary bridge or construction of a new bridge on the original alignment) would allow for future completion of the ultimate eight lane design if money becomes available for the future widening of I-5 north and south of the bridge. Since we are near or at Peak Oil, that funding is likely not to be available, and therefore postponing the second phase of the project until it is available is prudent and feasible.

I also strongly recommend that the entire construction be performed within the existing footprint currently occupied by the road (without any new impacts to the park) and that any new bridge have a suspension design to avoid new structures being placed into the riverbed. Ultimately, the effectiveness of any new or upgraded bridge depends on the seismic upgrades to upstream dams on the Coast Fork, Row River, Middle Fork and Fall Creek, since none of them are currently strong enough to withstand the next Cascadia Subduction Zone earthquake. Money planned on much wider highways to carry traffic after Peak Oil would be better spent on upgrading the dangerous dams before an earthquake creates the "Willamette Valley tsunami."

Seismic safety needed

Many Oregon bridges need seismic retrofits to ensure that the region’s transportation system could function after a modest earthquake – which should be a much higher priority than a new highway to serve speculative developers who want to expand the UGB.

> **“Most bridges in the area have not been seismically retrofitted, creating significant risk to the commuting population from earthquakes.”**
> **Oregon's Regional Natural Hazards Risk Assessment**
> **(regarding the southern Willamette Valley)**
> **http://csc.uoregon.edu/pdr_website/projects/state/snhra/snhra.htm**

I-5 / Franklin interchange proposal is not practical

The “spaghetti bowl” of a potential I-5 interchange would have major riverfront impacts, would cause residential displacements and disruption to neighborhoods, would be very expensive, and would be less than one mile to I-105 interchange (improper spacing according to ODOT design standards).

The money for the interchange would be better spent on seismic upgrades to the dangerous dams upstream from Glenwood.

ODOT = Oregon Department of Bridge Repair

The $5 billion in bridge repairs and replacements for I-5 and I-84 is only one-third funded. This is a violation of the Oregon Highway Plan, which places bypasses as the lowest priority level for funding. The OHP also prioritizes projects that have some local matching funds, and to the best of my knowledge, the City has offered as much money toward the WEP construction fund as I have (in other words - zero).There are about 200 seriously defective bridges on I-5 and I-84 that need urgent repair work – fixing this should be the primary focus for ODOT. (It is the fault of the trucks and the "warehouse on wheels" of the Wal-Marts and Targets that get cheap distribution while we subsidize their profit, a situation made worse by NAFTA.)The WEP is a microcosm of this myopia, since it would demolish an existing bridge (126 over the RR tracks) to build a new bridge (WEP/126 at Terry St).The WEP would demolish a bridge on Highway 126 (a highway of “state importance”) and build a replacement on the relocated 126 at Amazon Creek. Before ODOT builds new bridges, it should take care of the incredible backlog of defective bridges on the state highway system, which is already interfering with traffic and commerce in numerous areas of the state. Oregon already has the highest number of defective/cracked bridges of any west coast state (source: FHWA Oregon Division) and continuing the policy of building new roads when existing ones aren’t being properly maintained could lead to severe problems with the existing road network.

The Oregonian ran a three day series on this topic titled “Troubled Bridges” on February 3 - 5, 2002. The title of the second day’s report says it all, “Today’s trucks strain yesterday’s bridges: Engineers who ride herd on state’s bridges are flabbergasted to find them developing dangerous cracks.”

Troubled Bridges Over Water: the I-5 bridge crisis

Register-Guard, February 28, 2003

I-5 bridge repairs must be regional priority

By Mark Robinowitz

> THE INTERSTATE 5 bridge crisis requires shifts in regional transportation priorities. Fixing the freeway is more important than the West Eugene Parkway, the Interstate 5-Belt Line interchange expansion or the proposed River Road-Valley River Bridge. Money is limited, and the number of bridge construction companies is finite. These facts require the region to choose whether to maintain I-5 or build new roads that subsidize sprawl.

Until a few months ago, the Oregon Department of Transportation planned a seismic upgrade to the I-5 bridge over the Willamette River. Upon closer examination, ODOT inspectors realized that the bridge is cracked and needs to be replaced.

The closure of I-5 through the metro area to heavy trucks is partially a consequence of local governments' quixotic quest for the West Eugene Parkway. If the parkway had been dropped years ago (its 1990 approval was dropped after a 1996 federal lawsuit), ODOT might have focused its efforts - and our money - on repairing worn-out bridges.

Instead, the region faces an economic crisis caused by years of neglected maintenance and the Legislature's permitting of trucks heavier than the bridges were designed to handle.

In January, Eugene Mayor Jim Torrey said at an ODOT hearing on regional highway priorities that "we do not do a good job in Oregon of preserving roads." Even though it is much more expensive to rebuild roads than to repair them, local governments have promoted the parkway, not adequate repairs of existing roads.

In June 2001, due to legal and financial obstacles, ODOT promised to select a "no build" option for the West Eugene Parkway, and to fix existing roads in west Eugene instead. The Eugene City Council refused to accept this, and put the parkway on the November ballot, where voters split 51-49 for the highway. In 2002, Eugene, Springfield, Lane County and the Lane Transit District rewrote the regional highway budget to include most of the parkway - ignoring the urgent need to fix cracked bridges on the interstate. Now, ODOT is seeking Federal Highway Administration approval for the parkway, despite huge legal and financial obstacles.

The parkway's official price tag of $88 million ignores inflation, the Belt Line-parkway interchange (recently rose from $17 million to $25 million), the future extension along Highway 126 across Fern Ridge Reservoir to Veneta ($13 million) and a probable parkway to I-105 connector through the Whiteaker area. For comparison, a proposed four-mile bypass of Oregon 62, north of Medford, would cost $130 million - about twice the cost per mile as the six-mile parkway.

The parkway is a subsidy for development boondoggles, not a means to solve traffic jams. Indeed, ODOT traffic analyses predict that it would create traffic snarls at Belt Line and along Sixth and Seventh avenues. A reasonable alternative that is cheaper and more effective than the freeway would include modest work on existing roads and intersections, improved public transit, and land use shifts to focus new development into downtown and abandoned industrial areas instead of on wetlands at the periphery.

A better "low-build" alternative also exists for the $100 million-plus expansion of the I-5 and Belt Line interchange. ODOT already plans to separate southbound I-5 traffic into local and through lanes (like I-5 northbound), which would reduce dangerous weaving. Perhaps the most important shift would be to keep downtown Eugene and Springfield where they are, and stop efforts to relocate the urban cores to Coburg Road and Gateway - including the proposed Peace Health complex in the McKenzie River floodplain.

The recently revived proposal for a bridge from River Road to Valley River Center - through Rasor Park and the Willamette Greenway - would be an even greater distraction to the need to keep I-5 intact.

Oregon has more damaged bridges than any other Western state, and the billions to replace them are not in the budget.

Gov. Ted Kulongoski has proposed raising vehicle registration fees to find some of the funds for fixing bridges. While car fees do not cover the true cost of driving and maintaining the road network, it is the trucks that have caused the problem, and the trucks should pay their fair share in solving it.

Mark Robinowitz is a participant with WETLANDS: West Eugene Transportation, Land and Neighborhood Design Solutions

Los Angeles: Bridges Remain Key Quake Risk

www.latimes.com/news/local/la-me-bridges12mar12,0,6500882,full.story?coll=la-home-local

Bridges Remain Key Quake Risk

Caltrans has upgraded most of its spans, but cities and counties are struggling to find funds to fix theirs. Experts fear results are years away.

By Sharon Bernstein, Times Staff Writer

March 12, 2006

Although the state has made great strides in protecting its own bridges from earthquakes, hundreds of bridges maintained by cities and counties across California remain unfixed.

A Times review of state and county records found that nearly 600 bridges and overpasses that officials identified as being at the highest risk for collapse in a major temblor have yet to be reinforced. They include several landmark spans in Los Angeles, such as the Hyperion bridge in Silver Lake and the Art Deco 6th Street bridge across the Los Angeles River downtown.

Counties and cities have struggled to find the money for the retrofitting projects, which have had to compete —not always successfully — with more bread-and-butter projects like widening roads and fixing potholes.

"The cities have other priorities," said Pat DeChellis, deputy director of the Los Angeles County Department of Public Works. "They could use those funds for lots of other transportation purposes."

The California Department of Transportation has done much better: Of the roughly 2,200 quake-vulnerable bridges maintained by the agency, all but 11 have been retrofitted. To achieve this, the state has spent $2.4 billion since 1989, when the Loma Prieta earthquake collapsed an elevated freeway in Oakland, killing 43 people.

Local governments, however, complain that they don't have the financial resources for retrofitting, even though the spans they are responsible for carry thousands of commuters daily.

In the Southland, these include the La Cienega Boulevard bridge over Ballona Creek on the Westside, Avenue 26 over the Arroyo Seco, Imperial Highway over the San Gabriel River in Downey and Norwalk, Van Buren Boulevard over the Santa Ana River in Riverside and a MacArthur Boulevard bridge at John Wayne Airport in Orange County.

The work is expensive: Fixing the 6th Street bridge alone would cost $140 million. In 2002, the Legislature and then-Gov. Gray Davis eliminated a transportation fund that had been earmarked for the city and county bridge retrofits. Although federal money is also available for the program, Sacramento's decision meant local agencies had to come up with matching funds on their own.

Last year Congress moved to boost retrofitting efforts by reducing the level of matching funds required for all bridge projects from 20% to 11.47%, citing concerns over the deteriorating state of the nation's bridges. As a result, the amount that local agencies will have to pay is much less than it had been previously.

Some officials are eyeing Gov. Arnold Schwarzenegger's $222-billion public infrastructure bond proposal as a possible source of money. The Legislature is debating how such a windfall would be used. The issue of bridge retrofitting is not specifically mentioned in the governor's draft proposal, but some legislators are pushing it.

Even with help from the federal government, however, many local governments say they can't come up with the matching funds.

At a time when traffic congestion is worse than ever, officials say it can be politically difficult to put seismic retrofitting ahead of road repair and improvements and mass transit lines.

"It's an ongoing sore point for the last 10 years," said Stephen Maller, deputy director of the California Transportation Commission. "These bridges have not been a top priority for the local agencies."

After Loma Prieta, the state worked with local agencies to identify bridges in need of seismic upgrades.

John Koo, bridge group manager for L.A.'s Bureau of Engineering, said he spends "a good deal of time" trying to educate Metropolitan Transportation Authority officials and others who hold the purse strings to allocate more money for retrofitting. "I am concerned that MTA does not share the same higher priorities for seismic retrofitting of bridges as we do in the city of L.A.," he said.

Koo said the city has 27 bridges identified by the state as most in need of seismic upgrades. But in the absence of funds from either the MTA or the state, he said, the city cannot pay for all the projects.

Local officials complain that even when money is secured, it can take years of studies and surmounting of regulatory hurdles to do the work.

"We know what needs to be done," said Lloyd Dalton, design engineer for Newport Beach, which has four bridges yet to be retrofitted. "It's very frustrating."

In San Diego, efforts to fix several historic bridges have met with opposition from community groups that worry about aesthetics. The city government is negotiating with neighborhood groups over the fate of the Georgia Street bridge, an arched span built in 1914 for the Pan American Exposition. Many of the buildings in Balboa Park were also created for the expo.

"The first time the engineers went out and told the community group about the bridge, they said it needed to come down," said Patti Boekamp, director of engineering and capital projects for San Diego. "The community became completely unglued."

Fred Turner, staff structural engineer for the California Seismic Safety Commission, said the risks to the economy as well as human life are too great to put off such work any longer.

"These are essential facilities that our economy rests on," he said. "It's really unfortunate that we haven't found ways to retrofit them."

Local governments aren't alone in their struggles to retrofit at-risk bridges.

The state Department of Water Resources, which operates the California Aqueduct and owns 24 of the bridges, hopes to finish evaluating the spans this year, start design work in 2007 and complete construction by 2008, according to Principal Engineer Richard Sanchez.

Sanchez said he does not know why it took the department so long to begin looking at the bridges but that he hopes to begin retrofitting them by 2008.

The work is important, he said, because if one or more of the bridges collapsed in an earthquake, traffic would be snarled and debris could fall into the water supply.

But even with that effort underway, seismic experts fear that many high-risk bridges are years — or decades — away from being fixed.

"We started these programs in 1989 with the Loma Prieta earthquake, and then we had another wake-up call in 1994 with the Northridge earthquake. And now, another [12] years later, it's still not done," said Frieder Seible, chairman of Caltrans' seismic safety advisory board and dean of the engineering school at UC San Diego.

"Even if it's one bridge that falls," he said, "it will be one too many — especially if it's you or me or our family on that bridge."

*

Bridges at risk

Here are some spans that officials have concluded have the greatest risk of failing in the event of a major earthquake.

Los Angeles County
• Fletcher Drive at the Los Angeles River in Los Angeles
• La Cienega Boulevard at Ballona Creek in Los Angeles
• Riverside Drive at the Tujunga Wash in Valley Village
• Avenue 28 at the Arroyo Seco in Los Angeles
• 6th Street at the Los Angeles River in Los Angeles
• Hyperion Avenue at Glendale Boulevard and Riverside Drive in Los Angeles
• Imperial Highway at the San Gabriel River on the Downey-Norwalk border
Riverside County
• Van Buren Boulevard at the Santa Ana River in the Santa Ana River Wildlife Area
• River Road at the Santa Ana River west of Norco
Orange County
• Park Avenue at Grand Canal in Newport Beach
• Jamboree Road at San Diego Creek in Newport Beach
• McFadden Avenue at the Santa Ana River in Santa Ana
• Fairview Street at the Santa Ana River in Santa Ana
Source: California Department of Transportation

I-5 Bridge project needs to look at dangerous dams

In the event of a catastrophic earthquake, any of the six dams on the Willamette River upstream of the I-5 Willamette River Bridge could fail. Due to the uncertainty of the number of potential failures, if any, no estimate on potential water volume in the project area can be given.
p. 45

The water surge from an earthquake induced dam collapse would have significant stress on the bridge and must be included in the EA analysis. See attached report from the City of Eugene on seismic risks to the upstream damns on the Middle Fork and above Cottage Grove.

http://oilbeseeingyou.blogspot.com/2007/07/post-peak-dam-maintenance-or-lack.html

Tuesday, July 31, 2007
Post Peak Dam Maintenance, or Lack Thereof
"Dam failures are of particular concern because the failure of a large dam has the potential to cause more death and destruction than the failure of any other man-made structure. This is because of the destructive power of the flood wave that would be released by the sudden collapse of a large dam."[2] What will be the fate of the world's large dams after peak oil as energy declines, technology falters and budgets for inspection and maintenance of these critical and dangerous facilities begin to be pared back in deference to perceived more immediate societal priorities?

www.csmonitor.com/2007/0913/p02s01-usgn.html

PROBLEM DAMS ON THE RISE IN US

Pennsylvania has seen a fivefold increase in deficient dams since 1999.

By Mark Clayton | Staff writer of The Christian Science Monitor
from the September 13, 2007 edition

The Kaloko dam in Hawaii stood 116 years – until last year when it collapsed after heavy rains, killing seven.

Potential disaster was averted in April in Hollis, N.H., when a dozen families were evacuated and engineers made a controlled breach of an old pond dam to keep it from failing .

Such incidents are warning signs that many of the nation's more than 87,000 dams are in need of repair. Last month's high-profile collapse of the I-35 bridge in Minneapolis focused America's attention on bridge problems. The nation's dams are worse off.

In 2005, the last time the American Society of Civil Engineers rated America's infrastructure, bridges received a "C" grade; dams earned a "D."

Even that rating may be generous, a Monitor analysis of dam-inspection data shows. Since 1999, the number of "high-hazard" dams rated "deficient" has more than doubled, according to data from the Association of State Dam Safety Officials (ASDSO) in Lexington, Ky. High-hazard dams are those whose failures could cause fatalities. In 1999, the US had 546 such dams rated deficient. By last year, it had 1,333.

A second category of "significant-hazard" dams (so-called because they threaten substantial property loss) saw a rise from 339 to 949 deficient dams over the same period. In all, 2.6 percent of the nation's dams are deficient, according to the ASDSO.

"The growth of deficient high-hazard dams in this country is a major issue," says Brad Larossi, legislative chairman for the ASDSO, which represents dam-safety inspectors in all states. "The trend is rising at such a steep slope, much faster than states can do [dam] rehabilitation. Without question the overall trends are clear."

Several factors are behind the rise. Old dams continue to deteriorate or may fail suddenly because of inadequate spillways and trees growing on dams. Many states don't have enough dam engineers to keep up proper maintenance, causing the repair backlog to grow. And as more homes and businesses are built closer to dams, the hazards increase, a phenomenon dam-safety experts call "hazard creep."

Some experts claim that some of the rise is due to better reporting, an encouraging sign. "To be frank, there's been in the past a reluctance in some quarters to identify too many dams as deficient," says Mark Ogden, administrator for dam-safety engineering at the Ohio Department of Natural Resources in Columbus. "But there's also been a strong effort by our association to increase awareness of this problem. We all are realizing we need an honest assessment."

Some states are seeing a faster rise in deficient dams than others. Pennsylvania leads the pack with 215 deficient high-hazard dams, 172 more than in 1999. Not far behind is Ohio, with an increase of 158 . Other states, such as Colorado, New Jersey, and California have seen declines. Some of that is due to better funding, experts say. All three have boosted dam budgets by a third or more since 1999.

Those increases are in contrast to federal dam spending. The nation's dam-safety program, which helps fund safety inspector and engineer training, has not been fully funded in at least five years, Mr. Larossi says. Actual funding is about $5.9 million, well below the $9 million budgeted, he says.

As a result, the number of full-time inspectors has not increased since 1997 (excluding Florida, which claims to have hired 45 inspectors). That leaves each inspector responsible for about 195 dams on average; the ASDSO recommends no more than 50.
"We have seen increased awareness over the importance of adequate funding for state inspectors, but these offices are still understaffed," says Stephanie Lindloff, of American Rivers, an environmental group.

www.greenwash.com/dam.html

The Willamette Valley Tsunami:
Dam Collapses from Flood or Earthquake

Perhaps the most serious disaster threat faced by the Eugene area is the potential for catastrophic failure of dams during a large flood or earthquake. The only disaster that would be worse is some sort of national or global cataclysm (nuclear war or pandemic), scenarios that would not be limited to our region.

If a 40 foot wall of water swept through the Eugene - Springfield area, the aftermath would resemble a mix of the inundation zones from the 2004 Indian Ocean tsunami and the impact of Hurricane Katrina upon the City of New Orleans. If the dam failures would caused by a large earthquake, it is likely that this would be the end of the Eugene metropolitan region. The combination of bridge collapses, destruction of many buildings and the sudden, severe flood from the dam failures would make the area "resemble Hiroshima" -- as one City Councilor has privately expressed.

At a minimum, emergency response and awareness of these threats are desperately needed. Inundation maps need to be made public so that citizens would know how far - and which directions - to flee in the event of disaster. The State of Oregon posts tsunami inundation maps for coastal communities on its website, and posts signs on Highway 101 to indicate the danger zones. There is no technical, legal, political, financial or security excuse to keep similar information secret from the taxpayers of Eugene, Springfield and nearby communities -- since this knowledge would be the most important factor for minimizing casualties should this event occur. How far away from the river people would have to go is unknown to the average person. Would vertical evacuation in downtown Eugene be sufficient (going to the top of a parking garage or one of the taller buildings)? Widespread awareness of these facts could spur regional and federal government actions to address the problems by either strengthening or removing the dangerous dams.

Hills Creek dam (photo from Army Corps of Engineers)

The City of Eugene "multi hazard mitigation" discusses the dangers of nine dams -- Cottage Grove, Dexter, Fall Creek, Dorena, Lookout Point, Blue River, Hills Creek, Cougar, Fern Ridge. Three of them had no seismic considerations when built (Cottage Grove, Dorena, Fern Ridge). The others had some seismic concerns in the design, but that was before the threat of the Cascadia Subduction Zone was fully understood. A large Valley earthquake (Richter 7?) or a Subduction Zone event off the coast (Richter 9) could breach some, if not all of the dams.

According to the Multi-Hazard report, **a failure of Lookout Point (upstream of Dexter) would require the evacuation of over 250,000 people with damages in excess of $10 billion.**

Rep. De Fazio was asked about this September 19, 2005 at his town hall meeting, and he didn't want to deal with it. He just said that removing the dams was not practical (due to "developed" low lying areas) and refused to discuss the need to strengthen them.

Lookout Point (the large dam just upstream from Dexter, visible from Highway 58) is the largest reservoir in the entire Willamette River system. It is also next to a (possibly inactive?) earthquake fault.

The report does not estimate the money that would be required to strengthen (or dismantle) these dangerous dams, but the price tag probably has lots of zeros in it. But

the federal empire is too busy destroying other countries to worry about such matters (and Eugene didn't vote for the dictator anyway). One Trident submarine or a couple of days of the Iraq occupation would probably cover the full cost of the repairs, but Halliburton and Lockheed Martin would not be able to reap obscene profits, so there are no plans to fix them anytime soon.

> www.eugeneweekly.com/2005/12/15/news.html
> Back on Oct. 13 in this column we wrote about the nearly three dozen "high potential hazard" dams in Lane County, all but one upriver from Eugene and Springfield. Dam failure from a major earthquake could bring catastrophic flooding. This past week we got a delayed response from Randy Prince who has served on a state advisory committee looking at such risks. He tells us no seismic upgrades are happening to Oregon dams, and money is being diverted away from even evaluating these dams. **"Inundation maps for a disaster are secret,"** he adds, and the secrecy is heightened since 9/11. He notes that geology professor Ray Weldon at City Club estimated a major earthquake risk of 2 to 5 percent, but that "applies to each building in our area, not the chance of having an earthquake in our area that causes damage. Poorly sited or under-designed facilities are the ones that will fail when the 100 percent certain big quake happens." Prince says he's worried about local hospitals building new facilities along rivers and within inundation zones. We share his concerns.

The enormous US dam problem no one is talking about
By Gaylord Shaw
Christian Science Monitor
January 3, 2006

> DUNCAN, OKLA. - The landscape of America, at last count, is dotted with 79,272 large dams. Most of them safely deliver bountiful benefits - trillions of gallons of water for drinking, irrigation, and industrial use, plus flood control, recreation, hydroelectric power, and navigation.
> That's the good news.
> Here, in my opinion, is the bad news: Disaster lurks in thousands of those dams.
> At least 3,500 of America's big dams are unsafe, according to inspection reports filed away in obscure nooks and crannies of government offices across the country. Thousands more dams also are unsafe, the American Society of Civil Engineers concluded this year, but no one knows for certain how many because few states have the funds for even cursory safety inspections.
> Thus, every moment of every day, unsafe dams form a vast reservoir of danger throughout America. That's not an overstatement. I'm not a professional engineer, but I've spent nearly two-thirds of my 45-year career in journalism studying unsafe dams. I've done on-the-scene reporting on dam failures that killed 175 people and caused billions of dollars in property damage. I've interviewed scores of victims, dozens of state and federal engineers, inspectors, and officials, and examined records on hundreds of dams.
> In my view, the cumulative hazard posed by unsafe dams is huge, but it remains largely unexplored by the media. When a dam fails - and records suggest dozens do each year - the events usually are viewed as local, transitory incidents rather than a symbol of a national problem.
> Hurricane Katrina underscored the peril of depending on man-made structures for protection against disaster. Failure of the New Orleans' levee system during the storm this year

contributed to prolonged flooding and 1,300 deaths.
Months later, as scenes of misery and dislocation lingered in the public mind, President Bush urgently asked Congress to approve $3 billion for the Army Corps of Engineers to begin rebuilding New Orleans' battered levees. The House of Representatives included that amount in a $29 billion hurricane recovery assistance package it passed three days later.
In concept and construction, levees are close cousins of dams. But while politicians flocked to support repair of New Orleans' levees, they've virtually ignored a proposed Dam Rehabilitation and Repair Act which has languished for nearly a year in a House subcommittee. The proposal would authorize the Federal Emergency Management Agency (FEMA) to disperse $350 million over four years to help states repair unsafe dams. Chances of Congress enacting such a repair program anytime soon are slim.
The $350 million program would be a down payment of less than 10 percent toward the estimated $36.2 billion total cost of repairing America's unsafe dams. It also is approximately one-eighth of the amount the president is seeking for repair of the New Orleans' levees.
This is not to suggest that the New Orleans' levees go unrepaired. But from New England to Hawaii more and more aging dams are experiencing problems, with little public awareness. A few large and small examples:
• Taunton, Mass., got national attention in October when a 173-year-old, 12-foot-tall wooden dam above its business district began to buckle. Stores and schools were closed for a week and townspeople headed for higher ground. The crisis eased when the water level behind the dam was lowered. The federal government is now paying 75 percent of the $189,410 cost of tearing down Whittenton Mills Dam and replacing it with a new one.
• In the placid Schoharie River Valley of upstate New York, a volunteer group calling itself Dam Concerned Citizens was formed last month to press for emergency repairs to 182-foot-tall Gilboa Dam, built 80 years ago to supply drinking water to New York City. The dam has been leaking for years. Now citizens have established their own website which distributes emergency notification plans and publicizes preselected evacuation routes for use should the dam fail (www.gilboadaminfo.com).
• Residents of Denver, Colo., population 2 million plus, were warned last month by the Corps of Engineers that serious safety problems have been detected at Cherry Creek Dam, a 141-foot-tall earthen structure. The dam was built 55 years ago on what was then windswept pastureland 10 miles south of Denver. Now the dam looms above Interstate 225, a cluster of office parks and swank homes, a nationally known golf course, and several schools.
Bruce Tschantz, professor emeritus at the University of Tennessee who 25 years ago helped establish the first Office of Dam Safety in the then-nascent FEMA, reached back into classical mythology to fetch a phrase - "the sword of Damocles" - to express his concern about the dangers posed by deficient dams perched above developed areas. (Damocles was a courtier at the court of Dionysius I in the 4th century BC. He was so gushing in his praise of the power and happiness of Dionysius that the tyrant, to illustrate the precariousness of rank and power, gave a banquet and had a sword suspended above the head of Damocles by a single hair.)
"We know what the problems are, we know where they are, and we know how to fix them," Dr. Tschantz said in a telephone interview. It's that next step - actually getting the money to fix them - where we're stalled."
Tschantz doesn't point fingers of blame. But it's clear to me that Congress and several presidents, including the current occupant of the White House, share culpability on the national level, and that too many state and local officials have grown weary of trying to find sources of financing to make dams safer.
Jimmy Carter was the last president to display serious and sustained interest in the issue. He had been in office less than a year when, in the early morning darkness of a Sunday in November 1977, a never-inspected dam in the mountains of his home state of Georgia collapsed and sent a wall of water crashing down upon the campus of Toccoa Falls Bible

College - a campus he had visited several times.
The Kelly Barnes Dam on Toccoa Creek dated back to 1899, when a rock-and- timber structure was built across a fast-flowing mountain stream to impound water for a small hydroelectric plant. Later, Toccoa Falls Bible Institute chose the valley below as the site for its campus, took over the power plant and, in 1937, decided to construct an earthen embankment over the original dam, eventually raising the structure's height to 42 feet.
Twenty years later, in 1957, the school abandoned the power plant. For the next two decades, the dam was neglected, visited only by an occasional fisherman or hiker. Pine trees grew to maturity on its downstream slope, sending roots deep into the dam's core. Portions of the steep embankment vanished in a landslide, but there were no repairs, even though water seeped almost continuously from the base of the dam. Finally, the weakened 78-year-old dam collapsed during a rainy night in Georgia.
In the valley below, Eldon Elsberry and two friends were on patrol in the campus fire department's Jeep. When the wall of water hit, it overturned the vehicle. "One minute the water [in the creek] was inches deep, and the next I was swimming for my life," Mr. Elsberry said. "I saw the bank and made for it." He turned and saw one of his friends struggling in the water. "I reached for his hand. He went by so fast I couldn't touch him."
Experts later calculated that the water released by the dam's collapse weighed approximately the same as 7,500 locomotives. As the water crashed across the campus, it destroyed a dormitory and crushed a cluster of mobile homes where married students lived. Later, in the mud and tangled debris, 39 bodies were found. Twenty were children. College officials said they never hired a private consulting engineer because they had no idea it had safety problems. The state of Georgia never inspected the dam because, at the time, there was no state law requiring such inspections. Few other states had dam safety laws then, either. Pennsylvania was one of the exceptions. Its tough law was spurred by memories of the 1889 collapse of South Fork Dam above Johnstown that killed 2,209 people. Yet even with the strong state law requiring regular safety inspections, another 55 people in the same community died in July 1977 after the failure of Laurel Run Dam, just a few miles from where South Fork Dam triggered the disaster 88 years earlier.
While all states except Alabama now have laws or regulations establishing dam safety programs, enforcement is spotty, largely because of the paucity of inspectors. In Texas, for example, there are only six state employees to inspect nearly 7,500 dams. One Texas official noted that with the current staff level "some dams would not be examined for three centuries."
Let's do the math. Two of my teenaged grandchildren live in Texas. If we count 30 years for each generation, that means all the dams in Texas will be inspected by the time my grandchildren's great-great-great-great-great-great-great-great-great-grandchildren ring in a new year in 2306. Reassuring, isn't it?
• Gaylord Shaw won a Pulitzer Prize for a series investigating the state of the nation's dams for the Los Angeles Times in 1978.

JUNE 1999:

ONE OF CENTRAL OREGON'S DAMS COULD COLLAPSE IN A MODERATE EARTHQUAKE, prompting federal officials to warn people immediately below Wickiup Reservoir to flee to higher ground at the first sign of ground movement. "If people can feel an earthquake in the area, it's probably going to be strong enough to do something to the dam," said Larry Wolf, dam safety expert with the U.S. Bureau of Reclamation in Boise.
It is the first time in the Northwest that the bureau has advised residents to evacuate as standard practice during an earthquake. "Certainly we don't want to create panic, but we

want people to be aware," he said. The dam is about 20 miles [32 kilometers] south of Bend and much closer to a number of upscale developments, including Sunriver, which can be packed with 20,000 people on a summer day.
The bureau estimates that floodwaters could endanger roughly 10,000 people. However, Wolf said there would be time for most people to evacuate. The flooded area would roughly follow the channel of the Deschutes River, extending beyond the banks for more than a mile in some places, he said. Because the river channel flattens in some developed areas, floodwaters would take about 14 hours to reach Bend, he said. An earthquake with a magnitude of 5.0 on the Richter scale could cause a catastrophic failure of the 2-mile-long earthen dam. However, he said the chances of such an earthquake are estimated to be about one-tenth of 1 percent each year. Wolf characterized the risk as remote but real. The Klamath Falls earthquakes in 1993 were pegged at magnitudes of 5.6 and 6.0, and the Scotts Mills earthquake earlier that year in the Willamette Valley hit 5.6.
Wolf said data collected at the dam in recent years indicated that the saturated silt and ash layers of earth beneath the dam could liquefy during an earthquake. The dam was completed in 1949 and holds up to 200,000 acre feet of water, or enough water to cover 200,000 acres to a depth of one foot. The water is used primarily for irrigation in Jefferson County. Wolf said reclamation engineers have suspected for years that Wickiup Dam was at risk. Those fears were confirmed with additional analysis and testing last year. In February, the bureau decided it needed to warn local authorities and the public about the situation and to undertake a $40 million renovation project.
Jim Mumford, who heads the bureau's dam safety division in Boise, said these are far more specific warnings than the bureau has ever issued to Pacific Northwest communities. For example, when the Ochoco Dam near Prineville was at some risk of failing several years ago, the bureau told residents to contact local emergency service officials if there was a problem with the dam. But with Wickiup, he said, there won't be time to await instructions from officials. "This is the first time where we're saying, 'Don't wait for notification. The earthquake is the notification,' " he said. The bureau also has designated escape routes, then posted fliers and sent brochures to area homeowners with maps of those routes. Larry Zakrajsek, who does risk analysis for the bureau, said the agency did not rush to warn people partly because the danger is small and the dam has functioned well for 50 years.
By Gordon Gregory, Correspondent, The Oregonian The Spring Break Quake of 1993, which rattled buildings across western Oregon and caused $30 million in damage, was a harbinger of an 8 or 9 magnitude quake that is in Oregon's future, geologist Donald Hull tells legislators. "It's been 299 years since the last such event," Hull said. "The window of vulnerability is open again." Hull, who is Oregon's chief state geologist, hopes the Legislature will set aside money for better mapping of earthquake hazard zones and for public safety campaigns to let people know what to do when the Big One hits.
The department has been able to retrofit about 60 bridges since the Spring Break quake, but ODOT estimates that at least 1,500 other bridges in western Oregon are in need of at least some earthquake strengthening. Frank Nelson, ODOT's bridge preservation engineer, said eight more bridge projects are planned, and that the department might be able to do an additional four if lawmakers approve a gas tax increase for road repairs. Those projects should at least be enough to keep Interstate 5 -- Oregon's main north-south lifeline -- open in the event of a major earthquake, Nelson said.
Scientific evidence shows that major offshore earthquakes occur off Oregon's coast once every 350 to 500 years. The last one, in 1700, drowned coastal forests and sent tsunami waves across the Pacific so powerful that they destroyed Japanese fishing villages. Such a quake would not only devastate Oregon coastal communities, but inland areas as well. "The Willamette Valley is a big trough full of loose soils, gravel, sands and silts," he said. "When earthquake waves travel through that kind of sediment, they get bigger; they amplify. I'm just praying it won't happen in my lifetime."

Senate President Brady Adams said lawmakers are aware that Oregon is due for another huge earthquake. "It's hard to define in a specific time frame what the risk is. Is it going to happen tomorrow, or 200 years from now?" the Grants Pass Republican said. "There's no question the threat of earthquakes is real, but we also know we have school funding and other needs that are before us today."
Hull said he can't argue with that logic, but still thinks the Legislature should consider increasing at least to a small degree its financial commitment to preparing the state for the Big One. "There's nothing else in our foreseeable future that's going to be as devastating," the state geologist said. "It's not going to do us any good to fund education programs if the school buildings end up falling on kids' heads."

from the City of Eugene “World’s Greatest City of the Arts and Outdoors” website - eugene-or.gov
note: the URL for this report is now difficult to find due to the extremely convoluted names for each web page - when the Mitigation Plan was originally posted it was easy to find

Eugene's Multi-Hazard Mitigation Plan

This NID (National Inventory of Dams) potential hazard classification is solely a measure of the probable impacts if a dam fails. Thus, a dam classified as High Potential Hazard does not mean that the dam is unsafe or likely to fail. The level of risk (probability of failure) of a given dam is not even considered in this classification scheme. Rather, the High Potential Hazard classification simply means that there are people at risk downstream from the dam in the inundation area, if the dam were to fail. ...

Table 12.3
NID High Potential Hazard Dams
Lane County

County	Dam Name	River	City	NID Height (feet)	NID Storage (acre feet)
Lane	Cottage Grove	Coast Fork Willamette River	COTTAGE GROVE	103	50,000
Lane	Dexter	Middle Fork Willamette River	EUGENE	117	29,900
Lane	Fall Creek	Fall Creek	SPRINGFIELD	205	125,000
Lane	Dorena	Row River	COTTAGE GROVE	154	131,000
Lane	Lookout Point	Middle Fork Willamette River	EUGENE	276	477,700
Lane	Blue River Dam	Blue River	SPRINGFIELD	312	89,000
Lane	Hills Creek	Middle Fork Willamette River	OAKRIDGE	341	356,000
Lane	Cougar	South Fork McKenzie River	SPRINGFIELD	519	219,000
Lane	Fern Ridge	Long Tom River	EUGENE	49	121,000

Of these NID High Potential Hazard dams all except Fern Ridge are upstream from the Eugene/ Springfield Metro Area.

12.4 Dam Failure Hazard Assessment: Eugene/Springfield Metro Area

A 1987 report on Dam/Levee Failure by the Oregon Emergency Management Division lists 51 historical dam failures in Oregon from 1896 through the 1980s. As of the time of this report, no dam failure fatalities had been recorded in Oregon. However, the potential for dam failure fatalities certainly exists in Oregon, in Lane County and in the Eugene/Springfield Metro Area, albeit with a low probability of occurrence.

To evaluate the level of risk posed by the dams affecting the Eugene/ Springfield Metro Area, we consider the nine dams in the NID high potential hazard classification where the potential impacts of failure, including life safety, are greatest. Much smaller dams in the significant and low potential hazard categories do not pose a life safety threat and the risk of property damage is minimal or low.

12.5.1 Flood Damage to Dams

All of the Corps dams were designed and built with specific flood capacities. Current dam designs are based on Standard Project Floods. Standard Project Floods, as defined in the Corps Engineer Manual 1110-2-1411 (March 1, 1965) are floods resulting from the Standard Project Storm. In turn, the Standard Project Storm is defined, somewhat imprecisely, as the most severe flood-producing rainfall-snowmelt, depth-area-duration event that is considered “reasonably characteristic” of the drainage basin. Discussions with Corps staff in the Portland District Office indicated that the Standard Project Flood is approximately a 500-year flood event.

The Corp dams’ discharge design levels include the combination of spillway discharge capacity and reservoir outlet pipe discharge capacity. For example, for the Hills Creek Dam, the Standard Project Flood is 64,500 cubic feet per second. The maximum controlled discharge capacity of the dam is 151,760 cubic feet per second, or nearly two and one-half times the Standard Project Flood discharge. These data are included on the Hills Creek Project, Emergency Response Flowchart7. At discharges beyond the maximum controlled discharge capacity of the dam, the dam would be overtopped, discharges would be uncontrolled, and there would be a high probability of damage to the dam, with some potential for dam failure. The large margin of safety in the discharge capacity of the dam suggests that the Hills Creek Dam likely has the capacity to withstand floods at least as large as a 1,000 year flood event without expected damage. The other Corps dams have similar margins of flood design safety.

12.5.2 Earthquake Damage to Dams

All of these dams were designed and built in the 1940s to 1960s. Seismic design considerations were thus significantly lower than current seismic design considerations. A summary tabulation of the seismic design basis and inspection history of these dams is given below in Table 12.5 (Corps of Engineers, Portland District Office, March, 2001).

Table 12.5
Seismic Design, Evaluation and Inspection Data
Corps of Engineers Dams

Dam	Date of Last Seismic Evaluation	Seismic Design Basis		Date of Last Periodic Inspection
		Original	Current	
Cottage Grove	1981	None	0.21 g	1997
Dexter	1981	0.10 g	0.21 g	1996
Fall Creek	1981	0.10 g	0.21 g	1999
Dorena	1981	none	0.21 g	1997
Lookout Point	1981	0.10 g	0.21 g	1999
Blue River	1994	0.10 g	0.24 g	1996
Hills Creek	2000	0.10 g	0.22 g	1999
Cougar	1994	0.10 g	0.24 g	1997
Fern Ridge	2001	none	0.35 g	2000

As shown in Table 12.6, the Corps has conducted at least preliminary seismic evaluations of all of these dams. However, some of these evaluations were conducted in the 1980s and thus do not reflect current understanding of the seismic hazard in Oregon or current state-of-the-art seismic evaluation engineering principles. The Corps has an ongoing regular inspection program and an ongoing seismic evaluation program. Presumably, updated seismic evaluations of these dams will be completed over the next few years.

Seismic considerations were completely absent in the design of two of these dams: Dorena and Fern Ridge. The others were explicitly designed or probably designed to ground shaking levels of 0.10 g, which is the maximum seismic design level for any of the Corps dams in western Oregon. In contrast, the current Corps seismic design levels for dams at these sites (i.e., if new dams were to be built today) would be 0.21 g to 0.24g for the dams in eastern Lane County and 0.35 g for Fern Ridge . **Thus, current seismic design requirements are for levels of ground shaking about two times higher than the probable design levels for most of these dams and about three times higher for Fern Ridge.**

Seismic evaluations of dam safety are a highly technical, highly specialized art. Separate evaluations must be done for each dam. The evaluation requires a detailed analysis of the design and construction of the dam, an analysis of the current condition of materials and components, geotechnical analysis of the foundation and site, and a site-specific seismic hazard analysis. For emergency planning purposes,

a seismic evaluation should include the probabilities of failure for a scenario earthquake such as a large magnitude event on the Cascadia Subduction Zone.

12.5.3 Loss Estimates (Preliminary)

Detailed loss estimates for possible failures of these dams are beyond the scope of this mitigation plan. However, we note that in 1987 the Oregon Emergency Management Division estimated that **a completely catastrophic failure of the Hills Creek Dam, an extremely unlikely event, could require the evacuation of over 250,000 people with damages in excess of $10 billion.** Adjusting these 1987 estimates for inflation and for population growth suggests that damages could easily exceed $20 billion. Detailed casualty estimates have not been made for catastrophic dam failures affecting Lane County. However, **given the large inundation areas, high water depths, and the logistical difficulties in evacuating 250,000 people to safe ground, it is not difficult to imagine that a truly catastrophic dam failure could potentially result in 1,000 or more deaths.**

The probability of catastrophic failure of these dams is impossible to estimate with any accuracy, from present data. Most likely, the probability is less than 0.1% per year (less than once in 1,000 years, on average) and perhaps substantially less. However, the consequences of failure are so high that careful evaluation is certainly warranted.

The potential impacts of dam failures on the Eugene/Springfield Metro Area are summarized below in Table 12.6

Table 12.6
Potential Impacts of Dam Failures on the Eugene/Springfield Metro Area

Inventory	Probable Impacts
Portion of Eugene/Springfield Metro Area affected	Direct impacts limited to mapped inundation areas for dam failures, or to smaller areas for more likely partial failures
Buildings	Heavy damage in inundation areas
Streets within Metro Area	Damage and closures in inundation areas
Roads to/from Metro Area	Damage and closures in inundation areas
Electric power	Damage and loss of service in inundation areas
Other Utilities	Damage and loss of service in inundation areas. Potential for major damage to water and wastewater treatment plants in extreme events
Casualties	Potential for high casualties (deaths and injuries) in extremely unlikely major dam failures, depending on warning time available and effectiveness of evacuations

12.6 Mitigation Strategies

Possible dam failures affecting the Eugene/Springfield Metro Area are low probability events, but the potential casualties and economic consequences are extremely high. The combination of low probability but large consequences makes analysis of such situations difficult from both a technical and a public policy perspective. The evaluation is difficult technically because it requires detailed engineering analysis of each dam and careful probabilistic risk analysis. As always, communication with the public must be non-alarmist, but factual, realistic and informative.

Recommendations

1. Because of the age of these dams, the seismic design basis of all of the dams potentially affecting the Eugene/Springfield Metro Area is significantly below current seismic design requirements. Preliminary seismic evaluations have been done but without sufficient detail to evaluate the probabilities of dam failures. Because of the extreme consequences of potential failure of one or more of these dams, **we recommend that detailed seismic evaluations be conducted for all of these dams.** All of these dams are owned and operated by the U.S. Army Corps of Engineers. Therefore, pragmatically, **the role of the Eugene/Springfield community would be primarily to strongly encourage the Corps of Engineers to complete these urgently required seismic evaluations** as soon as possible.
2. A key step in mitigation planning for dam safety is emergency planning. Emergency planners in the Eugene/Springfield Metro Area should obtain copies of the inundation maps for each of the major dams to familiarize themselves with the areas of potential flooding. For emergency planning, the estimated flood depths and the time periods from dam failure are particularly important. Flood depths and flood times both vary markedly with distance downstream from the dam locations. For emergency planning, key elements include community emergency notification procedures and evacuation planning (routes and traffic control). Because of the very large numbers of potential evacuees, training seminars and scenario exercises are strongly recommended.
3. All of these dams have Emergency Action Plans. These plans should be reviewed to ensure that they are complete and up to date. Emergency planning officials in each county should be fully informed of the detailed consequences of the potential failure of each dam. Public notification and evacuation plans should be updated and tested. For some types of dam failures, for example, those due to extreme floods, there may be some warning time. Decision making procedures, protocols, and procedures for issuing watches, warnings, and evacuation notices

should be reviewed and updated and coordinated among all responsible federal, state, and local agencies. [emphases added]

Willamette River Bridge EA
Open House / Hearing Comments – January 2008

14. Tim Vohs
3708 Cherokee Dr
Springfield, OR 97478

My thought is to keep it simple. I don't support the "No Build" but my preference would be to avoid the "frills". Archways to me are overdoing it. There are probably 100 people who go over this bridge for every person who goes under it.

15. Judith Eisen
2788 Riverview Street
Eugene, OR 97403

Bridge type options. I prefer either deck arch or through arch and don't like the others.

16. Robin Cassidy –Duran
124 High St.
Eugene, OR 97401

I like the through arch design for the bridge. It reminds me of the Peter DeFazio bridge in Alton Baker Park – one of my favorites!

17. Adam Steffen
2185 Orr Lane
Eugene, OR 97405

Interested and welcome the opportunity to further explore potential optional uses of ODOT/I-5 right of way land *under* and around bridge, particularly for mountain bike "skills and challenge" park. We look forward to further exploring this opportunity.

18. Anthony Beck
309 Clark St.
Eugene, OR 97401

The LCMBA represents the mountain bike (MTB) community in Eugene. Specifically we focus on advocacy and working with land managers to provide more MTB access and opportunities. One of the main goals of the LCMBA is the creation of an urban MTB skills park. The I-5 bridge project provides an opportunity for incorporating the skills park as part of the plan. A skills park provides many positive benefits to the community and further enhances the showcasing of the bridge. Please see the email I sent on Jan.31 to both ODOT and the consulting firm's project managers and public liaison persons. Thank you for considering this option!

19. **George Jessie**
721 Aspen St.
Springfield, OR 97477

I propose that the replacement bridge be built in the most cost effective manner feasible. The "girder style" appears to be easier for long term maintenance, minimum nuisances (birds, etc.) and yet be aesthetically pleasing. I emphasize cost concerns because of the increasing competition for scarce transportation and public dollars available.

20. **David Roth**
721 Centennial Blvd.
Springfield, OR 97477

I like the "through arch" design the best. If we're spending big bucks on a new bridge, let's make it look good! Stay in contact with the LCMBA on a potential mountain bike challenge and skills park on the south side of the bridge. (Area II) This would be a great way to turn a "negative space" into a positive community asset. Thanks!

21. **Eric Gunderson**
72 West Broadway
Eugene, OR 97401

The Willamette River Bridge is an important gateway to Eugene/Springfield and the southern end of the Willamette Valley. The bridge design should be a visible marker for drivers on I-5 and those crossing along Franklin Blvd. I support designs that include an arch, pylon or marker visible above the bridge deck. The through arch most closely appears to do this. I am opposed to large sound walls which are visual barriers. They are really ugly. Thanks for the chance to comment.

22. **William Ivanoff**
1810 Harris St. #336
Eugene, OR 97403

For visual impact, could it be considered to bring a historical look to the above part of the bridge? Try to copy the above deck green girders like the Ferry Street and Springfield bridges. The city of Eugene overwhelmingly wanted to keep the Ferry Street Bridge as is. It would be easier to light the bridge that way using the feature above the deck. The green girder bridges are rare today. Please build a set of twins over the Willamette for I-5. Do whatever they want for the lower portion, (deck and below). The other green girder bridges also have three piers.

23. **Gayle Jessie**
721 Aspen
Springfield, OR 97477

Consider the park, river and path usage that occurs below the bridge. A design that is pleasing and not distracting form the surrounding landscape. I prefer the "Box

Girder" – clean and simple. / Will paths have detours for bike and pedestrian travel between Eugene and Springfield? This is a heavy use area for recreation and commuting. / Noise issues for surrounding community should be a priority when considering design and placement.

24. **Gay Kramer-Dodd**
372 Lodenquai Lane
Eugene, OR 97404

I like the 2-bridge (one each direction) plan and the potential designs are attractive. My main comment on design is that view is important. It's so beautiful in Oregon – please leave the view from cars as unobstructed as possible. It's discouraging to cross a bridge and have a wall block the view.

Document # 25 - 27

OREGON DEPARTMENT OF TRANSPORTATION

In re:

Interstate 5 / Willamette River Bridge

PUBLIC COMMENTARY WAS INVITED in the above-entitled matter January 31, 2008, from 11:30 until 1:30 p.m. at the Eugene Public Library, 100 West 10th Avenue, in the City of Eugene, and continuing from 5:30 until 7:30 p.m. at the Springfield City Hall, 225 Fifth Street, in the City of Springfield, County of Lane, State of Oregon, before Eleanor G. Knapp, CSR-RPR, and Robin Cassidy-Duran, CSR-RPR, Certified Shorthand Reporters in and for the State of Oregon.

ORIGINAL

* * * * * *

Document # 25 MR. ZACH VISHANOFF: My name is Zach Vishanoff. I'm an activist. I look at land use issues, and mainly historic preservation is an interest of mine. I try to remind the City to -- or the City planners to look at the bigger picture. I feel that sometimes they approach things very piecemeal.

There's a couple of things I see a little bit piecemeal with what's going on with -- they said they were able to review parts of the Mill Race as far as historic significance or eligibility, and they were talking about some plaques they might put in for some kind of ruins of the Mill Race. And one thing I think that could really help the City's process is if they -- if this study kind of triggers a Mill Race review, the length of it, instead of just the mouth of the Mill Race because I think development will be coming to the later sections of the Mill Race.

And unless it's evaluated as an entire little system or a mothballed system, now, you know, an abandoned system, but that there's some thinking that could happen that's really maybe not wholistic and maybe that they wouldn't -- they would miss some

opportunities to maybe open the whole Mill Race in a way that makes sense as opposed to treatment of one end of the Mill Race one way and then, you know, the rest treated a separate way. And one could preclude the other if you are not looking at the entire Mill Race.

So I don't know if they can somehow tie that in with this process or add it on so that they don't -- so it makes sense, the planning makes sense.

So one of the guys here mentioned the plaques they might put in for the areas that are abandoned on the Mill Race. I just think that if you are going to do funding for plaques, better to do them all along the Mill Race. So it would go off the site, but it would start kind of with your project. You know what I mean?

So I think it's real important to have bike traffic not be precluded, if possible. I noticed last time there was bridge work done there they had to shut down one side of the river for bike traffic for a significant amount of time.

Also, lighting around. If you create a tunnel, at night that area is kind of, you know, spooky. And so if there's a lot of extra lighting

so that, you know, if you are a male or a female you feel safe at night riding your bike through there. And I think that extra money will be well suited because some of these people if they are freaked out by that area might choose to drive instead. So I think that would be a good use of money.

There's no discussion about opening the Mill Race at the City's planning efforts right now. There's a vague concept of return to the river, but that could mean a lot of things. So I think you guys could ask them to begin to talk about what riverfront development would be like and what the Mill Race frontage development would be like, because it just doesn't seem like there's any funding or desire to study how complicated that could be and maybe how good it could turn out. But it just doesn't seem like it's happening at all. So you guys could request them to start catching up, basically.

Also, you might do a study of Mill Race right-of-way so that if you have a pedestrian-friendly bridge that you could end up not having to go get your car. You could go straight from pedestrian trails from the bridge that are nicely designed and have a continuous maybe plaque system telling you a story as

you go down the river.

So it doesn't make sense to study just the bridge. It makes sense to study a pedestrian -- maybe begin a discussion of pedestrian kind of highway potentially using the bridge. You know what I mean? It would be a story-telling kind of a thing. You already do this essentially. But it won't tell the story right if we isolate it. You know? Kind of a whole system.

And it seems like the bike -- the bike trails along the river are kind of piecemeal right now. Maybe because there's bigger roads coming in the future. But maybe a wholistic look at do we want to save the greenway down here and if we improve the bikeways what that would look like. That conversation isn't happening. That could be enhanced.

And I guess that's it. If I think of anything else a little later, can I come back and throw it in there?

MR. COX: Absolutely. You are more than welcome to.

* * * * * *

MR. ERIC GUNDERSON: I have really a single issue that I'm interested in. I'm an

architect. Tim came and gave a presentation to our local architecture group recently. I really appreciate that.

But the thing I really care about is the bridge be an excellent design, be a gateway to Eugene and Springfield for those headed north and south on I-5 and also people crossing the other way on Franklin Boulevard.

I like the options that are out there, but the ones you can really experience from above, like the arch one. I understand there's ideas about pylons or other features that will be above the bridge deck. That's my thing. It should be a significant gateway along the I-5 corridor.

* * * * * *

MR. ZACH VISHANOFF: There is a report, a neighborhood -- I guess it's called a refinement plan. It's called the Farkas Report. This is a privately funded refinement plan nearby the bridge project. And it's a new model of refinement plan where someone spends a lot of money and buys it instead of the neighborhood cultivating their own refinement plan.

So I think -- just so that people on the bridge project know that that development in the

Farkas Report doesn't reflect the community's values. It just reflects those who funded the plan's values. And so that that -- If they are able to separate their bridge project from the goals in the Farkas Report, they will have a better project because they won't run into opposition as much because they are not connected to the Farkas Report, because the Farkas Report's goals I think are just not well supported in the community. So just so that's in there.

And then the last thing is it would be great to have a construction impact hotline so if anybody like sees sediments in the river that shouldn't be there or something hazardous or they have trouble getting through at night or maybe concerns over maybe something they see that might be of archeological importance or something like this.

And also if the 1-800 number is an easy one to remember, like 1-800-bridge hazard, or just stated in a way so that people can keep it in the back of their mind and there's a lot of ability to communicate quickly, like if someone sees diesel in the river because I imagine there's a lot of equipment that are around and there's a lot of eyes around. But if there's not an easy, memorable way

to quickly get the information across, that information won't be gathered.

So that's it. Thanks for being here.

* * * * * *

Document # 26 MS. ELIZABETH STEFFENSEN: I have lived here, as I said, since 1960 and I've raised seven children here and have been involved in many different issues as far as local communication goes within the University climate, the political climate, and the environmental climate.

And being an outdoor person, I really appreciate the Whilmut Park and the history and appreciation of the fact that we were not the first people here. It was the Kalapuyas who were here. So I wish to respect their commitment to the land as we do things.

I would like the bridge to have no ramps. That would to me be very disturbing to the park.

But I would also like the bridge to be aesthetically very pleasing. Having traveled several times to Europe and seen bridges that were well over 500 years old, I would like to suggest that an investment for the future have a minimum of a 100-year bridge would be to my way of using my tax dollars very appreciated for my children,

grandchildren and eventually my great grandchildren. And I would like to see the bridge designed so that it would look like some other ones I've seen. I don't know if they've looked outside of the USA at bridges, but just aesthetically, let's be more pleasing as far as the bridge goes. I would like to see more arches, I think, and minimum abuse to the river, of course.

And I feel that if we can invest $200 million in a basketball arena, it would be very good to consider that we invest for the future in more a hundred-year-old bridge, aesthetically pleasing to the future generations.

* * * * * *

Document # 27 MR. BILL POOLE: I'm Bill Poole. I live on Henderson Lane, which is to the south right there (indicating), the second house in. We have a neighbor that is closer to the freeway, but we are the second house in, the first houses right alongside the freeway.

Anyway, my thoughts dealing with the bridge, I appreciate the fact that we're going to get a new bridge and eliminate the temporary. My initial thought in coming in was to ask for the extension of the sound wall, going further south

with it, because it is just barely going to cover my place from here, and the houses that are in here wouldn't receive any benefit, and there's just an open field between (indicating).

And that's the request that I made earlier. I would feel good if that were extended here. He explained why it is looking like this and not like this (indicating), and that was good.

The other thing that I did discuss was the jake brake on the truckers, that they typically start about here and finish down here (indicating), which -- that's the most annoying noise that I can think of on the freeway right now that I hear fairly consistently, and they're probably trying to avoid the speed trap down here (indicating).

But whatever the problem is, it would be my question to see if you can't put some "no jakes" signs and see if we can stop that.

At any rate, the consideration for having the wall is good as far as I'm concerned because of the potential improvement of noise. That's all I have to say.

(Conclusion.)

State of Oregon)
) ss.
County of Lane)

We, Eleanor G. Knapp, CSR-RPR, and Robin Cassidy-Duran, CSR-RPR, both Certified Shorthand Reporters for the State of Oregon, certify that the transcript is a true record of the commentary received on January 31, 2008; that at said time and place we reported in stenotype all commentary presented; and that the foregoing transcript consisting of 10 pages contains a full, true and correct transcript of said commentary so reported by us to the best of our ability on said date.

IN WITNESS WHEREOF, we have set our hand and CSR seals this 14th day of February 2008, in the City of Eugene, County of Lane, State of Oregon.

Eleanor G. Knapp, CSR-RPR
CSR No. 93-0262

Robin Cassidy-Duran, CSR-RPR
CSR No. 90-0090

From: Ed Armstrong [mailto:drawde@endazzle.com]
Sent: Monday, February 04, 2008 1:02 PM
To: DODSON Timothy J
Subject: Some ideas for Willamette Br. Eugene

Document # 28

Tim Dodson ODOT Project Liaison,

I visited ODOT's Web site and have sketched out a few of my ideas on the attached "Bridge Types" sheet below. Also I have attached some photos of various existing bridges with different types of arches.

We have lived in the Eugene area and have driven over all the bridges in the area. I think that the motorist driving over the I-5 bridges really does not notice what sort of structure supports the roadway. However a through tied arch or a suspension type bridge would be very noticeable and should be aesthetically pleasing to the eye.

I understand that costs do enter into the equation and that future maintenance must be considered also.
Thank you for this opportunity to give you my input...Ed Armstrong.

-----Original Message-----
From: Bob Kline [mailto:kline7796@comcast.net]
Sent: Tuesday, February 26, 2008 11:24 AM
To: COX Jim B
Subject: I-5/Wilamette Bridge Environmental Assesment

Document # 29

Jim,

The Harlow Neighborhood has two issues about the Bridge Project as it concerns the EA . The first is traffic during the construction period along Martin Luther King Blvd, in the Alton Baker Park/Autzen Stadium area, and North Walnut Path where there will be a construction vehicles entering and exiting for several years. The second is the noise level in the resident areas to the wast of the bridge along Alton Baker Park & to the north of the park.along I-5, which the EA does not, in my our opinion, fully address specifically about the noise level and the possibility of mitigation by the use of sound walls.

How these concerns can be addressed now I am not sure.I assume we will have many chances to discuss these two issues as the project develops.

Bob Kline
Chairman
Harlow Neighborhood Association

APPENDIX B

NOISE MONITORING LOCATIONS, NOISE RECEPTOR LOCATIONS, AND NOISE WALL LOCATIONS

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Figure B-1
Existing Roadway/Bridge Configuration, Noise Monitoring Locations, and Noise Prediction Sites

I-5 Willamette River Bridge Project

• R# Noise Prediction (Receptor) Sites

Figure B-2
Existing Roadway/Bridge Configuration, Noise Monitoring Locations, and Noise Prediction Sites

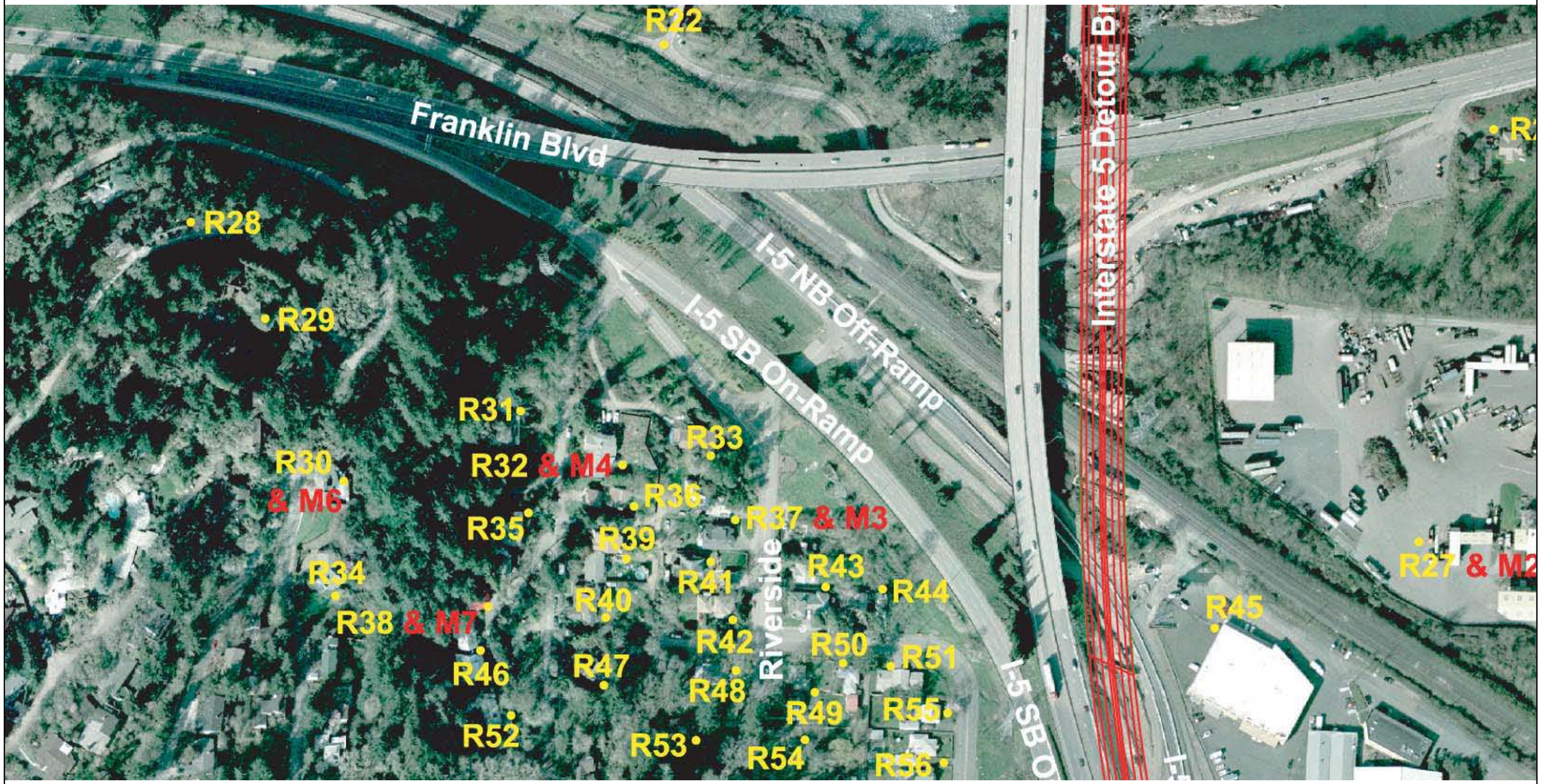
I-5 Willamette River Bridge Project

I-5 Willamette River Bridge

OTIA

Figure B-3
Existing Roadway/Bridge Configuration, Noise Monitoring Locations, and Noise Prediction Sites

I-5 Willamette River Bridge Project



I-5 Willamette River Bridge

OTIA

Figure B-4
Existing Roadway/Bridge Configuration, Noise Monitoring Locations, and Noise Prediction Sites

I-5 Willamette River Bridge Project

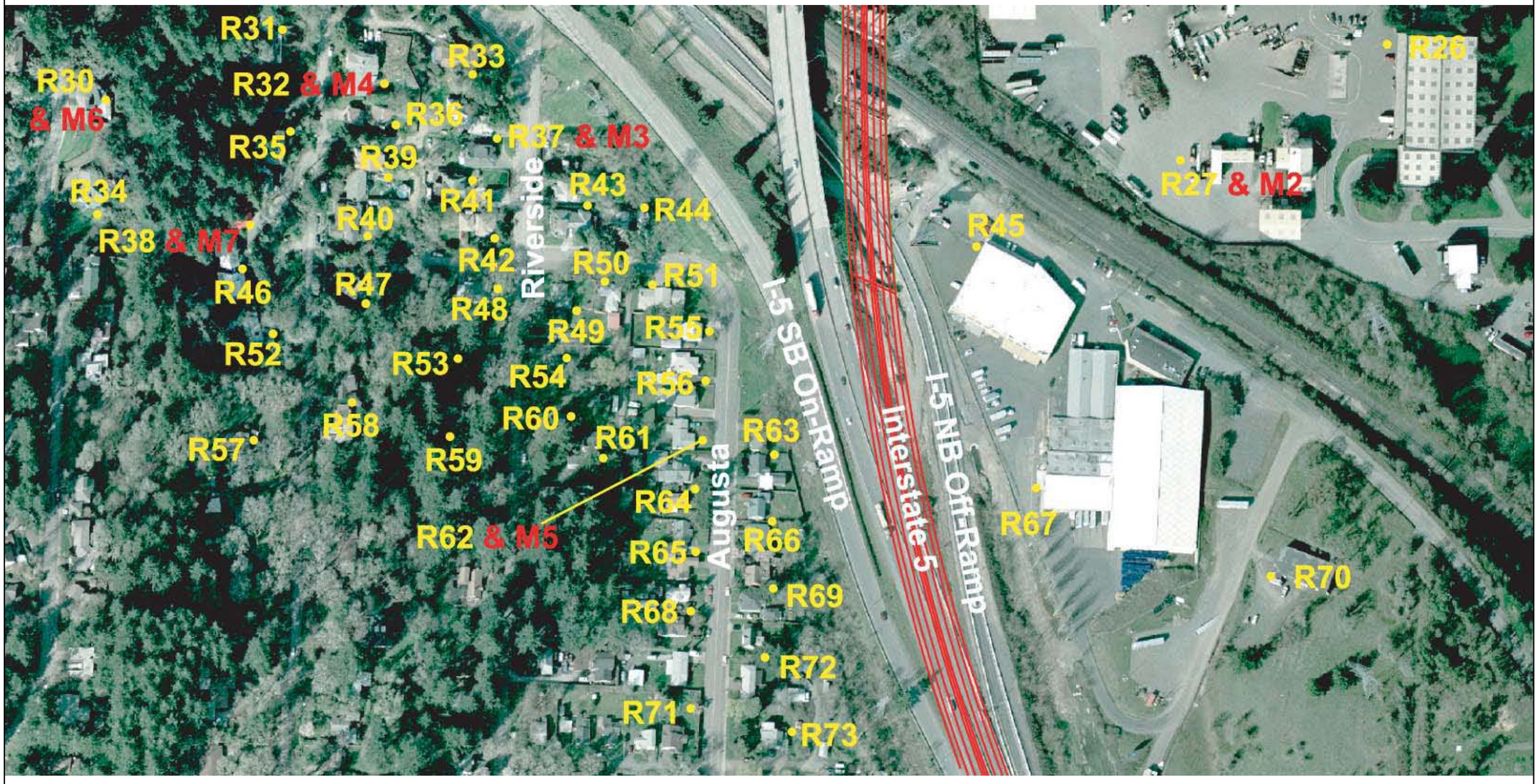


Figure B-5
Existing Roadway/Bridge Configuration, Noise Monitoring Locations, and Noise Prediction Sites

I-5 Willamette River Bridge Project

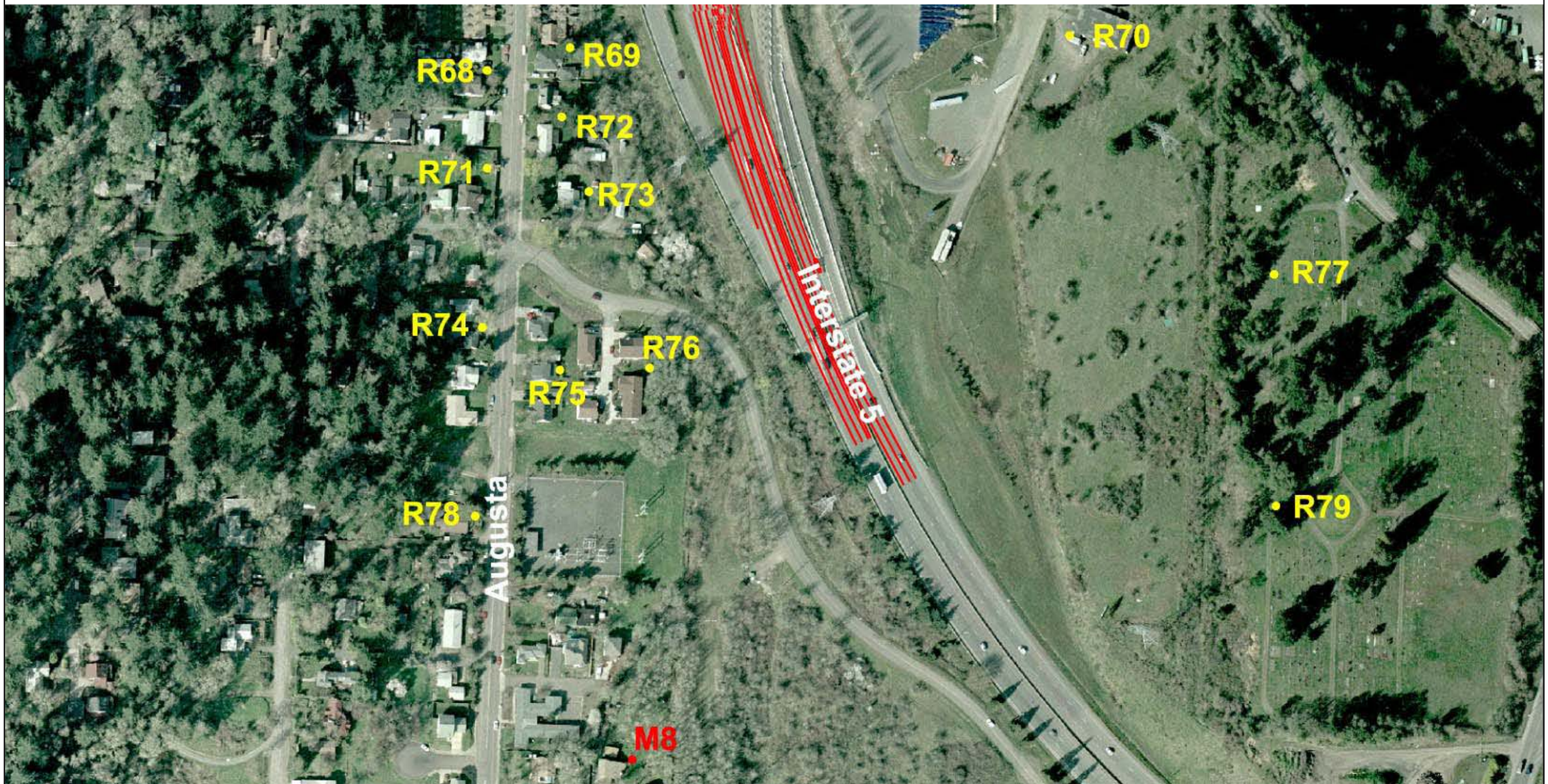


Figure B-6
Existing Roadway/Bridge Configuration, Noise Monitoring Locations, and Noise Prediction Sites

I-5 Willamette River Bridge Project

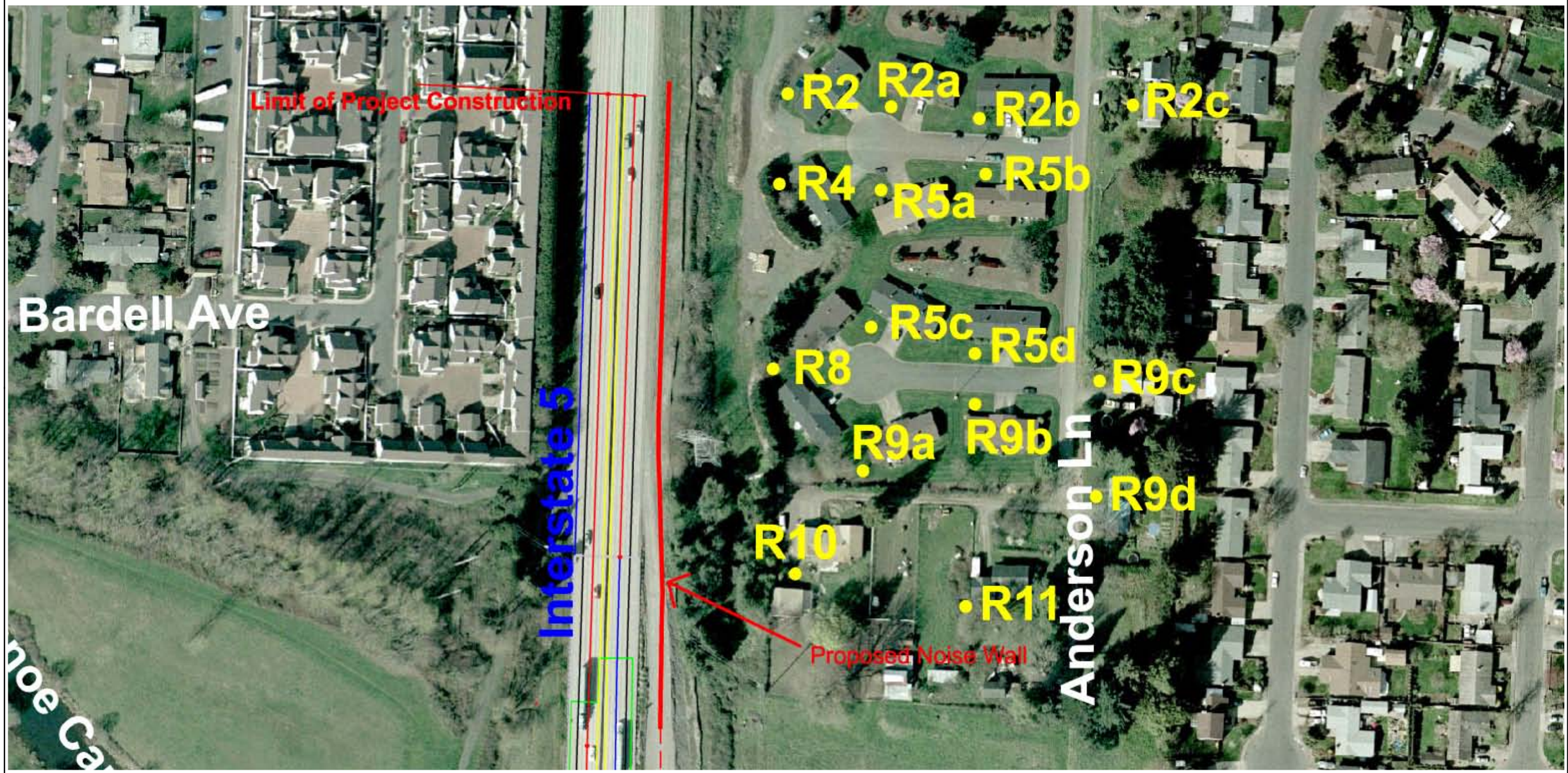
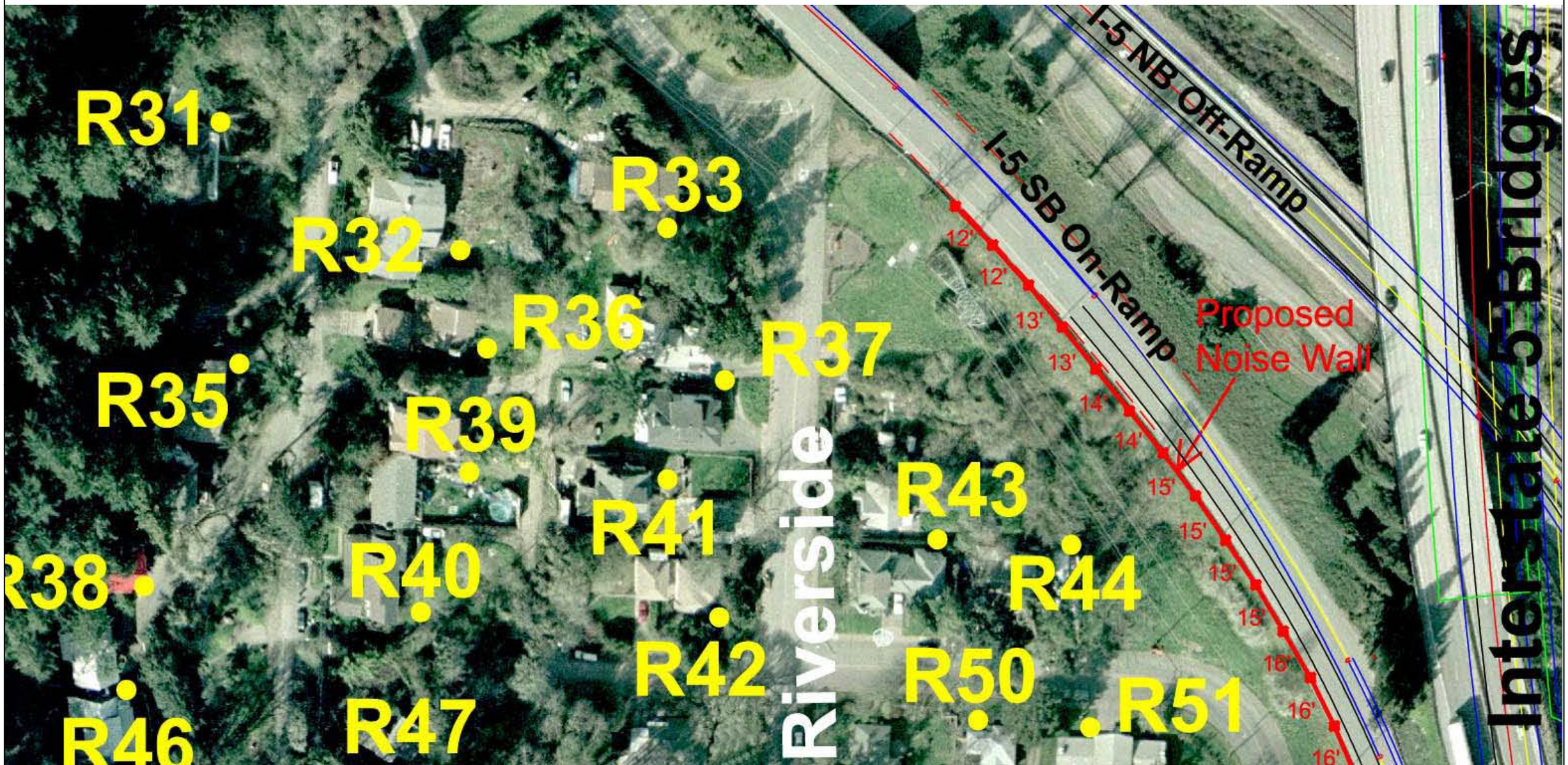


Figure B-7
Northern (Anderson Lane) Noise Wall Location and Configuration

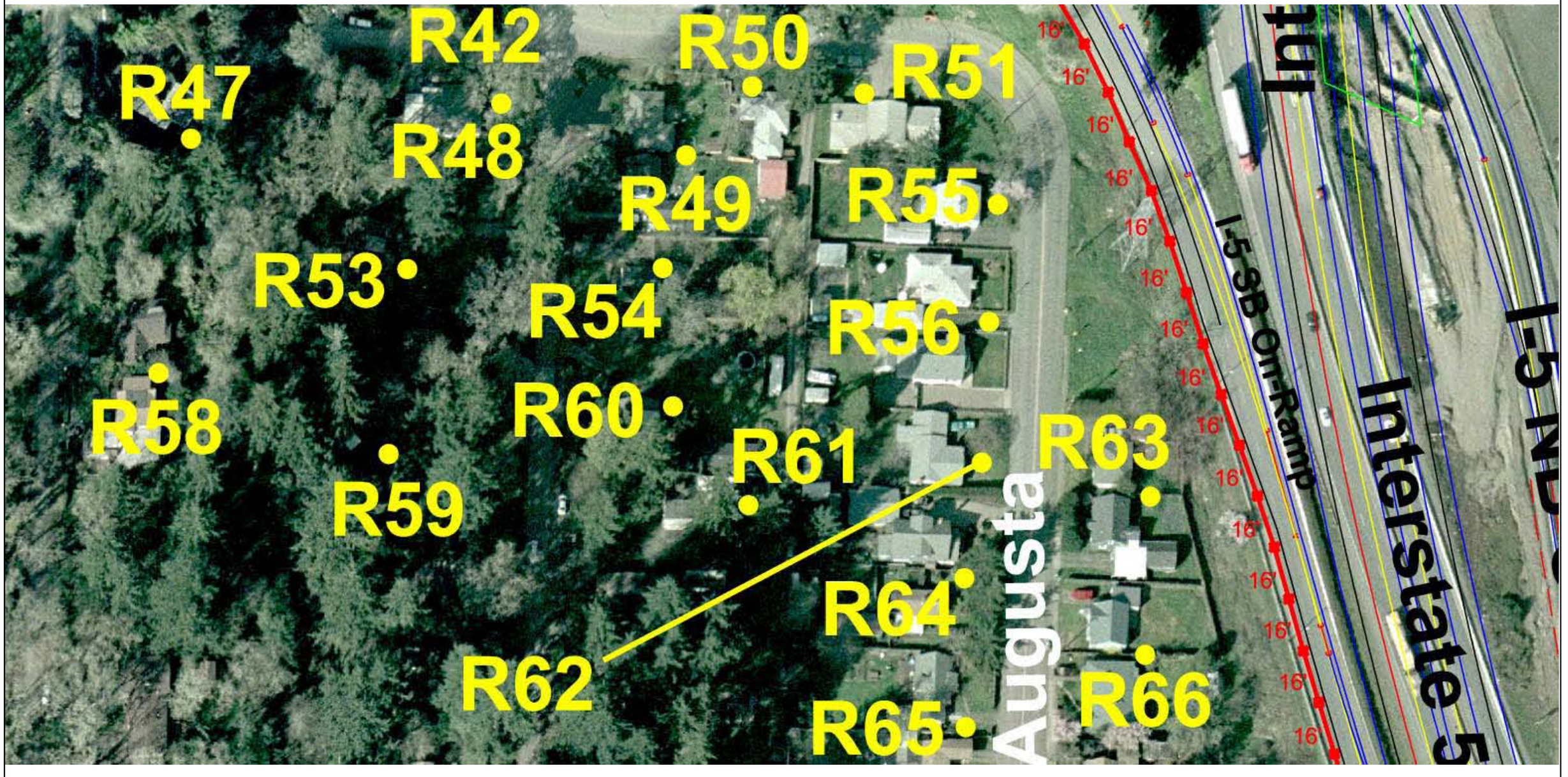
I-5 Willamette River Bridge Project



• R# Noise Prediction (Receptor) Sites

Figure B-8
Southern (Laurel Hill) Noise Wall Location and Configuration

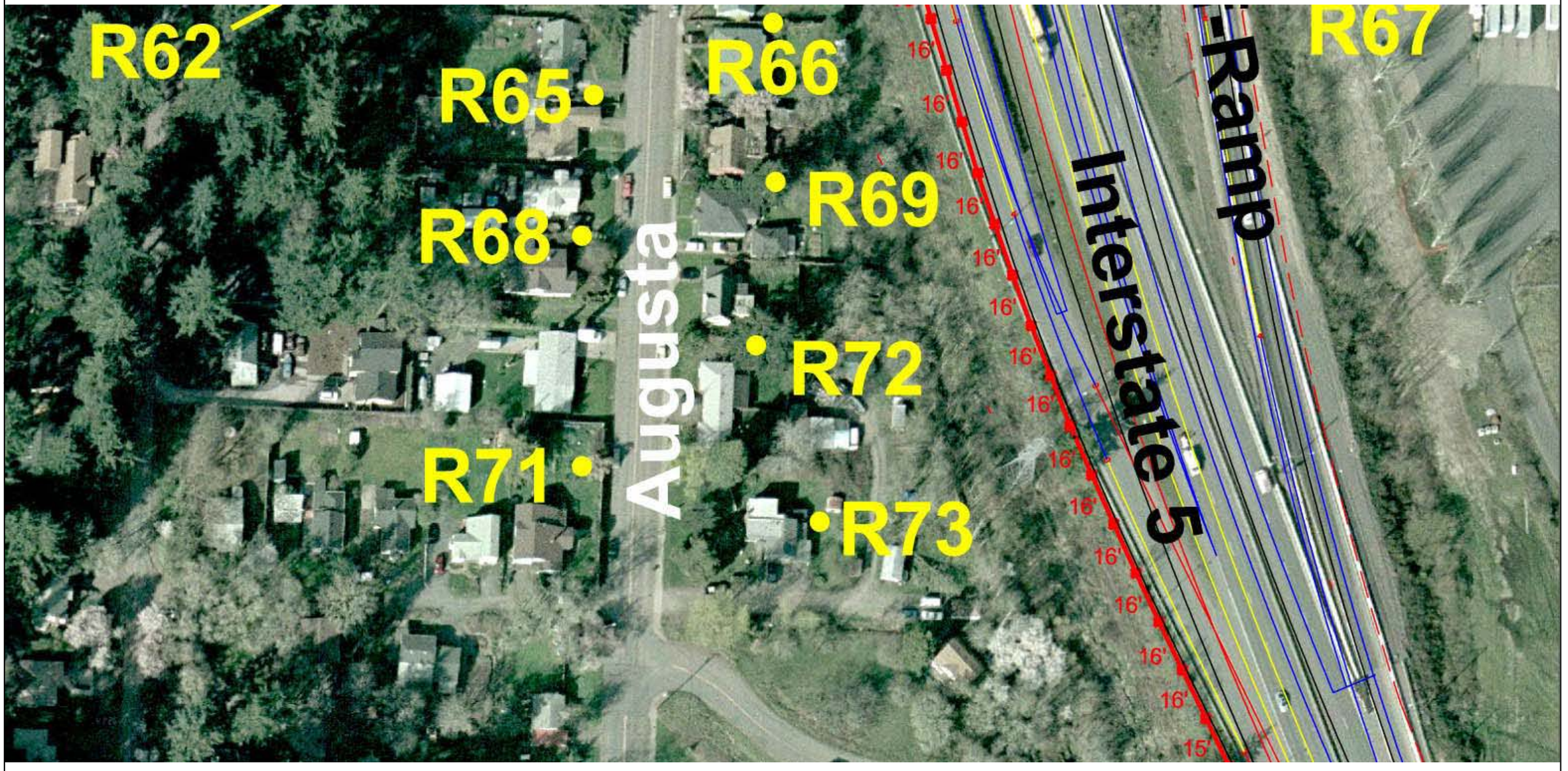
I-5 Willamette River Bridge Project



• R# Noise Prediction (Receptor) Sites

Figure B-9
Southern (Laurel Hill) Noise Wall Location and Configuration

I-5 Willamette River Bridge Project



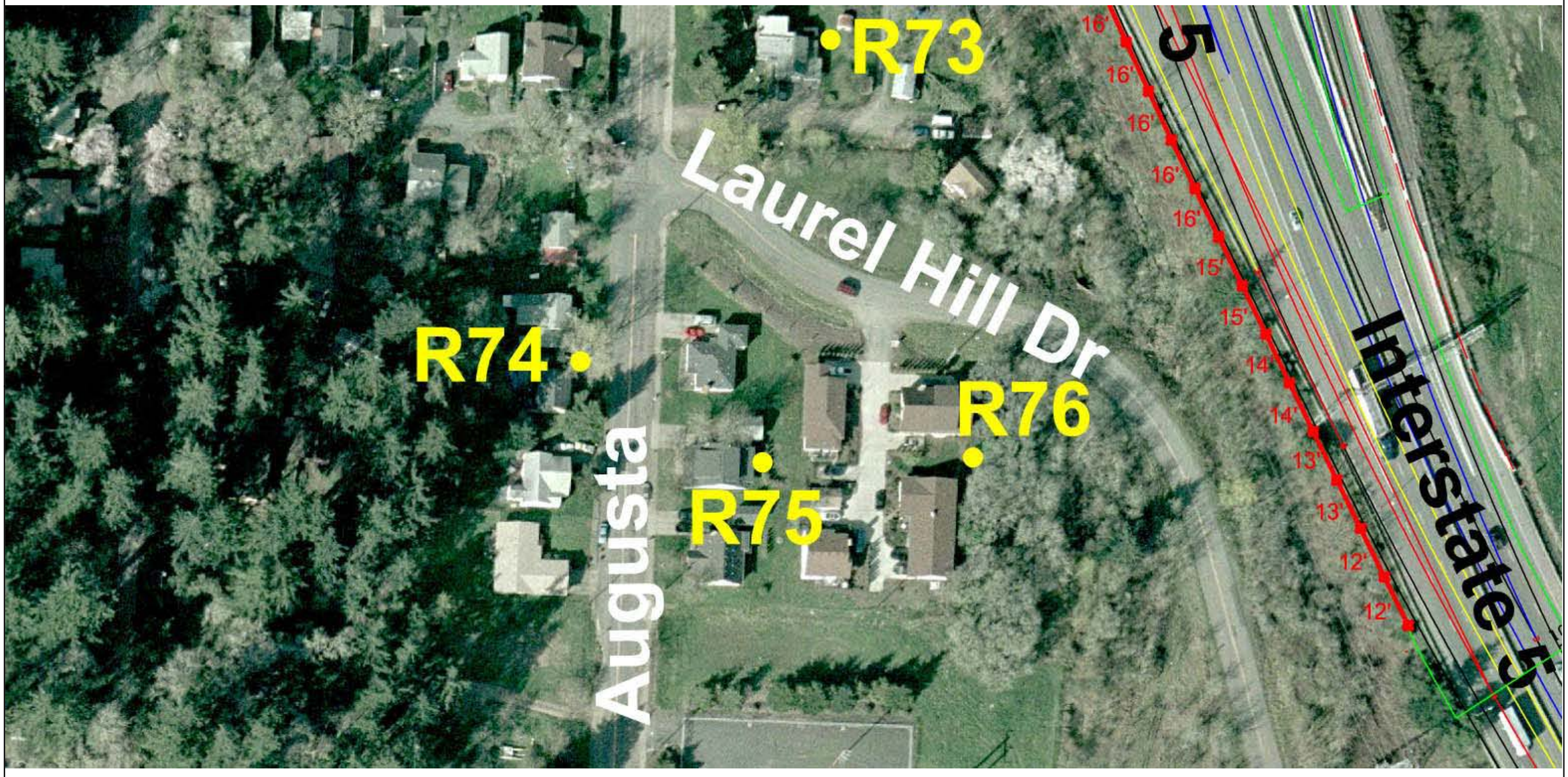
• R# Noise Prediction (Receptor) Sites

I-5 Willamette River Bridge

OTIA

Figure B-10
Southern (Laurel Hill) Noise Wall Location and Configuration

I-5 Willamette River Bridge Project



• R# Noise Prediction (Receptor) Sites

I-5 Willamette River Bridge

Figure B-11
Southern (Laurel Hill) Noise Wall Location and Configuration

I-5 Willamette River Bridge Project