EXECUTIVE SUMMARY

This is a summary of the Environmental Assessment (EA) for the Fern Valley Interchange project. The full EA provides additional details. One Build Alternative and a No-Build Alternative are being considered for this project. Table ES-1 (provided at the end of this summary) summarizes the impacts of the Build Alternative.

PROJECT LOCATION

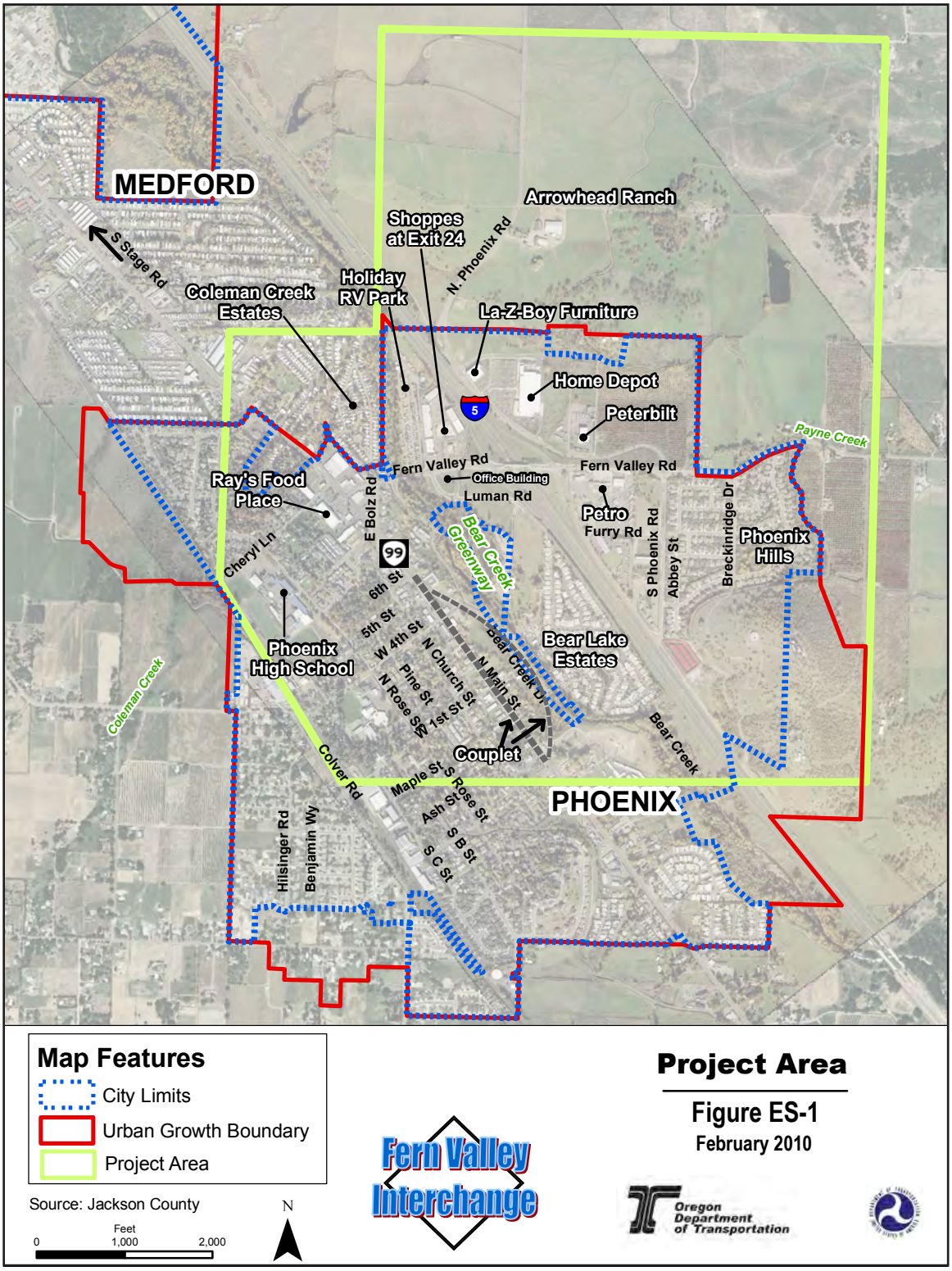
Fern Valley Interchange looking north

The proposed Fern Valley Interchange project is located along I-5 in southwest Oregon. I-5 is the primary north-south transportation facility in Oregon and is part of the Interstate Highway System, is a national defense highway, and is the primary route for freight on the west coast. The Fern Valley Interchange is located east of downtown Phoenix in Jackson County at Mile Post (MP) 24 (see Figure ES-1). Most of the project is located within the Phoenix city limits and urban growth boundary (UGB). The project area extends from west of OR 99[1] at about Colver Road in Phoenix into Jackson County east of the Phoenix UGB, and from just north of Arrowhead Ranch to south of Bear Lake Estates.

PURPOSE AND NEED FOR THE PROJECT

The purpose of the proposed action is to reduce congestion and improve operational conditions at the I-5 interchange with Fern Valley Road, on Fern Valley Road within the City of Phoenix UGB, and on OR 99 near its intersection with Fern Valley Road.

[1] OR 99 is also known as Highway 99, and also as Main Street (including the southbound portion of the couplet) through the City of Phoenix.



Project Area

Figure ES-1

February 2010

The project is needed because:

- Congestion at the interchange is increasing due to continued growth in Phoenix and southeast Medford and increased through traffic on I-5. Increased use of the interchange by local residents, commuters, heavy trucks and regional traffic is causing vehicles to queue on the off-ramps during times of heavy peak hour[2] volumes. The capacity of the interchange is degrading rapidly, and traffic safety remains an ongoing concern. By 2010, vehicles are predicted to queue back on the ramps to I-5 during times of heavy peak hour volumes. By 2030, congestion will increase throughout the project area. The traffic queues on the off-ramps that extend back onto I-5 will do so for a longer period of time each day, increasing the risk of high-speed, rear-end collisions. Seven of the sixteen intersections within the project area are predicted to exceed volume-to-capacity standards. (The volume-to-capacity (v/c) ratio is the ratio between the volume of vehicles that use a facility, such as a roadway or controlled intersection, and the capacity of the facility.) Fern Valley Road would be completely congested, and queuing would spill onto the connecting roadways.
- The Fern Valley Interchange does not meet current interchange design standards. The approaches to the Fern Valley Road overcrossing are steep and limit the visibility of interchange traffic.
- Fern Valley Road has substandard shoulders, does not have dedicated bicycle lanes, and has discontinuous sidewalks, creating safety concerns for bicyclists and pedestrians.
- The Bear Creek Bridge is structurally deficient and functionally obsolete.

PROJECT ALTERNATIVES

No-Build Alternative. The No-Build Alternative is evaluated and documented to provide a basis of comparison with the Build Alternative. The No-Build Alternative means the proposed project would not be built. Routine maintenance would be continued and short-term minor safety improvement activities that support continued operation of the existing roadway would occur.

The No-Build Alternative does not include any substantial land development in the interchange area and to the north between the Phoenix and Medford UGBs. This is because the limited capacity of the existing interchange would mean City of Phoenix and State of Oregon land use laws would strictly limit development.

Citizens Advisory Committee meeting

[2] A rush hour or peak hour is a part of the day during which traffic congestion on roads and crowding on public transport is worst. Normally, this happens twice a day, while people are commuting.

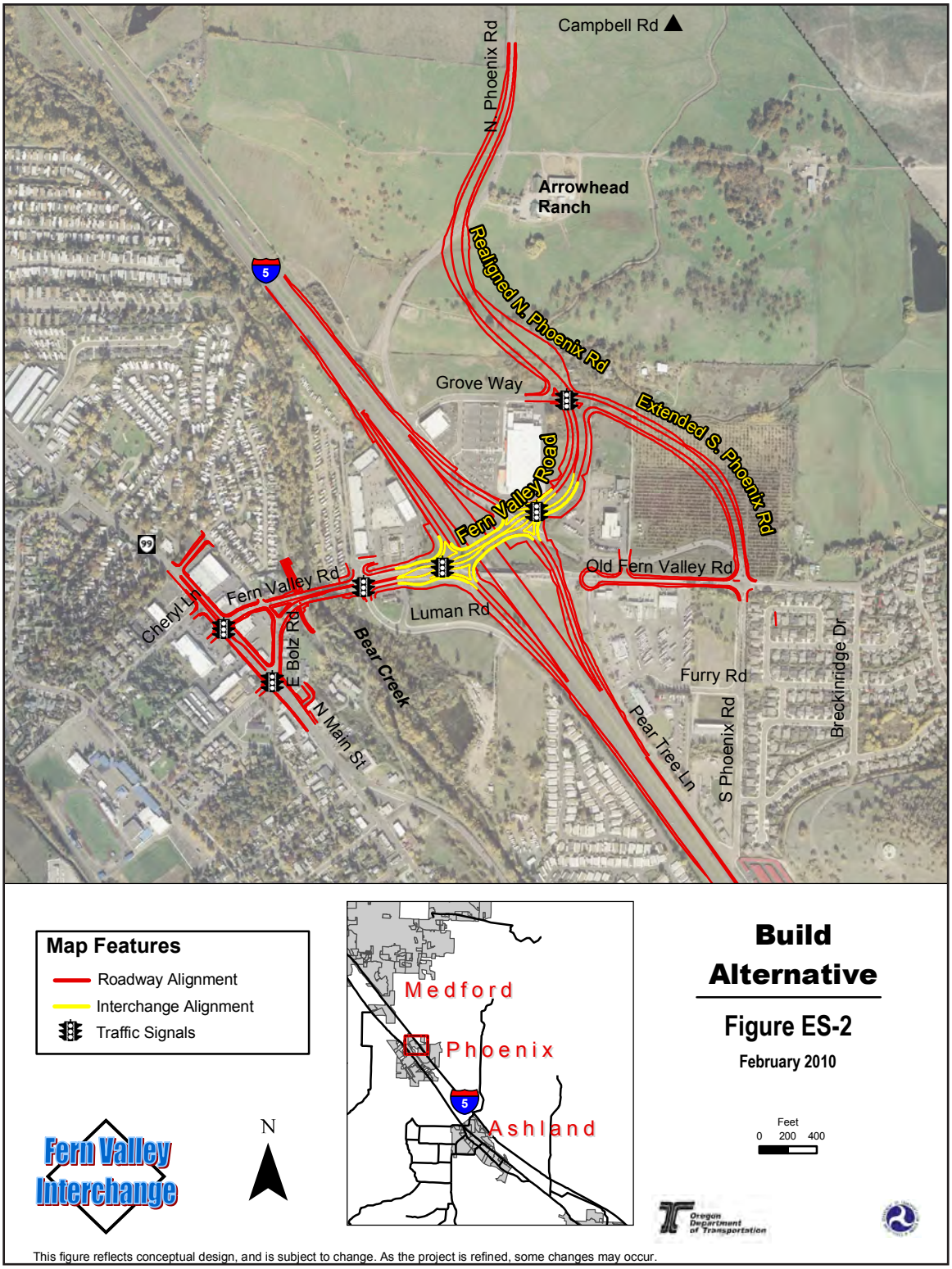
Build Alternative. One Build Alternative (also known as the N. Phoenix Thru Alternative) is evaluated in the EA (see Figure ES-2). The Build Alternative would use a newer interchange design concept, the Crossing Diamond Interchange (CDI). With this type of interchange, drivers are directed to the opposite side of the bridge to cross the interstate. This allows drivers to make "free" left turns, onto the interchange ramps. This design concept is very efficient, and has the advantage of a narrower footprint than the conventional diamond interchange design concept; thus the CDI would result in less right of way impacts. In addition, the CDI is anticipated to result in a significant improvement in safety—up to a 50% reduction in crashes since there are no left turns crossing opposing traffic.

West of I-5, the Build Alternative essentially follows the existing Fern Valley Road alignment, except for a slight shift to the north for the interchange placement. Fern Valley Road would also be two lanes in each direction, but would turn into a one-way road just west of Bear Creek—westbound traffic would follow Fern Valley Road and eastbound traffic would use E. Bolz Road. The 2-lane Bear Creek Bridge (36 feet wide) would be replaced with a 4-lane bridge (100 feet wide). Bikes on Fern Valley Road and E. Bolz Road would be accommodated by 6-foot shoulders that would be designated by pavement markings for bike travel; bikes on OR 99 would be accommodated by 5-foot shoulders. OR 99, Fern Valley Road, and E. Bolz Road would have 6-foot sidewalks on both sides of the roadway.

East of I-5, the Build Alternative would turn north just east of the interchange, and reconnect with existing N. Phoenix Road near Arrowhead Ranch. S. Phoenix Road would be extended directly north of the existing Fern Valley Road/N. Phoenix Road intersection, and turn west to connect with Realigned N. Phoenix Road directly across from Grove Way. Fern Valley Road would become a cul-de-sac, but would be retained as an approach road for adjacent properties. Bikes east of I-5 would be accommodated on 6-foot shoulders that would be designated by pavement markings for bike travel. Pedestrians would be accommodated by 6-foot sidewalks.

The Build Alternative includes an interchange area management plan (IAMP). High traffic volumes can overload an interchange, using up available traffic capacity so the interchange no longer functions effectively. The purpose of the IAMP is to preserve the capacity of the proposed interchange for at least the first 20 years of its design life, and the capacity of Fern Valley Road, OR 99, and N. Phoenix Road in the vicinity of the interchange and to ensure the safe and efficient operation of the interchange and connecting roadways. The IAMP would do this mainly by limiting the extent of land uses that generate high rates of motor vehicle trips affecting the interchange area (e.g., fast-food restaurants and discount club stores); and applying transportation management actions that address the operations of the facility (e.g., bus stop locations or park-and-ride lots) or reduce peak-hour motor vehicle trips (e.g., using alternative modes of traveling at off-peak times).

The Build Alternative is estimated to cost about $72.1 million in 2012 dollars (including construction, right of way and utility costs).


Campbell Rd
N. Phoenix Rd
Arrowhead Ranch
Realigned N. Phoenix Rd
5
Grove Way
Extended S. Phoenix Rd
Fern Valley Road
99
Old Fern Valley Rd
Fern Valley Rd
Luman Rd
Cheryl Ln
E Bolz Rd
Bear Creek
N Main St
Furry Rd
Pear Tree Ln
S Phoenix Rd
Breckinridge Dr
Map Features
Roadway Alignment
Interchange Alignment
Traffic Signals
Medford
Phoenix
Ashland
Build Alternative
Figure ES-2
February 2010
Feet
0 200 400
Fern Valley Interchange
N
Oregon Department of Transportation
This figure reflects conceptual design, and is subject to change. As the project is refined, some changes may occur.

TRANSPORTATION

No-Build Alternative. With the No-Build Alternative, projected future traffic volumes in the project area would increase over time, resulting in more traffic congestion in the area. By 2030, average daily traffic is projected to grow substantially, resulting in much heavier traffic congestion than the current conditions. The No-Build Alternative could not effectively handle this additional traffic, and the entire study area system would not function properly. There would be more traffic congestion at major intersections and slower traffic movement through the intersections and within the region. Fern Valley Road would be completely congested, with long traffic queues blocking travel to connecting roads and properties. Seven of the sixteen intersections in the project area would be very congested. Traffic on the interchange ramps would spill back onto I-5, creating serious safety conflicts between high-speed and stopped vehicles. OR 99 would have long lines of traffic. The ability of vehicles trying to turn into and out of side streets along OR 99 would be very limited. (Table 3-4, in EA Chapter 3, compares the v/c ratios of the No-Build and Build Alternatives. Graphics showing 2030 queues for the alternatives are provided in Appendix B.)

With the No-Build Alternative, minimal changes to existing bike and pedestrian facilities are anticipated. Specific bike or pedestrian projects could occur, but they would still likely result in intermittent and substandard facilities compared to the Build Alternative.

The No-Build Alternative would not directly affect current bus service to Phoenix. However, the No-Build Alternative would affect the provision of bus service as travel time is worsened by increased congestion.

Build Alternative. The Build Alternative would improve traffic conditions in the project area. All intersections in the project area would meet State v/c standards and could handle the traffic projected for the year 2030. Traffic congestion would still exist in peak hours, when lines of vehicles could be relatively long, extending away from the OR 99/Fern Valley Road intersection and blocking adjacent minor street intersections. This would be caused by traffic blocking adjacent turn lanes and limiting the ability of the intersection to move vehicles efficiently. Despite the anticipated congestion at the OR99/Fern Valley intersection, the Build Alternative would still improve traffic conditions over the No-Build Alternative, therefore meeting the purpose and need of the project. If additional improvements are made to OR 99, such as adding through lanes on OR 99—especially construction of an additional southbound lane, the Build Alternative could last even longer—about 25 years beyond 2030.

The Build Alternative would improve bike and pedestrian facilities throughout the area directly impacted by the project. Bicycles would generally be accommodated by 6-foot-wide shoulders that would be designated by pavement markings for bike travel, except bike lanes on OR 99, which would be accommodated by 5-foot shoulders. Though not ideal, the 5-foot shoulders would function safely for bicycle travel given the traffic conditions and traffic volumes along OR 99. Pedestrians would generally be accommodated by 6-foot sidewalks. A multi-purpose path would be constructed in the southeast interchange quadrant from the cul-de-sac at existing Fern Valley Road to the

CDI structure over I-5. This path would provide a more direct route for east/west bicycle and pedestrian travel.

The Build Alternative would not directly affect bus service to Phoenix, except for potential delays during construction. However, park-and-ride locations and bus pull-outs could be considered. Travel time for buses would be improved by reduced congestion.

LAND USE AND PLANNING

No-Build Alternative. There would be no direct land use impacts[3] associated with the No-Build Alternative.

The following indirect land use impacts[4] with the No-Build Alternative are anticipated:

- Traffic congestion would make the area undesirable for development.
- The City of Phoenix zoning code would severely limit development. Its regulations for most of the interchange area currently require developers to "mitigate" the traffic impacts of development if that development would cause traffic to exceed current levels.
- The City may need to rezone the interchange area to limit commercial development because State law requires rebalancing the transportation system and allowed land uses when a planned project is not constructed.

The No-Build Alternative is incompatible with the City's Transportation System Plan (TSP) because it would not widen the bridge structures over I-5 and Bear Creek. The No-Build Alternative would be incompatible with the Jackson County TSP because the TSP includes the Fern Valley Interchange project.

Build Alternative. The direct land use impacts associated with the Build Alternative would include converting about 22.1 acres of land to roadway use: about 14.5 acres of land zoned for commercial use and about 0.10 acre of land zoned for high-density residential use by the City of Phoenix, and about 7.4 acres of land zoned by Jackson County for Exclusive Farm Use.

The following indirect impacts are anticipated with the Build Alternative:

- By reducing congestion near the interchange, the Build Alternative would substantially improve traffic movement in the interchange area, increasing its attractiveness for development.
- The Build Alternative would enable additional development to occur because it would remove violation of v/c standards in the interchange area as a constraint on development. Most of the development would be commercial, as designated by the Phoenix Comprehensive Plan.
- More of the commercial uses developed would be types that do not generate high volumes of motor vehicle trips. This is because the IAMP would regulate the development that generates high amounts of traffic (e.g., discount club stores and

[3] Direct impacts would be caused by the project and occur at the same time and place.
[4] Indirect impacts are caused by the action, but occur later in time or further away in distance.

"superstores," supermarkets, service station/convenience markets, and fast-food restaurants). Such uses generate from 1.5 to 9 times the number of peak-hour motor vehicle trips per acre than the uses likely to be allowed under the proposed IAMP.

- The truck stop and adjacent commercial uses would still be visible from the I-5 northbound exit ramp terminal. As a result, the Build Alternative is not anticipated to cause use of the land occupied by the Petro truck stop to shift to a less highway-oriented type of use, even though the distance to the truck stop from the northbound and southbound ramp terminals would be longer with the Build Alternative than with the No-Build Alternative. However, long-term impacts to the businesses in the interchange's southeast quadrant due to the additional distance from I-5 are unknown because studies regarding the economic viability of businesses in this situation are inconclusive.

The Build Alternative would be compatible with the Phoenix TSP, contingent on City adoption of the ordinance outlined in the IAMP as part of the TSP. The Build Alternative would be consistent, and therefore compatible, with the Jackson County TSP. The Build Alternative would tie into the county's portion of existing N. Phoenix Road north of the UGB and would not alter the function of N. Phoenix Road as an arterial.

RIGHT OF WAY

No-Build Alternative. The No-Build Alternative would not result in the acquisition of right of way or changes in driveways. Over time, however, the No-Build Alternative would result in the need to change travel patterns as traffic congestion creates safety problems in the project area. With the No-Build Alternative, safety issues and congestion would eventually create conditions where driveways and/or approach roads would be closed, combined and/or relocated.

Build Alternative. Right of way needed for the Build Alternative would require the acquisition of about 22.1 acres on 42 parcels. The Build Alternative is estimated to require the following displacements: 2 residential relocations (on E. Bolz Road) and 4 business relocations (a coffee stand, two mobile food vendors, and a restaurant). Property owners would be offered just compensation for the required rights of way. The Build Alternative would cost about $14.4 million for right of way acquisition.

The Build Alternative would affect the approaches to a number of properties:

- West of I-5: 14 existing approaches change to right-in/right-out only; 6 existing approaches to be closed or relocated
- East of I-5: access control lines (where no rights of access would be allowed) to be located along Extended S. Phoenix Road east of I-5; 16 existing approaches to remain in their current locations, but their connections to the roadway system would change; 15 existing approaches to be closed or relocated

Reasonable approaches would be provided to each property, or damages (if compensable) would be determined through the right of way process.

The Build Alternative would result in the loss of about 67 off-street parking spaces and the removal of unmarked on-street parking on E. Bolz Road between OR 99 and Bear Creek (primarily used by residents of the homes along the east side of E. Bolz Road and by owners, patrons, or employees at nearby businesses). Off-street parking removal is addressed through the right of way acquisition process; on-street parking removal would not require payment to residential or commercial users because it is publicly owned.

Median barriers would be added to some roadway sections in the project area, limiting some left-turn movements to and from the highway. This restriction is within ODOT's regulatory authority, and such changes are not compensable. Changes in traffic patterns resulting from construction of the Build Alternative would not be compensable.

A portion of the Build Alternative would involve acquisition of small strips of right of way along existing street and highway frontages with impacts to landscaping, fencing, asphalt parking, and signs on improved properties, as well as relocation of personal property. Any of these types of improvements that are located on existing ODOT right of way, are not eligible for compensation or relocation benefits when those uses are eliminated.

Pamphlets and additional information describing the right of way process can be obtained from the ODOT Region 3 Right of Way Office, 100 Antelope Road, White City, OR 97503 (541-774-6299). Information is also available on ODOT's website[5] and provided in Appendix C of the EA.

SOCIOECONOMICS

No-Build Alternative. The following socioeconomic impacts are anticipated as a result of the Build Alternative:

- No change in existing circulation patterns and visibility of nearby commercial and residential properties. However, travel to businesses and residences would become more difficult as more traffic congestion occurs. The No-Build Alternative could eventually decrease the desirability of traveling to existing businesses for patrons—resulting in patrons avoiding these businesses and patronizing businesses where traffic circulation is easier and safer. These congested conditions could also eventually decrease the desirability for future business development as patrons begin to avoid the highly-congested area.
- Less commercial development occurring within the interchange area. Development planned within the Phoenix and Medford urban growth boundaries could occur elsewhere in the region. This could result in long-term socioeconomic effects, such as decreases in business revenues, employment, and income near the interchange, and decreases in tax revenue for the City of Phoenix.
- The continuation of degraded and non-continuous sidewalks and bikeways in the project area. Lack of adequate facilities that meet ADA standards would result in continued transportation difficulties for bicyclists, pedestrians, the elderly and/or disabled.

[5] ODOT's Right of Way website: http://www.oregon.gov/ODOT/HWY/ROW/

- No changes in bus facilities or services.
- Unchanged routes to public services and community facilities. Congestion would continue to slow the provision of emergency services.
- No direct economic benefits due to construction spending.

Build Alternative. The following socioeconomic impacts are anticipated as a result of the Build Alternative:

- Disruptions to relocated businesses and residents.
- Adverse impacts to adjacent businesses and residences as a result of on-street parking removal on E. Bolz Road
- Adverse impacts due to the loss of off-street parking spaces.
- Better traffic flow to businesses and residences—fewer delays and stops, shorter travel times, and higher speeds; easier routing to the northeast interchange quadrant, but more circuitous routing to the southeast quadrant.
- Restricted left-turn movements and changes in travel patterns due to median installation.
- Improved safety and circulation for vehicles, bicycles and pedestrians. Improved bike and pedestrian facilities that meet or exceed minimum ADA standards would especially benefit the elderly and/or disabled groups.
- Easier travel to community facilities (such as parks, libraries, schools, and churches) due to shorter delays and less congestion.
- Improved response times for fire and police services due to better traffic flow throughout the project area, though some increase in travel time to the southeast interchange quadrant is anticipated.
- No changes in bus facilities anticipated, although park-and-ride locations and bus pull-outs could be considered. Travel time for buses would be improved by reduced congestion.
- Additional spending, income, and jobs associated with construction.
- Direct property tax revenue decreases due to the conversion of private property to public right of way.
- Change in residential property values near the interchange due to traffic flow, less congestion, fewer delays, changes in views, changes in traffic noise, and the proximity of new development.
- No disproportionately high adverse impacts to Environmental Justice (minority and low income) populations.
- Temporary detours and nuisances to businesses and residences located near construction areas.

PARKS AND RECREATION

The Bear Creek Greenway, Blue Heron Park, City Hall Park, the Phoenix Elementary School playground, and the Phoenix High School recreational area are located in the project area. No planned parks or recreational facilities are currently identified in the project area.

No-Build Alternative. The No-Build Alternative would not directly impact existing or planned parks and recreational facilities in the project vicinity; however, the No-Build Alternative would result in continued and worsening traffic congestion and poor transportation facilities that would impact the ability of park and recreational users to reach those destinations.

Build Alternative. The Build Alternative would not impact Blue Heron Park, City Hall Park, the Phoenix Elementary School Playground or the Phoenix High School recreational area. The improved vehicular, bike and pedestrian facilities and improved traffic circulation associated with the Build Alternative would improve the ability of park and recreational users to reach those destinations. Build Alternative impacts to the Bear Creek Greenway are discussed under Section 4(f) below.

HISTORIC RESOURCES

Two historic resources in the project-affected area were determined to be eligible for listing on the National Register of Historic Places: the Medford Canal and Coleman Ranch (now known as Arrowhead Ranch). The No-Build Alternative would not impact these historic resources. The level of effect findings for both properties determined that there would be no historic properties adversely affected by the Build Alternative.

ARCHAEOLOGY

No archaeological resources were identified in the project-affected area; therefore the No-Build and the Build Alternative are not anticipated to result in impacts to known archaeological sites. If archaeological resources are discovered during construction of the project, measures would be taken to ensure their identification and protection.

SECTION 4(f)

No-Build Alternative. Although the No-Build Alternative would not directly use the Bear Creek Greenway Section 4(f) property,[6] it would result in the continued deterioration of the Bear Creek Bridge, and the existing poor alignment and poor sight distance associated with the multi-use path in that area would continue.[7]

Build Alternative. The Build Alternative would replace an existing two-lane bridge over the Greenway and the multi-use path. It would also realign the ramps from Fern Valley Road to the multi-use path. During construction, there would be temporary, short-term path detours when necessary for safety.

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[6] Section 4(f) of the 1966 Department of Transportation Act, codified at 23 USC 138 requires that special efforts be made to preserve public park and recreation lands, wildlife and waterfowl refuges, wild and scenic rivers, archaeological resources, and significant historic sites.

[7] The Bear Creek Bridge needs to be replaced due to deterioration. The widening of this bridge associated with the proposed project is due to the need for the bridge to handle existing and future traffic.

The Build Alternative would change the alignment of the Bear Creek Greenway multi-use path and ramps, but this change would not constitute a Section 4(f) use. The path and its 10-foot buffer would be completely spanned by the proposed bridge so there would be no direct use of the 4(f) resource. The path realignment would enhance recreational and commuter activities on the path because it would improve sight lines and eliminate a sharp, blind curve; thus, changes to the Bear Creek Greenway would enhance recreational activities on the multi-use path.

SECTION 6(f)(3) OF THE LAND AND WATER CONSERVATION FUND ACT

Section 6(f)(3) of the Land and Water Conservation Fund (LWCF) Act states that public property acquired or developed using LWCF funds cannot 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. The Jackson County Parks Department purchased two tax lots in the Bear Creek Greenway in part with LWCF money.

The Bear Creek Bridge that spans the Bear Creek Greenway would be replaced as a part of the proposed project. The new bridge would be wider than the existing right of way width, so the two Jackson County Parks tax lots on the north and south sides of the bridge would be impacted. The Build Alternative impacts to Section 6(f)(3) protected recreational properties would be relatively minor—about 0.07 acre.

Coordination between ODOT, Oregon Parks and Recreation Department, and the Jackson County Parks Department is ongoing and a specific replacement property has not yet been identified. However, Jackson County has agreed in concept with replacing this property with alternate properties along the Bear Creek Greenway. ODOT and Jackson County are currently discussing three tax lots as proposed replacement locations for Section 6(f)(3) conversion. The fair market value of these replacement parcels has yet to be determined, but it is expected to meet or exceed the value of the properties impacted by the bridge replacement. These parcels are currently undeveloped and border Bear Creek in an area in which the Jackson County would like to expand the Bear Creek Greenway's multi-use path and tie into an existing dog park in Ashland. Any one of these parcels, once incorporated as part of the Bear Creek Greenway multiuse path, would provide the same recreational functions as the properties that are proposed to be impacted by replacement of the Bear Creek Bridge.

NOISE

Existing noise levels were measured on-site at 20 locations within the project area. The results of the evaluation indicated traffic noise levels at The Bavarian Inn and 36 residences within Bear Lake Estates currently exceed ODOT's noise abatement criteria (provided in the EA in Chapter 3, Table 3-12).

No-Build Alternative. With the No-Build Alternative, the Bavarian Inn, 36 residences within Bear Lake Estates, and the Pear Tree RV Resort outdoor use area (pool) are predicted to meet or exceed ODOT's noise abatement criteria.

Build Alternative. By the year 2030, the Build Alternative is predicted to meet or exceed ODOT's noise abatement criteria at the same properties as the No-Build Alternative. In addition, two residences along E. Bolz Road would exceed ODOT's noise abatement criteria. Also, properties adjacent to the construction zone would experience short-term noise impacts.

With the Build Alternative, sound walls would be considered for properties that meet or exceed ODOT's noise abatement criteria. Both the Bavarian Inn and Pear Tree RV Resort are commercial properties. Noise abatement measures (such as sound walls) are not usually recommended for commercial properties because these properties typically depend on visibility from highways for patronage. With the two E. Bolz Road residences, a sound wall would not be effective in reducing the noise levels at least 5 dB due to openings in the wall to accommodate driveways; therefore a sound wall in this location would not meet ODOT's reasonable and feasible criteria (provided in Section 3.10.3 in the EA. A sound wall for Bear Lake Estates meets ODOT's reasonable and feasible criteria and would be considered. The final decision on this sound wall would be made during the final design process.

Standard noise abatement measures, such as restrictions on construction at night and during holidays, would be used to minimize construction noise impacts (see Section 3.10.3 of the EA). The City of Phoenix requires a noise variance if construction would occur outside the hours of 7:00 a.m. to 7:00 p.m. on weekdays or if weekend construction is required.

AIR QUALITY

No-Build Alternative. Based on the predicted traffic volumes for 2010 and 2030, it can be assumed that carbon monoxide (CO), PM_{10} (particulate matter less than 10 microns in size), and $PM_{2.5}$ would remain below the National Ambient Air Quality Standards (NAAQS) under the No-Build Alternative.

Build Alternative. Impacts to air quality from the construction and operation of the Build Alternative are not expected to cause exceedances of State and Federal air quality standards in the future—either at intersections improved by the project or in adjacent neighborhoods.

The Build Alternative would meet regional conformity requirements because the project is located in the Medford-Ashland PM_{10} Air Quality Maintenance Area and is included in the current conforming 2034 *Regional Transportation Plan* and the amended 2008-2011 *Transportation Improvement Program* (TIP).

The Fern Valley project would meet project-level conformity requirements because the Build Alternative would meet the Conformity Requirements of the Clean Air Act,

Medford-Ashland PM_{10} *Statewide Improvement Program*. The project is located in the Medford-Ashland PM_{10} AQMA and is included in the current conforming 2034 *Regional Transportation Plan* and the amended 2008-2011 *Transportation Improvement Program.* The Build Alternative would not cause new exceedances of the NAAQS, nor would they worsen any existing air quality conditions or delay attainment of the standards. Particulate matter emissions from transportation projects are regulated by requiring that the project not exceed the ADT thresholds stated in the 2007 Statewide Air Quality Report.

The project would adhere to ODOT construction specifications and best construction practices to reduce air quality impacts. Contractors would be required to comply with air pollution control measures during construction to minimize short-term air quality impacts to adjacent properties—especially near residential areas, sidewalks and bike routes. These measures include: vehicle and equipment idling limitations, burn restrictions, and spraying water to control dust during earthmoving and grading. The construction contractor would be required to submit a pollution control plan to reduce emissions during construction.

VISUAL RESOURCES

No-Build Alternative. Under the No-Build Alternative, increased congestion would create views of lines of traffic, and cause viewers in cars to experience the surrounding views for longer periods of time. These changes would represent a low degree of visual change and have a low impact on the areas.

Build Alternative. The Build Alternative would result in the following visual impacts:

- The addition of continuous sidewalks along OR 99, thus enhancing the visual cohesiveness of the area;
- The creation of a new approach road to OR 99 from Coleman Creek Estates, affecting both the views to and from some homes in that neighborhood;
- The removal of large shade trees and two houses on the east side of E. Bolz Road, converting the tree-lined, semi-residential street into a busy thoroughfare;
- A new, wider bridge over Bear Creek and new ramps from the road to the Bear Creek Greenway path, resulting in an improvement of existing visual conditions and affecting the views to and from the Greenway;
- Change the visual environment of the northeast interchange quadrant by locating a new highway facility in the orchard and hill contours near the UGB;
- Change in the visual environment of the southeast interchange quadrant by moving the major intersection east of I-5 further away from the Phoenix Hills subdivision and existing businesses; and
- Change to and from I-5 by building a new and wider structure over I-5.

Computer-generated visual simulations of how the views are anticipated to change after construction of the Build Alternative are provided in Chapter 3, Section 3.12.2, of the EA.

BIOLOGY

Bear and Coleman Creeks support several anadromous[8] fish species, including coho salmon, summer steelhead, and fall Chinook. Neither summer steelhead nor fall Chinook is listed under the Endangered Species Act (ESA). Coho salmon (Southern Oregon/Northern California Coast Evolutionary Significant Unit) are currently listed as Threatened under the ESA. Critical habitat for Southern Oregon/Northern California Coast (SONCC) coho has been designated by the National Marine Fisheries Service (NMFS), which includes Bear Creek, Coleman Creek, and Payne Creek. No protected terrestrial wildlife species or rare plants were determined to be present in the project-affected area.

The Build Alternative would result in the following biological impacts:

- Temporary adverse impacts to Bear Creek and its protected resources. A Biological Assessment conducted for the proposed project finds that the Build Alternative would result in a "Likely to Adversely Affect" finding for SONCC coho salmon and "may affect, but wouldn't likely adversely modify the designated critical habitat for SONCC coho salmon". Standard conservation and mitigation measures are included in the Biological Opinion to minimize potential impacts to aquatic resources.
- Removal of riparian vegetation to construct the new bridge and bike/pedestrian ramps from Fern Valley Road to the Bear Creek Greenway multi-use path.
- Temporary in-water impacts, including increased sedimentation and turbidity.
- Slight increase in sediment and pollutant loading due to increased impervious surface area.
- Restoration of the natural channel following removal of the two piers currently located within the Bear Creek channel below the Ordinary High Water Mark (OHWM).[9]

The Build Alternative is not likely to impact Endangered Species Act listed terrestrial wildlife or rare plant species due to the amount of existing development, lack of species presence, and minimal and fragmented suitable habitat for these species in the interchange vicinity. Fill material has the potential to further introduce noxious weeds that may displace native vegetation.

Standard conservation and mitigation measures are included in the Biological Assessment and Biological Opinion to avoid, minimize and mitigate potential impacts to aquatic resources. Conservation measures would be implemented to avoid and/or minimize potential temporary and long-term environmental impacts to ESA-listed fish and

[8] Anadromous fish primarily live in the sea, but migrate upstream to breed in fresh water. Many species of salmon are anadromous.

[9] The OHWM is a line established along the banks of fresh water features where regular water flows are so common as to create a physical demarcation. The OHWM is delineated based upon one or more indicators, such as changes in vegetation, mineral staining, and/or soil scour. The OHWM is used to determine the regulated boundary of fresh water features such as rivers and lakes. Construction below the OHWM has the potential to impact water quality and associated aquatic species. State and federal permits are required for construction below the OHWM.

terrestrial species and/or critical habitat. Best management practices, such as fish exclusion measures (to isolate fish from construction) and construction erosion and sediment controls, would be included in the project specifications to avoid or minimize potential temporary and long-term environmental impacts to aquatic and terrestrial species and habitats, and to prevent the further spread of noxious weeds.

WATER RESOURCES

Flood zone designations have been assigned to Bear Creek, Coleman Creek, and Payne Creek. Bear, Coleman, and Payne Creeks were identified by the Department of Environmental Quality in the Bear Creek Total Maximum Daily Load (TMDL)[10] document as having water quality impairments for both temperature and bacteria.

No-Build Alternative. With the No-Build Alternative, there would be no change associated with the Bear Creek Bridge regarding floodways. No additional stormwater treatment would be installed by ODOT within the project area. Stormwater would continue to be collected in gutters and ditches, and flow directly into Bear Creek. Stormwater pollutant concentrations would increase as additional development occurs on vacant lands near the interchange. Stormwater runoff peaks and volumes would also increase as more lands in the project area are developed in the future.

Build Alternative. There would be no adverse floodway impacts from the project because the design of the replacement bridge would result in similar or slightly improved water conveyance.

With the Build Alternative, impervious surface area would increase over existing conditions.[11] The Build Alternative would result in about 27.7 acres total future impervious surface area and about 11.2 acres net new impervious surface area. Net new impervious surface is defined as the difference between the total future impervious surface and the total existing and any removed impervious surface.

Increased runoff volumes associated with the Build Alternative may increase pollutant loading in stormwater runoff, while projected increases in impervious surface area would increase runoff volumes and peak flood flows in Bear Creek. Stormwater runoff from the total contributing impervious surface for the Build Alternative (which includes any ODOT stormwater generated outside of the project area that discharges to the project area) would be treated to remove pollutants prior to reaching streams.

[10] TMDL is the amount of a particular pollutant that a particular stream, lake, estuary or other water body can handle without violating state water quality standards. TMDL documents provide strategies to correct pollutant problems for a particular water body.

[11] Water quality impacts to creeks in the project area occur based on the amount of additional impervious surface and the degree of stormwater treatment which the impervious surface receives. Higher traffic volumes also result in higher pollutant loads. Increased runoff volumes can increase sediment transport in receiving waters.

Neither temperature nor bacteria levels in Bear Creek would be substantially affected by the pollutants typically found in highway runoff. The Build Alternative would not result in violations of in-stream water quality standards in Bear Creek.

The Build Alternative would require relocation of the existing Home Depot stormwater treatment pond in order to construct the new roadway alignment; however, this would not be expected to result in any change in stormwater discharge quality from this site.

Stormwater detention facilities would be included in the project to address water quality issues and manage runoff affected by the project. Stormwater pollutant loads (particularly sediment and dissolved copper) and stormwater runoff rates would be reduced through a combination of detention ponds, treatment swales, vegetated ditches or other water quality treatment methods. Required stormwater facilities would be placed within ODOT's right of way.

WETLANDS

West of I-5, there are 4 wetlands, 2 ditches, 1 stormwater detention basin, Bear Creek, Coleman Creek, and a small portion of Payne Creek. East of I-5, there are 16 wetlands, 8 ditches, 3 stormwater detention basins, and Payne Creek. The Build Alternative would result in an estimated four acres of fill in wetlands and less than 0.25 acre of fill and removal in other waters. Anticipated impacts to high quality wetlands[12] would be negligible (less than 0.01 acre).

When wetland impacts cannot be avoided, ODOT is required to mitigate for the loss of wetland functions and area. This is typically done by restoring, creating, or enhancing wetlands. A variety of mitigation options exist for compensating for the wetland impacts anticipated with the Build Alternative; these options include creating or enhancing wetlands on-site (e.g., modifying Payne Creek, creating wetlands in agricultural fields, or enhancing wetlands at Arrowhead Ranch) or off-site (e.g., purchasing mitigation credits from ODOT's vernal pool wetlands bank near White City).

A wetland delineation report was prepared and submitted to the Department of State Lands (DSL) for the Fern Valley Bridge replacement and has received concurrence. If the Build Alternative is selected, the remainder of the project area east of I-5 would be delineated, and the delineation report submitted to the DSL for concurrence and to the U.S. Army Corps of Engineers for an approved jurisdictional determination. It is anticipated that much of the irrigated wetland pasture would be exempt from state or federal regulation, which would reduce the total area of wetland impacts.

[12] High quality wetlands are those that score highly (0.7-1.0) for more than one functional category, as determined by a wetland functional assessment.

HAZARDOUS MATERIALS

The Build Alternative would impact (or be close to) three sites of high concern that may contain hazardous materials: residences (potential asbestos), truck stop, and orchard; and three sites of moderate concern (gas station and farm buildings).

Extensive mitigation measures, described in the Hazardous Materials Technical Report, would be included in project specifications to reduce potential exposure to hazardous materials. Mitigation for each of the listed sites could vary based on the different site conditions and/or levels of contamination or suspected contamination within the soil and/or groundwater. Standard specifications include procedures for acquiring land with potential hazardous materials, emergency response mitigation, and addressing contamination discovered during construction. ODOT would comply with all applicable federal, state, and local laws and regulations as they pertain to the storage, handling, management, transportation, disposal and documentation of hazardous substances.

GEOLOGY

The project area has minimal potential for geologic hazards (seismic hazards, slope stability/landslide hazards, and soil erosion) and is not expected to require substantive hazard mitigation measures. The Bear Creek Bridge and the existing I-5 overpass were not constructed to current seismic standards. With the Build Alternative, these structures would be designed and constructed to meet all current seismic standards. All proposed retaining walls, embankment fills, cut slopes, and bridges would be designed and constructed with appropriate temporary and permanent erosion and/or scour control measures to minimize the potential for erosion and slope instability in accordance with ODOT, American Association of State Highway and Transportation Officials (AASHTO), and FHWA guidelines. This would include erosion and scour protection of bridge abutments and wall systems at the proposed Bear Creek Bridge.

UTILITIES

Utilities in the project area include: water/irrigation canals, water, sanitary sewer, storm sewer, storm drains, natural gas, electricity, and phone/communication lines. Utility modifications and relocations would be coordinated with the utility owners. Every effort would be made to reduce disruptions to utilities during construction.

CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

The issue of greenhouse gas (GHG) emissions and global climate change is an important national and global concern that is being addressed by various state and federal agencies, including ODOT and FHWA, even though no national regulatory thresholds for GHG emissions or concentrations have been established through law or regulation.

Since the context for GHG emissions is a global scale, it is virtually impossible to perform a meaningful analysis of most local transportation projects. As of May 2010, there are no federal laws specifically requiring GHG emissions analyses in project-level NEPA documents.

Federal and state strategies for addressing climate change at the national and state levels are described in Chapter 3, Section 3.19.2 in the EA.

TABLE ES-1: IMPACT SUMMARY

Category	Criteria	Build Alternative
Air Quality	Regional increase in ozone or particulate matter	None
Archaeology	Resources impacted	No impacts expected
Biology (Aquatic)	Impacts to critical habitat and species, Southern Oregon/Northern California Coast coho. Includes Bear Creek, Coleman Creek, and Payne Creek	° Removal of riparian vegetation and habitat modifications from Bear Creek Bridge construction ° Removal of existing bridge piers that impact Bear Creek channel ° Temporary in-water impacts during construction ° Slight increase in sediment and pollutant loading due to increased impervious surface area.
Biology (Terrestrial)	Habitat impacts (acres) [Note: The total area analyzed for biological impacts is a worst-case scenario.]	51
	Impacts to individual ESA-listed terrestrial habitats or species	None
Costs (estimated)	Construction costs (2012 dollars)	$56.2 million
	Right of way costs (2011 dollars)	$14.4 million
	Utility costs (2012 dollars)	$1.5 million
	Total project costs	$72.1 million
Geology	Fill requirements (cubic yards)	250,000
	Structures constructed to seismic standards	Yes
Hazardous Materials	Sites of moderate concern	3
	Sites of high concern	3
Historic Resources	Resources impacted	None

TABLE ES-1: IMPACT SUMMARY		
Category	**Criteria**	**Build Alternative**
Land Use & Planning	Land zoned Exclusive Farm Use required (acres)	7.4
	Approvals for the following Development Code requirements: Riparian Setbacks section, flood damage prevention regulations, and Bear Creek Greenway zoning district regulations	Required
	Type 2 (site development review) permit from Jackson County.	Required
	Adoption of IAMP	Required
Noise	Traffic noise impacts	4 locations: ° Bavarian Inn ° Some commercial properties along OR 99 ° Bear Lake Estates (36 residences) ° Pear Tree RV Resort pool area ° Two residences along E. Bolz Road
Right of Way	Right of way acquisition (acres)	22.1
	Number of potential residential relocations	2
	Number of potential business relocations	4
	Number of parcels impacted	42
	Access control for realigned or new segments of roadway east of I-5	Yes
Section 4(f)	Interferes with the features, activities or attributes of the Bear Creek Greenway recreational activities on Greenway property	Changes to Bear Creek Greenway would not adversely affect the features, activities or attributes of the multi-use path, and therefore the changes would not constitute a Section 4(f) use
Section 6(f)	Uses LWCF park land; replacement property required	Yes--about 0.07 acre
Socioeconomic	Disproportionate adverse impacts to low income or minority populations.	No
	Loss of parking spaces	67 off-street parking spaces, plus removal of on-street parking on E. Bolz Road
	Construction impacts	Temporary benefit of jobs, income, and spending related to construction; disruptions such as noise, dust, and detours.

TABLE ES-1: IMPACT SUMMARY		
Category	**Criteria**	**Build Alternative**
	Better traffic flow improves travel to businesses and residences	Yes
	Decrease in permanent annual property tax revenue for Jackson County	$174,000
Traffic & Transportation	Average travel time/distance per vehicle for Fern Valley Road from OR 99 to S. Phoenix Road (Note: No-Build = 10.4 minutes/0.70 mile)	3.1 min /1.1 mile
	Pedestrian and bike travel and safety	Benefit
Utilities	Modifications or relocations required	Yes
Visual Resources	Improves visual setting of Bear Creek Greenway adjacent to bridge	Yes
	Improves visual conditions associated with new I-5 structure	Yes
	New major intersection just north/close to Phoenix Hills subdivision	No
Water Quality	Increase in net new impervious surface area affecting stormwater runoff volumes (acres)	11.2
	Floodway impacts	Improved conveyance
Wetlands and Other Waters	Total wetlands impacted (acres)	Less than 4
	Total other waters impacted (acres)	Less than 0.25
	Total high quality wetlands impacted (acres)	Less than 0.01

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