CHAPTER 3. ADDITIONS AND CHANGES TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

This chapter identifies notable ways in which this FEIS differs from the DEIS. The analysis contained in the DEIS remains fundamentally valid because the overall concept and most of the Preferred Alternative's footprint remains the same or is very similar to that discussed in the DEIS. The focus of this chapter is on the Preferred Alternative and environmental consequences of the design refinements that have been made subsequent to the DEIS.

This chapter follows the basic format of the DEIS with respect to headings which are used to help orient the reader. Additions and changes are shown herein by the use of italics and strikeout. *Italicized* text represents additions and corrections to the DEIS. A strikeout mark (e.g.,~~word~~) has been used to signify original DEIS text that has been removed. Where page numbers are shown in the text that follows, they refer to pages in the original DEIS. The chapter begins with changes to "Table 1 Summary of Environmental Consequences". When reference is made to a "cell", the text is referring to the individual boxes within the rows and columns of the summary table. The issues and alternatives considered are the column headings and the rows are the subject headings.

The DEIS summarizes a number of technical reports. The full technical reports and memoranda are lengthier and more detailed than the sections in the DEIS. The reports listed in Appendix B are available for viewing at ODOT, Environmental Services Section, 1158 Chemeketa Street NE, Salem, Oregon, 97301.

Summary

Page S-2, right column, last paragraph:

Table 1 provides a summary of the major environmental consequences of the alternatives considered in this document. *Please refer to Chapter 4 of the DEIS for a more detailed discussion of environmental consequences. Chapter 4 of the DEIS is modified in the FEIS, Chapter 3- Additions and Changes to the Draft Environmental Impact Statement, "Environmental Consequences (DEIS Chapter 4)".*

Page S-11, Street System/No-Build Alternative cell:

Continuation of existing conditions*, with exception of improvements to street systems from the "financially constrained" list in the Regional Transportation Plan.*

Table 1

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Page S-11, LOS and V/C/ No-Build Alternative cell:

By the year 2030: LOS F and v/c ratio would be greater than 1.0 ~~within the project area~~ *at seven of 11 major intersections under the No Build. This includes the intersections at the two existing I-5 interchange offramps.*

Page S-11, LOS and V/C/Highland and Ellendale combined cell:

LOS and v/c for 2030 within the project area would be the same or better than the No-Build. *LOS F and v/c ratio would be greater than 1.0 at two (Ellendale Alternative) and three (Highland Alternative), respectively, of 11 major intersections. All interchange intersections would meet the v/c standard of 0.85 during the peak hour.*

Page S-11, Highway Traffic and Pedestrian Safety/No-Build Alternative cell, second bullet:

Worsening of existing safety issues *at the interchange*.

Page S-11, Highway Traffic and Pedestrian Safety/Highland Alternative and Ellendale Alternative, mutual cell:

Reduces congestion, *addresses safety concerns*, adds capacity, *and* improves ~~d~~ connectivity across the interstate for *vehicles*, pedestrians, and bicyclists.

Page S-11, Highway Traffic and Pedestrian Safety/Highland Alternative cell, second sentence:

Peak hour traffic *volume* on this section of Highland Dr. ~~could increase as much as 70% by 2030 as compared to the No-Build.~~ *would be approximately 1,790 vehicles, as compared to 1,320 vehicles under the No-Build Alternative. Average Daily Traffic volumes on this section would be approximately 19,100 vehicles, as compared to 14,100 under the No-Build Alternative.*

Page S-12, Consistency with Land Use Plans/Highland Alternative and Ellendale Alternative, mutual cell, fourth bullet:

~~Required~~ *Potential* annexation for right-of-way property to be acquired in unincorporated areas.

Page S-12, Consistency with Land Use Plans/Highland Alternative and Ellendale Alternative, mutual cell, last bullet:

~~*Regional Transportation Plan* requires updated modeling for new interchange.~~

Page S-13, Future Development/No-Build Alternative cell:

Continuation of existing conditions*, trends, and development, particularly in southeast Medford, may be adversely affected due to increased street congestion.*

Page S-13, Future Development/Highland Alternative and Ellendale Alternative, mutual cell, first bullet, second sentence:

One of the ~~R~~remaining sites *would* no longer *be* suitable for a single, large-scale retailer.

Page S-13, Future Development/Highland Alternative cell, fourth bullet:

Relocated interchange would likely increase pressure for wider array of commercial uses ~~and plan and zone changes to allow these uses~~ generally along Barnett Rd. east of Highland Dr./Barnett Rd. intersection.

Page S-14, Effects on Regional and Local Economy/No-Build Alternative cell, add at end:

Businesses in the interchange area would be adversely affected due to traffic congestion.

Page S-15, Changes in Access/No-Build Alternative cell:

Continuation of existing conditions, *except that increased congestion on major streets would hinder mid-block turns across traffic*.

Page S-16, Changes in Access/Highland Alternative cell, add:

Existing access to/from apartment residences along east side of Highland Dr. between Barnett Rd. and Greenwood St. would be right-in/right-out.

Page S-17, Effects on Particular Social Groups/Highland Alternative cell, add:

No displaced residential units of low-income or minority households would occur in the neighborhood.

Page S-19, Noise Levels/No-Build cell, second bullet:

Approximately ~~61~~*58* residences impacted.

Page S-19, Noise Levels/Highland Alternative cell, second bullet:

Approximately ~~60~~*57* residences or residential equivalents impacted.

Page S-19, Noise Levels/Ellendale Alternative cell, second bullet:

Approximately ~~79~~76 residences or residential equivalents impacted.

Page S-21, Wetlands/Highland Alternative cell, first bullet:

Disturbance of wetlands – 0.04 hectare (~~0.99~~*0.1 acre*) (buffered footprint – 0.1 hectare (0.25 acre))

Purpose and Need (DEIS Chapter 1)

No changes or additions have been made to the purpose and need for the project.

Project Description (DEIS Chapter 2)

Chapter 2 of the DEIS describes the Highland (Preferred) Alternative, the Ellendale Alternative, and the No Build Alternative. Of these, ODOT and FHWA advanced the Highland Alternative as the Preferred Alternative into the FEIS. Since the Highland Alternative was advanced, ODOT has conducted focused design refinements on this alternative that were not conducted on the Ellendale Alternative.

No-Build Alternative (Baseline Condition)

Other Related Projects

Page 2-2, right column, first bullet:

Only those roadway projects currently developed, committed, or in the Tier I project list in the *RTP, and/or in the STIP* would be included in the No-Build Alternative. *Within the immediate project area, this would currently include replacement of the two I-5 bridges crossing Bear Creek and resurfacing I-5 between Mile Points 18.7 and 28.3.*

Page 2-5, left column, second bullet:

Access to project construction ~~is anticipated to~~ *would* occur *mostly* within the project footprint. No construction access roads would enter into the Bear Creek channel. *Specific plans for construction access would be identified by construction contractors following FEIS conservation measures and mitigation requirements established by associated permits.*

Page 2-5, right column, third bullet, second sentence:

Under both Build Alternatives, the *property currently occupied by the* Les Schwab business at the southeast corner of the existing *Oregon* ~~Highway~~ 99/Belknap Road intersection would need to *include* consolidate*d* access points on *Oregon* ~~Highway~~ 99 and eliminate the current access to Belknap Road. Belknap Road would be converted to the future *Garfield* connector.

Highland Alternative (Preferred)

Page 2-6, left column, after heading:

The Highland Alternative is the preferred Build Alternative. *Refinements to the Highland Alternative have been made*

subsequent to the decision to forward this alternative into the FEIS. (Figure 2-1 of the FEIS reflects these refinements.)

Design Features

Page 2-6, left column, fourth bullet:

- A new bridge would be constructed over Larson Creek along the Highland connector. The existing culvert in Lazy Creek would be *replaced with a bridge.* ~~improved.~~

Page 2-6, left column, fifth bullet:

- The existing Barnett Road Bridge across Bear Creek would be *replaced* ~~widened~~ to accommodate additional lane requirements and sidewalks *and to address structural problems associated with the existing bridge.*

Page 2-6, left column, after fifth bullet add new bullets:

- *Bridges crossing Bear Creek would span the stream as much as practicable. Roadway fill is not proposed in the floodway as designated by the Federal Emergency Management Administration (FEMA). Bridges throughout the project would require piers within the floodway. The number of piers placed within the channel of the stream would be minimized, located only where very long bridge span lengths would not be practicable. Construction bridges would also likely require temporary piers in Bear Creek, which would be removed after completion of bridge construction.*
- *Based on numerous considerations, Jackson County has decided to first construct a segment of the Bear Creek Greenway Trail south of the South Medford Interchange project area. The trail segment that would run through the project area would likely be constructed after the South Medford Interchange Project. A new bridge connecting the trail to the South Gateway Center would not be practical in the project area because of the extent of the flood plain. The Preferred Alternative design would be coordinated with the County to accommodate the possible trail to the extent practicable.*
- *Two stormwater water quality and detention ponds and one bioswale would be constructed to help remove pollutants from runoff and slow its discharge into streams.*
- *The project would accommodate and complement the City's construction of improvements for pedestrian and bicycle facilities within Bear Creek Park along Barnett Road and Highland Drive, including construction of an interim pedestrian/bicycle path connecting Barnett Road sidewalks and bicycle lanes with the southern leg of the Bear Creek Greenway Trail south of the project.*
- *The project would include right-of-way acquisition for maintenance access on the west side of the Highland Drive connector.*
- *Limited widening along Oregon 99 to accommodate minor improvements to the travel lane, bicycle lane, and sidewalk improvements would extend south to Charlotte Anne Drive, and slightly to the eastern portion of the Oregon 99/Stewart Avenue intersection.*
- *Bicycle and sidewalk improvements along Barnett Road would be extended west to Stewart Avenue, using portions of the existing I-5 overpass no longer needed for turn lanes associated with the*

existing interchange and east to Ellendale Avenue, requiring limited additions to roadway right-of-way.

- *Replacement of the Barnett Road bridge crossing Bear Creek which would require elevation of the bridge and Barnett Road approaches, thus would also require refinements to Alba Drive to match the elevation of Barnett Road.*

- *Improvements to Highland Drive north of Barnett Road would include constructing sidewalks on the east side of the street, and bicycle lanes on both sides of the street to Greenwood Street. (Note: Prior to beginning construction of the interchange project, the City would construct as separate projects pedestrian and bicycle facilities within Bear Creek Park along Barnett Road and Highland Drive adjacent to the project, and improvements between Siskiyou Avenue and Greenwood Street.)*

- *Improvements associated with construction of the interchange would be coordinated in time with the I-5 Bear Creek bridges replacement project. This would reduce the overall duration of construction impacts to traffic, biology surrounding land uses, and other resources.*

Access Control, Transportation System Management, and Transportation Demand Management

Page 2-6, right column, first bullet:

- Properties to the west and east of the Highland *Drive* connector *and south of Larson Creek could* ~~would~~ be linked under its bridge over Bear Creek. *ODOT does not provide private roadways to link properties.*

Page 2-6, right column, second bullet:

- *Because* Dyer Road *is a private roadway to a vacant lot, ODOT would not improve it, and its terminus* would ~~terminate in~~ *remain as* a cul-de-sac.

Construction Schedule

Page 2-8, left and right columns, under heading:

Construction of the proposed South Medford Interchange Improvement Project could begin as early as 2005. Because design of the facility is at a conceptual stage, precise staging of the project is not yet defined. Nonetheless, it can be reasonably *assumed* ~~presumed~~ that construction would be scheduled to occur primarily during relatively dry periods. The project's first year of operation is expected to be between 2007 and 2010. *Construction of the new interchange would occur in a manner that would allow continuous connection between I-5 and the existing interchange or new interchange systems. Improvements to Barnett Road, including replacement of the Bear Creek bridge, would likely occur last. No detour construction bridge is planned. Therefore, ODOT would coordinate road closures and detours with emergency services, businesses, and commuters.*

Potential Changes to Build Alternative

Page 2-15, left column, second full paragraph, second sentence:

~~They~~ *Changes* would be identified following selection *and bidding for construction* of a Build Alternative~~,~~ and may include areas lying outside the *project* ~~buffered~~ footprint. *Typically, construction companies identify staging areas. Their actions, however, are controlled by conservation and mitigation measures identified through the EIS process and related regulatory or permitting*

requirements (such as a Biological Opinion).

Local Agreements

Page 2-16, right column, second bullet:

- *Potential* ~~A~~*a*nnexation of property *(Note: opportunities might exist that would not require annexation)*;

Page 2-16, right column, add bullet:

- *Conditional Use Permit for Bear Creek Greenway use.*

Transportation Analysis

Page 2-21, right column, last paragraph second sentence:

Alternative 11 changed most radically, with the South Stage Road Interchange being removed, as well as many local connectors. *The analysis showed that the South Stage Road Interchange would not have been sufficient to solve the Barnett Road interchange problems.*

AFFECTED ENVIRONMENT (DEIS CHAPTER 3)

Traffic, Transportation, and Safety

Pedestrian Facilities

Page 3-4, left column, first sentence:

Within the project area, sidewalks are not continuous on *either side*~~s~~ of Barnett Road, *Oregon* ~~Highway~~ 99, *Highland Drive*, ~~*and*~~ *or* Stewart Avenue.

Land Use

Future Land Use

Page 3-7, right column, second paragraph, last sentence:

While the area is plan-designated for urban residential uses, the Manor has proposed development or redevelopment on portions of *the* ~~this~~ property that ~~would~~ *could*, if approved *fully through the land use and building permitting process*, include a variety of commercial businesses, as well as residential use.

Socioeconomics

Socioeconomic Study Area Overview

Community Features

Page 3-8, left and right columns:

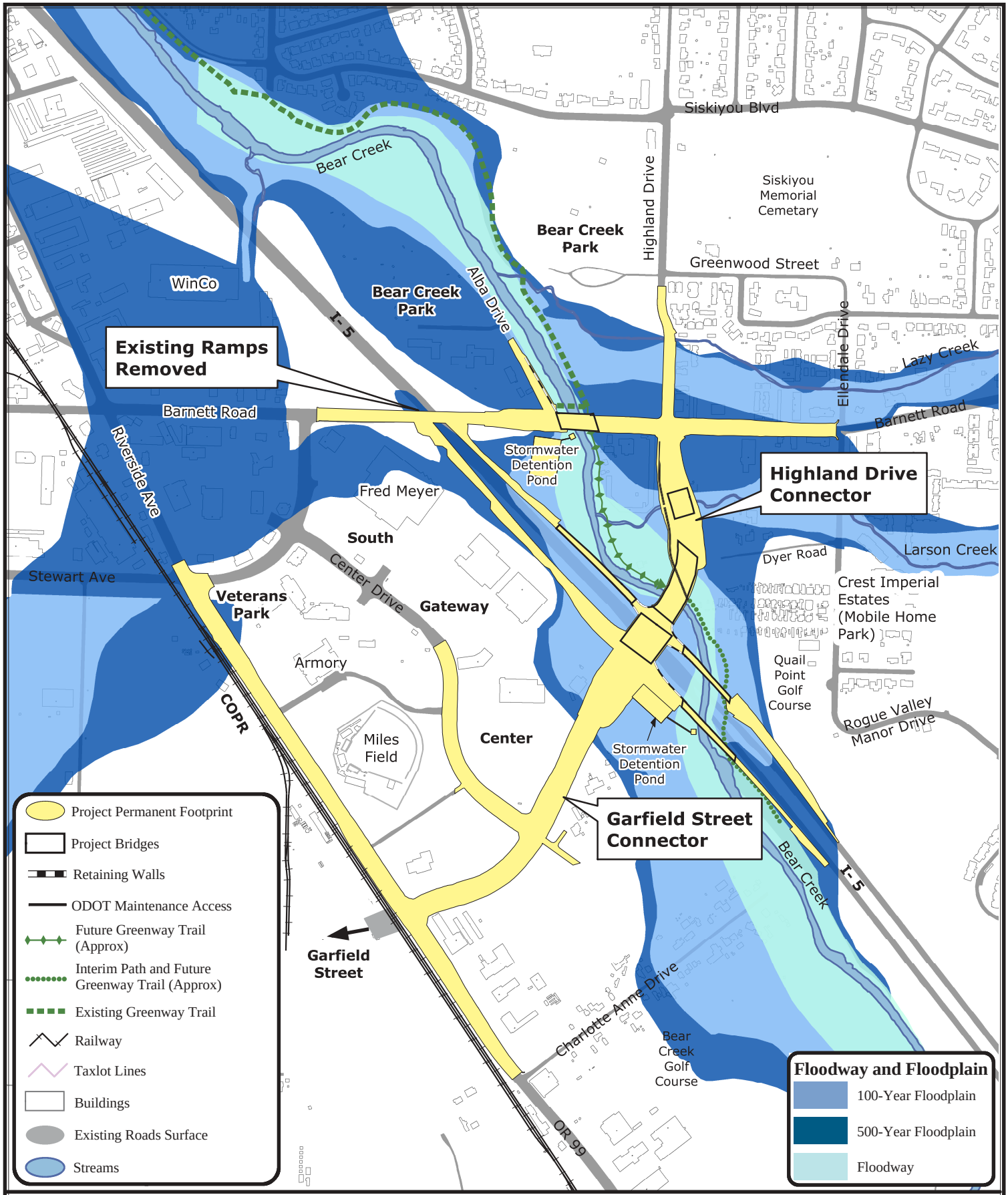
Schools: The Medford School District includes 12 elementary schools, two middle schools, and two high schools. South Medford High School is located on Barnett Road west of the South Medford Interchange. *Hoover Elementary School is located on Siskiyou Boulevard, just east of Black Oak Drive, and northeast of the immediate project area.*

Hydraulics

Page 3-22, left column, end of top paragraph, add:

(See Figure 3-3.)

Page 3-23: Add Figure 3-3 (attached).



SOUTH MEDFORD INTERCHANGE PROJECT
ALTERNATIVES & SOLUTIONS
Oregon Department of Transportation

Figure 3-3

Floodway and Floodplain

ENVIRONMENTAL CONSEQUENCES (DEIS CHAPTER 4)

Traffic, Transportation, and Safety

No-Build Alternative

Page 4-1, left column, second paragraph, first sentence:

The No-Build Alternative would lead to general system failure *and would not resolve the project's purpose of improving traffic movement through the interchange.* ~~This would mean~~ *Traffic moving through the study area would continue to experience* substantial delays. ~~as traffic waits to move through the study area~~

Page 4-1, right column, after last paragraph:

The No-Build Alternative would continue planned services. As congestion worsens, the effectiveness of transit services would diminish.

Highland (Preferred) Alternative

Page 4-5, right column, second paragraph, second sentence:

Year 2030 No-Build traffic on the north leg *of Highland Drive* ~~traveling north from~~ *between* Barnett Road *and Siskiyou Boulevard* is projected to be ~~577~~ *1,320* vehicles during the peak hour. *Congestion and general system failure at nearby intersections, especially along Barnett Road, would cause near grid-lock conditions and serve to keep congestion on Highland Drive from being even higher.* The year 2030 Highland Alternative traffic model predicts that about ~~400~~ *1,790* ~~additional~~ vehicles would travel ~~northbound~~ on this link during the peak hour. Most of this is local traffic. *At the Highland Drive/Siskiyou Boulevard intersection, traffic disperses into three directions, generally resulting in small increases on local streets. The further away from the intersection, traffic levels increase as local traffic disperses further into the local street system.*

Effects on Traffic Operations

Page 4-6, left column, top, end of Effects on Traffic Operations (from previous page), add after bullets:

Placing medians along streets would enhance overall street operations. However, medians would require some people accessing businesses and residences along these streets to travel out of direction to reach their destinations. For example, apartment residents along Highland Drive between Barnett Road and Siskiyou Boulevard would be able to access the parking lots serving these apartments only from the northbound lane of Highland Drive.

Effects on Bicycle and Pedestrian Safety

Page 4-6, left column, last sentence:

Peak hour traffic volume on this section of Highland Drive could increase as much as ~~70~~ *39* percent by 2030 compared to the No-Build Alternative. *However, proposed improvements along Highland Drive, as well as those proposed by the City at the Highland Drive/Greenwood Street intersection, which includes enhancements to the pedestrian crossing, would provide another opportunity for pedestrians to safely cross Highland Drive.*

Page 4-6, left column, add new paragraphs to section:

The Highland Drive connector maintenance access area could be used for an interim connection between the southern segment of the Bear Creek Greenway Trail and Barnett Road. Such an interim connection would facilitate safe north-south bicycle travel in the area. Extending bicycle lanes along

Barnett Road east to Ellendale Drive and west to Stewart Avenue would further improve safety of bicyclists and encourage use of bicycling as an alternative mode of travel.

The project currently includes 1.8 meters (6 feet) wide bicycle lanes. Reducing the bicycle lane width on the structures to 1.8 meters (6 feet), which would be within design standards, would not adversely affect bicyclist safety. Eliminating the planter strip on the structures would be permitted by design standards, and would not impair pedestrian safety. Individually, or in combination, these actions would reduce the width of the project's footprint in sensitive environmental areas, reduce right-of-way acquisition requirements and associated socioeconomic impacts, Section 4(f)/6(f) impacts, and substantially reduce the cost of the project.

Land Use

Consequences Common to Both Build Alternatives

Consistency with Land Use Plans

Page 4-7, right column, third paragraph:

~~Both t~~ The Highland and Ellendale alternatives ~~may~~ *would not* require amendments to *the City of* Medford's Street Classification Map.

Indirect Impacts

Page 4-8, right column, after first full paragraph, add paragraphs:

The principal objective in analyzing land use as a part of the NEPA process is to ensure that all known and reasonably foreseeable outcomes are documented, and where adverse impacts are identified, that they are mitigated if reasonable and feasible. The DEIS documentation included such information. However, some comments that were received on the DEIS stated continued concern about whether or not the South Medford Interchange project adequately addresses changes in land use that may result from the project, or from induced development, and the effects that potential development might have on future area traffic. Consequently, analysts conducted additional assessment of this issue. Land use forecasts are consistent with the City and County comprehensive plans through the 20-year timeframe established under state law. The 2030 land use forecasts were coordinated with local land use planning officials and allocated using methods similar to those utilized in the development of the 2020 forecasts. The land use forecasts reflect increasing intensification of land uses in the Oregon 99 corridor south of Barnett Road. The forecasts are valid, and independent of whether the No-Build or either of the Build alternatives were to be selected. The forecasts were based on the assumption that development would occur in this area with or without improvement to the interchange. Consequently, the analysis and the project design reasonably accounted for land use changes that might occur under the proposed project, as well as the effects that such land uses would have on the interchange.

Based upon the land use data and information included in the Land Use Technical Report for the DEIS, current supplies of commercial lands barely exceed the required amount for current and near-future demand. To meet future demand, additional lands in the South Interchange area, consistent with the 2030 forecast, would likely be designated and developed with commercial and service uses. The project has anticipated the potential intensification of land uses in this area that

could reasonably be expected to occur as a result of the relocation of the South Medford Interchange. Consequently, the project has addressed the possibility that the relocated interchange, in combination with a number of other socioeconomic factors (such as limited commercial land supply citywide and high demand for commercial land), might "induce" intensified development. Furthermore, travel demand forecasts, which are largely based upon land use forecasts, reasonably estimate future travel demand in the freeway interchange vicinity.

The project would be designed to accommodate this increased travel demand. The Land Use Technical Report, which provided the basis for the land use analysis described in the DEIS, included a review of the proposed project's compliance with the Oregon Highway Plan and Medford's Comprehensive Plan.

Highland (Preferred) Alternative

Direct Impacts

Page 4-11, left column, end of first paragraph, add the following paragraphs:

Through design refinements that have extended the length of the Highland Drive connector across Bear Creek, access between the Rogue Valley Manor's property west and east of the new street may be possible under the refined Preferred Alternative.

The refined Preferred Alternative's extension of improvements along Highland Drive would not convert land outside the existing right-of-way to other uses. Extension of improvements along Barnett Drive, Alba Drive, and Oregon 99 would convert small slivers of additional land designated for commercial development above that reported in the DEIS. The additional land required would not substantially change the use of the remaining property from that originally reported in the DEIS.

The refined Preferred Alternative would widen the Highland Drive connector primarily on the west side of the street. A narrower strip of land would be required along the east side of the connector for maintenance purposes. Consequently, approximately 0.29 hectares (0.7 acres), 0.05 hectares (0.12 acres), and 0.13 hectares (0.32 acres) of additional land, designated for Urban Residential, Parks and Schools, and Service Commercial, respectively, would be required in this area above that originally reported in the DEIS. The additional land required would not substantially change the use of the remaining property from that originally reported in the DEIS.

Indirect Impacts

Page 4-11, right column, first paragraph, last sentence:

The accessibility and exposure afforded these properties by the relocated interchange would likely lead to increasing pressure for a wider array of commercial uses *as permitted by existing zoning.*

Page 4-11, left column, second paragraph, first and second sentences:

Under the No-Build Alternative, the portion of Highland Drive north of Barnett Road *to Siskiyou Boulevard* is forecast to experience ~~an~~ *about a* ~~85~~ *36* percent increase in bi-directional peak-hour traffic between 2000 and 2030 (*approximately* ~~1,793~~ *970* vehicles per hour compared to *approximately 1,320*~~970~~). If the Highland Alternative is built, by 2030 this segment would experience *approximately* an additional *470* ~~407~~ more vehicles per hour *during the peak hour, in comparison to the No-Build. This*

would be mostly local traffic. At the Highland Drive/Siskiyou Boulevard intersection, this traffic would disperse to the legs of the intersection.

RIGHT-OF-WAY AND RELOCATION

Highland Alternative

Potential Residential Displacements

Page 4-14, right column, first paragraph.

Based on the refined design for the Preferred Alternative and based on information received subsequent to issuing the DEIS, the one ~~The Highland Alternative would displace~~ *possible residential displacement identified would not occur because the building that would be affected has been confirmed to not contain a residence.* ~~one residence under the primary footprint~~. ~~Under the worst-case scenario (using the buffered footprint, a commercially zoned residence on Barnett would be displaced as well as an estimated 20 to 30 units in~~ *These* two apartment complexes located on Highland Drive north of Barnett *would not be displaced*.

Page 4-14, right column, after last paragraph of Residential Displacements heading, add headings and text:

Potential Business Displacements

Based on the refined design for the Preferred Alternative, the "Highland Alternative" portion of Table 4-5 found on page 4-15 of the DEIS has been modified for the FEIS and included as Table 4-5a as follows:

Table 4-5a. Preferred Alternative Potential Displacements		
Name	*Use*	*Address*
	Storage	*1300 E. Barnett Road*
Shell	*Gas Station*	*100 E. Barnett Road*
Les Schwab	*Tire Store*	*2121 S. Pacific Highway*
Michael's Holding Company	*Landscap -ing*	*400 Belknap Road*

A building used for storage east of the Horizon Inn Motel would be displaced. The replacement of the Barnett Bridge crossing Bear Creek would likely result in the displacement of the Shell gas station just east of the bridge, although the property may be available for continued commercial use via the proposed combined access serving that property. The Les Schwab Tire Store on Oregon 99 would be displaced. Michael's Holding Company, a landscaping business off Barnett Road, also would be displaced unless access can be provided by the property owner. The Party Place is not expected to be displaced, although street widening to accommodate bicycle lanes would place the sidewalk curb very close to the building entrance.

Land Acquisition Requirements

The estimated land area requirements and right-of-way costs of the Build Alternatives are summarized at the end of Table 4-5 of the DEIS. The Preferred Alternative's refined footprint would involve minor changes to conversions of land from designated land uses to highway uses in comparison to that reported in the DEIS. Most of the additional land required is located within the existing ODOT I-5 right-of-way or within narrow strips along existing roads. The most notable changes would occur along the Highland Drive

connector, where additional land would be required for the maintenance access area and utilities. These changes would convert land that is largely undeveloped. Based on the modified design developed for the Preferred Alternative, the Highland Drive connector would require an additional 0.46 hectares (1.14 acres), or 5 m (16 ft) in width primarily along the west side of the new street where the maintenance access would be provided. ODOT will determine final right-of-way costs after design drawings are further refined.

The Preferred Alternative also would require additional temporary easements for construction bridges, and possibly for construction access options along the east side of the connector (approximately two additional linear meters).

The actual right-of-way costs would be determined through the right-of-way appraisal and acquisition process. Copies of applicable right-of-way information brochures are included in Appendix F of the DEIS.

The land area requirements, as well as construction costs, of the project may be reduced by limiting or eliminating landscaped parking strips where they are not required along the connectors, and by reducing the width of the bicycle lanes along the connectors from 2.4 meters (8 feet) to approximately 1.8 meters (6 feet).

Socioeconomics

No-Build Alternative

Changes in Neighborhood or Community Cohesion

Page 4-17, left column, first paragraph:

No changes in roadway configuration or maintenance are anticipated. Therefore, there would be no direct effect expected over the short-term. ~~No specific longer-term indirect effects on neighborhood or community cohesion have been identified.~~ *Increased traffic volumes often create direct and indirect barriers within neighborhoods. Increased traffic along Highland Drive between Barnett Road and Greenwood Street would increase noise levels at the apartments along the east side of the street. Such noise impacts could affect the sense of community cohesion.*

As congestion continues to increase on Barnett Road, drivers seeking other routes would use local streets throughout the area to reach various destinations. The resultant increased traffic in such areas could affect the routes by which people walk to destinations in the area. Local residents have expressed concern with respect to the safety of children walking to and from Hoover Elementary School on Siskiyou Boulevard, from the east at Black Oak Drive or Barnett Road, and crossing Highland Drive mid-block to Bear Creek Park. The City of Medford's independent projects to improve roadway, sidewalk, and bicycle facilities along Highland Drive generally between Greenwood Street and Siskiyou Boulevard would lessen the effects of the increased traffic levels along the improved roadway.

Traffic levels along the section of Highland Drive generally between Barnett Road and Greenwood Street would increase substantially, making it more difficult for residents of the apartment complexes along Highland Drive to cross traffic to come or go from their homes. The lack of sidewalks on the east side of Highland Drive would further complicate pedestrian access to crosswalks. This could cause some out-of-direction travel and could also contribute to residents feeling a sense of reduced community cohesion.

Effects on Community Facilities

Page 4-17, left column, add after paragraph for the subsection:

Some of the overall safety, mobility, and response times of emergency response vehicles located at the fire station near the Highland Drive/Siskiyou intersection would be hindered by a choke-point that would be created on Highland Drive between Barnett Road and Greenwood Street, which would not be improved under the No-Build Alternative. The degree of hindrance may be particularly severe during peak-hour traffic.

Effects on the Economy

Page 4-17, right column, last paragraph add to end:

Reduced development potential in the south Medford area resulting from interchange-related congestion could reduce the property tax base. Increased traffic along local streets could, along with several other potential factors, adversely affect residential property values.

Consequences Common to Both Build Alternatives

Effects on the Economy

Page 4-19, left column, after second paragraph (last of subsection), add:

Increased traffic levels on streets directly accessing residential properties, such as Highland Drive under the Highland Alternative and Ellendale Drive under the Ellendale Alternative, could contribute to lower property values of affected residences. Conversely, by improving overall traffic conditions, improved accessibility to other residential areas may increase property values.

Highland (Preferred) Alternative

Displacements

Residential Displacements:

Page 4-24, left column: replace first sentence with the following sentences:

~~*There would be only one residential displacement associated with the primary footprint for the Highland Alternative.*~~ *Based on new information obtained since the DEIS was issued, the single residential displacement reported in that document has been found to not be a residence. Consequently, the Highland Alternative would not displace any residences.* ~~The residents of the one housing unit displaced under under the primary footprint of the Highland Alternative were not successfully contacted despite two attempts to survey the residents. The other residential units potentially impacted under the buffered footprint of this alternative include two apartment complexes and another single family residence. According to the property managers for the two apartment complexes, households represent a mix of incomes, ethnicities, and ages. However according to 1990 census data, senior citizens are represented in stronger concentrations in impacted neighborhoods than with the city as a whole.~~

Business and Commercial Displacements:

Page 4-24, right column:

Based on t~~T~~he *modified design of the Preferred* ~~Highland~~ Alternative, ~~would displace~~ *the following four* ~~three~~ businesses *would be displaced*; ~~which include~~ *the Les Schwab Tire Store, Michael's Holding Company, the Shell gas station,* ~~a retail store, a motel, and a tire store~~ *and a commercial storage facility.* ~~Under a worst-case scenario, the Highland Alternative would displace an additional gasoline station~~

~~business and an insurance company claims office.~~

Changes in Neighborhood Cohesion

Page 4-24, right column:

The Highland Alternative could result in reduced neighborhood cohesion due to increased traffic volume on the Highland Drive side of Bear Creek Park, particularly during peak hours (for Bear Creek Park, see Figure 2). *The increase in traffic levels on this part of Highland Drive would be higher than both the No-Build and the Ellendale alternatives.* This could affect the ability of ~~neighborhood users~~ neighborhood users on the east side of the park to ~~easily access the facility~~ *cross mid-block requiring them to* ~~unless they~~ travel first to a signalized intersection, thus potentially reducing accessibility for neighborhood residents to community facilities. Of particular concern would be unsupervised children and teens *and senior residents*.

Increased traffic volumes on Highland Drive above the No-Build levels, and the dispersal of the traffic from the Highland Drive/Siskiyou Boulevard intersection would increase concerns about pedestrian safety. Highland Drive serves as the administrative boundary between Hoover and Roosevelt schools. Except for a few houses along Highland Drive north of Siskiyou Boulevard, children would not be crossing Highland to attend Hoover School. Conversely, improvements to traffic conditions east of the school, for example at the Barnett Road/Black Oak Drive, would at least partially offset the overall concern.

Pedestrian and bicycle access and safety concerns along Highland Drive, particularly between Siskiyou Boulevard and Barnett Road, were frequently mentioned concerns in comments on the DEIS. ODOT and the City formed a sub-team of the project's Citizens Advisory Committee (CAC) to develop ideas on addressing the public's safety concerns. The CAC sub-team developed viable mitigation recommendations that have been included in the project to enhance pedestrian and bicycle safety and accessibility. The project would now include sidewalks and a bicycle lane on the east side of Highland Drive within the street's existing right-of-way between Barnett Road and just south of Greenwood Street. Although the sidewalk and the bicycle lane would improve pedestrian and bicycle access and safety, they would route pedestrians closer to the apartments along this street, which could reduce occupant privacy.

Increased traffic volumes along Highland Drive between Barnett Road and Greenwood Street would increase noise levels at the apartments along the east side of the street. Noise studies indicate that noise walls along this section of roadway would not be feasible or cost-effective. Consequently, noise impacts could affect the sense of community cohesion.

For residents of the apartment complexes along Highland Drive, the out-of-direction travel due to medians on the street could also contribute to reduced community cohesion.

Effects on Community Facilities

Pages 4-24 and 4-25, right and left columns, respectively, rewrite as follows.

The only direct effects on ~~a~~ *developed* community facilit~~y~~*ies* associated with the ~~Build Alternatives~~ *Highland Alternative would involve* small amounts of property acquisition at the southeast corner of Bear Creek Park associated with roadway improvements on Barnett Road and its intersection with Highland Drive, *and at Veteran's Park along Oregon 99. These*

impacts are more fully addressed in Chapter 6 – "FEIS Final Section 4(f) Evaluation and Associated Section 6(f) Assessment."

Construction of the proposed improvements would temporarily increase noise levels and ambient dust at recreational properties adjacent to the proposed project, including Bear Creek Park, Veterans Park, and Bear Creek Greenway. Construction vehicles also would introduce visual distractions. A substantial impact to a recreational resource could occur if the proposed project's proximity impacts, such as noise or air quality effects from construction, would be so severe and that the important recreational activities, features, or attributes would be substantially impaired. Substantial impairment would occur only when the important activities, features, or attributes of the resource were substantially diminished, for example, noise disturbances at the amphitheater.

Noise mitigation and dust abatement measures proposed in the FEIS would minimize impacts at recreational sites. The primary area of Bear Creek Park that would be impacted includes the dog off-leash area, which is not considered a noise sensitive use area. The area already experiences substantial urban noise due to its proximity to Barnett Road. Some particularly sensitive dogs and/or their owners may be disturbed by the noise, dust, and/or presence of construction equipment, and may choose to use other locations. However, Veterans Memorial Park, located adjacent to Oregon 99, is already subject to substantial highway traffic noise, and intermittent substantial noise level increases as trains pass by. Given this long-standing context, enjoyment and use of the Park are not dependent on serenity and quiet conditions.

Bear Creek Greenway within the project area runs generally parallel to I-5. The affected recreational properties are undeveloped, and they are used only infrequently due to heavy brush. The area is already subjected to substantial highway-related noise. Recreational use of this portion of the Greenway is not now, nor is it reasonably expected to be dependent on serenity and quiet.

With implementation of the recommended noise and air quality mitigation measures, a temporary increase in noise and dust levels should not preclude, or substantially diminish, or degrade the primary activities occurring at these recreational areas.

Visual distractions from construction vehicles would be short-term, would range in level of effect daily, and would vary from normal nearby traffic primarily by increased machinery size. Because the effects are limited with respect to duration and difference in character when compared to normal nearby traffic, the visual effects would not substantially impair continued use of the recreational resources.

<u>Effects on Businesses</u>

Page 4-25, left column, after second paragraph:

Based on the refined design developed for the FEIS, circulation access from Center Drive to the Rogue Valley Federal Credit Union would be less direct but would allow all existing movements except a left turn out onto Center Drive. The Highland (Preferred) Alternative considered in the DEIS included relocating Center Drive and ending the old Center Drive alignment with a cul-de-sac just before the street intersection with the Garfield Street connector. In the refined design of the Highland Alternative, this cul-de-sac has been removed because the facility would

operate as a private access. The City plans to vacate to adjacent property owners. The project would now provide a modified alignment of Credit Union Drive, providing access to properties (see Figure 2-1, in FEIS). Internal circulation at this property may need to be modified.

Several parking spaces at the Credit Union may be eliminated by the Garfield Street connector. Should the Credit Union wish to expand, City of Medford policy would not penalize the Credit Union for loss of parking spaces due to street right-of-way requirements. Loss of these parking spaces, as well as area impacts to several other properties directly affected by the project may be reduced by limiting or eliminating landscaped parking strips where they are not required along the connectors, or by reducing the width of the bicycle lanes along the connectors from 2.4 meters (8 feet) to approximately 1.8 meters (6 feet).

Page 4-25, right column, last paragraph of <u>Effects on Business</u> subheading:

Five property accesses off existing Belknap Road and two on Barnett Road east of I-5 would be eliminated. *Based on the modified design developed for the FEIS, extension of the Center Drive stub out to the south of the Garfield Street connector would provide opportunities to minimize the access impacts to properties south of existing Belknap Drive. Individual access points to the Best Western Horizon Inn Motel and the adjacent restaurant on Barnett Road may be combined, thus allowing continued viability of these locations.*

The Shell gas station on Barnett Road would be displaced primarily because of the additional right-of-way requirements resulting from the widening and lengthening of the Barnett Bridge. The property, however, may be suitable for other commercial uses if access could be provided in a manner that would still allow construction of a building.

During construction of the South Medford Interchange Project, the Barnett Road Bridge spanning Bear Creek would be closed for an expected period of six months, during which time a single-span bridge would be constructed to replace the existing bridge. Consultations with potentially affected businesses showed that proprietors preferred an option that would minimize the amount of time their businesses would be impacted. Options for replacing the bridge included constructing a detour bridge to allow continued, though more restricted, through traffic on Barnett Road. However, this option would have resulted in substantially greater biological impacts to the Bear Creek system, would have potentially displaced additional businesses, and would have required an overall longer construction period than closing Barnett Road at the bridge. Alba Drive also would be improved during this time. The motels and Dairy Queen currently that can be accessed from the Barnett Road/Alba Drive intersection would be provided with a temporary access from Barnett Road through the southeast corner of the Dairy Queen parking lot.

The Dairy Queen restaurant, like other fast food businesses, may rely on pass-through traffic for a significant amount of its business. Reduction of pass-through traffic during the Barnett Road/Bear Creek bridge closure would negatively affect visibility, traffic flow, and/or customer availability for this business. This closure may occur in months that are also likely to represent the peak season for a business whose specialties include ice cream. Location of temporary access to the motels through the Dairy Queen property would provide limited pass-

through traffic during the construction period. Such temporary access also may reduce the number of available parking spaces for the restaurant. ODOT would explore opportunities to adjust the work schedule to reduce impacts.

Although specific operating costs and profit margins for this business are unknown, based on a general understanding of the business type temporary reduction of drive-by traffic due to bridge closure would have a temporary detrimental impact on business viability. However, the effect would dissipate after project completion.

Effects on the Workforce of Displaced Businesses

Page 4-25, right column, first paragraph:

Four ~~Three~~ business displacements would be associated with the ~~primary~~ footprint for the Highland Alternative *(see DEIS Table 4-5)*. The impacted businesses include a retail store, *a commercial storage facility* ~~probable home occupation~~, a landscaping business, ~~a motel,~~ and a tire store. Current employment at these locations is estimated to be *around* 60 full-time and part-time jobs (not all businesses responded to survey attempts).

~~However, two of these displacements occur because the project as proposed does not appear to provide for access to the property or building in which they are located. These displacements may occur only if the businesses are unable to adapt to changes in site access. As a result, exact job relocation impacts are difficult to estimate.~~

~~Under a worst case scenario, t~~*Based on the modified project design analyzed in this FEIS,* the project ~~could~~ *would not* result in displacement of an additional gasoline station business *or an* insurance claims office *as was reported in the DEIS*. ~~For both footprints, there could be some losses in income associated with relocation.~~ Wage rates for businesses *that would be* impacted under this alternative are estimated to range from minimum wage to $13 per hour. If suitable relocation sites are not found, there is the risk of permanent job loss. However, suitable alternative sites should be available for impacted businesses that choose to relocate.

Ellendale Alternative

Changes in Neighborhood Cohesion

Page 4-27, right column, add to end of subsection:

Under the Ellendale Alternative, increased traffic volumes on Highland Drive above the No-Build levels and dispersal of traffic from the Highland Drive/Siskiyou Boulevard intersection would increase concerns about pedestrian safety, particularly the safety of school-aged children accessing Hoover School from the west along Siskiyou Boulevard. Conversely, improvements to traffic conditions east of the school, for example, at the Barnett Road/Black Oak Drive intersection, would at least partially offset the overall concern. Pedestrian access to Bear Creek Park from the east side of Highland Drive would be hindered by increased traffic levels and the increased difficulty of reaching signalized crosswalks due to landscape vegetation within the existing street right-of-way between Barnett Road and Greenwood Street.

Increased traffic volumes along Highland Drive between Barnett Road and Greenwood Street would increase noise levels at the apartments along the east side of the street. Such noise impacts could affect the sense of community cohesion to residents of apartments along Highland Drive north of Barnett Road.

Traffic levels along this section of roadway would increase substantially, making it more difficult for residents of apartments along Highland Drive to cross traffic and access their homes. This situation could cause some out-of-direction travel and also could contribute to reduced community cohesion.

Cultural Resources

Consequences Common to Both Build Alternatives

Archaeological Resources

Page 4-33, left column, first paragraph in subheading:

Both Build Alternatives would affect an area within which prehistoric artifacts were discovered during archaeological reconnaissance probe excavations. ~~Because little is know archaeologically about the prehistoric use of the Bear Creek basin, further archaeological testing will be conducted on the selected alternative to determine whether or not the resources constitute an archaeological site and whether it is eligible for listing on the National Register of Historic Places.~~ *An archaeological test excavation was conducted on the area where prehistoric artifacts were discovered underlying both Build Alternatives. Although limited prehistoric materials were recovered, they were highly intermixed with modern materials. The context of the resources had been altered, or the pre-historic materials may have been moved from another location. Consequently, no further archaeological work at that location is needed.*

Historic Resources – Potential National Register Eligible Properties

Page 4-33, right column, subheading Central Oregon Pacific Railroad (COPR), last sentence of paragraph:

~~Opportunities might exist to minimize impacts further by using minimum roadway design standards that nonetheless maintain the highway's safe and efficient operation.~~ *Consistent with mitigation measures recommended in the original text of the DEIS, the refined Preferred Alternative has added bicycle lane improvements along Oregon 99. The impacts of these improvements to the historic railroad have been minimized by reducing the shoulder width to 1.8 meters (6 feet), and by eliminating the planter strip, which reduced the highway width by 0.9 meters (3.0 feet). The existing railroad tracks and associated raised grades would not be impacted. Consequently, no effect would result to this resource.*

Page 4-33 right column to Page 4-34 left column, subheading Veteran's Park:

Veteran's Park: The proposed project would ~~not~~ require ~~taking of~~ land associated with the Veteran's Park. ~~However, refer to impacts associated with recommended mitigation measures in Chapter 5 necessary to offset proposed project impacts to bicycle and pedestrian safety. Highway 99 would need to be widened to the east, along the Park's frontage.~~ *Consistent with mitigation measures recommended in the original text of the DEIS, the refined Preferred Alternative added bicycle lane improvements along Oregon 99. The impacts of these improvements to the park have been minimized by reducing the shoulder width to 1.8 meters (6 feet), and by eliminating the planter strip, which reduced the highway width by 0.9 meters (3.0 feet). Because impacts would occur to a portion of*

the park that does not substantially contribute to the historic context, no historic property would be adversely affected. Furthermore, the roadway, bicycle lane, and sidewalk access to the park, as well as the on-site stormwater improvements would enhance park access and control stormwater runoff that might otherwise affect historic trees.

Highland (Preferred) Alternative

Page 4-34, left column, end of paragraph, add:

Because one property owner originally did not provide access to allow archaeological probing to obtain information for the DEIS, subsequent archaeological investigations were conducted on that property after the DEIS was issued. Preliminary results from the subsequent probing indicate that no archaeological resources were discovered. Following completion of the documentation for this probing, the complete cultural resources documentation for the project would be prepared. With the absence of intact cultural material at the location previously tested, the absence of artifacts at the location recently tested, and the documentation already received regarding no effects to historic properties, full compliance with cultural resource regulations is reasonably expected. Because the project is not expected to have adverse effects on cultural resources, a Memorandum of Agreement between SHPO and ODOT would likely not be required. Standard clauses in contract documents would address how to protect archaeological resources that might be discovered during construction.

Visual Resources

Highland (Preferred) Alternative

Page 4-35, right column, after last paragraph, add:

Based on the refined project design analyzed in this FEIS, the Preferred Alternative would increase the height of the SPUI by about 0.3 m (1 ft), which would be an inconsequential change in the context of the entire project. Improvements to several roads in the project area would be extended in length and in some cases extended in width, with added turn lanes. However, these proposed project changes would cause no substantially new impacts to the visual environment beyond those previously identified.

Aesthetic treatments to mitigate negative visual impacts of retaining walls or bridges are expected to generally correspond with the programs being developed for the North Medford Interchange Project and with the MURA aesthetic treatments along the Greenway. For example, treatments being considered for the North Medford Interchange Project include casting impressions of Douglas fir sprigs, salmon, and cattails into the concrete surfaces.

Noise

No-Build Alternative

Page 4-38, left column, first/only paragraph:

Future No-Build Alternative noise levels are predicted to range from 53 decibels adjusted (dBA L_{eq}) to 71 dBA L_{eq}. Figure 4-1 shows that in the No-Build Alternative, *the noise levels that would be experienced by* 12 of the 36 modeled receptor~~s~~ *locations* would approach or exceed the NAC *(FHWA/ODOT Noise Abatement Criteria)* for Activity Category B land uses in the design year

2020. This *would be expected to adversely affect* ~~is representative of~~ approximately ~~61~~*58* residences *or residential equivalents*. Traffic noise impacts would occur at noise sensitive land uses adjacent to both sides of I-5, along Barnett Road, *and the apartment complexes on the east side of Highland Drive (between Barnett Road and Siskiyou Boulevard).*

Highland (Preferred) Alternative

Page 4-38, left column, first paragraph, second sentence:

This ~~is representative of~~ *would be expected to adversely affect* approximately ~~60~~*57* residences or residential equivalents.

Page 4-38, right column, after last paragraph of subsection, add:

Based on the refined design for the Preferred Alternative, the project area along Barnett Road would be widened east to Ellendale Drive and west to Stewart Avenue to allow for extension of bicycle lanes. There would be no additional traffic noise impacts resulting from this project refinement. This area was previously analyzed in the DEIS.

Public concern was raised about the impact that traffic noise would have on residential uses along Highland Drive between Barnett Road and Greenwood Street. Noise analysis conducted for the project indicates that a peak-noise-hour level of 67 dBA L_{eq} would be experienced at the noise-sensitive receptors along this street section. Consequently, future noise levels would exceed ODOT/FHWA noise abatement criteria. Noise barriers were considered for the residential area along the northbound side of Highland Drive. However, because of the presence of driveways for vehicle ingress/egress in this area, the noise barriers would not be continuous, which would render them ineffective and not feasible.

The Highland Drive connector would be shifted slightly from the previous design in the vicinity of Highland Avenue. Also, the vertical alignment would change slightly (there would be an increase of approximately 6 inches to 1 foot in vertical elevation of the SPUI), sloping down and lessening to the north and southwest along the connector streets compared to the previous design. These areas were analyzed in the DEIS. Based on that analysis, noise levels at the mobile home units closest to the Highland Drive connector alignment (as represented by receptors ST-7 and 113) would be below the NAC.

After the noise analysis was conducted for the DEIS, the mobile home units in the vicinity of receptors ST-7 and 113 were removed from the area (they were within the floodplain). The nearest mobile home units currently are located approximately 34 m (110 feet) further away from the previous Highland Drive alignment and approximately 24 m (80 feet) further away from the proposed new alignment of Highland Drive. The traffic volumes analyzed in the DEIS would not change as a result of the change in roadway alignment. Based upon the change in horizontal alignment and the increased distance to the nearest mobile home units, the noise levels at the nearest remaining mobile home units would be approximately 4 dBA lower than those reported for receptors ST-7 and 113. Therefore, the resultant noise levels would be below the NAC.

The proposed change in vertical alignment of the SPUI would result in a very small change (less than one degree) in the angle of the line-of-sight from the nearest mobile home unit to the roadway alignment. This is

because of the relatively large horizontal distance covered compared to the vertical change (of approximately 1 foot at the SPUI). This change in the line-of-sight angle would be very minor. It would not cause an audible or measurable difference in traffic noise levels. Similarly, the nearest residences on the west side of the highway near the SPUI (located on Charlotte Anne Road) would result in a change in the angle of the line-of-sight of less than one degree. This change in the line-of-sight angle would also not cause an audible or measurable difference in traffic noise levels.

Under the Preferred Alternative, concern arose about the effect of the project on the existing amphitheater located within Bear Creek Park. The amphitheater is located approximately 650 feet west of Highland Drive and approximately 1,000 feet north of Barnett Road. Based upon a typical propagation rate for roadway noise of 4.5 decibels per doubling of distance, the noise level at the amphitheater would be approximately 14 decibels lower than that for a receptor with a similar "set back" from Highland Drive to ST-18. The peak-hour noise level near Highland Drive is approximately 67 dBA L_{eq}. Thus at the amphitheater, the peak-noise hour noise level from the project would be approximately 53 dBA L_{eq}.

Based upon FHWA policy (23 CFR Part 772), the projected noise level increase at this location would not exceed the ODOT and FHWA NAC for parks. Also, the project would not substantially interfere with the use and enjoyment of hearing the performances at the outdoor amphitheater.

Ellendale Alternative

Page 4-38, right column, first paragraph, second sentence:

This *would be expected to adversely affect* ~~is representative of~~ approximately ~~79~~ *76* residences or residential equivalents.

Page 4-38 add as a footnote:

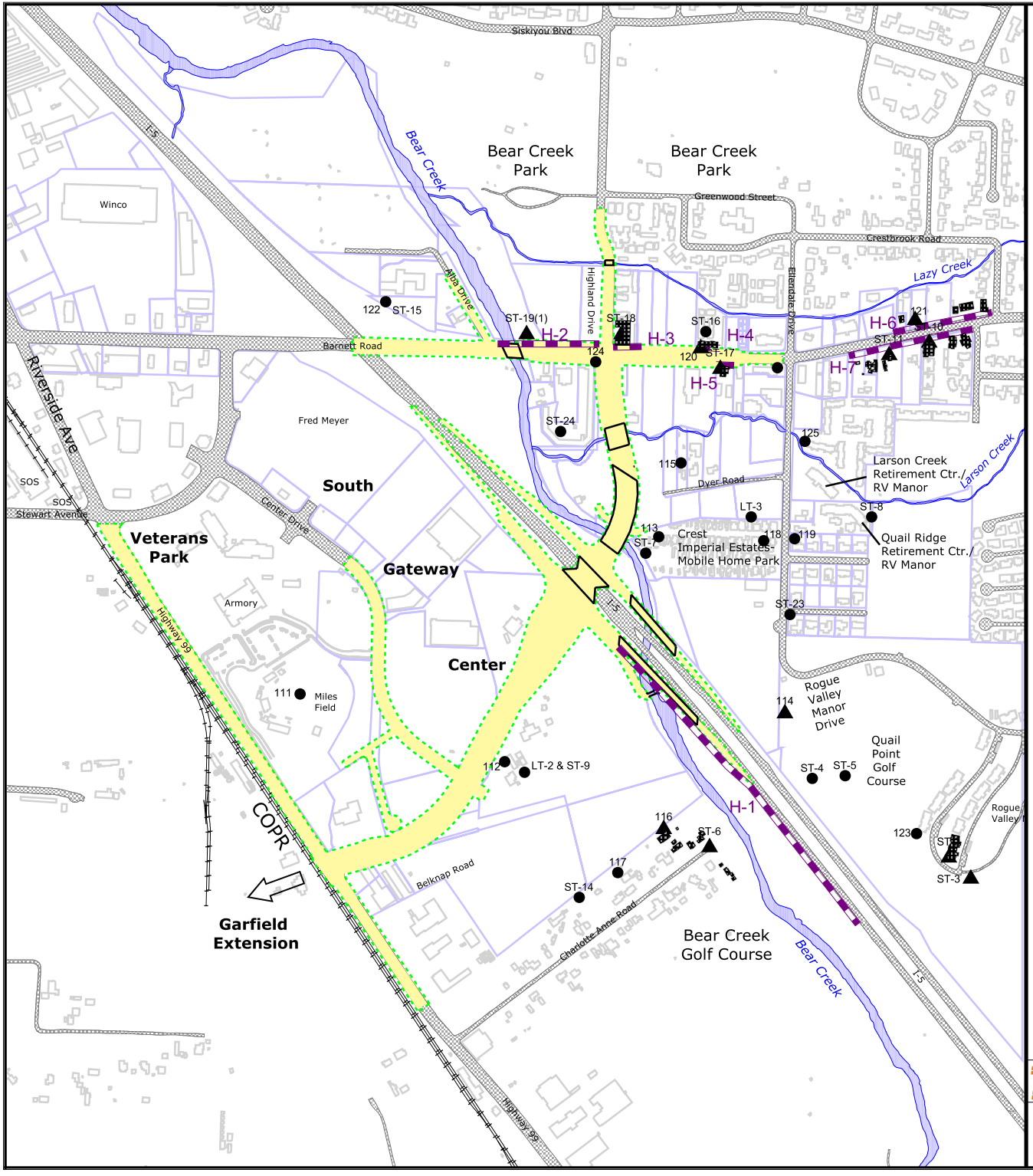
The "considered" noise barriers along Barnett Road under both Build Alternatives (Figure 4-2 and 4-3) have been shortened to better account for the mix of commercial and residential land uses along that street. Additionally, both "considered" and "feasible/cost-effective" barriers are shown on these figures. The term "considered barrier", as used here, refers to a noise wall that was analyzed to determine if it should be preliminarily recommended for construction. Barrier E-4 (under the Ellendale Alternative) was the only feasible/cost-effective barrier identified in the DEIS.

See the following pages for Figures 4-2 and 4-3 for both Build Alternatives:

Replace Figures 4-2 and 4-3 on DEIS pages 4-47 and 4-49.

Page 4-38: Add the following as footnote at the bottom of the page:

Under the Ellendale Alternative, several residential units that would have been displaced as a result of the project were inadvertently shown in Figure 4-3 as remaining. Consequently, the front row units of the Crest Imperial Estates Mobile Home Park (adjacent to Ellendale Drive) and one residential unit along Barnett Road, have been removed from the corresponding graphic in this FEIS to more accurately reflect the displacement of those residences. This graphic change does not affect the analysis or the conclusions that were reported in the DEIS, because the displacements were properly accounted for in the analysis.



SOUTH MEDFORD INTERCHANGE PROJECT
ALTERNATIVES & SOLUTIONS

Highland Alternative

Noise Analysis

- Considered Noise Barriers (H1-H7)
- ST-9/LT-2 Measured and Modeled Receptors
- 115 Modeled-Only Receptors
- ST-10 Peak Noise Hour Leq (dBA) Approaches or Exceeds Noise Abatement Criteria (NAC)
- Peak-noise-hour Approaches or Exceeds NAC

Project Features

- Proposed Bridge
- Primary Footprint
- Buffered Footprint
- Streams
- Buildings
- Roads after Construction
- Taxlots
- Railroad

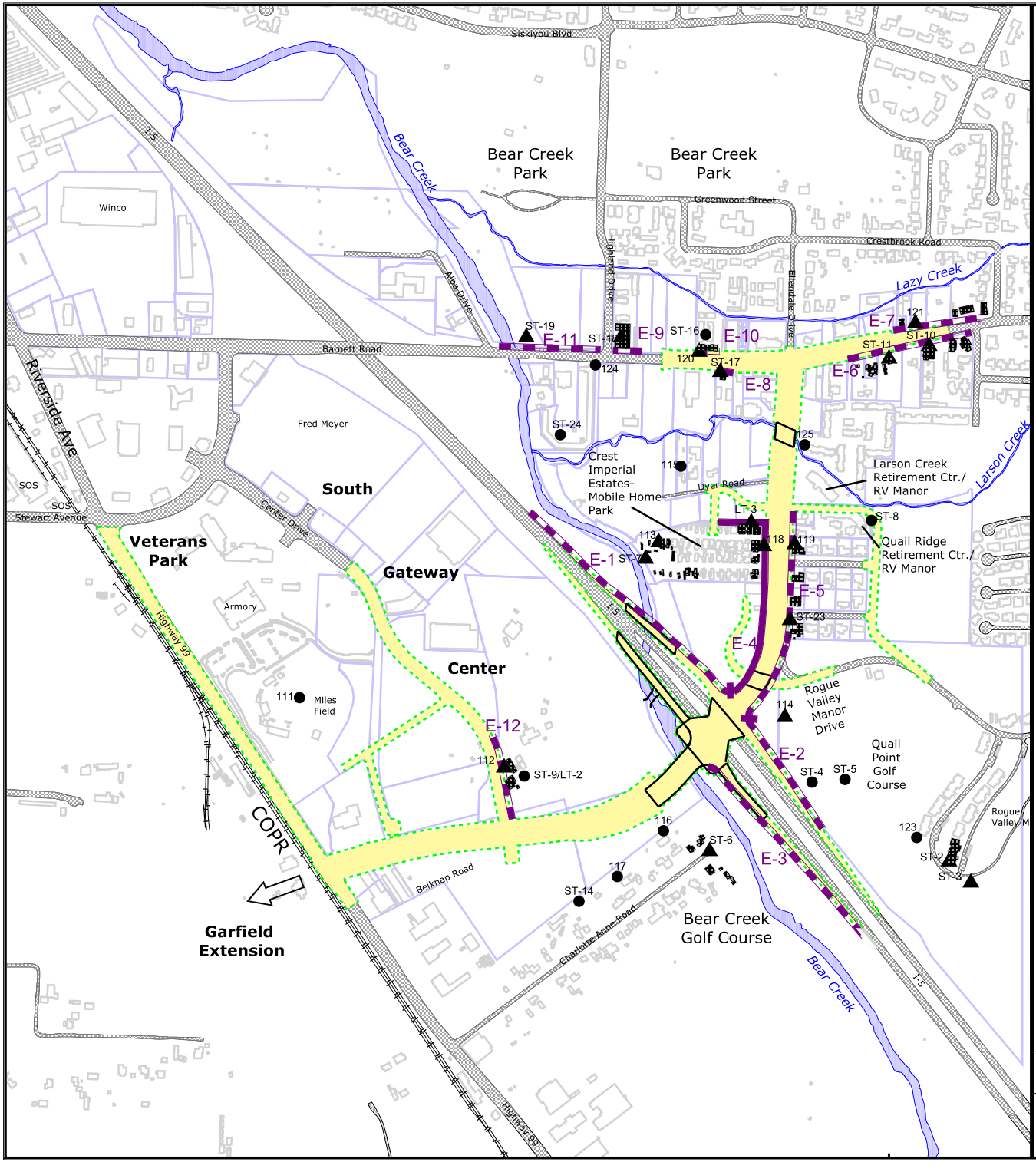
N

500 0 500 1000 Feet

200 0 200 400 Meters

Oregon Department of Transportation

Figure 4 - 2
Highland Alternative



SOUTH MEDFORD INTERCHANGE PROJECT
ALTERNATIVES & SOLUTIONS

Ellendale Alternative

Noise Analysis

- Feasible and Cost Effective Noise Barrier (E4)
- Considered Noise Barriers (E1 - E3 / E5 - E12)
- ST-9/LT-2 Measured and Modeled Receptors
- 115 Modeled-Only Receptors
- ST-10 Peak Noise Hour Leq (dBA) Approaches or Exceeds Noise Abatement Criteria (NAC)
- Peak-noise-hour Approaches or Exceeds NAC

Project Features

- Proposed Bridge
- Primary Footprint
- Buffered Footprint
- Streams
- Buildings
- Roads after Construction
- Taxlots
- Railroad

N

500 0 500 1000 Feet

200 0 200 400 Meters

Oregon Department of Transportation

Figure 4 - 3
Ellendale Alternative

Two structures along Barnett Road that were identified as being residences in all three figures in the DEIS have since been determined to be commercial buildings. These structures are no longer shown as residential buildings. Because of this, barriers H-4 and H-5 under the Highland Alternative (Figure 4-2), and E-10 and E-8 under the Ellendale Alternative (Figure 4-3), have been shortened to avoid inappropriate shielding of those commercial buildings. The estimated number of impacted residences or residential equivalents is reported in this FEIS has therefore been reduced by three for each of the alternatives (which is reflected in other changes to the DEIS text).

Air Quality

Page 4-55, right column, after last paragraph of this subsection, add:

Since the DEIS, there have been minor design refinements to the Proposed Alternative, implemented to accommodate rights-of-way and terrain features and to respond to public and agency concerns regarding safety. None of the refinements were made to address intersection congestion, which would be a key concern of air quality issues. Additionally, none of these design refinements would require any revision of the traffic study that was performed for the South Medford Interchange Project Draft Environmental Impact Statement (DEIS).

The changes in the project footprint are not expected to result in changes to the regional conformance or creation of new "hot spots", as reported in the DEIS.

The South Medford Interchange Project is identified in the current Regional Transportation Plan (RTP) and the Metropolitan Transportation Improvement Program (MTIP) for Medford. Regional air quality analysis of carbon monoxide and PM_{10} emissions has demonstrated conformity of the Medford RTP/MTIP with the air quality State Implementation Plan (SIP) (Appendix C: USDOT to Mr. Moore, October 22, 2003). Local CO hot-spot analyses performed for this project, for the period between the DEIS and FEIS, indicates that the Preferred Alternative would not cause any new violation of the CO standard or exacerbate any existing CO hot-spots within the Urban Growth Boundary. Project refinements are also expected to have only negligible air quality impacts, all of which would be less than the worst-case impacts that were addressed in the original DEIS analysis. Therefore, the South Medford Interchange Project, including the refinements made to the Preferred Alternative, conforms with the air quality SIP.

Hazardous Materials

Highland (Preferred) Alternative

Page 4-56, left column, add to end of first paragraph:

Based on the refined design for the project, ODOT conducted soil tests at the site. Also, ODOT conducted probing and a refined site assessment to assess the presence or absence of potential hazardous materials at various properties. The assessment revealed the following evidence of possible subsurface contamination in the project area:

- *petroleum hydrocarbons from multiple spills*
- *organochlorine pesticides and metals*
- *volatile organic compounds associated with the use of hydraulic equipment*

- *PCB associated with petroleum hydrocarbon spills*

Page 4-56, left column, add to end of subsection second paragraph:

Tests have not yet been conducted at this site due to the relatively lower risk of hazardous materials being present. As the project progresses, the potential for hazardous materials to be present would be further investigated. Based on the refined design for the project, soil tests were conducted near the electrical power substation currently accessed by Belknap Road. No traces of hazardous materials were discovered.

Energy

Construction Energy Determination

Page 4-56 to Page 4-57, after end of subsection, add:

The refined project design analyzed in this FEIS would involve construction activities that would differ from those analyzed in the DEIS. Examples include replacement of the Barnett Road Bridge (rather than widening) and extending bicycle lane and sidewalk improvements along Barnett Road to Ellendale Drive. These changes would require additional expenditure of energy. However, because the vast majority of the construction energy expenditures would be associated with the construction of the interchange structure itself, these additional expenditures do not represent a substantial increase. Energy spent in constructing the interchange structure could be reduced by eliminating its landscape strip (which would be impractical to maintain and is not required) and by reducing the bicycle lane width from 2.4 meters (8 feet) to 1.8 meters (6 feet). Because the design refinements would not substantially affect traffic conditions, operational energy expenditures would not change substantially from the findings reported.

Geology and Soils

Highland (Preferred) Alternative

Page 4-58, top:

Generally, n~~N~~o additional *long-term* impacts are envisioned with the Highland Alternative. *ODOT's refined roadway and bridge design that are analyzed in this FEIS would place most permanent bridge piers outside of Bear Creek's 2-year flood channel. However, three piers must be placed within the 2-year flood channel because of engineering necessity. These include:*

- *For the I-5 Southbound onramp one pier would be located in the 2-year flood channel*
- *For the I-5 Northbound offramp two piers would be located in the 2-year flood channel*

Temporary construction access bridges consisting of steel pipe piles would likely be constructed over Bear Creek. Approximately 130 temporary piles would be installed within the 2-year flood channel of Bear Creek, including about 30 piles that may need to be installed within the flowing water of the channel. Some piles may be anchored on small concrete pads where bedrock is exposed in the stream channel. Appropriate construction techniques would be coordinated with biological resource agencies to minimize short-term impacts to geology and soils.

Hydraulics

Highland (Preferred) Alternative

Bear Creek

Page 4-58, right column, after first paragraph, add:

The refined roadway and bridge design would include piers in the 2-year flood channel of Bear Creek, as well as fill within the stream's floodplain. Additional intensive hydraulic modeling was conducted after the DEIS to support ongoing design refinements and to determine what was needed to minimize the proposed project's potentially adverse hydraulic impacts. The proposed project's potentially adverse hydraulic impacts to Bear Creek are of critical concern, given the extensively developed nature of the project vicinity, the history of flooding problems in the basin, and importance to associated biological resources that are dependent on the stream's hydraulics/hydrology. The Location Hydraulic Study was designed to be commensurate in detail and rigor with the significance of the risk, or environmental impact. The hydraulic modeling used in that study employed detailed digital terrain modeling (23 CFR 650.111(e)). A two-dimensional hydrodynamic modeling program (RMA-2, Version 4.35) was used to model existing and proposed hydraulic conditions. RMA-2 is a two-dimensional, depth-averaged, finite element, hydrodynamic model that computes water surface elevations and horizontal (x and y) components for sub-critical, free-surface flow in two-dimensional flow fields. This model was used because of the hydraulic significance of Bear Creek and its location within the project.

The project was refined to minimize the impacts to affected stream hydraulics. The risks associated with the project could have included potentially increasing floodway and floodplain elevations. However, based on the modeling, the hydraulic specialist concluded that the South Medford Interchange project, in combination with the I-5 bridge replacement project, would result in a "No-Rise" determination (based on a comparison of the hydraulic capacity of the existing and resulting from proposed bridges). All new bridges at Highland Avenue and Larson Creek would have zero bridge backwater. Other proposed bridges would cause less backwater than the existing bridges. Consequently, the adverse impacts on natural and beneficial flood-plain values would be negligible and the project would not support incompatible flood-plain development. Important factors contributing to this conclusion are the replacement of the Barnett Road bridge (now, including removing the existing piers in the stream and spanning the floodway), and the related I-5 bridges replacement project. Consequently, assuming the I-5 bridge replacement project were to proceed as planned, concurrent with construction of the South Medford Interchange, impacts to the stream hydraulics in the area would be insignificant. There is no planned removal of berms south of the interchange because they do not provide flood elevation protection (there are numerous breaks in the berms). Floodplain values would be further enhanced by biological resource mitigation measures, which would include restoration of natural riparian habitat.

Page 4-58, right column, second paragraph:

A small area, approximately 60-square meters (646 square feet) of the retaining wall associated with the northbound onramp may be located within the floodway boundary that defined the study area that was considered in the hydraulics analysis *in the DEIS*. ~~On-the-ground surveys between the DEIS and the Final EIS would determine~~

~~the extent to which this may reflect mapping inaccuracies. Should the encroachment be confirmed, impacts to the floodway would be avoided or minimized by measures that could include (but not necessarily be limited to) relocating the retaining wall and/or bridging the floodway.~~ *Based on the refined project design analyzed in this FEIS, this area would be bridged, and no impacts to the stream are anticipated.*

Temporary construction access bridges would be needed to construct the proposed permanent bridges across Larson and Bear Creeks. However, the piers associated with these bridges would be temporary and would be removed following construction of the permanent bridges, resulting in no long-term consequences to stream hydraulics.

Only Practicable Alternative Finding

The proposed Preferred Alternative would encroach upon the Bear Creek floodplain. However, the project is being designed and coordinated with other related activities to ensure that directives and regulatory requirements of Executive Order 11988 and 23 CFR 650, Subpart A, to avoid, when practicable, adverse impacts of occupancy and refinement of floodplains.

The Preferred Alternative must be located in the floodplain because Bear Creek bisects the project area running south to north, and the proposed interchange replacement would necessarily require crossing the wide floodplain to maintain and enhance the interchange connection to a network of east-west streets.

As explained in DEIS Chapter 2, subsection "Alternatives Considered but Not Advanced," numerous alternatives were considered as possible solutions to the project's overall purpose to improve the safe and efficient movement of goods, people, and services at and through the interchange area. The text in that subsection summarizes the reasons why nearly all of the build alternatives that were considered were judged to be impracticable. Except for the two build alternatives that were advanced to the DEIS, the other alternatives would not meet the purpose and need of the project, and may result in unacceptable levels of adverse impacts to a multitude of factors considered.

After consideration of the effects of the Build and No-Build alternatives that were analyzed and reported in the DEIS and after reviewing the comments received on the DEIS, the project's CAC and Solution Team recommended to ODOT that the Highland Alternative be advanced to the FEIS because it would best meet the project's purpose and need with the least amount of overall adverse impacts to the environment, in comparison to the Ellendale Alternative. ODOT and FHWA concurred with that recommendation and have advanced the Highland Alternative to the FEIS as the Preferred Alternative.

As reported in the previous subsection of this FEIS, the Preferred Alternative would include encroachment into the Bear Creek floodway. However, floodway modeling conducted for the project concluded that no substantially adverse effects to the floodway are expected, and no revision to the floodway boundary would be needed.

The proposed action conforms with applicable state and local floodplain protection standards that reflect applicable federal standards.

Water Quality

Highland (Preferred) Alternative

Page 4-60, left column, first paragraph of subsection:

In addition to the number of bridges (which both Build Alternatives *would* have in common) the Highland Alternative would place the northbound onramp immediately adjacent to Bear Creek, *which would* present~~ing~~ a challenge for erosion control. *However, the modified project design that was analyzed for this FEIS would involve bridging this area, which would minimize the potential impacts to the stream.*

Page 4-60, right column, after last paragraph, add:

Based on the modified project design analyzed for this FEIS, as well as refined biological analysis and water quality/quantity analysis and design, the project would include in-water construction work for both the temporary and permanent bridges. For all temporary bridges, appropriate facilities would be installed to prevent construction materials or waste from entering the streams. There also would be considerable over-water work during construction of the permanent and temporary bridges. Chemical contamination is also a concern because activities involving hazardous materials would occur in areas that have direct or indirect hydrologic connections to the creeks. These activities include asphalt-concrete application, lane painting and striping, and vehicle fluid leaks.

An increased risk of turbidity increases would be caused by activities such as culvert work, road bank cut and fill, and installation of temporary work bridge piers. Additional risk for turbidity would occur during the removal of the existing bents on the Barnett Road Bridge.

Rather than relying on stormwater swales as reported in the DEIS to control stormwater runoff impacts, the refined project would include two stormwater detention ponds, water quality treatment facilities, and a bioswale to manage the runoff from new surfaces as well as existing impervious surfaces in the project area. The ponds would collect and hold the stormwater runoff, provide water quality treatment benefits, and empty water into Bear Creek at two points at a rate no faster than currently occurs. Additionally, pond design would allow infiltration of some stormwater into the ground.

Biological Resources

Highland (Preferred) Alternative

<u>Threatened and Endangered Species</u>

Page 4-64, right column, after end of last paragraph, add:

Throughout the process of developing the project, ODOT has informally consulted and coordinated with federal and state agencies responsible for natural resource management and permitting (e.g., NOAA Fisheries, USFWS, USACE, US EPA, Oregon DSL, ODFW). Very early in the project's progress, NOAA Fisheries (then known as NMFS) expressed serious concerns about the status of the Bear Creek watershed, noting that they were closely following proposals in the basin to make sure that they would not place ESA-listed fish in "jeopardy." Concerns and recommendations expressed by agency representatives were relayed to project technical staff and were considered. Appropriate recommendations were incorporated into the proposed project described herein.

The Preferred Alternative design refinements, along with those parts of the project already considered, influence the nature of impacts to fisheries, particularly to the coho salmon, a species listed as "threatened" under the federal Endangered Species Act. During the time since the DEIS was issued, and while design refinements were being developed, ODOT held an informal in-field conference with several regulatory and resource management agencies (including NOAA Fisheries) to review potential project impacts and explore mitigation options. During the meetings, agency representatives expressed several concerns and provided many recommendations. Many of the suggestions provided by agency representatives, such as the character and placement of piers, were incorporated in the Biological Assessment (BA) for the project (October 2002). Submittal of the BA initiated formal consultation with NOAA Fisheries regarding project compliance with the Endangered Species Act.

The BA reviewed in detail the impacts of the Preferred Alternative on coho salmon and its habitat, including in-stream, riparian, and wetlands conditions required for their health and survival in the project area. The document assessed the project's impact relative to six "pathways," (i.e., water quality, habitat access, habitat elements, channel condition and dynamics, flow/hydrology, watershed conditions). For all of the 18 "indicators" that were used in making the assessment, the project would at least maintain existing conditions on a system-wide basis. The project would maintain existing conditions, would have localized benefits, and would cause no system-wide impacts relative to the following four indicators (sediment/turbidity, chemical contamination, physical barriers, and peak/base flows). Three factors would be maintained with some localized, temporary impacts and no system-wide impacts.

Demolition and replacement of existing bridges, construction of roadways, temporary construction bridges, new bridges, and other ancillary facilities would have potential for temporary adverse impacts to the streams, fish, and surrounding important riparian habitat. Numerous conservation measures would be imposed to offset these impacts. Conversely, replacing the Barnett Road bridge across Bear Creek with a single span bridge, and improving the Lazy Creek crossing (i.e., replacing the existing culvert with a single-span bridge) would have long-term benefits to fish populations (by removing existing in-stream obstacles and restoration of habitat).

Although the Preferred Alternative's southbound onramp and northbound offramp would involve installing three piers in Bear Creek's two-year flood channel, the piers would not be located within the main stream channel, and would not be expected to substantially impair fish passage.

Construction of structures near streams would result in the loss of approximately 0.4 ha (1.0 ac) of vegetation from the riparian forest community along Bear and Larson creeks. Shade, nutrients, and large wood for habitat, generated by trees and tall shrubs, are important to wildlife and fish. Their loss would be important to minimize and replace. Impacts that may occur would be mitigated as required under federal, state, and local regulations.

Stormwater treatment/detention basins and a bioswale would receive stormwater pollutants from not only the new road surfaces, but also from several portions of existing streets (e.g., Barnett Road,

Highland Drive) that currently discharge untreated runoff directly into streams. This would aid in reducing localized discharge of oil and grease, dirt, and chemicals into the stream.

Recognizing these potential impacts, the BA listed minimization and avoidance measures that the project must incorporate.

Based on the assessment presented in the BA, the Preferred Alternative's impacts to coho salmon would result in more than a negligible probability of "take" for the Southern Oregon/Northern California Coasts (SONC) coho salmon. This determination is not unusual. Wherever there is in-stream work, there is some potential for "take" of sensitive species. This determination does not necessarily put the continued existence of SONC coho in jeopardy. The BA also concluded that the Preferred Alternative may affect, but is not likely to adversely modify, the designated critical habitat of the SONC Coho Salmon Evolutionarily Significant Unit (ESU).

In response to the original BA submittal (October, 2002), NOAA Fisheries indicated that the BA lacked sufficient information to enable completion of the formal ESA consultation process (seed Appendix C of DEIS for NOAA Fisheries' response letter). The letter also noted that NOAA Fisheries has had extensive involvement in this project's development, and that NOAA Fisheries believes ODOT and FHWA are working to avoid and minimize impacts to sensitive species.

Since receiving the NOAA Fisheries response, ODOT has worked diligently to further reduce project impacts and to refine project design details. An additional field meeting was held with NOAA Fisheries and other natural resource agencies to discuss project refinements, stormwater treatment and detention, and mitigation opportunities. Substantial additions and modifications have been made to the BA, which was resubmitted to NOAA Fisheries in November, 2003.

The conclusions of the revised BA are identical to the original BA, in that the proposed action is expected to adversely affect SONC coho salmon, and is not likely to adversely affect their critical habitat. Conservation measures and mitigation are proposed to minimize impacts and to remediate loss of fisheries habitat. Based on the coordination and consultation that have already occurred, FHWA expects that consultation will conclude with a NOAA Fisheries Biological Opinion (BO) that agrees with the BA findings. FHWA further expects NOAA Fisheries to conclude that the proposed action will not cause "jeopardy" to the continued existence of the species. Soon after completion of ESA consultation, FHWA will issue a project Record of Decision (ROD). The ROD will contain additional ESA consultation information, as appropriate.

<u>Wetlands</u>

Page 4-69, right column, end of subsection add:

<u>Only Practicable Alternative Finding</u>
The proposed Preferred Alternative would impact wetlands. However, the project is being designed and coordinated with other related activities to ensure that directives and the regulatory requirements of Executive Order 11990 (23 CFR 771.125(a)(1)), FHWA Technical Advisory 6640.8a, section 12 Wetland Impacts, and the Clean Water Act 1970 (33 U.S.C. 1344) are followed.

As explained in DEIS Chapter 2, subsection "Alternatives Considered but Not

Advanced," numerous alternatives were considered as possible solutions to the project's overall purpose to improve the safe and efficient movement of goods, people and services at and through the interchange area. The text in that subsection summarizes the reasons why nearly all of the build alternatives that were considered were judged to be impracticable. Except for the two build alternatives that were advanced to the DEIS, the other alternatives would not meet the purpose and need of the project, and may result in unacceptable levels of adverse impacts to a multitude of factors considered.

After consideration of the effects of the Build and No-Build alternatives as reported in the DEIS and of the comments received on the DEIS, the project's CAC and Solution Team recommended to ODOT and FHWA that the Highland Alternative be advanced to the FEIS because it would best meet the project's purpose and need with the least amount of overall adverse impacts to the environment, in comparison to the Ellendale Alternative. ODOT and FHWA concurred with this recommendation and advanced the Highland Alternative to the FEIS as the Preferred Alternative.

As reported in the previous subsection of this FEIS, although the Preferred Alternative would impact wetlands, it would impact less wetland area than the Ellendale Alternative. As further design detail necessary to complete applicable wetland permits becomes available, ODOT will coordinate with the Oregon Division of State Lands (DSL) and the U.S. Army Corps of Engineers to prepare and submit application materials to obtain the wetland permits for the project.

Cumulative Impacts

Traffic

Page 4-73, right column, end of subsection, add:

Proposals have come up regarding the abandonment, demolition, and redevelopment of Miles Field baseball stadium. Most recently, Wal-Mart has discussed the possibility of constructing a large retail store on the site. A development of that type and scale would need to comply with City of Medford requirements for associated road improvements to ensure the continued viability of the roadway system.

Land Use

Page 4-74, right column, end of subsection, add:

Redevelopment of the Miles Field site, if generally consistent with the commercial zoning applied to the site, would be subject to the City of Medford's Site Plan and Architectural Commission Review process. That process would involve a review of the redevelopment proposal regarding compatibility requirements and would provide a forum for consideration of the proposal's impacts on transportation systems.

Socioeconomics

Page 4-75, left column, end of subsection, add:

The City's extension of Garfield Street (Garfield connector) to Oregon 99 would open a new point of access to portions of developed and undeveloped land in southwest Medford. The current and potential future increase in traffic levels on Garfield Street and adjacent side streets could increase secondary noise and community cohesion impacts to residential occupants in this area. The extent of this

potential impact is difficult to assess given the number of factors influencing the level of development. Future development could occur over many years and could generate additional traffic.

The CAC sub-team, which focused on safety concerns in the Barnett Road, Highland Drive, and Bear Creek Park area, recommended constructing a pedestrian crossing at the Highland Drive/Greenwood Street intersection. The sub-team discussed safety options for the crossing, including putting in a signal light when warranted. However, studies show that lights cause traffic to speed up, thus, it is not necessarily safer for pedestrians. As a related project to be constructed prior to the South Medford Interchange Project, the City plans to provide sidewalk connections along the perimeter of the park along Highland Drive and Barnett Road and the improved pedestrian crossing at Greenwood. The City would install raised medians and plant trees between Siskiyou Boulevard and Greenwood Street. Combined with the South Medford Interchange Project, roadway, pedestrian, and bicycle safety in the vicinity of Bear Creek Park would be substantially improved.

Based on the CAC sub-team's recommendations, the City of Medford's improvements along Highland Drive would include roadway improvements to accommodate increase traffic levels in front of the fire station that is located on the west side of Highland just south of the Highland Drive/Siskiyou Boulevard intersection. No median would be constructed at this location along Highland Drive. The combination of City of Medford's and South Medford Interchange Project's roadway improvements would enhance fire truck safety, mobility, and response times.

Potential redevelopment of the Miles Field site with more intensive commercial uses could increase job opportunities in the region, depending on the ability of the new business to contribute to expanding regional markets rather than contribute to displacing existing jobs.

Visual Resources

Page 4-76, right column, end of subsection, add:

Because both projects serve as a gateway to the City of Medford, ODOT is working with interested parties to develop consistent themes to use in minimizing the visual impacts of the North Medford Interchange and the South Medford Interchange projects. The themes would address primarily how to soften the visual impacts of the structures, such as bridges and retaining walls by using impressed images on their concrete surfaces.

Air Quality

Page 4-78, left column, end of subsection, add:

After the DEIS was issued, the FHWA and FTA jointly confirmed conformity of the RTP for all projects in the Plan, including the South Medford Interchange. Consequently, the proposed project is considered to be in conformance with regional air quality requirements.

Water Resources: Hydraulics and Water Quality

Page 4-79, left column, end of subsection, add:

Past construction of roadways in the project area involved passive collection of stormwater into culverts and ditches with direct discharge into local streams. The proposed project would collect much of this stormwater from streets such as Highland

Drive and Barnett Road and then provide treatment and detention prior to discharging stormwater into Bear Creek.

In combination with the I-5 Bear Creek Bridges replacement project, the South Medford Interchange project would improve the hydraulic flow capacity of Bear Creek and would result in a "no-rise" of the floodway elevation. The improvement in hydraulics would result primarily from the removal of existing piers and riprap from the stream channel.

Page 4-79, end of chapter, add:

Short-Term Use and Long-Term Productivity

The No-Build Alternative would not cause new short-term displacements or development of natural resources. However, under the No-Build Alternative, congestion would continue to increase at the interchange and at other intersections nearby. Such increases would continue to degrade livability in the project area and likely beyond.

Under the Preferred Alternative, long-term productivity would improve as a result of improved traveling conditions for the thousands of people who use the South Medford Interchange every day. Overall improved mobility and accessibility would enable stronger and more efficient economic and employment activity in the interchange area, the community, and the region.

A combination of project elements and mitigation measures that would offset environmental impacts are expected to match, if not improve, existing productivity of the natural and human environments. For example, providing street directions and accessibility for regional commercial consumers is a project element that would improve the human environment and replacing disturbed habitat with habitats comprised of native species would improve the natural environment.

Irreversible and Irretrievable Commitment of Resources

Under the No-Build Alternative, continued congestion at levels exceeding what would occur under the Preferred Alternative would require long-term and inefficient use of fossil fuels. While some out-of-direction travel would result from reducing congestion and improving direct travel for many, the Preferred Alternative would more than offset the inefficiency of out-of-direction travel that would result from relocation of the interchange.

Construction of the Preferred Alternative would require considerable consumption of energy in various forms. The project would also use materials, such as gravel and other fill material, obtained from sources both within and outside the region.

The Preferred Alternative would use land available for other forms of development. Natural resource impacts would be mitigated.

Recommended Mitigation/Conservation Measures (DEIS Chapter 5)

No changes to this DEIS chapter are included. However, a compendium of conservation and mitigation measures for the project is included in Chapter 4 and Appendix H of this FEIS.

Public and Agency Comments and Coordination (DEIS Chapter 6)

There are no changes to the original DEIS chapter. Chapter 5 of the FEIS describes additions and updates the disclosure of the public and agency input since the issuance of the DEIS.