Woodburn Interchange Project
Environmental Assessment

Interstate 5 (Pacific Highway) @ Oregon 214/219
Marion County, Oregon

Federal Highway Administration
Oregon Department of Transportation

July 2005
Measurement Conversion Factors

In accordance with recent Executive Orders and Secretary of Commerce direction, Federal Highway Administration and supporting agency project plans were to be converted to metric units by 2000. However, the Oregon Department of Transportation is now in the process of converting back to English units. This document, where appropriate, will reflect both English and metric units side by side to assist the reader. The following is a brief summary of the conversion factors and units used in this document.

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Alternative Format Availability

In compliance with the Americans With Disabilities Act, alternative formats of this document will be made available upon request.
July 1, 2005

TO THOSE WHO HAVE EXPRESSED INTEREST IN THE

Woodburn Interchange Project
Interstate 5 (Pacific Highway) @ Oregon 214/219
Marion County, Oregon
Key No. 12518

Thank you for your interest in the proposed Woodburn Interchange Project. The Federal Highway Administration and Oregon Department of Transportation just completed the Environmental Assessment (EA) for the proposed project, which is attached for your review and comment. State and federal regulations require agencies to solicit comments in a timely manner, so we request your reply within 30 days of the date of this letter. If comments are not received by August 3, 2005 it will be assumed you do not wish to comment on the EA for the proposed project.

Please mail or email your comments to:

Susan Vickers, Environmental Project Manager
Oregon Department of Transportation
Region 2
455 Airport Road SE, Building B
Salem, OR 97301-5395

susan.vickers@odot.state.or.us

A public hearing will be held on July 21, 2005 at the Hoodview Church of God (1530 Mt. Hood Avenue) in Woodburn, from 4:30pm to 7:30pm. The hearing will be facilitated in an Open House format, displaying maps and pertinent project information to answer your questions about the EA and/or the project. Formal testimony (oral and/or written, or dictated) will be taken as well.

If you have questions or need additional information concerning the proposed project, please contact Terry Cole (ODOT Project Leader) at: (503) 986-2674.

Thank you for your participation,

Jane Lee,
Area Manager (ODOT Area 3)

ALL COMMENTS DUE BY: August 3, 2005
Woodburn Interchange
Interstate 5 (Pacific Highway) @ Oregon 214/219
Marion County
Key No. 12518

ENVIRONMENTAL ASSESSMENT

U.S. Department of Transportation, Federal Highway Administration
and
Oregon Department of Transportation—Region 2 Tech Center

The following persons may be contacted for additional information:

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Abstract: This Environmental Assessment (EA) analyzes the Federal Highway Administration (FHWA) and Oregon Department of Transportation (ODOT) proposal to improve the interchange structure, ramps, and connecting highways on Interstate 5 (Pacific Highway) at Oregon 214/219 near Woodburn, Oregon (i.e., the Woodburn Interchange). The project would reduce congestion in the area and improve the safety and function of the interchange and interstate system for the traveling public. The project area is located within the Woodburn city limits, on the western edge, at Milepost 271, in Marion County. The surrounding communities of Silverton, Mt. Angel, Gervais, Hubbard, and Molalla access I-5 using Oregon 214 (east of I-5) and the communities of St. Paul and Newberg access I-5 using Oregon 219 (west of I-5).

The EA evaluates two Build and one No-Build Alternatives. The “build” alternatives were developed with extensive stakeholder and local agency involvement using a ‘context sensitive design’ approach. Both build alternatives propose the reconstruction of the Woodburn Interchange which would include lengthening the on/off ramps, adding loop ramps, and widening the overcrossing of I-5 as well as Oregon 214 and 219 for additional travel lanes, bicycle lanes, sidewalks, medians and buffer strips (both hard-scape and landscaped), as well as new lighting, signals and signage. Alternative 1 (Widen Equal) would widen Oregon 214/219 equally to the north and south of the existing roadway centerline. Alternative 2 (Widen North) would widen Oregon 214/219 entirely to the north of the existing roadway centerline. Modifications to access for city streets would be made at Oregon Way, Evergreen Road, and Lawson Avenue for both build alternatives. Project impacts would be minor or negligible to air and water quality, streams and fish, vegetation and soils, visual resources, and land use. All impacts are required to be mitigated if they cannot be avoided. There would be minor noise increases and four sound walls are proposed as mitigation for those impacts. There are no historic or archaeological resources or threatened and endangered species in the project area. Impacts to wetlands/waters of the State/US would be less than half of an acre, and right-of-way (ROW) impacts are estimated at 10-12 acres (55-59 parcels). Seven to 11 businesses and one to five residences would be displaced. Travel speeds, traffic flow, and overall safety and function would be improved for all modes of travel using the reconstructed interchange.

ROW cost is estimated at $17.5 million, and construction cost is estimated at $23-25 million. As of the printing of this EA, the project is partially funded (approximately $14 million for project development and ROW acquisition) but construction is not scheduled. The project would be built over a 2-3 year period.
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Executive Summary

The existing Woodburn/Interstate 5 (I-5) interchange, which serves as an access point via Oregon 214 (east of I-5) and Oregon 219 (west of I-5) to I-5 from the surrounding communities of Silverton, Mt. Angel, Molalla, St. Paul, and Newberg, does not meet current design and operational standards. The interchange was last updated in 1975, when the interchange was much less heavily used and the surrounding Woodburn area was much less populated. Today, the combination of the outdated interchange with the high traffic demands causes traffic to move at slower speeds and increases congestion through the interchange and along Oregon 214 and 219. In the future, any projected growth in the area will likely make congestion worse and lead to safety concerns around the interchange.

In the early 1990s, the City of Woodburn, Marion County, and the Oregon Department of Transportation (ODOT) began discussing problems with the existing Woodburn/I-5 interchange. These groups started working together to identify possible solutions. Because this work began at a time of limited statewide money for transportation projects, the work was not completed. In 1999, the City of Woodburn finished a study of Oregon 214 that looked at three options for widening the highway: widening on the north side of the highway, widening on the south side, or equal widening on both sides. This work did not look at improvements to the Woodburn/I-5 interchange.

In 2000, ODOT, the City of Woodburn, and Marion County completed the Woodburn Interchange Refinement Plan. The Refinement Plan identified options for improving the Woodburn/I-5 interchange and the need to study the possible impacts of the different options in an Environmental Assessment (EA).

Following completion of the Refinement Plan, ODOT initiated preparation of this EA for the Woodburn Interchange Project. Several committees were formed to help guide and shape the project: a Project Management Team (PMT), consisting of city, county, and state representatives; a Stakeholder Working Group (SWG), consisting of representatives from local businesses, residential and outlying communities, and other appropriate interest groups; and a Local Access Committee (LAC), which functioned as a workgroup of the SWG and focused on specific local access issues for property owners immediately adjacent to the Woodburn/I-5 interchange or Oregon 214/219. These committees participated in evaluating and screening alternatives to be included for analysis in this EA.

Alternatives

Two “build” alternatives were identified and forwarded to be evaluated in this EA. Both alternatives include reconstruction of the interchange at the junction of I-5 and Oregon 214 and 219 (also known as the Newberg Highway and Hillsboro/Silverton Highway, respectively) to a partial cloverleaf-A (loop ramps in advance of the overcrossing structure of I-5). Both alternatives also include, as part of the project, the widening of Oregon 214 and 219, but in two different directions. The alternatives are different in how they are widened from the existing roadway centerline. Alternative 1, known as Widen Equal, would widen
Oregon 214/219 equally to the north and south of the existing roadway centerline. Alternative 2, known as Widen North, would widen Oregon 214/219 entirely to the north of the existing roadway centerline. Both alternatives would include new 6-foot sidewalks with an additional 6-foot-wide landscaped buffer between the sidewalk and the curb. One bicycle lane would be provided in each direction along Oregon 214 and 219 for both alternatives. A raised median would be added and modifications to access for city streets would be made at Oregon Way, Evergreen Road, and Lawson Avenue for both alternatives.

As a potential add-on option to both build alternatives, an Access Option is included that would acquire an additional 60-foot-wide strip of right-of-way and a strip of easement. The 60-foot-wide right-of-way purchase would be acquired south of Oregon 214, extending west from Lawson Avenue. The 50-foot-wide public road easement would be acquired south of Oregon 214, extending east from Evergreen Road to the Dairy Queen property.

In addition to the two build alternatives selected, the EA process requires that a “no build” alternative also be evaluated to determine what would happen in the project area without the project and to have a baseline of comparison for the build alternatives. Under the No Build Alternative, the specific improvements and modifications proposed and discussed in this EA would not occur to the existing interchange or Oregon 214/219. However, the No Build Alternative would not preclude other projects or scheduled maintenance from occurring in the project area.

**Potential Environmental Impacts**

Because the two build alternatives are the same in function and design and only differ in the direction in which Oregon 214/219 is widened, most of the environmental impacts are the same for both build alternatives. The differences in environmental impacts between the build alternatives are mostly due to Alternative 1 (Widen Equal) widening farther south of Oregon 214/219 and Alternative 2 (Widen Equal) widening farther north of Oregon 214/219. The most distinguishing potential environmental impacts for all the alternatives are shown in Table ES-1.

Transportation impacts of the build alternatives would result in less congestion at all intersections except Cascade Drive, as compared to the No Build Alternative. Truck traffic flow would improve under the build alternatives, and there would be lower volume-to-capacity (V/C) ratios for the Woodburn/I-5 Interchange area and the related local transportation network east of I 5. In addition, the build alternatives would improve intersection operations as well as local circulation. Safety of the Woodburn Interchange would be improved.

The build alternatives would result in minor noise increases (1 to 4 decibels A-scale [dBA]). Although it is not a substantial increase, traffic noise impacts do occur and are expected to continue to occur in the future without sound walls. Four new sound walls are proposed to be built with the build alternatives at the following locations:

- Woodburn Senior Estates along east side of I-5 north of interchange
- West of I-5 and north of Oregon 219 between Woodland Avenue and Willow Street
The project would have only minor impacts on air quality, visual landscape, and land use. The No Build Alternative would not meet the project’s purpose and need (improving the interchange design and safety).

---

### TABLE ES-1
Summary of Distinguishing Environmental Impacts

<table>
<thead>
<tr>
<th>Environment</th>
<th>Alternative 1 Widen Equal</th>
<th>Alternative 2 Widen North</th>
<th>No Build Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wetlands Impact</td>
<td>Up to 0.01 acre (may not be jurisdictional)</td>
<td>Up to 0.01 acre (may not be jurisdictional)</td>
<td>--</td>
</tr>
<tr>
<td>Waters of the U.S. Impact</td>
<td>Up to 0.01 acre</td>
<td>Up to 0.01 acre</td>
<td>--</td>
</tr>
<tr>
<td>New Impervious Surface Area</td>
<td>2.97 acres (12,019 square meters)</td>
<td>2.58 acres (10,442 square meters)</td>
<td>--</td>
</tr>
<tr>
<td>Average Travel Speed on Oregon 214/219</td>
<td>18 mph</td>
<td>18 mph</td>
<td>10 mph</td>
</tr>
<tr>
<td>Volume to Capacity Ratio (v/c) at:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I-5 Southbound Ramp</td>
<td>0.58</td>
<td>0.58</td>
<td>&gt;1.0</td>
</tr>
<tr>
<td>I-5 Northbound Ramp</td>
<td>0.63</td>
<td>0.63</td>
<td>&gt;1.0</td>
</tr>
<tr>
<td>Woodland Avenue</td>
<td>0.54</td>
<td>0.54</td>
<td>0.96</td>
</tr>
<tr>
<td>Evergreen Road</td>
<td>0.73</td>
<td>0.73</td>
<td>&gt;1.0</td>
</tr>
<tr>
<td>Oregon Way/Country Club Road</td>
<td>0.78</td>
<td>0.78</td>
<td>0.90</td>
</tr>
<tr>
<td>Boones Ferry/Settlemier Road</td>
<td>0.82</td>
<td>0.82</td>
<td>&gt;1.0</td>
</tr>
<tr>
<td>Business Displacements</td>
<td>7-10 businesses</td>
<td>8-11 businesses</td>
<td>--</td>
</tr>
<tr>
<td>Residential Displacements</td>
<td>1-3 residences</td>
<td>3-5 residences</td>
<td>--</td>
</tr>
<tr>
<td>Right-of-Way Required</td>
<td>11.1 acres required 56-59 parcels affected</td>
<td>10.9 acres required 55-58 parcels affected</td>
<td>--</td>
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<tr>
<td>Cost of Right-of-Way</td>
<td>$17.5 million</td>
<td>$17.1 million</td>
<td>--</td>
</tr>
<tr>
<td>Cost to Construct</td>
<td>$23.3 million (plus $650,000 for Access Option)</td>
<td>$23.4 million (plus $650,000 for Access Option)</td>
<td>--</td>
</tr>
</tbody>
</table>

**Note:**
mph = miles per hour
## Acronyms and Abbreviations

<table>
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<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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</thead>
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<tr>
<td>ADA</td>
<td>Americans with Disabilities Act</td>
</tr>
<tr>
<td>ADT</td>
<td>average daily traffic</td>
</tr>
<tr>
<td>AST</td>
<td>aboveground storage tank</td>
</tr>
<tr>
<td>BMP</td>
<td>best management practice</td>
</tr>
<tr>
<td>BP</td>
<td>before present</td>
</tr>
<tr>
<td>CARTS</td>
<td>Chemeketa Regional Transportation System</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>CG</td>
<td>General Commercial</td>
</tr>
<tr>
<td>CO</td>
<td>Office Commercial</td>
</tr>
<tr>
<td>COC</td>
<td>contaminant of concern</td>
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<tr>
<td>dBA</td>
<td>decibels A-scale</td>
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<td>DHV</td>
<td>design hourly volume</td>
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<td>DLC</td>
<td>Donation Land Claim</td>
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<td>EA</td>
<td>environmental assessment</td>
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<tr>
<td>ECSI</td>
<td>Environmental Cleanup Site Information system</td>
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<tr>
<td>EDR</td>
<td>Environmental Data Report</td>
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<td>EO</td>
<td>Executive Order</td>
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<td>FHWA</td>
<td>Federal Highway Administration</td>
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<td>HSIS</td>
<td>Hazardous Substance Information Survey</td>
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<tr>
<td>HW/D</td>
<td>headwater depth to culvert diameter ratio</td>
</tr>
<tr>
<td>I-5</td>
<td>Interstate 5</td>
</tr>
<tr>
<td>IAMP</td>
<td>Interchange Area Management Plan</td>
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<tr>
<td>IL</td>
<td>Light Industrial</td>
</tr>
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<td>LAC</td>
<td>Local Access Committee</td>
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<tr>
<td>L_{eq}</td>
<td>equivalent sound level</td>
</tr>
<tr>
<td>LOS</td>
<td>level of service</td>
</tr>
<tr>
<td>LUST</td>
<td>leaking underground storage tank</td>
</tr>
<tr>
<td>MEV</td>
<td>million entering vehicles</td>
</tr>
<tr>
<td>mph</td>
<td>miles per hour</td>
</tr>
<tr>
<td>MP</td>
<td>mile post</td>
</tr>
<tr>
<td>MPO</td>
<td>Municipal Planning Organization</td>
</tr>
<tr>
<td>N/A</td>
<td>not applicable</td>
</tr>
<tr>
<td>NB</td>
<td>northbound</td>
</tr>
<tr>
<td>NE</td>
<td>northeast</td>
</tr>
<tr>
<td>NEPA</td>
<td>National Environmental Policy Act</td>
</tr>
<tr>
<td>NFA</td>
<td>no further action</td>
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<td>NHS</td>
<td>National Highway System</td>
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<tr>
<td>Acronym</td>
<td>Definition</td>
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<tr>
<td>---------</td>
<td>------------</td>
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<tr>
<td>N/M</td>
<td>not mapped on figure</td>
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<tr>
<td>NRHP</td>
<td>National Register of Historic Places</td>
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<td>NW</td>
<td>northwest</td>
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<tr>
<td>OAR</td>
<td>Oregon Administrative Rule</td>
</tr>
<tr>
<td>ODEQ</td>
<td>Oregon Department of Environmental Quality</td>
</tr>
<tr>
<td>ODOT</td>
<td>Oregon Department of Transportation</td>
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<tr>
<td>ODSL</td>
<td>Oregon Department of State Lands</td>
</tr>
<tr>
<td>OHP</td>
<td>Oregon Highway Plan</td>
</tr>
<tr>
<td>ORNHIC</td>
<td>Oregon Natural Heritage Information Center</td>
</tr>
<tr>
<td>ORS</td>
<td>Oregon Revised Statutes</td>
</tr>
<tr>
<td>OTP</td>
<td>Oregon Transportation Plan</td>
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<tr>
<td>PCB</td>
<td>polychlorinated biphenyl</td>
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<tr>
<td>PDO</td>
<td>property damage only</td>
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<tr>
<td>PMT</td>
<td>Project Management Team</td>
</tr>
<tr>
<td>PSD</td>
<td>Prevention of Significant Deterioration</td>
</tr>
<tr>
<td>P/SP</td>
<td>Public/Semi-Public</td>
</tr>
<tr>
<td>R1S</td>
<td>Retirement Single-Dwelling Residential</td>
</tr>
<tr>
<td>RAM</td>
<td>Regional Access Management Committee</td>
</tr>
<tr>
<td>RCRA</td>
<td>Resource Conservation and Recovery Act</td>
</tr>
<tr>
<td>RM</td>
<td>Medium-Density Residential</td>
</tr>
<tr>
<td>RS</td>
<td>Single-Dwelling Residential</td>
</tr>
<tr>
<td>RV</td>
<td>recreational vehicle</td>
</tr>
<tr>
<td>SB</td>
<td>southbound</td>
</tr>
<tr>
<td>SE</td>
<td>southeast</td>
</tr>
<tr>
<td>sf</td>
<td>square foot</td>
</tr>
<tr>
<td>SHPO</td>
<td>State Historic Preservation Office</td>
</tr>
<tr>
<td>SIP</td>
<td>Oregon State Air Quality Implementation Plan (SIP)</td>
</tr>
<tr>
<td>SPIS</td>
<td>Safety Priority Index System</td>
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<tr>
<td>SQG</td>
<td>small quantity generator (of hazardous waste)</td>
</tr>
<tr>
<td>STIP</td>
<td>Statewide Transportation Improvement Program</td>
</tr>
<tr>
<td>SW</td>
<td>southwest</td>
</tr>
<tr>
<td>SWG</td>
<td>Stakeholder Working Group</td>
</tr>
<tr>
<td>TES</td>
<td>threatened, endangered, and sensitive</td>
</tr>
<tr>
<td>TMDL</td>
<td>total maximum daily load</td>
</tr>
<tr>
<td>TPH</td>
<td>total petroleum hydrocarbons</td>
</tr>
<tr>
<td>TPR</td>
<td>Transportation Planning Rule</td>
</tr>
<tr>
<td>TSP</td>
<td>Transportation Systems Plan</td>
</tr>
<tr>
<td>UGB</td>
<td>urban growth boundary</td>
</tr>
<tr>
<td>USC</td>
<td>United States Code</td>
</tr>
<tr>
<td>USFWS</td>
<td>U.S. Fish and Wildlife Service</td>
</tr>
<tr>
<td>UST</td>
<td>underground storage tank</td>
</tr>
<tr>
<td>V/C</td>
<td>volume to capacity</td>
</tr>
<tr>
<td>VMT</td>
<td>vehicle miles of travel</td>
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## Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average daily traffic (ADT)</td>
<td>The average number of vehicles passing a certain point each day on a highway, road, or street.</td>
</tr>
<tr>
<td>Access management</td>
<td>Methods that regulate physical connections to streets, roads, and highways from public roads and private driveways. Requires balancing access to developed land while ensuring movement of traffic in a safe and efficient manner.</td>
</tr>
<tr>
<td>Alignment</td>
<td>Geometric arrangement of a roadway (e.g., curvature).</td>
</tr>
<tr>
<td>Bandwidth</td>
<td>The vehicle green time available to progress through a series of traffic signals.</td>
</tr>
<tr>
<td>Best management practices (BMPs)</td>
<td>Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce adverse impacts on the environment. BMPs can include treatment requirements, operating procedures, and practices to control impacts. Commonly used in reference to stormwater, but can be used for other environmental elements.</td>
</tr>
<tr>
<td>Capacity</td>
<td>Maximum volume of traffic that a roadway section is able to carry on a sustained basis.</td>
</tr>
<tr>
<td>Decibel A-scale (dBA)</td>
<td>A unit of noise with a rating system (A) that represents the human hearing response, used to express relative difference in power or intensity, usually between two acoustic signals.</td>
</tr>
<tr>
<td>Environmental assessment (EA)</td>
<td>A public document, prepared by a federal agency (Federal Highway Administration), in compliance with the National Environmental Policy Act, that describes the purpose and need for a project and provides sufficient evidence and analysis of impacts to determine whether the project would result in significant impacts or not. Public involvement and agency coordination are important elements in the decision-making process, and are summarized in the document.</td>
</tr>
<tr>
<td>Interchange management area</td>
<td>The area defined by a distance along both the mainline and crossroads in all directions extending beyond the end of the interchange ramp terminal intersections, or the end of the ramp merge lane tapers.</td>
</tr>
<tr>
<td>Level of service (LOS)</td>
<td>A range of traffic delay (expressed as A through F) at an intersection. LOS A is minimal delay and LOS F is extended delay.</td>
</tr>
<tr>
<td>Median</td>
<td>That portion of the roadway that separates opposing traffic streams.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
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<tr>
<td>Mitigation</td>
<td>Actions taken to minimize or offset negative effects of proposed projects or actions.</td>
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<tr>
<td>Nontraversable median</td>
<td>A median that, by its design, physically discourages or prevents vehicles from crossing it except at designated openings that are designed for turning or crossing movements. Nontraversable medians can be flush or raised (see “raised median” below). Landscaping is used to delineate medians and is commonly used to actively discourage cross-median vehicular movements or pedestrian crossing, except at locations designated and designed for such movements or crossings, as well as for beautification. Access can be provided for emergency and official vehicles.</td>
</tr>
<tr>
<td>Peak hour</td>
<td>Hour of the day with the most traffic, usually during morning and evening commute times.</td>
</tr>
<tr>
<td>Project Management Team</td>
<td>The ODOT team managing the Woodburn Interchange Project.</td>
</tr>
<tr>
<td>Raised median</td>
<td>A nontraversable median where curbs are used to help delineate the boundary between the median and the adjacent traffic lane and to elevate the surface of the median above the surface of the adjacent traffic face.</td>
</tr>
<tr>
<td>Realignment</td>
<td>Rebuilding an existing roadway on a new alignment where the new centerline shifts outside the existing right-of-way and where the existing road surface is removed, or maintained as an access road, or maintained as a connection between the realigned roadway and a road that intersects the original alignment.</td>
</tr>
<tr>
<td>Right-of-way</td>
<td>A general term denoting publicly owned land, property, or interest therein, usually in a strip. A roadway right-of-way includes the entire width between the outside right-of-way lines, including the paved surface, shoulders, ditches, and other drainage facilities plus the border area between the ditches or curbs and right-of-way boundary line.</td>
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<tr>
<td>Shy distance</td>
<td>Space left between the travel lane and an object such as median or guardrail. The amount of shy distance required for safety tends to increase with speed.</td>
</tr>
<tr>
<td>Stakeholder Working Group</td>
<td>A group formed to review detailed aspects of the project design, provide guidance to technical staff on the project work, and make recommendations to the PMT. SWG members represent a wide range of stakeholder interests, including affected property and business owners, neighborhoods, interest groups, jurisdictions, and agencies.</td>
</tr>
<tr>
<td>Traversable median</td>
<td>A median that by its design does not physically discourage or prevent vehicles from entering upon or crossing it. Such medians include painted medians and continuous two-way left turn lanes.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Urban growth boundary (UGB)</td>
<td>The area surrounding an incorporated city in which the city may legally expand its city limits.</td>
</tr>
<tr>
<td>Vehicle miles of travel (VMT)</td>
<td>Miles traveled per vehicle multiplied by the total number of vehicles.</td>
</tr>
<tr>
<td>Volume-to-capacity ratio (V/C ratio)</td>
<td>A measure of roadway congestion, calculated by dividing the number of vehicles passing through a section of highway during the peak hour by the capacity of the section.</td>
</tr>
<tr>
<td>Wetland boundary</td>
<td>A line marked on the ground or on a map that identifies the boundary line between wetlands and nonwetland areas.</td>
</tr>
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SECTION 1

Purpose of and Need for Action

Introduction

This section describes the transportation and related problems associated with the Woodburn/Interstate 5 (I-5) Interchange Project (Woodburn Interchange Project) in compliance with the National Environmental Policy Act (NEPA). Information presented in this environmental assessment (EA) is derived from the 2000 I-5/Woodburn Interchange Refinement Plan by the Oregon Department of Transportation (ODOT). These facts are being updated as part of the Woodburn Interchange Project Environmental Assessment process. Ultimately, an alternative will be selected that may include a “no build” or a “build” solution to improve the transportation performance and safety conditions of the interchange.

Purpose

The purpose of the Woodburn Interchange Project is to improve the traffic flow and safety conditions of the existing Woodburn/I-5 interchange.

Need

The existing Woodburn/I-5 interchange does not meet current design and operational standards, which causes traffic to move at slower speeds and increases congestion. Future growth in the interchange area will increase congestion problems, increase the difficulty to access adjacent businesses, and increase the risk of safety to drivers, bicyclists, and pedestrians.

General Setting

The surrounding communities of Silverton, Mt. Angel, Gervais, Hubbard, and Molalla access I-5 using Oregon 214 in Woodburn (Figure 1-1). The surrounding communities of St. Paul and Newberg access I-5 using Oregon 219. When upgrades to the interchange were last completed in 1975, roadside development near the interchange was minimal and the City of Woodburn was more oriented around Oregon 99E.

Since the 1970s, Woodburn’s population has grown more than 60 percent and the city has developed to the south and to the west toward I-5. Land uses around the interchange vicinity are now a mixture of residential, industrial, regional retail/commercial, and traveler services/commercial. The increased population and land uses in Woodburn and the area around Woodburn in North Marion County that is served by the interchange, as well as the increase in statewide and regional traffic in the I-5 corridor, create more traffic than the
interchange can accommodate, based on Oregon Highway Plan (OHP) mobility standards. It is expected that the city and region will keep growing at a steady pace throughout the 20-year planning horizon.

The existing interchange is a standard diamond design. The interchange was last updated in 1975 when I-5 was widened from four to six lanes from Woodburn to Salem. At that time, traffic volumes were 28,600 average daily traffic (ADT) on I-5, 2,900 ADT west of the interchange on Oregon 219, and 5,600 ADT east of the interchange on Oregon 214.

The interchange (milepost [MP] 271.85) design is typical of the low-volume, rural interchanges that were built from the mid-1960s to early 1970s. There are no other interchanges in the Woodburn urban growth boundary (UGB). Grade-separated crossings exist at Butteville Road (milepost [MP] 270.46) and Crosby Road (MP 273.21), both of which provide some circulation east and west of I-5.

Without improvements to the interchange, traffic growth and safety concerns on Oregon 214 and I-5 will continue to grow.

**Transportation Performance**

Problems at the interchange can be classified into three related deficiencies: geometric, operational, and safety.

**Geometric Deficiencies**

The standard diamond interchange is a typical design for relatively low volumes in a rural area. The current bridge structure design meets seismic requirements and has a sufficiency rating of 97 out of a possible 100, which represents a high-value asset. Oregon 214 functions with a travel through lane in each direction and continuous two-way left turn refuge. Over the Woodburn I/5 Interchange, Oregon 214 has one lane in each direction and continuous side-by-side left turn lanes between the ramp terminal intersections. In 1999, travel volumes on I-5 through the interchange were 73,100 ADT. Ramp volumes varied from a high of 6,300 ADT to a low of 4,000 ADT. In July 1999, manual counts recorded 18,900 ADT on Oregon 214 east of the interchange, and 15,000 ADT west of I-5.

On the east side of I-5, Oregon 214 is a three-lane section, with one through lane in each direction and a continuous two-way left turn lane widening to one through travel lane in each direction and side-by-side left turn lanes across the overpass. A right turn lane to the northbound on-ramp to I-5 has been recently added to facilitate operational improvements. Oregon 219 on the west side of I-5 is a four-lane section between the freeway ramps and Woodland Avenue, with two lanes in each direction, and a raised median on either side of the Oregon 219/Old Arney Road intersection. Right-in/right-out turns are allowed at Old Arney Road on the north side of the highway.

Deficiencies noted by the ODOT refinement planning process include the following:

- Vertical grades across the structure are 5 percent and 5.5 percent, which are greater than the desired 3 percent. This causes truck traffic to move at slower than normal speeds to counteract tipping motions when turning from or onto the ramps.
• Even though bicycle lanes have been added at the Oregon 214 approach to the northbound ramps, the existing shoulder width/bikeway of 0 feet to 4 feet is inadequate to meet standards of 6 feet next to Oregon 214/219 and 6 feet across the overpass.

• Existing access spacing from the ramp end to the first unsignalized intersection is 550 feet, and 1,105 feet to a signalized intersection. This does not meet current minimum spacing standards of 1,320 feet to the first intersection.

• There are no sidewalks on the south side of the overpass, creating circulation problems for pedestrians.

• Utility power poles are placed in the sidewalks and do not meet standards of the federal Americans with Disabilities Act (ADA). Minimum sidewalk clearance requirements are 3 feet according to the ADA and 4 feet according to ODOT standards.

• Northbound and southbound existing ramp lengths do not meet current safety requirements for deceleration, stopping, and storage (Table 1-1).

<table>
<thead>
<tr>
<th>TABLE 1-1</th>
<th>Ramp Length Deficiencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramp</td>
<td>Existing Length (feet)</td>
</tr>
<tr>
<td>Northbound Entrance Ramp</td>
<td>1,915</td>
</tr>
<tr>
<td>Northbound Exit Ramp</td>
<td>1,083</td>
</tr>
<tr>
<td>Southbound Entrance Ramp</td>
<td>1,100</td>
</tr>
<tr>
<td>Southbound Exit Ramp</td>
<td>1,740</td>
</tr>
</tbody>
</table>

**Operational Deficiencies**

**Existing Interchange Problems**
The term “operation” refers to the quality of traffic flow. ODOT calculates operational performance as the traffic volume divided by the lane capacity of the highway, referred to as the volume-to-capacity ratio (V/C ratio). Other quality of flow issues include the following:

• The Evergreen Road intersection with Oregon 214 has a V/C ratio greater than 0.85, which exceeds the design standard of 0.80.

• The northbound ramp has a V/C ratio greater than 1.0, which exceeds the planning horizon design standard of 0.70. (A V/C ratio greater than 1.0 means that the intersection is over its capacity.)

• Traffic stacks up from each off-ramp signal all the way down the off-ramps into the area where drivers are expecting to slow down from freeway travel speeds and, at times, backs up onto the I-5 shoulders or travel lanes.
• East of I-5, travel on Oregon 214 is interrupted by closely spaced intersections and driveways to businesses. In addition, the spacing from the interchange ramp to the nearest public street is well below OHP policy of 1,320 feet, or 1/4 mile, spacing.

• The distances for making left turn decisions on Oregon 214 are inadequate, often leaving drivers trapped in the wrong lane for their desired destination.

Future Interchange Problems
Travel forecasts show that all intersections from Old Arney Road to Boones Ferry/Settlemiere will fail (level of service [LOS] F and V/C ratio over 1.0) by 2025, increasing traffic delays substantially along Oregon 214.

The community and adjacent businesses will be greatly affected by changes in access at the interchange. Without improvements, left turns into businesses will grow much more difficult during peak traffic periods.

Travel problems would not be improved by simply widening Oregon 214 to four lanes without also making substantial improvements to the interchange, adding turn lanes, and synchronizing traffic signals.

The risk of safety problems will likely increase along I-5 over time if/when the off-ramp traffic backs up onto the freeway mainline more frequently during peak traffic times.

Safety Deficiencies
In general, there are no patterns among crashes at any intersection in the Woodburn Interchange Project area that indicate a geometric or operational deficiency. Based on a crash analysis of the January 1997 to December 2001 crash data, four roadway segments within the Woodburn Interchange Project study corridor on Oregon 214/219 fall within the top 10 percent of ODOT’s Safety Priority Index System of the worst crash locations in the state. Of these segments, the I-5 ramps, Old Arney Road, and Lawson Avenue are located within these corridors. Both the I-5 southbound and I-5 northbound ramp intersections were modified in 2000, and ODOT will monitor these intersections to evaluate any change in crash histories as a result of the modifications.

Goals and Objectives of the Woodburn Interchange Project
Goals and objectives are those issues to be addressed by the project that are beyond the state transportation issue identified in the Purpose and Need and balance environmental and transportation values. The following goals were identified by the Stakeholder Working Group:

• Safety. Provide a facility that would safely accommodate multimodal travel demands 20 years into the future.

• Access and Traffic Flow
  – Provide safe and convenient access to interchange area businesses (i.e., consider signage and possible street connections to Oregon 214).
  – Reduce congestion and improve traffic flow in the interchange area.
– Provide median treatment that would accommodate emergency vehicles.

• **Social/Economics**
  – Minimize displacements to existing residences and businesses.
  – Minimize adverse impacts on existing residences and businesses.
  – Minimize land conversion from private ownership to public transportation use.

• **Aesthetics.** Create a gateway entrance to Woodburn (i.e., consider a variety of treatments such as underground utilities, landscaping, pavement widths).

• **Implementation**
  – Maximize efficient use of available funding for implementation of interchange and Oregon 214 improvements.
  – Coordinate with affected property owners and provide fair compensation.
  – Coordinate construction activities to maintain safe access to regional events.
  – Minimize disruption and congestion due to construction activities.
  – Maintain travel on I-5 at all times.

**Probable Permits Needed**

The project may require a Section 404(d) permit from the U.S. Army Corps of Engineers and a permit from the Department of State Lands as a result of up to 0.01 acre of impacts on waters of the United States.

The project will likely require a water resources impact assessment (WRIA) with potential detentions facilities. A water quality certification, which ODOT currently has, would also be required. In addition, a Water Resources Baseline Report will need to be prepared once an alternative is selected.

The project will require a number of state and local actions or permits before construction. Many of these will be identified and addressed during final design, assuming a build alternative is selected.
SECTION 2

Project Alternatives

Introduction

This section describes the three different alternatives discussed in this EA.

I-5 serves as an interstate freeway, part of the National Highway System, designated as a highway of statewide importance in the OHP and designated as an International Trade Corridor and Statewide Freight Route. Oregon 214/219 (also known as the Hillsboro/Silverton Highway) is a district-level highway on ODOT’s system and a major arterial within the City of Woodburn’s system. For this EA, the posted speeds were assumed to be 65 miles per hour (mph) along I-5 and 35 mph along Oregon 214/219. Actual posted speeds for either completed build alternative would be determined after further evaluation by the State Traffic Engineer.

The surrounding communities of Silverton, Mt. Angel, Gervais, Hubbard, and Molalla access I-5 primarily from the east by using Oregon 214 in Woodburn. The communities of Newberg and St. Paul access I-5 from the west by using Oregon 219.

Interchange Improvements

Two build alternatives for the interchange are being analyzed in this EA. The two alternatives are similar; interchange design and local road improvements are largely the same. The most substantial difference is how Oregon 214/219 and the interchange structure would be widened to accommodate the travel lanes needed to achieve the project’s operational, geometric, and safety goals. This section describes the physical characteristics of the two build alternatives.

The project is located at the Woodburn/ I-5 interchange at MP 271.85. The project area includes I-5, Oregon 214, and Oregon 219. The northern portion of the project area along I-5 includes proposed ramp connections ending at MP 272.25. The southern portion of the project area includes proposed ramp connections along I-5 ending at MP 271.43. The western portion of the project area is along Oregon 219 ending at MP 36.40. The eastern portion of the project area is along Oregon 214 ending at MP 37.51. Both project alternatives would add improvements along Old Arney Road (MP 36.63), Lawson Avenue (MP 36.95), Evergreen Road (MP 37.02), Oregon Way/Country Club Road (MP 37.14), and Cascade Drive (MP 37.27). Other optional improvements may be made along Woodland Avenue (MP 36.52) and between Lawson Avenue and Stacey Allison Way. These optional improvements, which could be constructed as part of either alternative, have minimal operational value to the statewide transportation system, but could be advanced as improvements to local system function and property access.
Proposed Designs

The design of the two build alternatives is very similar, with the main difference being how Oregon 214/219 is widened from the existing roadway centerline. The build alternatives are discussed together below where they are the same and are discussed separately where they differ.

Both Build Alternatives

The existing interchange is a standard diamond design. The proposed interchange design for both build alternatives would be a partial cloverleaf-A (loop ramps in advance of the overcrossing structure of I-5) with single-lane exit and entrance ramps from and to the I-5 mainline (see Figures 2-1 through 2-6). The existing bridge structure, currently about 72 feet wide, would be widened by approximately 37 feet for each alternative for a total width of 109 feet. Alternative 1 (Widen Equal) would widen the bridge by approximately 14 feet to the north and approximately 23 feet to the south; Alternative 2 (Widen North) would widen the bridge by approximately 37 feet completely to the north. The vertical clearance of the interchange structure currently ranges from 18.3 to 20 feet. The proposed widening would be designed to meet ODOT standards, which require at least 17 feet of vertical clearance.

The design speed for each ramp is as follows:

- Southbound exit to Oregon 219 — varies from 55 mph at exit to 25 mph at terminus.
- Northbound exit to Oregon 214 — varies from 55 mph at exit to 30 mph at terminus.
- Southbound entrance ramp — 65 mph.
- Southbound loop entrance ramp — 25 mph.
- Northbound entrance ramp — 65 mph.
- Northbound loop entrance ramp — 25 mph.
- Existing travel lanes on I-5 would remain unchanged.

Oregon 214/219 would consist of two 12-foot travel lanes in each direction, with an outside shoulder of 6 feet and an interior shy distance of 1 foot on each side of a 16-foot-wide raised curb median.

Median breaks would be provided at the interchange ramps to facilitate left turns from the ramps onto Oregon 214. Median breaks would also be provided at the following locations to allow left turns from Oregon 214 (U-turns would require an engineering investigation and approval of the State Traffic Engineer once a preferred alternative is selected):

- Eastbound Oregon 214
  - Evergreen Road
  - Oregon Way/Country Club Road
  - U-turns at Oregon Way/Country Club Road
  - Cascade Drive
1. Median Island Between Interchange and Woodland
2. Old Arney Rd. Right in & Right Out

Figure 2-1
Alternative 1: Widen Equal
• Westbound Oregon 214
  – Evergreen Road
  – U-turns at Evergreen Road
  – Oregon Way/Country Club Road
  – Cascade Drive

• Eastbound Oregon 219, Woodland Avenue

• Westbound Oregon 219, Woodland Avenue

Along Oregon 214/219, new 6-foot-wide sidewalks would be added, with an additional 6-foot-wide landscaped buffer between the sidewalk and curb. One shoulder/bicycle lane would be provided in each direction along Oregon 214/219 within the project boundaries. Figure 2-7 shows proposed typical cross sections for both build alternatives.

Modifications to access for city streets would be made at Oregon Way, Evergreen Road, and Lawson Avenue as follows:

• Eastbound on Oregon 214 from the Woodburn/I-5 interchange
  – Access to existing frontage road located in the southeast quadrant of the interchange would be closed.
  – Only a right-in turn would be allowed at Lawson Avenue.
  – No access would be allowed between Lawson Avenue and Evergreen Road (closes one access to McDonalds and two accesses to Union 76).
  – One right-in, right-out access would be allowed at Dairy Queen; one right-in, right-out access would be allowed at Wells Fargo Bank (formerly Midland Bank).

• Westbound on Oregon 214 from Oregon Way toward the Woodburn/I-5 interchange
  – One midblock right-in, right-out access between Oregon Way and Evergreen Road would be allowed.
  – No access would be allowed between Evergreen Road and Woodburn/I-5 interchange ramps.

• Access along Evergreen Road, north and south of Oregon 214
  – No access would be allowed 200 feet from Oregon 214 (with the exception of the Access Option described below).

• Access along Lawson Avenue, south of Oregon 214
  – Driveway access would be provided to the Taco Bell property.
  – The McDonald’s driveway closest to Oregon 214 would be closed, leaving the McDonald’s access across from the Taco Bell as the closest access to Oregon 214 on the east side of Lawson Avenue.
# Figure 2-7

**Build Alternatives Cross Sections**
The Mid-Valley Bank would lose driveway access from its driveway onto Oregon Way (with the exception of the Access Option described under Alternative 1 below).

Access to the homes on both the east and west sides of Oregon Way would not be affected.

- Access along Country Club Road, north of Oregon 214
  - The Mae Thai Restaurant on the west side of Country Club Road would lose direct driveway access to Oregon 214. The northern driveway onto Country Club Road would remain.
  - The intersection of Country Club Road and Rainier Road would not be affected.

Evergreen Road would be extended north of Oregon 214 to connect to Country Club Road. The extension would consist of two 12-foot-wide lanes with no median and 2-foot-wide shoulders. No bicycle lane would be added, but a curb and gutter with 6-foot-wide sidewalks would be added on both sides of Evergreen Road. As part of the build alternatives, approximately 400 feet north of Oregon 214, a city access street would be extended west from the new Evergreen Road extension, which would connect Evergreen Road to an existing private paved access. The existing paved access would be improved to meet City standards with a curb and gutter. The actual design of this access point and its connections to existing developed or future undeveloped properties may depend on future development proposals.

**Alternative 1: Widen Equal**

Alternative 1 would widen Oregon 214 and Oregon 219 equally to the north and south from the existing centerline of the roadway. The design of Alternative 1 would include all improvements described above. Approximately 130,000 cubic yards of fill would be required to construct Alternative 1.

**Access Option:**

The following access options are at this time being considered, but final incorporation is dependent upon a final feasibility review and right-of-way negotiations. Other access options may also be considered.

As a potential add-on to Alternative 1, an additional strip of right-of-way and a strip of easement could be acquired. This add-on, called the Access Option, is not included in Alternative 1 as described above and is included here as an option to be analyzed in this EA.

Two separate areas are included under this option: a 60-foot-wide right-of-way purchase and a 50-foot-wide public road easement.

A 60-foot-wide right-of-way would be acquired south of Oregon 214, extending west from Lawson Avenue. The right-of-way would begin approximately 170 feet south of Oregon 214 and would extend approximately 300 feet. A local street would be constructed in this right-of-way to provide access to businesses currently located adjacent to the Woodburn/I-5 interchange. This right-of-way is shown in Figure 2-3 as Note 1. Depending on future private development proposals or City actions, this right-of-way could be extended south to
Stacey Allison Way as a further circulation option. Any additional circulation options would need to be analyzed for effectiveness and potential impacts.

A 50-foot-wide public road easement would be acquired south of Oregon 214, extending east from Evergreen Road to the Dairy Queen property. The easement would begin approximately 100 feet south of Oregon 214 and would extend 190 feet. The easement would be provided as a circulation option for the ARCO and Dairy Queen properties. This easement option would function as a minimal public street and is shown in Figure 2-3 as Note 2.

In addition to these options, access control would only be acquired 200 feet south of Oregon 214 along the west side of Evergreen Road to provide driveway access and improved circulation behind the existing Union 76 property. A similar accommodation would be made along the west side of Oregon Way to provide access to the existing bank property at the corner of Oregon 214 and Oregon Way.

This option, in combination with Alternative 1, would require less access control than Alternative 1 without this option. This option would retain the access locations along the local street system as follows:

- **Lawson Avenue**
  - Approximately 40 feet less access control would be acquired to accommodate the 60-foot-wide right-of-way. The new road on the new right-of-way would provide access to properties to the west of the Taco Bell property (see Note 1 in Figure 2-3).
  - All access options are dependent upon a final feasibility review and right-of-way negotiations.

- **Evergreen Road**
  - Approximately 60 feet less access control would be acquired on the west side of Evergreen Road to provide for a driveway to the Union 76 property (see Note 1 in Figure 2-3).
  - Approximately 130 feet less access control would be acquired on the east side of Evergreen Road to accommodate the Dairy Queen/ARCO circulation easement (see Note 1 in Figure 2-3).

- **Oregon Way**
  - Approximately 30 feet less access control on the west side of Oregon Way would be acquired to provide driveway access to the Wells Fargo Bank (formerly Midland Bank) property (see Note 1 in Figure 2-3).

**Alternative 2: Widen North**

Alternative 2 would widen Oregon 214/219 solely to the north of the existing road, except for sidewalk improvements that would be constructed south of the existing edge of pavement. The interchange design and basic Oregon 214 cross section of Alternative 2 is the same as Alternative 1. The only difference design-wise between Alternative 1 and Alternative 2 is that the Alternative 2 alignment is farther north than Alternative 1. Approximately 120,000 cubic yards of fill would be required to construct Alternative 2.
Access Option:

The following access options are at this time being considered, but final incorporation is dependent upon a final feasibility review and right-of-way negotiations. Other access options may also be considered.

The Access Option is the same as described in Alternative 1.

The 60-foot-wide right-of-way for Alternative 2 is shown in Figure 2-6 as Note 1. The 50-foot-wide public road easement for Alternative 2 is shown in Figure 2-6 as Note 2.

No Build Alternative

Under this alternative, the current Woodburn/I-5 interchange would remain in place for the foreseeable future, with only routine maintenance to prevent its deterioration.

Oregon 219 consists of two through lanes in each direction with a left turn pocket at Woodland Avenue. Bike lanes and sidewalks are located both north and south of Oregon 219. The raised median is intended to restrict turning movements at Old Arney Road to right-in/right-out only. The overcrossing structure of I-5 is four lanes consisting of a left turn lane for north and southbound freeway traffic and one through travel lane in each direction, with sidewalk on the north side only. Oregon 214 east of the northbound ramp terminal consists of one through lane in each direction and a continuous left turn lane. There are curb-tight sidewalks on both sides of the street.

Signalized intersections exist at Woodland Avenue, southbound ramp terminus, northbound ramp terminus, Evergreen Road, and Oregon Way/Country Club Road intersections. The remaining intersections are stop controlled.

Construction Phasing Proposed for the Build Alternatives

Interchange improvement phasing into separate contracts has been considered but not recommended due to the approach grades to the overcrossing structure. The changes to finish grade would elevate the existing pavement from zero feet to up to 7 feet higher. Based on the grade differences and other alignment changes, the project would be constructed as one project with construction staging to allow traffic flow to be continuous throughout the construction period. In general, local improvements would be built first, then the interchange improvements would be built. Specific construction sequencing would be determined after a preferred alternative is selected.

Construction Costs and Funding

The estimated costs to construct the build alternatives are very similar. Alternative 1, Widen Equal, is estimated to cost $23.3 million, whereas Alternative 2, Widen North, is estimated to cost $23.4 million. The Access Option would add another $650,000 to either build alternative.

After a preferred alternative is selected, the Federal Highway Administration (FHWA) would determine what portions of the proposed project would be eligible for federal funding. Not all items in the project alternatives may be included under federal funding. This determination would be made at the detailed design phase of the project.
Alternatives Considered but Dismissed

This section summarizes the alternatives considered but dismissed during the project development process. It is important to note that stakeholder involvement was integrated into the decisions. Section 5, Public and Agency Coordination, outlines the involvement of stakeholders and the public in developing the alternatives.

The project used a two-step framework to evaluate all possible alternatives, as follows:

- **Threshold Criteria.** These criteria were “pass/fail” thresholds used to screen out unreasonable alternatives (see Table 2-1). The thresholds represent minimum conditions of acceptance encompassing federal, state, and local parameters. Alternatives that did not meet the threshold criteria were dismissed from further consideration (see Table 2-2). Reasonable solutions were refined further to account for local site conditions as well as to minimize adverse impacts. These thresholds remained as considerations throughout the project.

- **Evaluation Criteria.** These criteria were used to evaluate the performance of reasonable alternatives against a broad range of desired project characteristics. These characteristics represented the full range of stakeholder values. Evaluation criteria within each of the broad categories were selected to most effectively differentiate among potential alternative solutions for this project location; the evaluation criteria did not include all possible criteria, but did include truck safety and operations, pedestrian safety and operations, bike safety and operations, auto safety and operations, mobility – traffic flow at intersections, business accessibility, land use – conversion to transportation use, displacement impacts to adjacent properties, gateway creation, project construction costs, right-of-way and engineering costs, water quality, and hazardous materials. These evaluation criteria are addressed in the Environmental Consequences section of this EA.

In accordance with OAR 730-055, ODOT’s Regional Access Management Committee (RAM) established the range of access alternatives with locations and turning movements that meet ODOT policies. These options were presented to the Local Access Committee (LAC) and modified to apply the actual context. The LAC and RAM clarified the alternatives and they were then evaluated for operations and feasibility. The LAC then made a recommendation to the SWG of their preferred ranking of alternatives. These alternatives were evaluated by the SWG, and a recommendation was developed for public comment at the open house. The PMT then decided on the access alternatives to be carried forward into the EA process based on public comment and SWG recommendation.
TABLE 2-1
Threshold Criteria

<table>
<thead>
<tr>
<th>Threshold Criteria</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1. FHWA Policy 1F – 20-year Design Life (2025), OHP Mobility Standard</td>
<td>Does the alternative accommodate the 20-year projected traffic demand on the affected system, in its ultimate configuration, by meeting the mobility standards?</td>
</tr>
<tr>
<td>F2. FHWA Interstate Access, Policy 4 – meets design and access requirements for an interchange (^a)</td>
<td>Do the freeway ramps connect to public roads and provide traffic movements in all directions?</td>
</tr>
<tr>
<td>F3. FHWA Interstate Access, Policy 5 – Local Plan Consistency – transportation improvements are consistent with land use and transportation plans.</td>
<td>Does the interchange alternative conform to county and city plans or stand a reasonably good chance of plan amendment?</td>
</tr>
<tr>
<td>F4. FHWA Interstate Access, Policy 7 – local system improvements</td>
<td>Does the improvement package address local system needs necessary to support interchange investment?</td>
</tr>
<tr>
<td>S1. State Highway Freight System, OHP Policy 1C – provides for safe movement of trucks</td>
<td>Does the alternative improve safe movement of freight on or to/from the interstate?</td>
</tr>
<tr>
<td>S2. Lifeline Route, OHP Policy 1E – provides for emergency traffic</td>
<td>Does the alternative satisfy defense design requirements on the interstate (vertical clearance under the overcrossing)?</td>
</tr>
<tr>
<td>S3. OHP Major Improvements, OHP Policy 1G</td>
<td>Does the alternative improve according to the major investment policy hierarchy?</td>
</tr>
<tr>
<td>S4. OHP Access Management Standards, Appendix C</td>
<td>Does the distance of public roads and private accesses from interchange termini meet policy requirements, or reasonably justify deviation?</td>
</tr>
<tr>
<td>L1. Direct one-to-one comparison.</td>
<td>Does this alternative have relatively the same impacts or a distinct advantage over another alternative (e.g. lower costs, lower right-of-way impacts)?</td>
</tr>
</tbody>
</table>

\(^a\) The FHWA Interstate Access Policy is derived from Section 111 of Title 23 United States Code (USC). This essentially establishes the policy for amending or adding new points of access to the interstate system. All elements of the policy will apply.
## TABLE 2-2
Application of Threshold Criteria

<table>
<thead>
<tr>
<th>Alternative</th>
<th>F1</th>
<th>F2</th>
<th>F3A</th>
<th>F3B</th>
<th>F4</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Second Interchange @ Butteville Road</td>
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<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<td>No</td>
</tr>
<tr>
<td>Second Interchange @ St. Louis Road</td>
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<td>Yes</td>
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<td>Split Interchange</td>
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<td>Standard Diamondd</td>
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<td>Partial Cloverleaf A (selected alternative)</td>
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<td>Yes</td>
<td>Yes</td>
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<td>Tight Diamond</td>
<td>Yes</td>
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<td>Yes</td>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

* Alternatives for the addition of a second interchange were not forwarded as alternatives to solve existing interchange deficiencies.

b Neither county nor city plans call for or preclude a second interchange.

c The second interchange on its own may be less expensive. However, to address deficiencies of the existing interchange, the costs would likely require one of the other solutions in addition to the improvements of a second interchange.

d The standard diamond alternative was dismissed by the PMT based on SWG recommendation and public comment received at the open house.
SECTION 3

Affected Environment

Introduction

This section describes the physical, biological, land use, social and economic, and transportation elements of the environment that would be affected by the Woodburn Interchange Project. Appendix A provides source information for each project-affected element. Potential impacts on these elements are discussed in Section 4, Environmental Consequences.

Hydrology and Water Quality

The hydrologic environment potentially affected by the proposed project includes local streams, underground drainage paths, vegetation that surrounds these areas, water that is downstream and located farther away from streams in the project area, and any pollutants that could enter these areas. Any time stormwater runoff is changed (either by increasing the amount of runoff or by changing the timing of the runoff), the hydrologic environment can be affected.

The project is located in the Molalla-Pudding Watershed in the Willamette Basin and lies within an urban area made up of commercial and residential properties and the I-5 corridor (Figure 3-1). The project area is generally flat with minimal slope. The major surface water body near the project area is Senecal Creek. The project lies partly in the drainage area for Senecal Creek and partly in the drainage area for Mill Creek. Although the areas identified for roadway improvements do not cross the channels of Senecal Creek and Mill Creek, surface water runoff does flow from the project area to these creeks. Surface water runoff from I-5, Oregon 219, and a portion of Oregon 214, along with their adjacent properties, flows to Senecal Creek. Surface water runoff from a portion of Oregon 214 flows to a closed-pipe storm sewer that discharges into Mill Creek. Both creeks flow north to their confluence with the Pudding River approximately 10 miles north of the project area.

Senecal Creek is not listed as a “water quality limited stream” on the Oregon Department of Environmental Quality (ODEQ) 2002 303(d) list, nor is it listed as having potential concerns. Sampling was done to determine herbicide/pesticide levels, but the creek was found to be below the criteria limits for the chemicals tested. Mill Creek’s water quality is of concern because of flow modification and habitat modification, but no total maximum daily load (TMDL) is needed (a TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant’s sources. The TMDL is a sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources). The Pudding River has TMDLs set for dissolved oxygen and is on the ODEQ 303(d) list for temperature, fecal coliform, and DDT.
Plants and animals that use the waters in the project area may be affected by changes in hydrology or water quality from the project site. Downstream channel morphology and bed stability may also be affected by hydrologic changes caused by project construction.

**Biological and Wetlands Resources**

**Vegetation**

**General Habitat**

The project area is located in the Willamette Valley Province (Franklin and Dyrness 1988). This area is a broad north-south oriented valley bordered by the Coast Range on the west and the Cascade Range on the east. The climate is wet and mild and is heavily influenced by the proximity to the Pacific Ocean.

Topography is generally level throughout the project area except for fill embankments associated with right-of-way, ramps and bridges along I-5, and the interchange. The site elevation is approximately 180 feet above sea level.

Native vegetation communities have been almost entirely eliminated in the project area by urban development and management, including road-associated grading, commercial and residential development, and ongoing vegetation maintenance (especially within rights-of-way). Existing vegetation in the project area is primarily manicured urban landscapes, mowed undeveloped lots, weedy herbaceous wetland ditches, and mowed highway right-of-way. Hedgerows and scattered shrub thickets also occur. Open fields have in most cases been subject to historic grading activities, especially in proximity to I-5. Noxious and invasive weed species are pervasive. Nearly all of the landscape is heavily fragmented by urban developments that restrict the movement of species. Obstacles include roadways, fences, and culverts, as well as degraded habitats.

Upland fields, including interchange areas, are dominated throughout the project area by a mix of pasture grasses such as tall fescue, bentgrass, tall oatgrass, orchard grass, common velvetgrass, and perennial ryegrass. Common weedy forbs include hairy cat’s ear, Queen Anne’s lace, bristly hawksbeard, and clovers.

Dense and narrow hedgerows are prominent in some portions of the project area. Southeast of the interchange, in the vicinity of Wal-Mart, there are dense hedgerows of multiflora rose, Douglas hawthorn, and Himalayan blackberry along the right-of-way. Southwest of the interchange, a hedgerow along the edge of the right-of-way is dominated by Douglas hawthorn and Himalayan blackberry. Smaller portions of upland hedgerow habitat occur throughout the project area.

A remnant stand of mature native upland scrub-shrub occurs immediately east of the La Quinta Inn and south of Old Arney Road, northwest of the existing interchange. Dominant species include Douglas hawthorn, serviceberry, multiflora rose, beaked hazelnut, and Himalayan and cutleaf blackberries. A few young Oregon white oak and an elm-like landscape tree are scattered through this area.

Northeast of the interchange, relatively narrow vegetated areas within the right-of-way have been mowed. Farther east, two small open fields near Denny’s are dominated by
common pasture grasses and forbs. The eastern field is more heavily vegetated, with dominants including tall fescue, common tansy, tarweed, and field bindweed.

**Threatened, Endangered, and Sensitive Plants**

**Prefield Review**

A search of the database of the Oregon Natural Heritage Information Center (ORNHIC—formerly the Oregon Natural Heritage Program) indicated two threatened, endangered, and sensitive (TES) species previously documented in the project area. They are peacock larkspur and thin-leaved peavine. Peacock larkspur is listed as a federal species of concern and as state endangered. It may be endemic to the central Willamette Valley. It prefers well-drained native prairie, though abandoned agricultural fields and dry roadsides may sometimes provide suitable habitat. Thin-leaved peavine is listed as a federal species of concern and has no state designation. It is endemic to the Willamette and Umpqua Valleys of Oregon. Its preferred habitats are roadsides, fencerows, grassland, or low scrubby vegetation, and it can be locally common.

**Field Survey**

Field reconnaissance surveys conducted in July 2003 failed to locate any rare plant species in the project area. Based on a literature review of listed plant species with the potential to occur in the vicinity, no suitable habitat remains within the project area. Previous development has disturbed or eliminated most native habitats.

**Wetlands**

Seven wetlands and/or waters of the state/United States were identified in the proposed project area (Figure 3-2). Of these, one wetland (Area B) is an artificially created stormwater facility located outside of any potential impact zone, and two wetlands (Areas A and C) are likely nonjurisdictional as manmade drainage ditches in nonhydric soil types. Two wetland ditches (Areas D and E) and two portions of a mostly culverted creek (Areas F and H) are likely jurisdictional as waters of the state and United States. Another wetland, Area G, was identified in the field but is not close enough to the proposed project to be affected and therefore is not discussed further in this document.

These wetlands either were created as drainage or stormwater facilities or are heavily altered remnant headwater streams. Water F and Wetland H are part of the headwater system of East Senecal Creek. The majority of the creek within the project area is culverted; however, the areas shown in Figure 3-2 are short lengths of open channel. Very sluggish water movement was observed in these areas. No flowing water was observed at the other wetlands during the site visit, and the lack of scour or other indicators suggests that drawdown occurs frequently, although some wetlands did contain standing water. Riparian vegetation for all wetlands is dominated by herbaceous species, with a few shrubs in some areas.

The predominant character of wetlands in the project area is low-quality weedy herbaceous ditches that provide water storage. Typically dominant species include watergrass, reed canarygrass, and soft rush. Table 3-1 lists the U.S. Fish and Wildlife Service (USFWS) wetland classification and approximate wetland acreage for each wetland/water within the project area. Total wetland area within the project area is approximately 0.7 acre, of which 0.64 acre is likely jurisdictional.
### TABLE 3-1
Identified Wetlands in Project Area

<table>
<thead>
<tr>
<th>Wetland/Water ID</th>
<th>USFWS Classification(^a)</th>
<th>Area (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A(^b)</td>
<td>PEM</td>
<td>0.013</td>
</tr>
<tr>
<td>B(^b)</td>
<td>PEM</td>
<td>(not applicable; outside of project area)</td>
</tr>
<tr>
<td>C(^b)</td>
<td>PEM</td>
<td>0.049</td>
</tr>
<tr>
<td>D(^c)</td>
<td>PEM/PSS</td>
<td>0.300</td>
</tr>
<tr>
<td>E</td>
<td>PEM</td>
<td>0.319</td>
</tr>
<tr>
<td>F</td>
<td>PEM</td>
<td>0.010</td>
</tr>
<tr>
<td>H</td>
<td>PEM</td>
<td>0.011</td>
</tr>
<tr>
<td><strong>Total Wetland Area</strong></td>
<td></td>
<td><strong>0.702</strong></td>
</tr>
</tbody>
</table>

\(^a\) PEM = palustrine emergent; PSS = palustrine scrub-shrub  
\(^b\) Not likely jurisdictional.  
\(^c\) Continues outside of project area.

#### Habitat Potentially Affected by New Construction

New project construction would potentially affect habitats consisting primarily of uplands and historically drained lands. Upland habitats that would be affected are primarily mowed lawns, ornamental borders, weedy zones, and agricultural fields. All areas are fragmented by roadways and fences, and limited by noise, lighting, and limited cover. A small number of wetland and water areas exist. These areas are associated with drainageways and topographically low areas. The drainageways provide limited connections to ecologically higher value aquatic habitats outside of the project area. However, none of the aquatic areas support food or game fish, including salmonids.

Some upland and wetland habitats contain plant species or structural elements that may be associated with special status species. Examples include wetlands, waterways and ditches, disturbed uplands possibly supporting timwort, and uplands with concentrations of English plantain that are preferred by Taylor’s checkerspot butterfly. However, no unique habitats or habitats occupied by special status species exist where new construction would occur.

#### Wildlife

Wildlife in the project area has been and continues to be heavily influenced by human activity. Human development in the area is so prevalent that vegetation communities are best considered as patches within the matrix of impervious surfaces and buildings.

Rodents and passerine birds are the predominant species of wildlife expected to use the area. Rodent species probably consist of mice, voles, and moles. Norway rats probably occur, especially in the vicinity of buildings. Birds are expected to include species such as European starling, rock dove, American crow, American robin, killdeer, violet green swallow, barn swallow, several sparrow species, and other common urban birds. Red-tailed
hawk and America kestrel also may occur. Because of the lack of nesting area for most of these birds, the primary use of the project area is expected to be foraging and resting. Swallows and some of the sparrow species may be exceptions. Swallows may nest on the overpass structure, and sparrows may use the hedgerows, landscaping, and the scrub-shrub area near the La Quinta Inn.

Larger mammals such as raccoon and opossum are likely regular visitors in the project area, but the lack of cover limits the likelihood that either species uses it for breeding. Coyotes are notably successful in exploiting urban environments and also may occur. Evidence of use by deer was observed in the area; however, this is likely an irregular occurrence.

The few wetland areas may provide sufficient habitat characteristics to support Pacific chorus frogs and common garter snake. Garter snakes may occur in any of the vegetation communities found within the project area but are typically associated with water features. Western pond turtle reportedly occur in the Woodburn Pond area north of the project area. However, the highly altered conditions of all water bodies in the project area, small size of water bodies, and human activity levels make it unlikely that turtles would occur in the project area.

Mosquito fish were observed at Water F during the site visit. No native fish were observed. The amount of stream within the culvert, artificial substrate, and questionable water quality (extensive algal growth and garbage were observed during the field visit) make it unlikely that native fish persist in the project area.

No state or federally listed threatened or endangered wildlife species are known or suspected to occur in or near the project area. Both stream drainage systems that are in the project area, Senecal Creek and Mill Creek, are listed by ODEQ as Rearing and Migration Habitat for salmon and trout.

**Cultural Resources**

A file search and literature review at the Oregon SHPO in Salem was conducted to determine the presence, extent, and nature of previously documented cultural resources within and near the project area. In addition, historic maps and literature were researched to determine the nature and likelihood of cultural resource that might be present in the project area.

According to records on file with the Oregon SHPO, no previous cultural resource studies have been conducted or documented within the project area. However, several projects have been conducted near the project area. More importantly, one cultural resource, a French-Prairie Homestead (Donation Land Claim [DLC] 98), has been documented as potentially existing within the project area. Documentation describes the site location as “probably under [the] freeway,” noting that the site has likely been destroyed. Little information about the physical nature, integrity, and condition of this site exists, although historic literature may describe this DLC homestead, which was inhabited by André Dubois in 1840 (Oregon Archaeological Survey 1988d).
Archaeological Potential

Archaeological potential within the project area varies and is dependent on depth and integrity of the native sediments. Because the project area is heavily developed, subsurface sediments within several feet of the ground surface are probably not intact. Soils within the project area have likely been disturbed in the past by agricultural practices and have been heavily disturbed in the recent past due to widespread and heavy transportation, utility line, and building construction.

However, this area is not without archaeological potential. About 1/4 mile to the east of the project area, a paleoarchaeological site, the Woodburn High School Bog, was discovered in the 1950s. Megafaunal remains (animal remains large enough to be seen by the naked eye) were found at this location in 1987 (Stenger 2000a:1). Excavations and testing have taken place at other nearby areas with mixed results. Carbon dating of paleontological materials found at different locales in the Woodburn vicinity have revealed carbon-14 dates of ca. 11,770-12,760 years before present (BP). Thus, the general area has the potential for paleoarchaeological presence.

National Register of Historic Places Property

One National Register of Historic Places (NRHP) property is recorded in the project vicinity. This property, the Jesse H. Settlemier House, is not located in the project area, but lies about 1/2 mile to the southeast in Woodburn. The property consists of a private Queen Anne style residence constructed in 1889 (Oregon SHPO 1974). Settlemier was an early settler and prominent citizen in Woodburn who aided in bringing the railroad through the area. He was also elected the first mayor of the town, and is credited with platting and donating land for the townsite. The Settlemier House is currently owned by the French Prairie Historical Society and functions as a house museum and community center (Oregon SHPO 1974).

A cultural resource windshield survey of the project area was conducted in December 2003. No historic buildings, structures, or features were observed during the survey. No visible surface indications of the Dubois homestead were located during the survey. It is unclear whether a homestead structure ever existed in this area, because the original site form documentation seems to have been based on historic maps of the area. Today, the area of the Dubois homestead is covered by the pavement, heavy earthworks, and recontoured lands associated with I-5 pavement, berms, and drainage areas. Intact cultural deposits, if they have ever existed at this location, are unlikely to be detectable, and, for this reason, exploratory archaeological testing of this area was not performed.

Transportation

Highway Facilities

The transportation facility information in the following sections is grouped by the owning jurisdiction and functional classification. The function of a facility indicates the physical characteristics and the design standards to be applied for safe use of the facility (e.g., lane and shoulder width, bike lane and pedestrian requirements, landscaping, parking).
State Facilities

**Interstate 5** is a six-lane freeway within the project area. I-5 is classified as a National Highway System (NHS) Interstate with International Trade Corridor status. At MP 272, I-5 interchanges with Oregon 214/219 (also known as the Hillsboro/Silverton Highway). The existing interchange configuration is considered a standard diamond design, with diagonal ramps in each of the four quadrants.

**The Hillsboro/Silverton Highway**, Oregon 219 west of the southbound ramp and Oregon 214 east of the southbound ramp, is a major arterial. The highway is classified as a District Highway in the state system. Oregon 219 consists of a four-lane section with two travel lanes in each direction to Woodland Avenue, narrowing to a two-lane facility just to the west. At Woodland Avenue, there is a traffic signal with left turn lanes in both east- and west-bound directions and a right-turn lane for the westbound direction. Old Arney Road is stop controlled, has a raised median preventing left turn movements, and has a right turn auxiliary lane.

On the overpass, Oregon 214 consists of single through lanes in each direction from the southbound ramp eastward. Both ramps are controlled by traffic signals. The overcrossing structure has side-by-side left turn lanes providing a width of four lanes in total with a sidewalk on the north side of the structure. To the east of the southbound ramp, Oregon 214 consists of a through lane in each direction and continuous left turn lane, as well as a right turn lane to the northbound on-ramp to I-5. There are sidewalks and bicycle lanes on both sides of Oregon 214 in the vicinity of Lawson Avenue to the east. The existing Frontage Road, Lawson Avenue, and Cascade Drive are stop controlled. The intersections of Evergreen Road and Oregon Way/Country Club Road are controlled by traffic signals.

City Facilities

**Woodland Avenue** is a two-lane street with a large landscaped median. It is under the jurisdiction of the city and classified as a service collector. There are two lanes at the intersection with Oregon 219: a left turn and shared left turn lane, a through travel lane, and a right turn lane. There are no sidewalks back to Old Arney Road.

**Old Arney Road** is a two-lane street with bike paths and sidewalks. It is under the jurisdiction of the city and classified as a service collector whose primary function is to connect neighborhoods to activity centers. Its connection with Oregon 219 is right-in and right-out only, with a raised median preventing left turning movements.

**Lawson Avenue** is a two-lane street without sidewalks, classified as a local road. The function of this facility is to provide circulation and access to property for short distances for relatively low volumes at low speeds. This classification of street would accommodate bicycle traffic in a shared lane with motorized vehicular traffic due to the relatively low volumes and low speeds.

**Evergreen Road** is a two-lane street classified as a service collector. There are existing sidewalks on Evergreen Road and no bike lanes. There is a left turn lane at the intersection with Oregon 214 for both southbound and northbound directions.

**Oregon Way and Country Club Road** are two-lane streets classified as access streets. Golf cart traffic is permitted. There is a left turn lane at the intersection with Oregon 214 for both
southbound and northbound directions. Country Club Road has sidewalks near Oregon 214 in the section that was realigned during the 1990s, and Oregon Way does not.

**Cascade Drive** is a two-lane street classified as a local road with sidewalks and on-street parking. The function of this facility is to provide circulation and access to property for short distances for relatively low volumes at low speeds. This classification of street would accommodate bicycle traffic in a shared lane with motorized vehicular traffic due to the relatively low volumes and low speeds. The intersection with Oregon 214 has a left and right turn lane.

**Non-Automotive Mode Facilities**

**Bicycle facilities** are lacking in the interchange improvement area. Bicycle lanes have been placed between Lawson Avenue and the southbound I-5 ramps during the recent right turn lane widening project. There are bicycle facilities that would be connected with the interchange improvement project along Oregon 214 to the east of the “S” curve past Cascade Drive and westward along Oregon 219 to Old Arney Road and Woodland Avenue.

**Pedestrian facilities** in the immediate interchange area end abruptly on the east side of the northbound interchange ramp. The facilities that are in place along Oregon 214 are narrow with utility poles placed in the sidewalk, making it difficult for people to pass by without stopping or moving towards motorized traffic.

**Public transportation** is provided in the Woodburn/I-5 interchange vicinity through several operators. Woodburn Transit System provides service Monday through Friday from 9 AM to 5 PM connecting residents to commercial opportunities along the route. The City of Woodburn provides paratransit for those unable to use the fixed route system, with 24-hour advance notification. Oregon Housing and Associated Services operates the WHEELS community transportation program in Marion County. The Marion-Polk region of the Salem Area Mass Transit District provides for the Chemeketa Regional Transportation System (CARTS), which has two intercity routes. The North Marion route connects Salem, Brooks, Gervais Woodburn, and Hubbard, and a Tri-City route serves Woodburn, Mount Angel, and Silverton. Woodburn Medical Express transports patients to and from appointments from the Woodburn Medical Clinic to the Silverton Hospital. Greyhound operates three times daily between Portland and Woodburn. HUT is an airport shuttle service that originates in Salem and provides service in Woodburn at the Best Western en route to Portland International Airport.

Recently, ODOT purchased two properties north of and adjacent to Oregon 214: Patterson’s Restaurant and Wendy’s Restaurant. These properties, in addition to previous Shell Gas Station that was acquired by ODOT, are planned for future use as a park and ride facility. At this time, ODOT is committed to develop a permanent park and ride lot for these properties as soon as possible. A project team is expected to be convened later this summer, and construction could start as early as next summer or fall in 2006, but no later than 2007. Development of this park and ride facility is not part of the Woodburn Interchange Project.

**Railroad.** The Union Pacific Railroad provides through-train service and freight service north of Hardcastle Avenue. The Willamette Valley Railroad, a short-line operator, provides freight service along Front Street and Cleveland Street to serve local businesses. Willamette Valley Railroad also provides freight service to communities to the east of Woodburn on
track leased from Union Pacific Railroad. The Portland and Western Railroad line west of I-5 and Butteville Road provides freight service and is being evaluated for a possible commuter rail line in the Willamette Valley.

**Passenger Rail.** No passenger train stops are provided in Woodburn. The nearest passenger service is in Salem. The Amtrak station in Salem operates 7 days a week from 6:30 AM to 4:30 PM. A local group is currently exploring the possibility of using Willamette Valley Railroad equipment to develop excursion train service east to Silverton.

**Airport.** No commercial or private aviation facilities are located within the Woodburn UGB. Regional freight and passenger service is provided via Portland International Airport, approximately 33 miles from Woodburn via I-5 and I-205. Although commercial service is not available, passenger service is accessible at the Salem Municipal Airport approximately 20 miles from Woodburn and at Aurora State Airport approximately 10 miles from Woodburn.

**Waterway.** There are no waterborne transport facilities within the Woodburn UGB.

**Pipeline.** There are no major pipeline transport facilities within the Woodburn UGB.

### Land Use

The primary land uses in the project area are commercial and residential with a few recreational facilities, including a privately owned golf course, which is open to the public. The businesses vary from motels to automotive dealerships, restaurants, gasoline stations and convenience stores, and commercial sales facilities. The residential areas are located along the I-5 northbound on-ramp (the Senior Estates subdivision) and along the north side of Oregon 214.

### Study Area

Figure 3-3 displays the boundaries of the direct impacts land use study area. The study area boundary extends roughly 1/4 mile beyond the physical project limits in order to account for potential impacts on adjacent commercial, industrial, and residential development. When a parcel or group of parcels was bisected by the 1/4-mile boundary, the boundary was enlarged to include the entire parcel or group of parcels.

Because the study area surrounds an interchange, the study was divided into four quadrants for analysis purposes. These four quadrants are as follows:

- **NW Quadrant.** Area bounded by I-5 to the east and Oregon 219 to the south. Study area boundaries extend to roughly 1,530 feet west of Woodland Avenue and include tax parcels directly north of Old Arney Road and the Woodburn Company Stores.

- **SW Quadrant.** Area bounded by I-5 to the east and Oregon 219 to the north. The study area extends to roughly 1,380 feet west of Woodland Avenue and includes the WinCo and Do It Best distribution facilities.

- **NE Quadrant.** Area bounded by I-5 to the west and Oregon 214 to the south. The study area extends east to Astor Way and north to Country Club Road.
Legend
- Roads
- Direct Impacts Study Area
- Indirect & Cumulative Impacts Study Area (UGB)

1 inch equals 2,500 feet

Figure 3-3
Land Use Study Area
• **SE Quadrant.** Area bounded by I-5 to the west and Oregon 214 to the north, and east to Astor Way along Oregon 214. From Astor Way the study area to the south is bounded by West Lincoln Street to the golf course, cuts across the golf course to West Hayes Street, and continues south to include the Wal-Mart parcel.

**Plans Reviewed**

Several land use policy plans for the Woodburn area were reviewed as part of the land use analysis to ensure consistency among the proposed project and local, regional, state, and federal plans and policies. These plans are listed in the following subsections.

**State Plans and Studies**

- Oregon Statewide Planning Goals
- Oregon Administrative Rule (OAR) 660-012-0000 Transportation Planning Rule
- 1992 Oregon Transportation Plan
- 1999 Oregon Highway Plan
- 2002-2005 Statewide Transportation Improvement Program
- 2004-2007 Draft Statewide Transportation Improvement Program
- OAR 734-051 Highway Approaches, Access Control, Spacing Standards, and Medians
- Oregon Highway Plan Implementation Handbook
- 1995 Oregon Transportation Safety Action Plan
- 1997 Oregon Public Transportation Plan
- 2001 Oregon Rail Plan
- Freight Moves the Oregon Economy
- Statewide Congestion Overview for Oregon
- Western Transportation Trade Network Phase II Final Report

**Regional and County Plans and Studies**

- Marion County Rural Transportation System Plan
- Marion County Comprehensive Plan
- Willamette Valley Transportation Strategy 1995 Phase One Report

**Local Plans and Studies**

- Woodburn Transportation System Plan (2005, 1996)
- City of Woodburn Comprehensive Plan (1978, amendments through 2004)
- Woodburn Development Ordinance
• ODOT I-5/Woodburn Interchange Refinement Plan
• Woodburn Factory Stores Transportation Impact Analysis
• Woodburn Factory Stores Phases II/III Transportation Impact Analysis

The proposed project would not require a goal exception, and the project complies with existing planning goals. See Appendix F of this EA for an analysis of how the proposed project complies with these plans and policies.

Existing Land Use

Existing land use in the immediate vicinity of the Woodburn/I-5 interchange and Oregon 214/219 is mostly developed, with primarily commercial and light industrial businesses. Parcels zoned light industrial are located west of I-5 and south of Oregon 219. Properties at the east and west ends of the project along Oregon 214/219 are zoned single-family residential. There are few undeveloped properties in the study area.

Existing land uses are described below by quadrant of the study area shown in Figure 3-3. Figure 3-4 illustrates the existing land use in the study area.

**Northwest (NW) Quadrant.** Primary land uses are commercial and single-family residential. The NW quadrant is dominated by the Woodburn Company Stores outlet mall, which opened in 2000. As of January 2004, this development consists of 300,500 square feet (sf) of retail development, including a 66,500-sf expansion completed in fall 2003. Access to the company stores is along Woodland Avenue and Old Arney Road. Other commercial uses in the quadrant include two car dealerships, a motel, a gas station, and one sit-down and two fast-food restaurants. A single-family neighborhood is located immediately west of Woodland Avenue. The average lot size of these residential parcels is 0.2 acre.

**Southwest (SW) Quadrant.** Land uses are commercial and industrial, including a car dealership and two large warehousing and distribution centers.

**Northeast (NE) Quadrant.** Land uses are mainly commercial, including gas stations, fast-food or sit-down restaurants, a bank, and a motel. The quadrant also contains an older shopping center development and a vacant motel. At the northeast edge of the project footprint is Senior Estates, a large development of single-family homes zoned for retirement use. These lots average 0.10 acre. The study area includes a portion of the privately owned Senior Estate Golf Course and part of a neighborhood park. The Senior Estates Golf Course is a private facility that is the centerpiece of Woodburn’s retirement community. The 18-hole golf course includes a pro shop, indoor swimming pool, spa, exercise facilities, pool room, and restaurant and hosts a full slate of social activities.

**Southeast (SE) Quadrant.** This quadrant contains business types similar to the NE quadrant, including restaurants, gas stations, and small businesses. On the eastern and southern edges of the study area, there are more single-family homes (some within Senior Estates), condominiums, and apartment buildings. This quadrant also includes a portion of the privately owned Senior Estate Golf Course. A tunnel under Oregon 214 is used by golf carts and pedestrians and links the northern and southern portions of the golf course. The Woodburn Super Wal-Mart store is located in this quadrant.
**Undeveloped and Underdeveloped Parcels**

As previously mentioned, the study area is largely developed. However, a number of parcels currently zoned for general commercial use are vacant or underdeveloped, as discussed in the following subsections.

**NW Quadrant.** There are three vacant parcels along Old Arney Road in the NW quadrant. Two of these are north of Old Arney Road, to the east and west of the Arby’s/Elmers development. Another is located south of Old Arney Road, just west of the La Quinta Inn.

**SW Quadrant.** There are no vacant or undeveloped parcels in the SW quadrant.

**NE Quadrant.** There is one vacant parcel in the NE quadrant. It is split by the driveway into the Best Western hotel, but both portions of the parcel appear to be developable. In addition, there are two underused parcels in the NE quadrant. The first, Crossroads Shopping Center just east of Evergreen Road, is partially vacant and appears to have some potential for redevelopment. The second parcel is a motel at the northern edge of the study area, north of Evergreen Road and east of Country Club Road. This motel is currently closed and in disrepair.

**SE Quadrant.** Two vacant parcels lie south of Trailer World and east of Burger King.

**Planned Land Use**

The 2004 Woodburn Comprehensive Plan provides a vision for the city’s growth over the next 20 years. The plan identifies use designations on land within the city to be consistent with this vision. Figure 3-5 shows the comprehensive plan map for the land use study area. The plan designations for land use in the immediate vicinity of the Woodburn/I-5 interchange are largely consistent with current uses, and the plan proposes expansion of the existing urban growth boundary for industrial and residential lands, as described below.

**NW Quadrant.** Land east of Woodland Avenue is designated as general commercial. The area west of Old Arney Road is designated as low-density residential north of Robin Road. Land west of Woodland Avenue is also designated as low-density residential.

**SW Quadrant.** The parcel directly west of the freeway is designated as commercial. The area covering the other parcels in this quadrant is designated as industrial.

**NE Quadrant.** Land directly to the east of the freeway and west of Country Club Road is designated as commercial. Except for the area covering the existing Yun Wah Chinese Restaurant and the currently vacant parcel that lies directly north of Oregon 214 as it curves southwards east of Cascade Drive (both designated as commercial), land east of Country Club Road within the project footprint is designated as low-density residential.

**SE Quadrant.** Most land in this quadrant within the study area west of Oregon Way and north of Stacey Allison Way is designated as commercial. However, parcels directly east and west of Oregon Way along Cascade Drive south of Stacey Allison Way (not a through street at this location) and Lincoln Road are designated as low-density residential. Land directly north of Hayes Road and west of Evergreen Road is designated as medium-density residential. Other designated uses are public and open space (the privately owned Senior Estates Golf Course).
Zoning

Land use zoning in the study area is governed by the City of Woodburn and dictates the type and intensity of development that can occur on land within the city boundaries. Figure 3-6 shows the current zoning for the interchange vicinity. Within the study area boundaries, there are few differences between the current land use zoning and the comprehensive plan designations. Table 3-2 shows the number of acres by land use zone in the study area.

**NW Quadrant.** No difference between zoning and comprehensive plan designations.

**TABLE 3-2**
Acreage by Land Use Zone in Study Area

<table>
<thead>
<tr>
<th>Zoning</th>
<th>Total Acres in Study Area</th>
<th>Percent of Study Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Commercial</td>
<td>180.7</td>
<td>32</td>
</tr>
<tr>
<td>Office Commercial</td>
<td>4.1</td>
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<tr>
<td>Light Industrial</td>
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<tr>
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<td>14</td>
</tr>
<tr>
<td>Retirement Single-Dwelling Residential</td>
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<tr>
<td>Medium-Density Residential</td>
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<tr>
<td>Single-Dwelling Residential</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>570.1</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**SW Quadrant.** No difference between zoning and comprehensive plan designations.

**NE Quadrant.** The neighborhood park located at the northeast corner of the study area is currently zoned public and semipublic, but designated as medium-density residential in the comprehensive plan.

**SE Quadrant.** Seven parcels south of Oregon 214 and east of Cascade Drive are currently zoned medium-density residential and single-dwelling residential, but designated as commercial in the comprehensive plan.

Land Development Activity

Known land development activities planned or underway in the study area are described below. Areas with the potential for development but without actual proposals at this time are also identified. Sources for this information include published and online documents (see information sources in Appendix A) and conversations with city staff.

**NW Quadrant.** Phase I of the Woodburn Company Stores outlet mall was completed in 2000. Phase I includes 234,000 sf of retail space devoted to discount and factory stores. The Woodburn Company Stores is Oregon’s largest outlet mall and, according to the company’s website, was Oregon’s second most popular destination in 2002, with over 3 million visitors that year. Construction of the Woodburn Company Store’s Phase II expansion, which includes 66,500 sf of additional retail space, was completed in late 2003. Phase III of this
development, the construction of an additional 90,000 sf, was recently approved. Construction is currently underway.

**SW Quadrant.** No identified or potential land development proposals exist at this time.

**NE Quadrant.** The Crossroads Shopping Center just west of Country Club Road appears to be underused and may have redevelopment potential. In addition, a motel at the northern edge of the study area (north of Evergreen Road) is currently closed and in disrepair. No identified land development proposals for these properties exist at this time.

**SE Quadrant.** A commercial development proposal was recently approved for a site between Trailer World and Stacey Allison Way. The proposal included two restaurants (one 5,000 sf and the other 2,000 sf) and two retail buildings (one 20,000 sf and the other 10,000 sf). This proposed development would have conflicted with the footprint of the highway, however ODOT has acquired this property.

## Socioeconomics

### Impact Area

The extent of impacts from changes in traffic and access depends on the configuration of the existing and planned road network and development patterns. For build alternatives, impacts from changes in traffic patterns and transportation access would occur in an area close to the highway interchange and along Oregon 214/219. Businesses located close to the interchange have direct access to the highway and are easily accessible from interstate off-ramps. Residential uses tend to be located behind the commercial uses that line the highway. Because heaviest traffic volumes are found on the highway and the interstate, and near the highway-related businesses, the social impact area (due to changes in traffic) is contained.

For this project, the primary impact area is defined as the area adjacent to Oregon 214/219 from Crosby Road NE in the north to Parr Road NE in the south and from Woodland Avenue in the west to Settlemier/Boones Ferry Road in the east.

### Data Availability

For this project, the most relevant geographic units for socioeconomics are census tract block groups. Census tract block groups are the smallest unit of geography for which all demographic and economic data are available.

### Previous Studies

Since 1983, ODOT has conducted a series of analyses on Oregon 214 and 219 and their interchange with I-5. Each of these studies has consistently focused on the interchange and the surrounding roads and land uses from Woodland Avenue to as far east as Boones Ferry Road.
Study Area
The City of Woodburn does not formally designate neighborhoods; however, the study area is defined as the following three distinct neighborhood areas:

- Residential and commercial uses west of I-5 (West Woodburn)
- Freeway service-oriented businesses near the Woodburn/I-5 interchange and along Oregon 214/219 (I-5 Business)
- The Senior Estates development (Senior Estates)

General neighborhood descriptions and demographic information for Census Tract 103.01 are available by the following block groups:

- Block Group 8—West Woodburn
- Block Groups 5 and 7—I-5 Business
- Block Groups 1, 2, and 6—Senior Estates

These three neighborhoods encompass the anticipated area of impact and areas studied in previous analyses related to this project. Figure 3-7 shows the study area neighborhoods.

Population
Population in the study area began to increase greatly in the 1960s. This population growth began with an immigration of retired people into the Woodburn area, mostly through the Senior Estates development. This development, which was conceived in the 1950s and first platted in 1960, continued its development until 1980 when the last lots in Senior Estates were platted. This brought approximately 2,500 retired persons into the Woodburn area (City of Woodburn 1999). In 1967 the City expanded across I-5 and annexed the West Woodburn area, which at that time was largely vacant, for the express purpose of providing sewer and water to a subdivision that had been platted. In addition, the growing population and developable land attracted businesses and business activity away from Woodburn’s downtown to the study area. The Woodburn/I-5 interchange with Oregon 214/219 gives businesses the benefits of high traffic and visibility. As a result, this area also has a more regional retail orientation than the rest of Woodburn, but also has attracted more residents.

During the 1980s there was a statewide downturn in the economy. The growth rate in the City of Woodburn averaged 2 percent from 1980 to 1990, compared to a 7 percent growth rate during the 1970s.

Table 3-3 shows population growth in the study area from 1990 to 2002. Population data for the study area were obtained from the U.S. Census. The study vicinity lies entirely within Census Tract 103.01. Data from this census tract were broken down by block group in order to approximate neighborhoods in the study area.

These three neighborhoods continue to grow in population at a pace faster than the rest of the City of Woodburn. Greater amounts of available land and easy access to I-5 and downtown Woodburn likely fuel the growth rates. Since 2000, growth rates in the City have dropped; growth rates in Marion County have also fallen. Although 2002 population
estimates do not exist for the neighborhoods, they also have probably experienced a reduction in their growth rate due to the sluggish Oregon economy.

**Household Size**

Table 3-4 shows the number of households in the study area. These data show a pattern similar to that of the population data in Table 3-3. Households in the study area account for over 50 percent of the households in the City of Woodburn, mainly due to the extensive size of the Senior Estates neighborhood. The Senior Estates neighborhood has also had the fastest rate of household growth in the study area, nearly double the rate of the city as a whole.

Data on average household size in Table 3-5 show that households in the study area are split into two distinct groups. Households in the West Woodburn neighborhood are generally the same size as the city average. In contrast, both the I-5 Business and Senior Estates neighborhoods have households that are considerably smaller. This is likely due to the predominance of elderly households in those two neighborhoods (which tend to be one- and two-person households). Average household size has been growing roughly the same amount in the study area compared to the city as a whole except in the I-5 Business neighborhood. Newer single-family developments south of the businesses along Oregon 214 could be offsetting multifamily developments with smaller household sizes, thus explaining the shift toward larger household sizes in the neighborhood.

**Race/Ethnicity and Age**

The mix of racial and ethnic groups in Woodburn is quite diverse when compared to Marion County as a whole. Woodburn has undergone substantial demographic changes since the 1960s. The Senior Estate development brought in large numbers of retired persons into the Woodburn area. At the same time there was an immigration of Hispanics into Woodburn as well as the Old Believer Russian migration to Woodburn (City of Woodburn 1999).

Census data from 2000 continue to show Woodburn’s highly mixed demographics (see Table 3-6) with large percentages of Hispanic, “other,” and elderly populations. The West Woodburn neighborhood has an ethnic mix similar to the larger city, although there are somewhat fewer minorities in general. The under 18 and elderly populations for West Woodburn are also similar to the city’s. In the I-5 and Senior Estates neighborhoods, minority percentages are substantially lower compared to the rest of Woodburn. As expected, the percentage of elderly residents is much higher in these two neighborhoods.

**Household Income and Wealth**

Table 3-7 shows the median household income in the study area. The I-5 Business and Senior Estates neighborhoods have median household incomes slightly below the City of Woodburn median. This can be mostly explained by the large elderly population living on fixed incomes. The West Woodburn neighborhood has a much higher median household income compared to the city; it is also slightly higher than the Marion County average.
Housing Units

Table 3-8 shows the number of housing units in the study area and their owner/renter status for 2000. Together, these three neighborhoods have 3,648 units, or 53 percent of the total units in the city of Woodburn. The Senior Estates neighborhood is the dominant residential area due to its extensive plat of single-family houses. Houses in Senior Estates account for 55 percent of the housing units in the study area and 30 percent of the housing units in Woodburn. All of the neighborhoods in the study area have a higher percentage of owner-occupied housing than the city due to the presence of several single-family subdivisions.

**TABLE 3-3**
Population Growth in Study Area Neighborhoods

<table>
<thead>
<tr>
<th>Study Area Neighborhood</th>
<th>West Woodburn Neighborhood</th>
<th>I-5 Business Neighborhood</th>
<th>Senior Estates Neighborhood</th>
<th>City of Woodburn</th>
<th>Marion County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>1,048</td>
<td>1,195</td>
<td>1,900</td>
<td>13,404</td>
<td>228,483</td>
</tr>
<tr>
<td>2000</td>
<td>1,753</td>
<td>2,075</td>
<td>3,599</td>
<td>20,100</td>
<td>284,834</td>
</tr>
<tr>
<td>2002</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>21,209</td>
<td>293,155</td>
</tr>
<tr>
<td>Annual Growth Rate (percent)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990-2000</td>
<td>5.2</td>
<td>5.7</td>
<td>6.6</td>
<td>4.1</td>
<td>2.2</td>
</tr>
<tr>
<td>2000-2002</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1.8</td>
<td>1.0</td>
</tr>
</tbody>
</table>


N/A = not applicable
### TABLE 3-5
Average Household Size in Study Area Neighborhoods

<table>
<thead>
<tr>
<th></th>
<th>West Woodburn Neighborhood</th>
<th>I-5 Business Neighborhood</th>
<th>Senior Estates Neighborhood</th>
<th>City of Woodburn</th>
<th>Marion County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Size</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>2.76</td>
<td>1.66</td>
<td>1.77</td>
<td>2.80</td>
<td>2.73</td>
</tr>
<tr>
<td>2000</td>
<td>3.12</td>
<td>2.11</td>
<td>2.00</td>
<td>3.11</td>
<td>2.70</td>
</tr>
<tr>
<td>Annual Growth Rate (percent)</td>
<td>1.2</td>
<td>2.4</td>
<td>1.2</td>
<td>1.1</td>
<td>-0.1</td>
</tr>
</tbody>
</table>


### TABLE 3-6
Ethnicity and Age in the Study Area Neighborhoods

<table>
<thead>
<tr>
<th></th>
<th>West Woodburn Neighborhood</th>
<th>I-5 Interchange Neighborhood</th>
<th>Senior Estates Neighborhood</th>
<th>City of Woodburn</th>
<th>Marion County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population</td>
<td>1,753</td>
<td>2,075</td>
<td>3,599</td>
<td>20,100</td>
<td>284,834</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>1,188 (67.8%)</td>
<td>1,787 (86.1%)</td>
<td>2,955 (82.1%)</td>
<td>11,682 (58.1%)</td>
<td>232,469 (81.6%)</td>
</tr>
<tr>
<td>Black</td>
<td>1 (0.1%)</td>
<td>8 (0.4%)</td>
<td>4 (0.1%)</td>
<td>90 (0.4%)</td>
<td>2,539 (0.9%)</td>
</tr>
<tr>
<td>Am In./Alask. Nat.</td>
<td>20 (1.1%)</td>
<td>22 (1.1%)</td>
<td>14 (0.4%)</td>
<td>236 (1.2%)</td>
<td>4,111 (1.4%)</td>
</tr>
<tr>
<td>Asian</td>
<td>7 (0.4%)</td>
<td>12 (0.6%)</td>
<td>32 (0.9%)</td>
<td>107 (0.5%)</td>
<td>4,997 (1.8%)</td>
</tr>
<tr>
<td>Nat Haw/P.I.</td>
<td>1 (0.1%)</td>
<td>1 (&gt;0.1%)</td>
<td>3 (0.1%)</td>
<td>15 (0.1%)</td>
<td>1,022 (0.4%)</td>
</tr>
<tr>
<td>Other</td>
<td>483 (27.6%)</td>
<td>152 (7.3%)</td>
<td>494 (13.7%)</td>
<td>7,167 (35.7%)</td>
<td>30,148 (10.6%)</td>
</tr>
<tr>
<td>2 or more races</td>
<td>53 (3.0%)</td>
<td>93 (4.5%)</td>
<td>97 (2.7%)</td>
<td>803 (4.0%)</td>
<td>9,548 (3.4%)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>640 (36.5%)</td>
<td>329 (15.9%)</td>
<td>760 (21.1%)</td>
<td>10,064 (50.1%)</td>
<td>48,714 (17.1%)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under 18</td>
<td>504 (28.8%)</td>
<td>367 (17.7%)</td>
<td>521 (14.5%)</td>
<td>6,032 (30.0%)</td>
<td>77,963 (27.4%)</td>
</tr>
<tr>
<td>Over 65</td>
<td>267 (15.2%)</td>
<td>919 (44.3%)</td>
<td>1,751 (48.7%)</td>
<td>3636 (18.1%)</td>
<td>35,206 (12.4%)</td>
</tr>
</tbody>
</table>

TABLE 3-7
Median Household Income in Study Area

<table>
<thead>
<tr>
<th></th>
<th>West Woodburn Neighborhood</th>
<th>I-5 Business Neighborhood</th>
<th>Senior Estates</th>
<th>City of Woodburn</th>
<th>Marion County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Household Income</td>
<td>$29,583</td>
<td>$16,979</td>
<td>$20,433</td>
<td>$22,253</td>
<td>$26,876</td>
</tr>
<tr>
<td>1990</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Growth (percent)</td>
<td>3.6</td>
<td>6.0</td>
<td>4.8</td>
<td>4.2</td>
<td>4.1</td>
</tr>
</tbody>
</table>


TABLE 3-8
Housing Units in the Study Area Neighborhoods

<table>
<thead>
<tr>
<th></th>
<th>West Woodburn Neighborhood</th>
<th>I-5 Interchange Neighborhood</th>
<th>Senior Estates Neighborhood</th>
<th>City of Woodburn</th>
<th>Marion County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Units</td>
<td>597</td>
<td>1,018</td>
<td>2,033</td>
<td>6,824</td>
<td>108,174</td>
</tr>
<tr>
<td>Percent Rented</td>
<td>10.0</td>
<td>22.7</td>
<td>23.4</td>
<td>32.8</td>
<td>37.1</td>
</tr>
<tr>
<td>Percent Owned</td>
<td>90.0</td>
<td>77.3</td>
<td>76.6</td>
<td>67.2</td>
<td>62.9</td>
</tr>
</tbody>
</table>


Business Patterns

The economy of the Willamette Valley has historically been based on agriculture. While agriculture continues to play an important role in the local economy, growth in the retail, manufacturing, and services sectors has provided diversity to the Woodburn area economy. Woodburn has also experienced growth in its tourist industry because of its proximity to various tourist sites in the Willamette Valley and because of localized attractions such as the Woodburn Company Stores and the many community events throughout the year.

The businesses located near the Woodburn/I-5 interchange are consistent with service-oriented establishments commonly found near highway interchanges. The interchange is also critical to the movement of persons to and from the Woodburn Company Stores, one of the largest factory outlet malls in the State of Oregon, as well as providing convenient access to I-5 for the manufacturing and food processing companies located in the area. The economic vitality of the retail, manufacturing, food processing, tourist, and services sectors are all reliant on an efficient transportation system to move employees, customers, and goods to and from the area.
Employment

Historical employment for the study area, the City of Woodburn, and Marion County are displayed in Table 3-9. From 1990 to 2000, the study area and the City of Woodburn experienced greater growth than the county. The study area added over 1,500 jobs from 1990 to 2000, an average annual growth rate of nearly 11.0 percent. The city’s employment grew at an average annual rate of approximately 4.5 percent, while the county experienced a more moderate annual increase of 2.2 percent.

<table>
<thead>
<tr>
<th>Area</th>
<th>1990</th>
<th>2000</th>
<th>Average Annual Percent Change (1990-2000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Area</td>
<td>856</td>
<td>2,419</td>
<td>10.9%</td>
</tr>
<tr>
<td>City of Woodburn</td>
<td>4,776</td>
<td>7,448</td>
<td>4.5%</td>
</tr>
<tr>
<td>Marion County</td>
<td>101,478</td>
<td>126,682</td>
<td>2.2%</td>
</tr>
</tbody>
</table>


In 1990, the study area accounted for nearly 18 percent of the city’s total employment. By 2000, the study area represented approximately 32 percent of the total employment in Woodburn. The growth in the study area can be attributed to the area’s access to I-5, as well as its centralized location between Portland and Salem.

Employment by industry and the percent of total employment by sector for the project area, the city, and the county are displayed in Table 3-10. In 2000, the manufacturing sector was the largest employer in both the project area and the city, accounting for 17.7 percent and 21.8 percent of total jobs, respectively. The study area and the city had a larger percentage of total jobs in manufacturing than did the county. The retail sector, buoyed by the Woodburn Company Stores, represents 14.9 percent of total jobs in the project area, compared to 10.8 percent in the city and 11.6 percent in the county. The educational, health, and social services sector is the largest employer in the county with 19.0 percent of total employment, while the sector represents 13.9 percent of jobs in the project area and 11.0 percent in the city.

According to the Woodburn Area Chamber of Commerce, the list of the largest employers in the area represents a cross section of the industries currently present in the local economy. Fleetwood Homes, a producer of manufactured homes, is the largest employer in the area with 675 employees. WinCo Foods and Food Services of America employ approximately 1,000 people total in the food processing industry. The growing retail sector is represented by one of the largest factory outlet malls in the State of Oregon, the Woodburn Company Stores. The remaining entities on the list represent the public administration, warehouse distribution, and manufacturing sectors. The largest public and
TABLE 3-10
Industry Employment, 2000

<table>
<thead>
<tr>
<th>Industry</th>
<th>Project Area</th>
<th>City of Woodburn</th>
<th>Marion County</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of Employed</td>
<td>Percent of Total</td>
<td>Number of Employed</td>
</tr>
<tr>
<td>Agriculture</td>
<td>87</td>
<td>3.6%</td>
<td>602</td>
</tr>
<tr>
<td>Construction</td>
<td>119</td>
<td>4.9%</td>
<td>533</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>427</td>
<td>17.7%</td>
<td>1,622</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>155</td>
<td>6.4%</td>
<td>687</td>
</tr>
<tr>
<td>Retail trade</td>
<td>360</td>
<td>14.9%</td>
<td>803</td>
</tr>
<tr>
<td>Transportation</td>
<td>193</td>
<td>8.0%</td>
<td>293</td>
</tr>
<tr>
<td>Information</td>
<td>38</td>
<td>1.6%</td>
<td>83</td>
</tr>
<tr>
<td>FIRE (finance, insurance, real estate)</td>
<td>172</td>
<td>7.1%</td>
<td>253</td>
</tr>
<tr>
<td>Professional services</td>
<td>150</td>
<td>6.2%</td>
<td>731</td>
</tr>
<tr>
<td>Educational, health, social services</td>
<td>336</td>
<td>13.9%</td>
<td>822</td>
</tr>
<tr>
<td>Arts, entertainment, recreation, accommodation, food service</td>
<td>111</td>
<td>4.6%</td>
<td>482</td>
</tr>
<tr>
<td>Other services</td>
<td>179</td>
<td>7.4%</td>
<td>359</td>
</tr>
<tr>
<td>Public administration</td>
<td>92</td>
<td>3.8%</td>
<td>178</td>
</tr>
<tr>
<td>Total</td>
<td>2,419</td>
<td>100.0%</td>
<td>7,448</td>
</tr>
</tbody>
</table>


private sector employers in the Woodburn area and the estimated number of persons they employ are as follows:

- Fleetwood Homes – 675
- WinCo Foods – 600
- Woodburn Schools – 568
- Woodburn Company Stores – 450
- Wal-Mart SuperCenter – 400
- Food Services of America – 400
- Patrick Industries – 115
- Woodburn Fertilizer – 100
- City of Woodburn – 100

Table 3-11 presents the historical unemployment rate for Marion County and the State of Oregon. Over the last 7 years, the county’s unemployment rate has fluctuated from 5.5 percent to 7.0 percent. During the same time period, the state’s unemployment rate varied from 4.9 percent to a high of 7.5 percent in 2002. From 1996 through 1997, the county and the state’s unemployment rates were nearly identical. From 1998 through 2001, the county’s unemployment rate remained higher than the state’s. However, in 2002, the state experienced a dramatic increase in unemployment because of the continued downturn in the economy and recorded a higher unemployment rate than the county.
### TABLE 3-11
Historical Unemployment

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Marion County</td>
<td>5.9</td>
<td>6.0</td>
<td>5.9</td>
<td>6.2</td>
<td>5.5</td>
<td>6.4</td>
<td>7.0</td>
</tr>
<tr>
<td>State of Oregon</td>
<td>5.9</td>
<td>5.8</td>
<td>5.6</td>
<td>5.7</td>
<td>4.9</td>
<td>6.3</td>
<td>7.5</td>
</tr>
</tbody>
</table>


### Business Access

Currently, customers access businesses located to the east of I-5 and along Oregon 214 by making right- or left-hand turns directly into the property. Left turns are permitted via a continuous center lane that extends from the overpass to the eastern project terminus. Businesses that are not located directly on Oregon 214 are accessed via signalized intersections at Oregon Way/Country Club Road, Evergreen Road, and Lawson Avenue.

Customers traveling westbound on Oregon 219 access businesses located on the north side of the highway and to the west of I-5 by making direct right-hand turns into the right-in/right-out turn at Old Arney Road on the north side of the highway. Currently, a raised median controls access to Old Arney Road for motorists traveling eastbound on Oregon 219. The Woodburn Company Stores, Miles Chrysler Jeep, Arby’s, Elmer’s Restaurant, La Quinta Hotel, Texaco, and Jack in the Box are all accessed via Old Arney Road.

### Community Facilities and Services

Community facilities and services that could be affected by the proposed improvements include school districts, recreation areas, churches, and police and fire protection. Only community facilities near the proposed project improvements are described in this section. Figure 3-8 shows the location of study area community facilities.

### School Facilities and Services

The Woodburn School District is a K-12 educational organization that serves the learning needs of a growing multicultural community. The district serves 2,304 students at four elementary schools, 998 students at two middle schools, and 1,165 students at a single high school; the district employs 568 staff members (Woodburn School District, [http://www.woodburn.k12.or.us](http://www.woodburn.k12.or.us), 2003). Three of these schools are located within the study area: Nellie Muir Elementary School (1800 West Hayes Street), Lincoln Elementary School (1041 North Boones Ferry Road), and French Prairie Middle School (1025 North Boones Ferry Road). These three schools are located in the Senior Estates neighborhood.

Several bus routes serving schools within the Woodburn School District travel through the study area on a daily basis. Students that live within a reasonable walking distance from their school are not bused. Reasonable distances are defined as follows (Woodburn School District, [http://www.woodburn.k12.or.us](http://www.woodburn.k12.or.us), 2003):

- Kindergarten: 1/2 mile
- 1st grade through 8th grade: 1 mile
- 9th grade through 12th grade: 1-1/2 miles
School buses traveling to and from Nellie Muir Elementary School use the Evergreen Road, Oregon 214, Oregon Way, and Cascade Drive on a daily basis (Stubblefield, Pers. Comm. 2003). A number of bus routes also depend on the Woodburn/I-5 interchange to cross I-5 in order to access students living in the West Woodburn neighborhood. Bus stops in West Woodburn near the project area are located along Old Arney Road (Woodburn School District, http://www.woodburn.k12.or.us, 2003). Two to three buses that travel to Salem for the hearing impaired also use the on- and off-ramps at the Woodburn/I-5 interchange.

Recreational Facilities
Recreational facilities in the study area near the proposed improvements consist of playgrounds and playfields associated with neighborhood schools as well as two city parks and a privately owned golf course. Most of these recreational facilities are in the Senior Estates neighborhood.

Senior Estates Park is at the corner of Astor Way and Walton Way in the middle of the Senior Estates plat. Several walking paths cross the 4-acre public park. An arboretum and horseshoe courts are also featured.

The one recreational facility located outside of the Senior Estates neighborhood, Burlingham Park, is in the West Woodburn neighborhood. The 6.5-acre public park is at the corner of Linda Street and Woodland Avenue. It includes a playground and sports playfields and has picnic shelters that are available to rent.

The Senior Estates Golf Course is a private facility that is the centerpiece of Woodburn’s retirement community. The 18-hole golf course includes a pro shop, indoor swimming pool, spa, exercise facilities, pool room, and restaurant and hosts a full slate of social activities.

According to the Woodburn Comprehensive Parks and Recreation Plan Update (City of Woodburn 1999), a small section of the southeastern project area lies within a Needed Park Facility Service Area. However, no specific community or municipal parks are planned within the project area.

No other private, state, or federal parks or recreational facilities are located in the study area.

Churches
Several churches serve the study area and are located near the proposed improvements, including the following:

- **West Woodburn**
  - Iglesia Adventista del Septimo Dia (Spanish Seventh Day Adventist), 782 Willow Avenue
  - Soul’s Harbor Church of the Nazarene, 3601 Oregon 214

- **Senior Estates**
  - St. Mary’s Episcopal Church, 1560 South Hayes Street
  - Church of Jesus Christ of Latter-Day Saints, 1000 Country Club Road
First Presbyterian Church, 950 Boones Ferry Road

Woodburn English Seventh Day Adventist Church, 1100 Sixth Street

**Fire, Police Protection, and Emergency Service**

Police protection is provided to the study area by the City of Woodburn. The Woodburn Police Department is made up of 33 employees. This includes the Police Chief, the Deputy Chief, four patrol sergeants, one detective sergeant, 14 patrol officers, three detectives, one school resource officer, two code enforcement officers, one secretary, one records supervisor, one evidence technician, and three records clerks (City of Woodburn, [http://www.ci.woodburn.or.us](http://www.ci.woodburn.or.us), 2003). The Police Department has two facilities: its main headquarters in downtown Woodburn at 270 Montgomery Street, and the East Precinct (sub-station) located on Oregon 99 East. Both facilities are located outside of the study area.

Specific response times to the project area are not available because police response times can be influenced by several factors such as when a call comes in (i.e., morning, evening, rush hour) or where a particular officer is located when responding to a call. Oregon 214/219 is extremely congested in the morning and evening rush hours; police often will use side streets to travel more quickly. Response times during rush hours are considerably longer than at other times (Kelley, Pers. Comm. 2003).

Fire protection services in the project vicinity are provided by the Woodburn Fire District. The District has a total of four fire stations. The District’s headquarters, located at 1776 Newberg Highway, is just east of the proposed Woodburn Interchange Project (Roberts, Pers. Comm. 2003). The Woodburn Fire District Headquarters (Station 21) includes three fire engines, one ladder, one support unit, and one interface unit that acts as an engine. They have no ambulances and therefore work with the Woodburn Ambulance Service for transporting victims to nearby hospitals. At least four paid firefighters are always on staff per shift, and sometimes six, with interns present. In addition, there are 12 paid on-call volunteers who are available at any given time (Hendrick, Pers. Comm. 2003).

Woodburn Ambulance Service, Inc., provides emergency transportation within the vicinity of the project area. Four ambulances are dispatched from one facility located on Oregon 214, approximately one mile east of the Woodburn/I-5 interchange. Average response time to the project area is approximately 5 minutes (Baird, Pers. Comm. 2003).

**Other Community Facilities**

Several health facilities exist in the Senior Estates neighborhood. Tukwila Center for Health and Medicine (693 Glatt Circle) houses centers for diagnostic imaging, women’s health, fitness, and health education. The diagnostic imaging program offers local access to an array of state-of-the-art diagnostic procedures, including bone-density screenings, magnetic resonance imaging, computed tomography scanning, digital imaging, ultrasound, body composition assessment, and mammography. Tukwila is also home base for a variety of physicians and other health professionals. Legacy Clinic (1002 North Boones Ferry Road) serves the community with family practice, pediatrics, internal medicine, diabetes services, and women’s health services. With the 2001 opening of Woodburn Urgent Care (1014 Oregon 214), Woodburn residents now have access to nonemergency care for illnesses and injuries that occur on weekends or weekdays after their physicians’ offices have closed. The
Woodburn Medical Clinic (974 North Cascade Drive) is home to medical specialists in internal medicine, gerontology, and primary senior care.

Environmental Justice

Presidential Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898), dated February 11, 1994, requires that ODOT determine whether or not the proposed Woodburn Interchange Project would likely result in disproportionately high and adverse human health or environmental effects on minority and/or low-income populations. The environmental justice analysis focuses on the locations of project effects (as identified in the various other environmental sections prepared as part of this EA) and examines the racial and income characteristics of the populations affected by these project effects.

The total population of the study area is approximately 15,005. Of this total, approximately 48.8 percent is minority and 16.8 percent is low-income. Figures 3-9 and 3-10 show the environmental justice study area. For comparison, Marion County, with a population of approximately 284,834, is approximately 23.5 percent minority and 13.5 percent low income, and the State of Oregon, with a population of approximately 3,421,399, is approximately 16.5 percent minority and 11.6 percent low income (data from 2000 U.S. Census).

Census blocks that are entirely or partially contained within the study area were identified by the percentage of the population residing within each block that is minority, expressed as a range. Eight different ranges of minority population concentration are found in the study area: four ranges from 0 percent to 50 percent minority, and four ranges from 50 percent to 100 percent minority. Many census blocks within the study area, particularly in the City of Woodburn, have minority population concentrations above 50 percent.

Census block groups that are entirely or partially contained within the study area were also identified by the percentage of the population residing within each block group that is low income. Eight different ranges of low-income population concentration, similar to the minority ranges as described above, are found in the study area. Most of the block groups in the immediate vicinity of the Woodburn/I-5 interchange have relatively low concentrations of low-income populations. Relatively higher concentrations of low-income populations can be seen in surrounding block groups in the outer edges of the study area.

Visual Quality

Landscape

The visual character of the study area is primarily defined by the manmade environment.

Woodburn is located in a very flat area of the Willamette Valley. For the most part the study area is also flat; however, the elevation rises at the Woodburn/I-5 interchange where the ground level has been built up to allow Oregon 214/219 to cross over I-5 (Figure 3-11). The I-5 on- and off-ramps also slope to link up with Oregon 214 (Figure 3-11).

The flat topography of the area means there are few natural features to view from the interstate other than grasslands, trees, and manmade development. Although the Cascade
and Coast mountain ranges are visible in the far background to the east and west of the freeway, they do not dominate the scenery because of their distance, and, where development borders the interstate, they are not visible. Other than these distant mountain ranges, there are no particular landforms (hillsides, rock outcroppings) or water features (rivers, lakes) to attract a viewer’s attention.

Vegetation is primarily limited to landscaped areas around commercial and residential development and the interchange on- and off-ramps. The vegetation is primarily grassy areas with small groupings of deciduous trees and some evergreens.

Within the study area, interstate motorists primarily see the types of highway commercial development that benefit from this exposure, such as restaurants, motels, and retail developments. The commercial development in the northwest, southwest, and southeast quadrants of the study area has mostly been constructed within the last approximately 2 decades. The development is commonly freestanding buildings surrounded by large parking lots. Development in the northeast quadrant is older, with smaller buildings located more closely together, but still surrounded by parking lots.

Along Oregon 214/219, commercial uses predominate within 1,200 feet of the east and west sides of the interchange. Residential uses are located to the east and west of those commercial areas. The commercial uses on the east side of the freeway are oriented toward highway users, such as gas stations, fast food restaurants, and cafes. The streetscape is crowded with brightly colored commercial signs and overhead utility lines (Figure 3-12). The backyards of most single-family residences east of Oregon Way and west of Woodland Avenue are screened from the highway by trees (Figure 3-12). Development is not as dense on the west side of I-5, and the visual environment is not cluttered with commercial signs.

**Viewer Groups**

Viewer groups include people with views from the road and people with views of the road. People with views from the interstate include motorists and truck drivers. People with views from Oregon 214/219 and local streets include interstate motorists stopping for services and local shoppers, commuters, and pedestrians. People with views to the interstate consist of business employees and patrons, including motel guests. People with views to Oregon 214, Oregon 219, and local streets in the study area include business employees, business patrons, and residents.

The viewer group with the greatest number of viewers is motorists on I-5 and Oregon 214/219. The 1999 ADT volumes on I-5 through the Woodburn/I-5 interchange were 73,000 vehicles. Ramp volumes varied from a high of 6,300 ADT to a low of 4,000 ADT. A July 1999 manual count recorded 18,900 ADT on Oregon 214 east of the interchange and 15,000 ADT to the west. Because these volumes represent vehicles rather than occupants, the ADT provides an indication of the minimum number of people who are exposed to the study area.
Looking west on Oregon 214 as it crosses over I-5.

Looking northwest towards northbound I-5 off-ramps, which climb in elevation to west Oregon 214 as it crosses over I-5.

Figure 3-11
Study Area Visual Conditions
Typical streetscape on Oregon 214 between I-5 and Oregon Way.

Trees and shrubs screen residences from Oregon 214 east of Oregon Way.

Figure 3-12
Study Area Visual Conditions
As interstate motorists enter the study area from the north and south, the predominant element of their view is the overpass. The view of pedestrians and motorists on Oregon 214/219 terminates at the I-5 overpass when looking away from the eastern and western project termini. On the east side of I-5, signs and overhead wires frame motorists’ view corridor. On the west side of I-5, motorists have a more expansive view of the sky because obstructions are limited to street lighting and overhead utilities.

Following motorists, business employees and patrons are the next most numerous viewer group. Although some employees and business patrons have unobstructed views of the interstate, other locations are screened at ground level. Businesses on the Oregon 214 are typically oriented toward the street; however, activity is focused inward.

Residents are the smallest viewer group within the study area. Residents in the study area have views of Oregon 214 but not I-5. Homes along Oregon 214 are oriented toward the adjacent side street. As a result, Oregon 214 runs along the backyards of these homes. Although residents can see the road, their views are usually screened from the highway by fences and trees.

Existing Visual Quality

Evaluating the existing visual quality within the study area provides a standard for judging the changes that would occur as a result of the build alternatives. One set of criteria that can be used to judge visual quality includes three elements: vividness, intactness, and unity. These criteria are defined by FHWA guidance (1981) as follows:

- Vividness—the visual power or memorability of landscape components as they combine in striking and distinctive visual patterns.
- Intactness—the visual integrity of the natural and manmade landscape and its freedom from encroaching elements.
- Unity—the visual coherence and compositional harmony of the landscape.

Taken individually, none of these qualities is equivalent to visual quality; all three must be high to indicate high quality.

Depending on the location, the visual quality of the study area is below average to average. The low to moderate visual quality of the area is the result of minimal vividness, intactness, and unity.

The study area does not have any distinctive characteristics in terms of landforms (the area is flat), water features (there are none), or buildings (there are no historically or architecturally significant buildings). The study area is dominated by strip commercial development common at highway interchanges and along major highways. This type of development, characterized by freestanding buildings surrounded by large parking lots, commonly looks the same wherever it is located because the building designs are mandated by corporate branding. Although a traveler and business patron can quickly tell one business from another, the identity of the community is not so readily apparent.
The study area does not possess visual integrity. The physical environment does not have a common theme, such as a certain type of building material like red brick, or cohesive development pattern, such as a strong street edge created by buildings constructed at the property line. As mentioned above, structures reflect corporate identities rather than a local identity and lack a common theme. In addition, throughout the study area various commercial signs, utility lines, and other street signage interrupt the horizon.

The study area also lacks visual unity. The development along the corridor sits at varying distances from the edge of the right-of-way, eliminating the possibility of a unified street edge. The lack of consistent landscaping contributes to the absence of visual cohesion.

**Air Quality**

The project area is designated as “in attainment” for all state and national ambient air quality standards and is identified as a Prevention of Significant Deterioration Class II (PSD II) area. Areas identified as PSD II are not associated with air pollution problems and are allowed a moderate level of air quality degradation due to development. ODEQ is the lead agency for air pollution control in Marion County. ODEQ does not maintain any air quality monitoring stations within the project area.

There are two source categories for air pollution in the project area: point source and area source. Point sources are emitters of large quantities of pollutants from a single stationary source, such as a manufacturing plant. Area sources are collections of small sources dispersed throughout an area, such as woodstove smoke, fugitive dust, and transportation sources. Air quality would likely be most affected by potential area sources (e.g., transportation sources).

**Noise**

**Existing Acoustical Environment**

As shown in Table 3-12, noise measurements were made in the project area on several different dates and at several locations between June 2003 and December 2003. A total of 15 noise measurements were made. Figure 3-13 shows the locations of the noise measurement sites.

The traffic noise levels measured at all of the sites are indicative of the traffic volumes and speeds present at the time of measurement. Different traffic volumes or speeds can result in different noise levels. To help put the likelihood of change due to different traffic numbers into perspective, a doubling or halving of the traffic volumes, without a subsequent change in speeds, would result in a change in the traffic noise level of 3 decibels. A change of 3 decibels in traffic noise is barely perceptible to a person with normal hearing in an outdoor environment. Therefore, minor changes in traffic volumes or speeds result in an even smaller change in the traffic noise levels.
### TABLE 3-12
Noise Measurement Site Data

<table>
<thead>
<tr>
<th>Site Number</th>
<th>Time and Date</th>
<th>Location</th>
<th>Measured Noise Level (dBA)</th>
<th>Predicted Noise Level (dBA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12:50 AM</td>
<td>6-16-2003</td>
<td>Leq 65</td>
<td>Leq 64</td>
</tr>
<tr>
<td>1</td>
<td>6-16-2003</td>
<td>3168 Myrtle Street</td>
<td>Leq 64</td>
<td>Leq 63</td>
</tr>
<tr>
<td>2</td>
<td>1:00 PM</td>
<td>6-16-2003</td>
<td>Leq 62</td>
<td>Leq 66&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>3A</td>
<td>10:20 AM</td>
<td>6-18-2003</td>
<td>Leq 65</td>
<td>Leq 67</td>
</tr>
<tr>
<td>3B</td>
<td>6-18-2003</td>
<td>2239 Country Club Road</td>
<td>Leq 68</td>
<td>Leq 68</td>
</tr>
<tr>
<td>4A</td>
<td>11:05 AM</td>
<td>6-18-2003</td>
<td>Leq 67</td>
<td>Leq 68</td>
</tr>
<tr>
<td>4B</td>
<td>6-18-2003</td>
<td>2227 Country Club Road</td>
<td>Leq 65</td>
<td>Leq 66</td>
</tr>
<tr>
<td>5A</td>
<td>11:05 AM</td>
<td>6-18-2003</td>
<td>Leq 61</td>
<td>Leq 64&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>5B</td>
<td>6-18-2003</td>
<td>2219 Country Club Road</td>
<td>Leq 61</td>
<td>Leq 63&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>6</td>
<td>1:25 PM</td>
<td>6-18-2003</td>
<td>Leq 70</td>
<td>Leq 72</td>
</tr>
<tr>
<td>7</td>
<td>10:30 AM</td>
<td>6-18-2003</td>
<td>Leq 66</td>
<td>Leq 70</td>
</tr>
<tr>
<td>8</td>
<td>9:00 AM</td>
<td>9-05-2003</td>
<td>Leq 60</td>
<td>Leq 65</td>
</tr>
<tr>
<td>9</td>
<td>11:35 AM</td>
<td>9-05-2003</td>
<td>Leq 62</td>
<td>Leq 62</td>
</tr>
<tr>
<td>10A</td>
<td>1:00 PM</td>
<td>9-05-2003</td>
<td>Leq 67</td>
<td>Leq 68</td>
</tr>
<tr>
<td>10B</td>
<td>9-05-2003</td>
<td>994 Oregon Way</td>
<td>Leq 57</td>
<td>Leq 59</td>
</tr>
<tr>
<td>11</td>
<td>1:35 PM</td>
<td>9-05-2003</td>
<td>Leq 61</td>
<td>Leq 65</td>
</tr>
<tr>
<td>12</td>
<td>12:22 PM</td>
<td>11-06-2003</td>
<td>Leq 66</td>
<td>Leq 66</td>
</tr>
<tr>
<td>13</td>
<td>12:28 PM</td>
<td>11-06-2003</td>
<td>Leq 59</td>
<td>Leq 61</td>
</tr>
<tr>
<td>14</td>
<td>1:48 PM</td>
<td>12-03-2003</td>
<td>Leq 60</td>
<td>Leq 62</td>
</tr>
<tr>
<td>15</td>
<td>2:32 PM</td>
<td>12-03-2003</td>
<td>Leq 63</td>
<td>Leq 65</td>
</tr>
</tbody>
</table>

<sup>a</sup> The noise measurement at Site 2 was taken at a time of roadway construction. The traffic was very heavy and stop and go due to the signal timing and flagmen. This site did not have a correction factor applied due to the unusual traffic conditions existing at the time of measurement.

<sup>b</sup> The predicted to measured noise levels at these sites differ by more than the acceptable 2 decibels. A correction factor of 2 decibels was applied at these sites and similar sites to provide noise levels that agree with the measured noise levels. All of these sites were located at a considerable distance from the roadway centerline.

Leq = equivalent sound level
Correlation of Measured Noise Levels to Predicted Noise Levels

Traffic counts were made during most of the noise measurements. The traffic counted at the time of measurement was entered into the FHWA traffic noise model (TNM), and comparisons were made between the measured noise levels and predicted noise levels. The measured to predicted noise levels agreed within 0–5 (typically 1–2) decibels. A measured to modeled agreement of 1–2 decibels is considered a good agreement. Two noise measurements sites had a difference of up to 5 decibels difference. It was noted that one of these sites had large distances with open fields between the roadways and the measurement location. It was evident that the model was not providing sufficient ground effect reductions for the larger distance. A correction factor of 2 decibels was applied for those sites to bring the model into agreement with the measured levels. The correction factor results in agreement within 2 decibels between the measured and predicted noise levels. As mentioned previously, a person with normal hearing cannot detect a change in noise levels of less than 3 decibels in an outdoor environment. That level of agreement is considered good and will ensure that the model is accurately predicting the noise levels for this area. Based on that level of accuracy, the model can than be relied upon to accurately predict noise levels for future conditions within these areas.

Hazardous Materials

Hazardous materials include contaminated soils in or near the project area. They are of concern because, during construction, soil excavation can cause the contamination to spread farther or endanger construction crews. If project excavation activities occur in any areas containing known hazardous materials, ODOT’s policies and procedures require removing contamination prior to constructing the project.

ODOT Policy ENV 16-01 establishes the manner in which various aspects of hazardous materials would be managed. Pertinent to project right-of-way impacts, ENV 16-01 states that, in the acquisition of right-of-way, hazardous materials sites will be avoided when feasible, and cleanup and disposal costs will be recovered from responsible parties whenever possible.

ODOT Procedure ENV 16-02 establishes guidelines for project activities that may disturb hazardous materials, including expertise of personnel involved in hazardous materials investigations, and protocols for hazardous materials investigation at seven distinct phases of project development.

A limited Phase 1 hazardous materials study was conducted for the project in 2003. That investigation showed that there were 26 sites with potential concerns related to hazardous materials. These sites are listed in Table 3-13 and are shown in Figure 3-14.
TABLE 3-13
Summary of Sites with Identified or Potential Hazardous Materials or Wastes

<table>
<thead>
<tr>
<th>Map Site No.</th>
<th>Name</th>
<th>Address</th>
<th>Environmental Agency Database Listing</th>
<th>EDR I.D.</th>
<th>Contaminants of Potential Concern</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Do It Best, Corp. (present)/Hardware Wholesalers Inc. (historic)</td>
<td>333 S. Woodland Avenue</td>
<td>HSIS</td>
<td>5</td>
<td>TPH, Calcium Hypochlorite</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>WinCo Foods</td>
<td>400 S. Woodland Avenue</td>
<td>UST</td>
<td>4</td>
<td>TPH</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>W Kernal</td>
<td>249 Acacia Street</td>
<td>LUST</td>
<td>3</td>
<td>TPH</td>
<td>Res HOT</td>
</tr>
<tr>
<td>4</td>
<td>Miles Chevrolet</td>
<td>3001 W. Newberg Highway</td>
<td>RCRA SQG, HSIS</td>
<td>8</td>
<td>TPH, solvents</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Hillyers Mid-City Ford</td>
<td>3000 Hillyer Lane</td>
<td>Haz storage</td>
<td>8</td>
<td>Anti Freeze, Freon, Batteries, TPH</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Westview Texaco II</td>
<td>100 Arney Road NE</td>
<td>RCRA SQG, UST, AST, HSIS</td>
<td>6</td>
<td>Propane, TPH, solvents</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Miles Chrysler Jeep Dodge (present)/Herschberger Motors (historic)</td>
<td>777 Arney Road</td>
<td>HSIS</td>
<td>2</td>
<td>TPH, Antifreeze</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>City of Woodburn wastewater lift station</td>
<td></td>
<td>N/A</td>
<td></td>
<td>Possible issues with remaining structures</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Wal-Mart Store 1793</td>
<td>3002 Stacey Allison Way</td>
<td>RCRA SQG, HSIS, Spill</td>
<td>14</td>
<td>Antifreeze, batteries, TPH (paint spill)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Trailer World (present)/Leather Oil Co. (historic)</td>
<td>2996 Newberg Highway</td>
<td>LUST, UST, AST, HSIS</td>
<td>8</td>
<td>TPH</td>
<td>NFA</td>
</tr>
<tr>
<td>12</td>
<td>Chevron Station Other names: Woodburn Fast Serv, Inc. and Chevron USA, Inc. #98992</td>
<td>2990 Newberg Highway</td>
<td>RCRA SQG, LUST, Spill, UST, HSIS</td>
<td>8</td>
<td>TPH, Antifreeze</td>
<td>NFA</td>
</tr>
<tr>
<td>13</td>
<td>Shell Woodburn Other names: British Petroleum</td>
<td>2995 Newberg Highway</td>
<td>LUST, UST, AST, HSIS</td>
<td>7</td>
<td>TPH, Propane</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Exxon of Woodburn</td>
<td>850 Lawson</td>
<td>UST</td>
<td>13</td>
<td>TPH</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Former Wendy’s Site</td>
<td>2875 Newberg Highway</td>
<td>Spill</td>
<td></td>
<td>Methane</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Tosco 6421 - Union 76</td>
<td>2874 Newberg Highway</td>
<td>UST</td>
<td>8</td>
<td>TPH, Antifreeze</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>ARCO FAC #4413</td>
<td>2720 Newberg Highway</td>
<td>RCRA SQG, LUST, UST, HSIS</td>
<td>10</td>
<td>TPH</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Debris piles</td>
<td></td>
<td></td>
<td></td>
<td>Disposed debris observed</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 3-13
Summary of Sites with Identified or Potential Hazardous Materials or Wastes

<table>
<thead>
<tr>
<th>Map Site No.</th>
<th>Name</th>
<th>Address</th>
<th>Environmental Agency Database Listing</th>
<th>EDR I.D.</th>
<th>Contaminants of Potential Concern</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Kentucky Fried Chicken</td>
<td>Newberg Highway</td>
<td></td>
<td></td>
<td></td>
<td>Possible hazardous building materials</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Mae Thai Restaurant (current)/Woodburn Exxon (historic)</td>
<td>2515 Newberg Highway</td>
<td>LUST, UST</td>
<td>7</td>
<td>TPH</td>
<td>NFA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Private residences</td>
<td>Rainier Road</td>
<td></td>
<td></td>
<td></td>
<td>Possible hazardous building materials, Res HOT</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Woodburn Fire District</td>
<td>1776 Newberg Highway</td>
<td>Spill, UST, AST</td>
<td>12</td>
<td>TPH, Fire Foam</td>
<td></td>
</tr>
<tr>
<td>N/M</td>
<td>City of Woodburn Waste water</td>
<td>140 Newberg Highway</td>
<td>UST</td>
<td>11</td>
<td>TPH</td>
<td></td>
</tr>
<tr>
<td>N/M</td>
<td>Senior Estates Golf Course</td>
<td>1776 Country Club Road</td>
<td>LUST</td>
<td>1</td>
<td>TPH</td>
<td>NFA</td>
</tr>
<tr>
<td>N/M</td>
<td>Lizer, George &amp; Pavitt</td>
<td>540 N. Settlemeier</td>
<td>LUST</td>
<td>15</td>
<td>TPH</td>
<td>NFA</td>
</tr>
<tr>
<td>N/M</td>
<td>Woodburn Fertilizer</td>
<td>868 N. Front Street</td>
<td>ECSI</td>
<td>16</td>
<td>Pesticides</td>
<td>Outside of project area</td>
</tr>
</tbody>
</table>

AST = aboveground storage tank
COC = contaminant of concern
ECSI = ODEQ Environmental Cleanup Site Information system
EDR = Environmental Data Report
HSIS = Oregon Hazardous Substance Information Survey
LUST = leaking underground storage tank
N/A = not applicable
NFA = no further action
N/M = not mapped on figure
Res HOT = residential heating oil tank
RCRA-SQG = small quantity generator of hazardous waste
Spill = Oregon HAZMAT spill response reported
TPH = total petroleum hydrocarbons
UST = underground storage tank
Figure 3-14
Sites of Concern for Hazardous Materials

Legend
1. DO IT BEST
2. WINCO
3. W KERNAL
4. MILES CHEVROLET
5. HILLERS MID-CITY FORD
6. TEXACO
7. MILES CHRYSLER JEEP
8. CITY WASTEWATER LIFT STATION
9. WALMART
10. TRAILER WORLD
11. COUNTRY COTTAGE CAFE
12. CHEVRON
13. SHELL (demolished)
14. EXXON
15. WENDY’S (vacant)
16. UNION 76/SCRAP YARD
17. ARCO
18. DEBRIS PILES
19. KENTUCKY FRIED CHICKEN
20. MAE THAI RESTAURANT
21. PRIVATE RESIDENCES
22. FIRE STATION

1 inch equals 500 feet
SECTION 4

Environmental Consequences

Introduction

This section examines how the affected environment would change in response to the build and no build alternatives. Direct, secondary, and cumulative impacts are described where applicable for each alternative during project construction and operation periods. Much of the information provided in this section is included in more detail in separate technical reports prepared for each environmental discipline. A brief overview of the differences between the alternatives is provided in the Executive Summary in Table ES-1.

Because the two build alternatives are the same design and only differ by where the widening of Oregon 214 and 219 would occur from the existing roadway centerline, the environmental effects of the build alternatives are very similar as well. These effects are therefore described together for both alternatives wherever possible.

Hydrology and Water Quality

No Build Alternative

Under the No Build Alternative, there would be no new conversion of pervious areas (land that is able to absorb water) to roadways. Runoff from the existing roadway and other impervious surfaces (land that cannot absorb water and causes stormwater runoff) would continue on its current course to both Senecal Creek and Mill Creek without water quantity or quality treatment. No new construction would take place; thus, there would be no increase in the potential for additional sediment entering the two receiving water bodies. No new environmental impacts would occur.

Runoff from the project roads under the existing condition may cause exceedances of water quality criteria for metals slightly less frequently than once in 3 years in Senecal Creek. This means that highway runoff may adversely affect the beneficial uses of Senecal Creek. The effect of existing project road runoff on Mill Creek is small and is very unlikely to cause exceedances of water quality criteria.

Build Alternatives (Widen Equal and Widen North)

Neither build alternative would physically cross Mill Creek or Senecal Creek channels, but would affect how surface water runoff drains to both creeks. Both build alternatives would create new impervious surface area in the Mill Creek and Senecal Creek sub-basins, which could cause a reduction of base flow and increase stormwater runoff from the project area. However, both build alternatives would include stormwater treatment along the corridor, which would minimize these effects. The specific stormwater treatment would be identified after an alternative is selected and would be separate from any proposed wetland mitigation for this project.
Water quality effects from the build alternatives could include slightly increased pollutant loading into Mill Creek and Senecal Creek. However, these increases would be very small and would be unlikely to exceed the allowed limits for pollutant concentrations in these creeks.

Detailed hydrological and water quality effects from each build alternative are described below.

**Alternative 1: Widen Equal**

This alternative would create 53,143 square feet (4,937 square meters or 1.22 acres) of additional impervious surface area in the Mill Creek sub-basin and a net increase of 76,230 square feet (7,082 square meters or 1.75 acres) of impervious surface area in the Senecal Creek basin. It is expected that part or all of the area Water F (as shown in Figure 3-2) may be filled to accommodate the widened road section in that area. The fill area is not located within a regulatory floodplain or floodway. Placement of fill in this area is expected to require extension of existing culvert sections entering the water. Other culverts and stormwater collection system piping and inlets may require realignment or increased capacity, depending primarily on final project grading and roadway profile.

The increase in impervious area would cause a reduction of base flow and would cause additional runoff from the project site, thus increasing peak magnitude and runoff volume as well as pollutant and sediment loading. Tables 4-1 and 4-2 show the increase in impervious surfaces and the increase in runoff rates and volumes affecting water quantity and quality. Tables 4-3 and 4-4 show the existing flows in both Mill Creek and Senecal Creek for comparison purposes. Unmitigated increases in flow and volume in these waterways may cause increases in downstream flows. This change can lead to increased flood stages, causing erosion on the stream banks and loss of riparian habitat. However, stormwater treatment, which is proposed for both build alternatives, would minimize these effects.

The 3-year concentration of pollutants in Mill Creek contributed by the project roads would increase by more than half if no treatment is provided. However, the in-stream effect would be small, and the runoff alone would be unlikely to cause exceedances of water quality criteria. Senecal Creek would see a small increase in the 3-year concentration, which would be just about at the water quality criteria for metals. This would slightly exacerbate adverse effects on beneficial uses caused by stormwater from the existing project roadway.

**Access Option**

This option concerns land and easement acquisition only; no physical changes to the existing hydrologic regime are contemplated. Therefore, no hydrologic impacts are expected.

**Alternative 2: Widen North**

Under this alternative, the environmental effects would be similar to those described in Alternative 1 (see discussion above). The environmental consequence of this alternative consists of the creation of 74,050 square feet (6,880 square meters or 1.7 acres) of additional impervious surface area in the Senecal Creek sub-basin and of 38,340 square feet (3,562 square meters or 0.88 acres) of additional impervious surface area in the Mill Creek
**TABLE 4-1**
Mill Creek Sub-Basin – Comparison of Pre- and Post-Development Flows from Proposed New Impervious Area, Alternative 1

<table>
<thead>
<tr>
<th>Storm Event (frequency in years)</th>
<th>Area to be Converted to Impervious Cover (acres and square meters)</th>
<th>Existing Peak Runoff Flow (cfs)</th>
<th>Proposed Peak Runoff Flow (cfs)</th>
<th>Existing Runoff Volume (ft³)</th>
<th>Proposed Runoff Volume (ft³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1.22 ac (4,937 sm)</td>
<td>0.23</td>
<td>0.28</td>
<td>6,185</td>
<td>11,325</td>
</tr>
<tr>
<td>10</td>
<td>1.22 ac (4,937 sm)</td>
<td>0.34</td>
<td>0.64</td>
<td>11,587</td>
<td>18,210</td>
</tr>
<tr>
<td>100</td>
<td>1.22 ac (4,937 sm)</td>
<td>1.67</td>
<td>1.05</td>
<td>17,554</td>
<td>25,134</td>
</tr>
</tbody>
</table>

cfs = cubic feet per second
ft³ = cubic feet per second
sm = square meters

**TABLE 4-2**
Senecal Creek Sub-Basin – Comparison of Pre- and Post-Development Flows from Proposed New Impervious Area, Alternative 1

<table>
<thead>
<tr>
<th>Storm Event (frequency in years)</th>
<th>Area to be converted to impervious cover (acres and square meters)</th>
<th>Existing Peak Runoff Flow (cfs)</th>
<th>Proposed Peak Runoff Flow (cfs)</th>
<th>Existing Runoff Volume (ft³)</th>
<th>Proposed Runoff Volume (ft³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1.75 ac (7,082 sm)</td>
<td>0.48</td>
<td>1.12</td>
<td>10,367</td>
<td>17,990</td>
</tr>
<tr>
<td>10</td>
<td>1.75 ac (7,082 sm)</td>
<td>1.08</td>
<td>1.90</td>
<td>19,384</td>
<td>29,185</td>
</tr>
<tr>
<td>100</td>
<td>1.75 ac (7,082 sm)</td>
<td>1.76</td>
<td>2.70</td>
<td>29,403</td>
<td>40,815</td>
</tr>
</tbody>
</table>

cfs = cubic feet per second
ft³ = cubic feet per second
sm = square meters

**TABLE 4-3**
Mill Creek Stream Flow

<table>
<thead>
<tr>
<th>Storm Event (frequency in years)</th>
<th>Basin Area (mi²)</th>
<th>Precipitation (inches)</th>
<th>Flow (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>5.11</td>
<td>2.9</td>
<td>222</td>
</tr>
<tr>
<td>10</td>
<td>5.11</td>
<td>2.9</td>
<td>428</td>
</tr>
<tr>
<td>100</td>
<td>5.11</td>
<td>2.9</td>
<td>746</td>
</tr>
</tbody>
</table>

Notes:
2. Precipitation from USGS Gage Station 14202000, Pudding River at Aurora, Oregon, was used for flow calculations due to similar basin characteristics.
3. The drainage basin area used for the above calculations is for Mill Creek at its confluence with its two main tributaries to the west and south of Woodburn.

mi² = square miles
TABLE 4-4
Senecal Creek Stream Flow

<table>
<thead>
<tr>
<th>Storm Event (frequency in years)</th>
<th>Basin Area (mi²)</th>
<th>Precipitation (inches)</th>
<th>Flow (cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>5.37</td>
<td>2.9</td>
<td>232</td>
</tr>
<tr>
<td>10</td>
<td>5.37</td>
<td>2.9</td>
<td>447</td>
</tr>
<tr>
<td>100</td>
<td>5.37</td>
<td>2.9</td>
<td>779</td>
</tr>
</tbody>
</table>

Notes:
1. Calculations are based on regression equations for the Willamette Region (Region 2) as depicted in USGS Magnitude and Frequency of Floods in Western Oregon, Open-File Report 79-553.
2. Precipitation from USGS Gage Station 14202000, Pudding River at Aurora, Oregon, was used for flow calculations due to similar basin characteristics.
3. The drainage basin area used for the above calculations is for Senecal Creek at its confluence with East Senecal Creek.

sub-basin. As in Alternative 1, fill of wetlands and other roadway construction would have additional impacts.

The creation of new impervious surface would take place in both the Senecal Creek and Mill Creek sub-basins. This increase would cause depletion of base flow and would cause additional runoff from the project site, thus increasing peak magnitude and runoff volume, as well as pollutant and sediment loading. Tables 4-5 and 4-6 show the increase in impervious surfaces and the increase in runoff rates and volumes affecting water quantity and quality. Unmitigated increases in flow and volume in both receiving water bodies may cause increase in downstream hydrology and hydraulics (refer to Tables 4-3 and 4-4 for existing stream flows). This change can lead to increased flood stages, causing erosion on the stream banks and loss of riparian habitat if no stormwater treatment is provided. However, stormwater treatment, which is proposed for both build alternatives, would minimize these effects.

Alternative 2 would result in a smaller increase in the pollutant load entering Mill Creek than Alternative 1 because Alternative 2 would have a greater percentage increase in runoff volumes than Alternative 1. The 3-year in-stream concentration due to project runoff would increase by about a third, but would remain well below water quality criteria. Senecal Creek would suffer an increase in pollutant loading that would be slightly less than that resulting from Alternative 1. The 3-year in-stream concentration of copper would be approximately equal to the water quality criteria. This indicates that the project could result in a small increase in the occasional adverse effect on beneficial uses in Senecal Creek caused by stormwater discharge from the existing project roadway.

Access Option:

This option concerns land and easement acquisition only; no physical changes to the existing hydrologic regime are contemplated. Therefore, no hydrologic impacts are expected.
Conservation/Avoidance Measures

For a roadway project such as this, constructing widened roadway (impervious) area is avoided if possible for both environmental and cost reasons. The primary reason for widened roadway area is to meet design criteria for the expected travel speeds and volume.

TABLE 4-5
Mill Creek Sub-Basin – Comparison of Pre- and Post-Development Flows from Proposed New Impervious Area, Alternative 2

<table>
<thead>
<tr>
<th>Storm Event (frequency years)</th>
<th>Area to be converted to impervious cover (acres and square meters)</th>
<th>Existing Peak Runoff Flow (cfs)</th>
<th>Proposed Peak Runoff Flow (cfs)</th>
<th>Existing Runoff Volume (ft³)</th>
<th>Proposed Runoff Volume (ft³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0.88 ac 3,562 sm</td>
<td>0.11</td>
<td>0.48</td>
<td>2,657</td>
<td>7,275</td>
</tr>
<tr>
<td>10</td>
<td>0.88 ac 3,562 sm</td>
<td>0.24</td>
<td>0.69</td>
<td>5,009</td>
<td>10,454</td>
</tr>
<tr>
<td>100</td>
<td>0.88 ac 3,562 sm</td>
<td>0.4</td>
<td>0.89</td>
<td>7,579</td>
<td>13,643</td>
</tr>
</tbody>
</table>

cfs = cubic feet per second
ft³ = cubic feet per second
sm = square meters

Methods for determining these criteria are generally prescriptive and are integral to the primary function of the project; i.e., to improve safety and capacity of the interchange for present and expected future traffic volume. The current interchange configuration does not meet current design and safety standards. For that reason, changes in impervious area...
cannot be completely avoided for either of the build alternatives. However, some impacts, particularly related to construction, can be avoided or offset with proper installation of sediment and erosion control structures.

**Mitigation Design Considerations**

Stormwater facilities (facilities that are designed to treat or detain stormwater so that water that flows off the roadway flows in at more natural rates without pollutants) could be used to improve the water quality and regulate the peak storm flow rates from the new impervious surface areas. The stormwater facilities would include water quality and detention facilities (can be surface ponds or underground vaults) and a roadway stormwater system (with either pipes and/or roadway gutters) to collect and convey the stormwater from the paved surfaces to the facilities. This approach would concentrate the stormwater to a finite number of discharge locations to minimize the number and associated impacts of installing the detention facilities. The specific facilities to be incorporated into the alternatives would still need to be designed, after an alternative is selected.

Detention facilities can be used to regulate surface flows leaving the site, ensuring that peak magnitudes at certain design events do not exceed historic conditions. This can reduce or avoid downstream flooding impacts, which are related primarily to peak magnitude of storm events. Certain types of detention facilities such as unlined ponds would allow water to infiltrate into the ground and provide some mitigating base flow into the subsurface drainage paths, buffering against the loss of infiltration onsite from increased impervious area. However, use of these facilities can cause impacts on the existing watercourses if volumetric detention is not provided. For example, the flow exiting the detention facilities may last for a longer duration than in the undeveloped state. This longer duration of the storm-related flow can cause degradation of the downstream watercourse.

Stormwater facilities would be designed to meet the criteria set forth by local and state agencies. If there is a lack of local stormwater guidelines, the basis for stormwater detention and water quality treatment would be the guidelines set forth in the *Design and Construction Manual* of Clean Water Services of Washington County, Oregon. The stormwater conveyance system would adhere to the guidelines contained in the ODOT *Hydraulics Manual* (ODOT 1990).

Water quality mitigation for highway runoff is intended to protect beneficial uses, meet any applicable TMDLs in the receiving waters, and prevent a net increase in the pollutant load discharged to receiving waters. Protecting beneficial uses also requires, at a minimum, achieving the latter two goals. Because there are no TMDLs set for Senecal Creek and Mill Creek, the focus for this project is on not increasing the pollutant load in the two streams. This can be achieved by providing full treatment for water quality (average pollutant removal capability of 70 percent) for storms for runoff from an area of highway equivalent to a minimum of 140 percent of the new impervious surface area. Treating more area would be beneficial and preferred and would result in a net decrease in pollutant load.

In addition, a Water Resources Baseline Report will need to be prepared once an alternative is selected.
Biology and Wetlands

Vegetation

No Build Alternative
Existing urban-impacted vegetation type and wetland conditions would remain the same under the No Build Alternative. Regular maintenance within highway rights-of-way, and landscaping associated with businesses and residences, would continue on schedule. Wetland ditches would continue to undergo mowing, and two remaining “daylighted” portions of the creek system (Waters F and H) would remain in the existing low-quality condition.

Build Alternatives (Widen Equal and Widen North)

Uplands
Upland vegetation types that would be affected by both build alternatives are primarily mowed herbaceous right-of-way, weedy fields, and some edges of urban landscaping. No unique plant communities or habitat preferred by special status species exist where new construction would occur. Effects of both build alternatives on upland vegetation are therefore expected to be negligible.

Wetlands
Proposed improvements in both build alternatives north of Oregon 219 near Old Arney Road would directly affect all of Water F, a small (0.01-acre), highly degraded area of daylighted creek with both incoming and outgoing culverts (Figures 4-1 and 4-2). There is no native creek substrate because the bottom and sides (within and above bankfull stage) are riprapped with cobble-size rock. The waterway is a headwater of East Senecal Creek and is likely regulated as a water of the State/United States (rather than as a wetland). Water F occurs at the base of an existing retaining wall adjacent to the north side of Oregon 219 within existing right-of-way. Any further northward widening of the roadway would have unavoidable impacts on the area. Water F is proposed to be placed into a culvert, which would increase by a small fraction the proportion of East Senecal Creek’s headwater within culverts. Impacts on Water F would cause some degree of further degradation to the headwater drainage system. However, the level of additional impact on the primarily underground headwater system is considered minor. As a small remnant of open creekbed, the current condition of Water F is highly degraded with litter and probably water quality degraded as a result of surface runoff from surrounding pavement.

Approximately 0.01 acre of Wetland A under either build alternative would be directly affected. This small roadside ditch has negligible habitat value and was most likely created from upland soil for stormwater drainage purposes. It will likely be determined nonjurisdictional as a water of the state/United States.

No other wetlands/waters of the state/United States identified in the project area would be affected or disturbed by either build alternative.
Access Option:
The option to add two separate areas, an additional strip of 60-foot-wide right-of-way and a strip of 50-foot-wide easement, would add a small amount of weedy upland field impact on both build alternatives. This would not change the above determination of negligible impact for the build alternatives on upland vegetation. The option would not affect additional wetland areas.

Conservation and Avoidance Measures
Impacts on jurisdictional wetland areas would be minimized to the maximum practicable extent.

Mitigation Design Considerations
Compensatory wetland mitigation may be required by the Army Corps of Engineers and the Oregon Department of State Lands (ODSL) for the 0.01-acre impact on Water F (a small area of open creek channel) resulting from both build alternatives. Personnel within the ODSL wetlands/water permitting program will be contacted regarding the applicability of mitigation for the proposed impact. One mitigation option would be to provide onsite riparian plantings to offset the small amount of impact on the drainage system due to the Water F impact. Another option, if compensatory mitigation is required, would be to propose offsite “indirect” mitigation, which state guidance allows for projects involving less than 0.2 acre without first considering onsite mitigation (OAR 141-085-0121(3)). The preferred method for satisfying offsite mitigation requirements is to purchase credits at a mitigation bank that services the area. An approved mitigation bank (Weathers) is located southwest of the project area that provides service for the Woodburn region. It is likely that, should mitigation be required for the proposed 0.01-acre stream impact, it could be satisfied by purchasing credits at the Weathers mitigation bank.

Compensatory mitigation for proposed impacts on Wetland A is unlikely to be required pending confirmation of nonjurisdictional status. Should mitigation be required, purchasing mitigation bank credits would likely satisfy requirements.

Mitigation measures for upland vegetation impacts include the following:

- Choose native plants for revegetation as practicable. Select plants to limit the need for mowing and other maintenance activities.
- Use BMPs for erosion control.

With respect to noxious weeds, ODOT would prepare and implement roadway landscaping plans and erosion control measures consistent with federal Executive Order 13112 (Invasive Species). These actions would avoid the introduction or spread of invasive species, including noxious weeds and undesirable native plants.
Figure 4-1
Alternative 1
Showing Identified Wetlands
Wildlife

No Build Alternative
Under the No Build Alternative there would be no new conversion of vegetated areas to roadways. However, regular maintenance, primarily mowing within the median and along shoulders, would continue. Mowing may result in direct mortality to some species, primarily rodents, amphibians, and reptiles. Regular vehicle traffic along roadways would also continue to cause some level of mortality from collisions for all species that use the project area.

Build Alternatives (Widen Equal and Widen North)
Both build alternatives would result in conversion of portions of the existing vegetation communities into paved roadway and shoulders. Although Alternative 2 would widen Oregon 214/219 farther north, the amount of impact on existing vegetation communities would be the same and the impacts of the build alternatives would only differ spatially. The levelness of the project area makes it unlikely that there would be major erosion or transport. Implementation of erosion control BMPs would further reduce risk. Erosion and sediment transport may occur associated with the project; however, the impacts on fish and wildlife are expected to be negligible, because the extent is expected to be limited by topography, BMPs, and marginal wildlife and fish habitat.

The proposed project would not result in increased traffic congestion after completion, but rather would cause more efficient movement of existing and expected traffic volumes. Therefore, although vehicle-caused mortality would occur, it is not expected to exceed the amount that would occur under the No Build Alternative.

As discussed previously, a portion of Wetland A would be filled as a result of this alternative. In addition, it is expected that the portion of East Senecal Creek that is identified as Water F would be culverted to facilitate road widening. The loss of wetland would reduce open water areas that provide watering and foraging opportunities for animal and bird species.

Wetland D is surrounded by paved roads and parking lots, which limits its accessibility to wildlife. Consequently, the number of individuals affected would be very small. Wetland D is the only water body within the project area that carries flow to a perennial receiving water (East Senecal Creek). The additional culvert for road widening may result in suspended sediment entering the water body. Because of the existing substrate and sluggish nature of the stream in the project area, the amount of suspended sediment generated is expected to be minimal and the transport distance short. Once the pipe is installed, additional sediment input would not be expected. Culverting of Water F also would eliminate habitat for mosquito fish, a nonnative species.

Species and habitat present within the project area are not unique and occur as a result of their tolerance for, and ability to adapt to, human alteration and activity. Both build alternatives would result in some mortality and loss of habitat. However, the effects of this alternative on wildlife are expected to be negligible.
Access Option:
Development of this option would affect additional abandoned field areas and would result in additional impacts on wildlife that occupy those areas. However, relative to regional habitat availability and population sizes, the increase in impact would be marginal, leaving overall impacts at the negligible level.

Conservation and Avoidance Measures
Impacts on wetland areas will be avoided to the maximum extent practicable.

Mitigation Design Considerations
The following mitigation measures are proposed to offset the estimated short-term (construction) and long-term (final design) impacts:

- Revegetate cleared and disturbed areas as quickly as practical following completion of construction activity.
- Incorporate native plant species into the revegetation plan. Select plants to limit the need for mowing and other maintenance activities.
- Incorporate BMPs for erosion and sediment control.

Cultural Resources
No resources of the historic built environment exist within the project area. However, the project area does contain archaeological potential beneath existing transportation corridors, utility corridors, and other buildings and structures. Potential impacts on subsurface resources are discussed under Construction Impacts, below.

Transportation

Interstate Impacts

No Build Alternative
There would be no additional mainline interstate capacity resulting from either the no build or the build alternatives. During peak periods, there would be times when traffic would back down the ramp onto the freeway. Occasionally, during this condition, there would be traffic in the right lane of I-5 that is stopped in attempts to merge into the traffic backed down the shoulder. This condition would not be improved with the No Build Alternative and would likely become more frequent without improvements. The No Build Alternative would not meet the project purpose and need to improve the traffic flow and safety conditions of the existing interchange.

Build Alternatives (Widen Equal and Widen North)
Relative to the interstate, the two build alternatives would perform similarly. The build alternatives would have one-lane off-ramps northbound and southbound, loop on-ramps for eastbound to northbound and westbound to southbound movements, and direct ramps
for westbound to northbound and eastbound to southbound movements. In the build alternatives, the improvement of the ramp terminal intersections would reduce the number of occasions when traffic backs onto I-5.

**Projected Peak-Hour Volumes**

Travel demands are represented as projected design hour traffic volumes. These volumes are the basis for analysis of traffic impacts. Each of the alternatives would experience similar daily traffic volumes throughout most of the study area.

The peak-hour volumes were analyzed using traffic “volume” demand to facility lane “capacity” (V/C) as a numeric indicator of facility performance. As the numeric ratio approaches 1.0, congestion increases. Likewise, the closer the number is to 0.0, the more free-flowing the traffic functions. Although it is possible to achieve numbers higher than 1.0 mathematically, there is no practical meaning other than failure, which is characterized by motorists sitting through several traffic signal cycles and making little progress during peak demand periods. Table 4-7 indicates the operational analysis results. The 2003 results of the interchange ramps indicate values for southbound of 0.83 and northbound of 0.81. These values are misleading, with critical movements far in excess of 1.0. The critical movements at failure are leading to safety issues related to traffic backing up into the ramp deceleration zone and even spilling back onto the shoulder and travel lanes during special events in the Woodburn area.

**TABLE 4-7**

Intersection System No Build and Build Alternatives— Design Hour Volume-to-Capacity Ratios

<table>
<thead>
<tr>
<th>Location</th>
<th>Traffic Control</th>
<th>V/C Mobility Standard</th>
<th>2003</th>
<th>2025 No Build</th>
<th>2025 Build</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland Avenue</td>
<td>Signal</td>
<td>0.80</td>
<td>0.54</td>
<td><strong>0.96</strong></td>
<td>0.54</td>
</tr>
<tr>
<td>Old Arney Road</td>
<td>Stop</td>
<td>0.80</td>
<td>0.10</td>
<td>0.19</td>
<td>0.25</td>
</tr>
<tr>
<td>I-5 Southbound Ramp</td>
<td>Signal</td>
<td>0.70</td>
<td><strong>0.83</strong></td>
<td>&gt;1.0</td>
<td>0.58</td>
</tr>
<tr>
<td>I-5 Northbound Ramp</td>
<td>Signal</td>
<td>0.70</td>
<td><strong>0.81</strong></td>
<td>&gt;1.0</td>
<td>0.63</td>
</tr>
<tr>
<td>Lawson Avenue</td>
<td>Stop</td>
<td>0.80</td>
<td>0.28</td>
<td>0.84</td>
<td>0.11</td>
</tr>
<tr>
<td>Evergreen Road</td>
<td>Signal</td>
<td>0.80</td>
<td>0.76</td>
<td><strong>&gt;1.0</strong></td>
<td>0.73</td>
</tr>
<tr>
<td>Oregon Way/Country Club</td>
<td>Signal</td>
<td>0.80</td>
<td><strong>0.82</strong></td>
<td>0.90</td>
<td>0.78</td>
</tr>
<tr>
<td>Cascade Drive</td>
<td>Stop</td>
<td>0.80</td>
<td>0.39</td>
<td>0.36</td>
<td><strong>0.84</strong></td>
</tr>
<tr>
<td>Astor Way</td>
<td>Stop</td>
<td>0.80</td>
<td>0.43</td>
<td><strong>&gt;1.0</strong></td>
<td>0.42</td>
</tr>
<tr>
<td>Boones Ferry/Settlemier</td>
<td>Signal</td>
<td>0.80</td>
<td><strong>0.92</strong></td>
<td>&gt;1.0</td>
<td><strong>0.82</strong></td>
</tr>
</tbody>
</table>

Notes:
Bold *italics* and shading indicates intersection does not meet standards for V/C according to the ODOT *Highway Design Manual*.
The Boones Ferry Road/Settlemier intersection is outside the project construction limits.
Intersection V/C ratios are based on intersection averages. There may be critical movements in excess of 1.0 that adversely affect actual operations of the transportation system.
No Build Alternative

The analysis indicates that, under existing conditions, the interchange ramps, Oregon Way/Country Club Road, and Boones Ferry Road/Settlemier would not meet mobility standards during peak hour periods. Traffic would flow with delays. In the no build future year of 2025, Woodland Avenue, Evergreen Road, and Astor Way also would not meet mobility standards. There would be five intersections at failure with substantial traffic delay.

Build Alternatives (Widen Equal and Widen North)

With the build alternatives (future year of 2025), all intersections except Cascade Drive (an unsignalized intersection) would show improvement over the No Build Alternative and most would show improvement over existing conditions except Woodland Avenue and Old Arney Road. The ratio of vacant developable land within the UBG to developed land is higher on the east side of the interstate. The Cascade Drive/Oregon 214 intersection would be stop controlled and would not meet the V/C ratio standards in the 2025 Build Alternative scenarios. The primary reason for not meeting the V/C standards is due to the single shared left, through, and right turn configuration of the northbound movement. Cascade Drive is expected to carry mostly local trips. Local traffic familiar with the street system would likely divert from this intersection to other intersections in the area, such as Evergreen Road, to make critical movements during peak traffic conditions. The growth rate and traffic modeling precision is not accurate enough to adequately make adjustments to this level of reassignment when local drivers are likely to make a split-second decision based on the traffic backups at the time. It is likely that locals would seek alternative routes and “self regulate” the actual operational performance. Even though the Boones Ferry Road/Settlemier intersection is outside the construction limits, the operational performance of the build alternatives would be improved over the existing conditions and future No Build Alternative conditions.

Queuing and Traffic Progression

A queuing analysis was conducted for the build alternatives to guide the appropriate design of turn lane storage lengths. Based on this analysis, all of the queues are anticipated to be accommodated by the build alternatives design, with one exception. Queues from the eastbound through movement at the Evergreen Road/Oregon 214 intersection may occasionally block right turning traffic into Lawson Avenue. It is not practical to extend the right turn lane any farther given right-of-way constraints. This occasional queuing would not affect operations along Oregon 214. The anticipated queues for the build alternatives are graphically represented in Figure 4-3.

No Build Alternative

The average travel speed would decrease from existing conditions of 16 mph to 10 mph due to increased congestion. The number of vehicles passing through a series of traffic signals east and west along Oregon 214/219 without stopping would remain relatively the same as existing conditions.
Build Alternatives (Widen Equal and Widen North)
The average travel speed would increase from existing conditions of 16 mph to 18 mph with improvements. It is likely that travelers would have to stop through the series of signalized intersections. This is primarily due to the reconfiguration of the intersection configuration at the ramp terminals. The left turns along Oregon 214/219 would be converted to more free-flowing right turns through the loop ramps to facilitate access to the freeway. The tradeoff would be slight degradation of through traffic traveling east/west through the Woodburn/I-5 interchange area, not wanting to access I-5. However, the efficiency could be improved during design and construction, depending on how the traffic signals are timed in the corridor.

Impacts on Non-Auto Modes
The affected non-auto modes include freight or truck traffic, public transit, bicycles, and pedestrian travel. The following paragraphs discuss each of these categories and their specific impacts.

No Build Alternative
Truck Traffic. It is likely there would be increasing truck traffic demand at the interchange ramps associated with development of industrial lands. The operational characteristics for peak-hour demand are covered in previous paragraphs. It is likely that safety would degrade as other motorists attempt to remedy congestion by running red lights, resulting in further slowdown of trucks starting their turning movements on the interchange ramps.

Public Transit. Public transit vehicles would experience similar congestion and safety relative to other motorized traffic. Currently, there are no provisions for bus pull-outs along Oregon 214/219.

Bicycle. There would be little change from existing conditions. As congestion continues, bicycle travelers would likely attempt to ride up on the right-hand side to bypass motorized vehicles. At intersections, motorists may not see bicycle traffic pull up on the right side, creating high-risk turning conflicts for turning movements.

Pedestrian. There would be relatively no change from existing conditions. The lack of a continuous system for pedestrians today causes out-of-direction travel. During congested periods, pedestrians may be tempted to cut through traffic backups to shorten distances.

Build Alternatives (Widen Equal and Widen North)
Truck Traffic. Truck traffic flow would improve due to adjustments of the vertical approach grades to the interstate over-crossing structure. The entry speed to the interchange ramp intersections would increase to approximate normal operating speeds without the same concern for shifting loads as existing conditions.

Public Transit. Public transit vehicles would experience congestion and safety issues similar to other motorized traffic. During the design phase, ODOT would acquire entire parcels in order to accommodate widening of Oregon 214 because of the severe impacts on current building improvements and uses. Not all of the property is required for the widening. ODOT may include bus pull-outs to improve traffic flow prior to selling surplus property.
**Bicycle.** Improvements would include space designated for bicycle travel. Striping, signage, and other traffic control devices would be designed to accommodate bicycle traffic parallel to travel lanes designated for motorized vehicles. The improvements would be typical of those found in urban settings and satisfy drivers’ expectations for safety and operation.

**Pedestrian.** Improvements would be made to pedestrian facilities. Sidewalks would meet design criteria for the ADA. Utilities would be relocated, and landscaping buffers would separate pedestrians from the curb, bike lane, and motorized vehicle travel lane.

**Access Management and Circulation**

**No Build Alternative**

Congestion in the interchange vicinity would make access to and from properties and the interstate difficult during peak periods. Left turns from uncontrolled intersections and accesses during peak periods are frequently not practical due to traffic backups and would worsen in the future.

**Build Alternatives (Widen Equal and Widen North)**

West of the interstate, direct access to Oregon 219 would remain unchanged. The median would be extended to the Woodland Avenue intersection. The extension of the median barrier would reduce the number of occurrences when drivers attempt a mid-block U-turn between Old Arney Road and Woodland Avenue.

East of the interstate to Evergreen Road, Oregon 214 would have a median barrier and would eliminate all private road approaches. Lawson Avenue would remain open for right-in only. This is necessary to relieve right turn movements from the intersection of Oregon 214 and Evergreen Road. Preliminary analysis indicates that this would improve intersection operations as well as improve local circulation by providing choices to drivers. Local property owners located adjacent to Lawson Avenue and Oregon 214 would benefit through a more direct access opportunity for patrons. The McDonalds site is frequently used by trucks, school activity buses, and recreational vehicles due to the ease of parking, and this travel pattern would not be changed with either of the build alternatives. Right-out turning movements at Lawson Avenue would be prohibited. The potential for conflicts during peak travel demand would be high. In addition, if there were a crash involving vehicles from right turning movements desiring immediate lane change to make a left turn at Evergreen Road, the potential for injury would be high due to the angle of incidence.

The northbound approach of Evergreen Road to Oregon 214 would provide double left turns to expedite clearing the intersection and reducing the traffic backups. This would allow local street accesses to remain on Evergreen Road. Modifications to access may be required during the design phase based on field survey data.

From Evergreen Road to Oregon Way, there would be a raised median. Because of the lack of local streets parallel to Oregon 214, U-turns would be permitted at Evergreen Road and Oregon Way. As a result of the proposed median, mid-block access may be permitted without adversely affecting travel. The City of Woodburn and ODOT may be required to eliminate direct accesses as redevelopment of Oregon 214 frontage occurs in the future. At
this time, two accesses on the south and one access on the north were determined to be adequate. An option to provide backage access is shown in Figures 2-3 and 2-6.

Land Use

No Build Alternative

Under the No Build Alternative, the current Woodburn/I-5 interchange would remain in place for the foreseeable future, with only routine maintenance to prevent deterioration. No direct land use changes or impacts would result.

Build Alternatives (Widen Equal and Widen North)

Alternative 1 would widen Oregon 214 and Oregon 219 equally to the north and south of the centerline of the existing roadway. Figure 4-4 shows the land uses potentially affected by Alternative 1. A total of 11.1 acres may be acquired or directly affected by the access restrictions associated with this alternative, the majority of which is zoned General Commercial (CG). Other land uses affected by this alternative are Office Commercial (CO), Light Industrial (IL), Public/Semi-Public (P/SP), Retirement Single-Dwelling Residential (R1S), Medium-Density Residential (RM), and Single-Dwelling Residential (RS). Table 4-8 lists the acres affected by zoning designation.

<table>
<thead>
<tr>
<th>Zoning Designation</th>
<th>Zone</th>
<th>Acres Affecteda</th>
<th>Acres in Study Area</th>
<th>Percent of Acres Affected in Study Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>CG</td>
<td>General Commercial</td>
<td>9.5</td>
<td>180.7</td>
<td>5.3</td>
</tr>
<tr>
<td>CO</td>
<td>Office Commercial</td>
<td>0.1</td>
<td>4.1</td>
<td>2.4</td>
</tr>
<tr>
<td>IL</td>
<td>Light Industrial</td>
<td>0.5</td>
<td>112.6</td>
<td>0.4</td>
</tr>
<tr>
<td>P/SP</td>
<td>Public/Semi-Public</td>
<td>0.2</td>
<td>82.4</td>
<td>0.2</td>
</tr>
<tr>
<td>R1S</td>
<td>Retirement Single-Dwelling Residential</td>
<td>0.6</td>
<td>71.4</td>
<td>0.8</td>
</tr>
<tr>
<td>RM</td>
<td>Medium-Density Residential</td>
<td>0.1</td>
<td>60.3</td>
<td>0.2</td>
</tr>
<tr>
<td>RS</td>
<td>Single-Dwelling Residential</td>
<td>0.1</td>
<td>58.6</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>11.1</strong></td>
<td><strong>570.1</strong></td>
<td><strong>1.9</strong></td>
</tr>
</tbody>
</table>

a Acreages are approximate.

The proportion of land directly affected by Alternative 1 (without the Access Option) compared to the total amount of land with the same zoning in the study area ranges from 5.3 percent of CG-zoned land to 0.2 percent of P/SP-, RM-, and RS-zoned land. Direct impacts on the overall land uses in the area comprise a negligible amount of this land, around 1.9 percent. Specific land uses affected are described by quadrant below.
Under Alternative 2, most widening of Oregon 214 and Oregon 219 occurs to the north. Overall, fewer parcels would be affected south of Oregon 214 and Oregon 219 when compared to Alternative 1, and those parcels that are impacted may be impacted less than Alternative 1. Figure 4-5 outlines the land uses potentially affected by Alternative 2. A total of 10.9 acres may be acquired or directly affected by access restrictions under this alternative. Table 4-9 lists the acres affected by zoning designation.

The proportion of land directly affected by Alternative 2 without the Access Option, compared to the total amount of land with the same zoning in the study area, ranges from 4.9 percent of CG-zoned land to 0.1 percent of RM and RS-zoned land. Overall, 1.9 percent of land parcels would be directly affected. Impacts on CO-zoned property total 4.0 percent of total CO land in the study area. The acquisition of this amount of right-of-way would not affect development patterns or the overall supply and use of land in the study area.

**NW Quadrant.** All affected land that would be directly affected by both build alternatives in the NW quadrant is zoned CG. The Woodburn Company Stores, Miles Chrysler Jeep, and Miles Chevrolet would lose an estimated 20, 60, and 25 parking stalls, respectively, for both build alternatives. Although this is a small percentage of parking for the Woodburn Company Stores and Miles Chevrolet, it comprises approximately 29 percent of available parking for Miles Chrysler Jeep. Much of the lost parking would be in areas currently used to showcase cars. The realignment along Old Arney Road could affect the southeast corner of the Arby’s Restaurant parcel, but it would not reduce the amount of available parking stalls or affect drive-through operations. The Old Arney Road realignment would affect the eastern margin of a vacant parcel zoned CG south of Miles Chrysler Jeep. This parcel is currently owned by ODOT.

There are two slight differences between Alternative 1 and Alternative 2. Alternative 2 would affect the southwest corner of the Texaco station and a small piece of the southeast corner of Miles Chevrolet. These impacts would be small and would not affect operations at either business.

**SW Quadrant.** Most land affected by both build alternatives in the SW quadrant is zoned IL, with the remainder zoned CG. Impacts in this quadrant would be small, and neither parking nor circulation on developed parcels would be affected. The difference between the two build alternatives in this quadrant is minimal, and impacts would not affect existing uses at any of the three parcels in the study area.

**SE Quadrant.** Most land directly affected by both build alternatives in the SE quadrant is zoned CG, although small amounts are zoned CO and P/SP. For Alternative 2 (Widen North), very small areas of R1S-, RM-, and RS-zoned land would be affected. Because of access consolidation, some affected parcels may need to be acquired completely. For both build alternatives, the alignment would require acquisition of much of the Trailer World structure, including parking and access.

For Alternative 1 (Widen Equal), the Country Cottage restaurant (formerly Plush Pippin) would lose access and parking. Gas pumps and/or circulation would be affected for both the Chevron and the Union 76 parcels. Neither parcel would retain adequate access for its current use, in its current configuration. Access to the ARCO station would be affected, as
Figure 4-4
Alternative 1: Widen Equal-Land Use Impacts

Legend
- Project Area
- Alternative 1 - Land Use Impacts
- Access Option Impacts

1 inch equals 500 feet
well as part of the building structure and some parking. This could prevent continued operation of this business in its current configuration. The Psychic Palm & Tarot Readings parcel would lose access, and parking and frontage could be affected as well. Impacts from the project could affect the operation of this business under its current configuration.

TABLE 4-9
Affected Land Uses for Alternative 2 (without Access Option)

<table>
<thead>
<tr>
<th>Zoning Designation</th>
<th>Zone</th>
<th>Acres Affected</th>
<th>Acres in Study Area</th>
<th>Percent of Acres Affected in Study Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>CG</td>
<td>General Commercial</td>
<td>8.9</td>
<td>180.7</td>
<td>4.9</td>
</tr>
<tr>
<td>CO</td>
<td>Office Commercial</td>
<td>0.2</td>
<td>4.1</td>
<td>4.9</td>
</tr>
<tr>
<td>IL</td>
<td>Light Industrial</td>
<td>0.7</td>
<td>112.6</td>
<td>0.6</td>
</tr>
<tr>
<td>P/SP</td>
<td>Public/Semi-Public</td>
<td>0.2</td>
<td>82.4</td>
<td>0.2</td>
</tr>
<tr>
<td>R1S</td>
<td>Retirement Single-Dwelling Residential</td>
<td>0.7</td>
<td>71.4</td>
<td>1.0</td>
</tr>
<tr>
<td>RM</td>
<td>Medium-Density Residential</td>
<td>0.1</td>
<td>60.3</td>
<td>0.2</td>
</tr>
<tr>
<td>RS</td>
<td>Single-Dwelling Residential</td>
<td>0.1</td>
<td>58.6</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>10.9</strong></td>
<td><strong>570.1</strong></td>
<td><strong>1.9</strong></td>
</tr>
</tbody>
</table>

\(^a\) Acreages are approximate.

Other changes in access and parking could occur but would not affect the existing use of these properties. The McDonalds would lose exit access to Oregon 214 from its northernmost driveway on Lawson Avenue and roughly 20 parking stalls adjacent to Oregon 214. However, roughly 5 new parking stalls may be created in the space created by the loss of the northernmost access on Lawson Avenue. Wells Fargo Bank and Dairy Queen would lose one driveway access to Oregon 214. The Mid-Valley Bank at the corner of Oregon 214 and Oregon Way would lose its driveway access to Oregon 214. ARCO may have one driveway from Evergreen dependent upon final access negotiations.

Under Alternative 2, the Chevron, McDonalds, Union 76, and ARCO properties would experience minimal property loss, although the Chevron, Union 76 and ARCO parcels may experience substantial impacts due to change or loss of access. Additionally, changes in access may cause impacts to the operations of Wells Fargo, Mid-Valley Bank, and Dairy Queen. Impacts on the Senior Estates Golf Course property would not affect operations. The R1S-zoned parcel at the corner of Oregon 214 and Oregon Way would be negligibly affected. The alignment would affect the Trailer World structure, including access and some parking. The Country Cottage restaurant (formerly Plush Pippin) could lose access and parking. Gas pumps and/or circulation would be affected for the ARCO, Chevron, and the Union 76 parcels. This could prevent continued operation of these businesses in their current configuration. The Psychic Palm & Tarot Readings parcel may lose access, and parking and frontage could be affected as well. Impacts from the project could affect the operation of this business under its current configuration.
Other changes in access and parking could occur, but would not affect the existing use of these properties. McDonalds would lose exit access to Oregon 214 from its northernmost driveway on Lawson Avenue, and roughly 15 parking stalls adjacent to Oregon 214. However, roughly 5 stalls could be created in the space created by the loss of the northernmost access on Lawson Avenue. Wells Fargo Bank would lose one of its two driveway accesses to Oregon 214. The Mid-Valley Bank at the corner of Oregon 214 and Oregon Way would lose its driveway access to Oregon 214.

Either build alternative could affect the golf course tunnel under Oregon 214 that links the northern and southern portions of the privately owned Senior Estates Golf Course. ODOT is committed to providing for the continued use of the golf course tunnel under Oregon 214 between Oregon Way and Cascade Drive in accordance with the terms of the permit for the tunnel’s construction and maintenance that was issued to Senior Estates in 1966. This permit anticipated the continued use of the tunnel after Oregon 214 was widened to a four lane highway at some undefined point in the future. Discussions with Senior Estates about the terms of the permit will occur during the ROW acquisition process prior to construction.

**NE Quadrant.** Both build alternatives would directly affect CG- and R1S-zoned land in the NE quadrant. Driveway accesses between Evergreen Road and I-5 would be closed when the full interchange is reconstructed under both alternatives. The Patterson’s Restaurant property and Wendy’s Restaurant have already been acquired by ODOT for this purpose. The parcel at the corner of Evergreen Road and Oregon 214, zoned CG, would be removed entirely to widen this intersection. Furthermore, the extension of Evergreen Road would affect the Palm Harbor Homes business, removing two temporary structures and some parking. A vacant developable parcel north of the former Wendy’s property site would be minimally affected by the extension for both build alternatives and might be reduced in size, depending on local circulation road construction. This parcel would remain developable.

Crossroads Shopping Center, Kentucky Fried Chicken, and Mae Thai Restaurant would experience minor impacts on parking and landscaping from Alternative 1 (Widen Equal), but under Alternative 2 (Widen North), the widening of Oregon 214 would more greatly affect these properties and two structures would be directly affected. A right-in, right-out driveway to the Crossroads property would be permitted for both build alternatives between Evergreen Road and Oregon Way. East of Oregon Way, the road widening would affect 21 parcels of R1S-zoned property for Alternative 1 and 20 parcels for Alternative 2. No structures for Alternative 1 and two structures for Alternative 2 would be directly affected, although indirect impacts (e.g., access changes) could require acquisition of some properties.

Discussions of potential access options have been included in this document. These options are all dependent upon design and right-of-way negotiations. Other options may be considered during the design and/or right-of-way phase.

**Access Option**

Both build alternatives were also analyzed with an Access Option that would include a 60-foot-wide right-of-way purchase south of Oregon 214, extending 300 feet west from Lawson Avenue, as well as a 50-foot public road right-of-way easement south of Oregon 214, extending roughly 190 feet east from Evergreen Road.
The Access Option would use 0.5 acre of CG-zoned land in the SE quadrant, which would result in the same number of land use impacts as either build alternative without this option. This is because the parcels used for the access option are expected to be acquired as part of either build alternative.

The Access Option excludes access purchases at several locations so as to maintain accesses to existing properties. This would allow continued access to the Mid-Valley Bank at the corner of Oregon 214 and Oregon Way, to the Psychic Palm & Tarot Readings parcel on the east side of Evergreen Road, and to an undeveloped parcel on the west side of Evergreen Road. Without the Access Option, access to these properties would be lost.

**Conservation and Avoidance Measures**

Conservation and avoidance measures avoid an impact altogether by not taking a certain action or parts of an action or that limit the degree or magnitude of the action and its implementation (40 Code of Federal Regulations (CFR) 1508.20, Mitigation). To avoid potential land use impacts, the project incorporates efforts to maintain or improve access and circulation between the commercial land uses along Oregon 214/219 and the local street system so these existing land uses would remain feasible.

As the design proceeds, project designers will continue to seek opportunities to modify the alignment to minimize potential impacts on low-density retirement residential dwellings adjacent to Oregon 214.

**Conformance with Planning Goals and Regulations**

Local, state, and federal planning goals and regulations were evaluated in detail and compared for consistency with both build alternatives. Because the build alternatives would have the same design and function, they were not analyzed separately. Both build alternatives were found to be consistent with or promote planning goals and regulations applicable to the project area. A detailed analysis of the build alternatives’ conformance is included in Appendix F.

**Socioeconomics**

Traffic conditions along Oregon 214/219 from Woodland Avenue to Boones Ferry Road were analyzed to establish baseline conditions. Oregon 214/219 between Woodland Avenue and Boones Ferry Road operates with “fair” progression, meaning that traffic is moving forward through this segment 13 percent to 24 percent of the time and stopped the rest of the time. Half of the study intersections currently meet ODOT operating standards; however, the rest have exceedingly high traffic volumes. These intersections include I-5 southbound ramp/Oregon 214, I-5 northbound ramp/Oregon 219, Evergreen Road/Oregon 219, and Boones Ferry Road/Oregon 219. Four segments within the study corridor on Oregon 214/219 fall within the top 10 percent of ODOT’s Safety Priority Index System group. Of these segments, the I-5 ramps, Old Arney Road, and Lawson Avenue are located within these corridors. None of the study area intersections are judged to have a safety problem based on historical crash data.
No Build Alternative

Under the No Build Alternative, all signalized intersections in the study area would exceed ODOT operating standards. The average corridor speed would be 6 mph slower than existing conditions and would rate an LOS F. Progression in the corridor would improve somewhat over existing conditions due to the construction of other improvements planned in the city’s capital improvement program. However, the majority of study intersections would not meet ODOT standards under this alternative due to over-capacity volumes.

Social Impacts

Social impacts can include changes in travel patterns and accessibility that affect residential neighborhoods, impacts on highway and overall public safety, changes in neighborhood cohesion, and impacts on social groups such as elderly, handicapped, nondriver, transit-dependent, and minority or ethnic groups. The extent and magnitude of these impacts would vary by the major neighborhood areas identified in Section 3: West Woodburn, I-5 Business, and Senior Estates.

Increased traffic congestion around the Woodburn/I-5 interchange and along Oregon 214/219 would make it increasingly difficult for residents of the West Woodburn neighborhood to access I-5 and downtown Woodburn. West Woodburn residents would be affected more than other neighborhood residents because they are physically separated from the rest of the city by I-5 and there are limited options for crossing the interstate. If traffic conditions on Oregon 214/219 are too severe, West Woodburn residents may need to travel greater distances to cross I-5 and reach the Woodburn city center, where many public service providers are located. Impacts on internal neighborhood cohesion, public safety, and general social groups are not expected.

Because Oregon 214/219 splits the I-5 Business neighborhood in half, increased traffic congestion along the highway could increase the fragmentation of the neighborhood. In addition to increased difficulty traveling within the neighborhood, access to the neighborhood would be more difficult. Backed up traffic would make it more difficult for travelers to reach the businesses located along Oregon 214/219 and could result in cars using local neighborhood roads in order to access these businesses. Increased cut-through traffic on neighborhood roads would pose a safety risk to pedestrians. Impacts on general social groups are not expected.

Impacts on the Senior Estates neighborhood would mainly be related to the potential for an increase in cut-through traffic attempting to reach businesses along Oregon 214/219, as discussed above. This neighborhood has a considerably higher than average percentage of elderly residents; increased congestion could make it more difficult for the elderly to reach nearby medical facilities. Increases in cut-through traffic could jeopardize nondrivers/pedestrians.

Impacts on Community Facilities

Increased traffic levels on the unimproved highway would increase congestion along the highway and reduce response times of all emergency vehicles. Under current conditions, police officers often take back roads to avoid Oregon 214/219 due to its congestion (Kelley, Pers. Comm. 2003). This would worsen under the No Build Alternative. More traffic-related
accidents could occur that would require more frequent use of the ambulance and police services. Medical facilities located along or primarily accessed via Oregon 214/219 would be more difficult to access.

**Residential Displacements**

The No Build Alternative would not displace any residences.

**Business Displacements**

The No Build Alternative would not displace any businesses.

**Impacts on Remaining Businesses**

Under the No Build Alternative, no additional property would be acquired for new right-of-way and there would be no resulting decrease in property tax revenues. The area would not be subject to construction-related traffic delays and diversions. Traffic congestion along Oregon 214/219 and along existing I-5 off-ramps would likely increase, causing additional delays in the movement of persons, goods, and services to and from the region. In the short run, retail sales may increase for some businesses because of the building traffic volumes. However, in the long-run, retail sales would likely suffer as customers have difficulty making left-hand turns into business establishments as the area experiences future increases in traffic volumes. Some business owners might decide to move from the area if the movement of goods and services is restricted due to the increase in congestion.

**Impacts on Business Districts and Local Economy**

Increased traffic congestion and traffic queues would make left turns in the study area more difficult, and this could reduce sales to some businesses. Increased traffic congestion and related safety problems would likely make the project area less attractive to shoppers, and this could negatively affect the sales of businesses in the neighborhood that are destinations for shoppers and travelers. Businesses that rely on the efficient movement of goods and services would likely experience delays in transporting goods to and from their business, thereby increasing operating costs. Traffic congestion and safety problems will likely worsen if improvements to the Woodburn/I-5 interchange are not made.

**Build Alternatives (Widen Equal and Widen North)**

Under both build alternatives, all study intersections would meet ODOT operating standards except Boones Ferry Road/Oregon 214. This intersection would exceed ODOT’s design manual standards, but would meet ODOT mobility standards. Under this alternative, Oregon 214/219 between Woodland Avenue and Boones Ferry Road would operate with “fair” progression and a 2-mph speed increase compared to the No Build Alternative.

**Social Impacts**

Both build alternatives would construct improvements to transportation facilities that connect the neighborhoods in the study area to I-5 as well as downtown Woodburn. They would maintain the integrity of the existing roadway system that ties the community neighborhoods together.
I-5 divides the West Woodburn neighborhood from the rest of the city. The reconstructed Woodburn/I-5 interchange and widening of Oregon 214/219 would not isolate or physically separate any part of the West Woodburn neighborhood because these improvements would occur along the periphery of the neighborhood. The build alternatives would improve accessibility to downtown Woodburn for residents of West Woodburn by improving traffic flow along Oregon 219 near I-5. This could help make the residents of West Woodburn feel more connected to the rest of the city.

The I-5 Business neighborhood would undergo access revisions through the middle of the neighborhood; however, none of these changes would isolate or physically separate a part of the neighborhood. All public north/south roadway connections across Oregon 214/219 would be maintained. Businesses along Oregon 214/219 and residents just to the south of them would notice the greatest change in access because the median would restrict left turns. This would most likely affect customers traveling from I-5 and Oregon 214/219 and not neighborhood residents, who would continue to approach the businesses from different directions. The businesses along Oregon 214—mainly gas stations and fast food restaurants—tend to be those frequented by a higher percentage of regional travelers as compared to neighborhood residents. Regional access to businesses would be maintained through selective retention of right-in and/or right-out accesses, public road connections, and the local road network.

The Senior Estates neighborhood would be largely unaffected physically except for properties along the highway that would lose frontage. The build alternatives would implement access revisions through the middle of the neighborhood by adding a raised median; however, none of these changes would isolate or physically separate a part of the neighborhood. This neighborhood has a considerably higher than average percentage of elderly residents who could benefit from improved access to nearby medical facilities.

**Impacts on Community Facilities**

No community facilities would be displaced as a result of either build alternative. Improved traffic flow along Oregon 214/219 would aid nearby residents in accessing community facilities, particularly Woodburn Medical Clinic, which is located along the highway. Easier access through the corridor would also aid users in reaching several community facilities that are clustered near the Oregon 214/Boones Ferry Road intersection. No impacts on parks or recreational facilities are expected.

To the extent that traffic movement is improved in the project area, the provision of police, fire, and emergency services would improve. The Woodburn Fire Station Headquarters would receive the greatest benefit due to its presence on Oregon 214 and its reliance on the highway to respond to calls. In general, response times for any of the emergency services are not expected to increase as a result of the completed project. However, the addition of a median along Oregon 214/219 may result in a slight increase in response times to businesses located along that portion of the highway where left turns would be restricted. Emergency vehicles would need to travel a short additional distance to make a U-turn to reach properties located on the opposite side of the street; therefore, any increase in response times is anticipated to be minimal and not substantial.
An improved interchange, with safer on- and off-ramps to I-5, is expected to reduce accident rates associated with entering and exiting the freeway. The reduced rate of accidents would reduce the demand for emergency services and indirectly free them for other responses.

**Residential Displacements**
Alternative 1 (Widen Equal) would result in the displacement of one to three single-family residences in the Senior Estates neighborhood. These three houses are located between Oregon 214 and Rainier Road east of Oregon Way. Alternative 2 (Widen North) would result in the same residential displacements as Alternative 1, and would displace an additional two single-family residences in the Senior Estates neighborhood. This neighborhood is known for its high percentage of elderly residents; if elderly residents are displaced, they may wish to be relocated within the neighborhood or near community medical facilities. The availability of housing units in the Senior Estates development would depend on housing market conditions at the time of displacement. However, because few residential displacements are expected, it is anticipated that enough houses within the neighborhood would be for sale and available to accommodate all relocations.

**Business Displacements**
Under Alternative 1, 7 to 10 businesses would be displaced. Under Alternative 2, the same businesses would be displaced as in Alternative 1, plus an additional business north of Oregon 214 would be displaced. The specific businesses displaced by the alternatives may change with further refinement of the build alternatives, including potential changes to needed right-of-way and different access options on the affected roadways.

All businesses that would be displaced are located in the I-5 Business neighborhood, east of the interchange along Oregon 214. Displaced businesses would include three gas stations, one fast food restaurant, one recreational vehicle dealer, and one miscellaneous services store. Gas stations and fast-food restaurants near interstate interchanges tend to serve regional travelers; however, because of the proximity of these businesses to the Senior Estates and West Woodburn neighborhoods, they likely also serve local residents. Still, if these businesses choose to relocate within the City of Woodburn, a location near an I-5 interchange would probably be preferable. The recreational vehicle (RV) retailer and miscellaneous services store also probably draw customers from locally and afar because of their specialty services. The miscellaneous services store is the only likely displaced business that is a tenant.

Alternative 1 is estimated to displace approximately 59 employees, which represents 2.4 percent of the total employment in the project area and 0.8 percent of the total employment in the city. Alternative 2 is estimated to displace approximately 78 employees, which represents 3.2 percent of the total employment in the project area and 1.0 percent of the total employment in the city (Table 4-10).

**Impacts on Remaining Businesses**
An estimate of the direction or magnitude of impacts on remaining businesses in the intersection area under the build alternatives is highly speculative given countervailing effects of changes in traffic conditions, the mixed results of research on impacts in similar situations, and uncertain future economic conditions. In addition, there are numerous
examples of similar businesses that are profitable in locations where turning movements are restricted and access points consolidated.

TABLE 4-10
Displaced Employee Estimates by Business Type

<table>
<thead>
<tr>
<th>Business Type</th>
<th>Displaced Employee Estimate, Alternative 1</th>
<th>Displaced Employee Estimate, Alternative 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restaurants</td>
<td>17</td>
<td>36</td>
</tr>
<tr>
<td>Gas stations with convenience stores</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Recreational vehicle dealers</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Personal care services</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>59</strong></td>
<td><strong>78</strong></td>
</tr>
</tbody>
</table>

Source: CH2M HILL analysis based on 1997 Economic Census, U.S. Census Bureau.

Research on the economic impact from changes in access shows the experience of businesses has varied widely. A recent research digest (Weisbrod and Neuwirth 1998) summarized the findings from these types of studies. Key findings include the following:

- The effects of left-turn restrictions on businesses have been mixed and widely varied. In cases where businesses were surveyed, some experienced losses, some experienced gains, and some had no change.

- There is evidence that some negative effects are transitory; some businesses experienced loss after initial implementation, but after a few months their patronage returned to normal.

- Transportation access is only one of many factors that affect business sales. The type of business, the location and nature of competition, the overall economic climate, and customer’s sensitivity to price and quality may all determine whether a business loses or gains sales from changes in traffic patterns.

- The types of variables that appear to affect the impact of left-turn restrictions include the local economic conditions, the nature of the business, its location in the corridor, and the purpose of left-turn restrictions. For this reason, restricting left turns does not have a straightforward relationship to changes in sales.

For both build alternatives, all businesses that front Oregon 214 between Oregon Way and I-5 would have their accessibility affected by a raised median, particularly businesses that rely on customers making left-hand turns into their property. Businesses that rely on drive-by customers for retail sales would be more affected than businesses that have a consistent customer base. Because of many other economic factors that determine the viability of a business, it is difficult to determine the overall impact of the raised median on a specific business.

Motorists would be permitted to make U-turns in the intersections of Evergreen Road/Oregon 214 and Oregon Way/Oregon 214. The signalized U-turns would provide motorists a safe way to reverse their direction and would help alleviate some of the accessibility
issues. Businesses located between Evergreen Road and Oregon Way would benefit from their proximity to the U-turns. Those businesses located directly on Oregon 214 to the north and the south and to the west of Evergreen Road would not have the benefit of a U-turn and would rely on customers accessing their businesses by making direct right-hand turns into the property off Oregon 214 or by using access points off Lawson Avenue or the signalized intersection of Oregon 214 and Evergreen Road.

Businesses that are not directly located on Oregon 214 would not be as affected by the build alternatives. Improvements would be made to the Evergreen Road and Oregon Way intersections, which would increase safety and mobility for motorists. Because customers would not be allowed to make left-hand turns from Oregon 214, Evergreen Road would become an important access point for customers wishing to access businesses located to the north of Oregon 214 and to the west of Evergreen Road.

The realignment of Old Arney Road would affect some businesses located to the west of I-5. The realignment would remove some parking for the Woodburn Company Stores, as well as affect parking for two car dealerships. At Miles Chrysler Jeep and Miles Chevrolet, parking areas currently used to showcase their cars would be affected by the realignment. Because of the amount of remaining property, the impacts are not expected to be substantial.

**Impacts on Business Districts and Local Economy**

The improvements associated with the build alternatives for the Woodburn Interchange Project would enhance accessibility to businesses in the area by improving traffic operations, reducing delay, and addressing safety problems. Modifications to the I-5 on- and off-ramps and to Oregon 214/219 would result in travel time savings for individual motorists, distributors, and manufacturers as queues to exit and enter the freeway are reduced. The certainty and safety of access to local businesses via right-in/right-out driveways and the local road network would also be improved by reducing the congestion and conflict points along Oregon 214/219. These changes would likely improve sales for retail businesses and reduce freight operating costs for retailers, distributors, and manufacturers in the area. Because the interchange is a primary linkage to the major employment and shopping districts in Woodburn, the build alternatives would generally benefit the local economy.

Property within the project right-of-way would be removed from the City of Woodburn tax rolls, thus affecting property tax collections for the taxing authorities that rely on property tax levies for operating revenue. Because of the overall size of the city’s property tax base, the loss of property tax collections from the displaced businesses for either build alternative is not expected to be substantial. If ODOT releases available property that was initially taken for the project, the City may re-coup some of the initial property tax impacts associated with the purchase of properties within the right-of-way as new development or re-development takes place on the available parcels. New development may also occur on existing vacant parcels in the immediate project area, as well as on vacant land in the greater Woodburn area as mobility is improved with the completion of the project.

Approximately 11.1 acres of additional right-of-way would be required to accommodate Alternative 1 (Widen Equal). An estimated 56 to 59 parcels would be affected by this build alternative. Alternative 2 (Widen North) would require the purchase of less right-of-way
than Alternative 1. Approximately 10.9 acres of additional right-of-way would be required to accommodate Alternative 2. An estimated 55 to 58 parcels would be affected by this build alternative.

Although all of the 11.1 acres of additional right-of-way for Alternative 1 and all of the 10.9 acres of additional right-of-way for Alternative 2 may not be directly needed for infrastructure improvements, if portions of the property are not left with reasonable access then ODOT may be required to make an offer to purchase the entire amount. Alternative 1 would require the purchase of approximately 6.5 acres of new right-of-way for infrastructure construction and may leave another 4.6 acres of land as uneconomic remainders. Alternative 2 would require the purchase of approximately 6.2 acres of new right-of-way for infrastructure construction and may leave another 4.7 acres of land as uneconomic remainders. These acreages are subject to change based upon actual design and appraisal completion. Uneconomic remainders are lands that are excess to the project needs but no longer viable to the property owner. Uneconomic remainders may be caused by access restrictions or remaining property size or shape. The economy of a remainder is decided at the end of the right-of-way appraisal process. For this project, these parcels would not have access after either build alternative is constructed, and therefore may become uneconomic to the property owner. The final determination of economic versus uneconomic is made as part of the appraisal process during right-of-way acquisition. If a property is deemed uneconomic at that time, ODOT is required to make an offer to purchase such remainders, but the property owner is not required to sell the uneconomic remainders.

Displaced employment under either of the build alternatives is unlikely to affect the overall level of employment and income in the Woodburn area. The number of businesses and employees displaced by any of the build alternatives is not high enough to affect the viability of the Woodburn area as a business district.

**Right-of-Way Costs**

Estimated right-of-way costs for Alternative 1 (Widen Equal) are $17.5 million. Estimated right-of-way costs for Alternative 2 (Widen North) are $17.1 million. The estimated costs include real estate acquisition plus rough estimates of relocation, demolition, personnel, and compensable damages, and contingencies. The estimated costs also include approximately $360,000 that may be FHWA nonparticipating funds to improve local streets beyond what is legally necessary to reestablish access.

**Access Option**

The access option for either build alternative would affect an additional 0.5 acre of land and would add access to specific properties in the I-5 Business neighborhood south of Oregon 214. No additional social impacts on the I-5 Business neighborhood would be expected.

**Conservation and Avoidance Measures**

The design of both build alternatives avoided additional business displacement and access impacts by not widening farther to the south of Oregon 214. Alternative 1 would avoid two additional residential displacements and one additional business displacement. No other socioeconomic conservation or avoidance measures are identified for the proposed project.
Mitigation Design Considerations

To offset adverse impacts, the following mitigation measures would be implemented:

- Property owners would be compensated for the fair market value of property acquired for new right-of-way. Occupants displaced by a highway project would be eligible for relocation benefits and assistance under the provisions of ODOT’s Relocation Assistance Program.

- The acquisition and relocation program would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources are available to all residential and nonresidential relocatees without discrimination. Further information on these benefits is available in the brochures in Appendix C of this document.

- When possible, usable parcels purchased as part of the right-of-way acquisition process would be resold for the same use designated for the land in the City of Woodburn Comprehensive Plan.

Environmental Justice

The findings of this analysis are summarized as follows:

- With proposed mitigation as described in the other environmental elements in this section, the Woodburn Interchange Project would not result in adverse effects (as defined by USDOT Order 5610.2) predominantly borne by minority or low-income populations.

- The Woodburn Interchange Project would result in a series of transportation benefits that would accrue to the City of Woodburn and the general traveling public, including minority and low-income individuals. Those benefits include the following:
  - Improved traffic operations on the Woodburn/I-5 interchange
  - Improved local traffic circulation in the project area, particularly on Oregon 214 and Oregon 219
  - Improved traffic safety in the project area
  - Improved access for bicyclists and pedestrians
  - Creation of a gateway entrance to the City of Woodburn with utility undergrounding, landscaping, and sidewalk treatments

- The Woodburn Interchange Project would not uniquely affect a minority or a low-income population.

Based on these findings, this analysis concludes that it is unlikely that the Woodburn Interchange Project would result in disproportionately high and adverse effects on minority and/or low-income populations.
Visual Quality

The visual impacts of a project result from two phenomena: physical changes in the visual environment, and viewer response to those changes. To assess the environmental consequences of the proposed project, six viewpoints were selected for analysis. The locations of these viewpoints are shown in Figure 4-6. Figures 4-7 through 4-9 present photographs taken at these viewpoints. The visual quality of the viewpoints was assessed based on three elements: vividness (landform, vegetation, and built environment), intactness (development and encroachment), and unity. The level of visual quality change at each viewpoint was determined from the difference between visual quality of the No Build Alternative as compared to the alterations resulting from each of the build alternatives. The viewer response was determined based on the predominant viewer group’s sensitivity and exposure (a combination of the number of viewers and the duration of the view). The visual impact is the combination of the level of visual quality change and the level of viewer response.

No Build Alternative
The visual environment would not change under the No Build Alternative. As a result, there would not be any visual change for viewers to respond to, and therefore no visual impact.

Build Alternatives (Widen Equal and Widen North)
Under both build alternatives, new on- and off-ramps would be provided from I-5 to Oregon 214/219. As part of the widening of Oregon 214/219, a planting strip would be provided on both sides of Oregon 214/219, except on the I-5 overpass. Although the exact specifications of the planting strip have not yet been determined, the intent is to provide character-defining vegetation that would not be limited to ground cover but would provide a vertical dimension to the street edge through shrubs, bushes, or trees. The proposed project would also include landscaping at the interchanges similar to the existing vegetation.

Viewpoint 1
The visual quality of Viewpoint 1 (Figure 4-7) is currently below average. Under both build alternatives, this quality would diminish slightly because the I-5 off-ramp would encroach into the foreground of the view from the middle ground. The primary viewers at Viewpoint 1 would be shoppers at the Woodburn Company Stores and Miles Chrysler Jeep. Their response to this view would be low because the duration of their exposure would be short and their sensitivity would be limited. The low visual quality change and low viewer response would result in a low visual impact.

Viewpoint 2
The existing visual quality of Viewpoint 2 (Figure 4-7) is moderately low. Both build alternatives would provide planting strips on each side of the roadway. These planting strips would provide a visually unifying element along the street, which is currently dominated by a hodgepodge of commercial signs at varying distances from and heights above the street. If the plantings are trees, they could obscure these signs, which in some cases would be removed by the street widening but would likely be replaced unless restricted by city ordinance. The result would be a major improvement in the visual quality
Viewpoint 1: Looking southeast from Woodburn Company Stores toward Oregon 214/219 overcrossing.

Viewpoint 2: Looking west down Oregon 214 from Oregon Way.

Figure 4-7
Viewpoints 1 and 2
Viewpoint 3: Looking southeast from La Quinta Inn toward southbound I-5 off-ramp.

Viewpoint 4: Looking west on Oregon 214 toward Oregon Way.

**Figure 4-8**
Viewpoints 3 and 4
Viewpoint 5: Looking slightly northwest from Stacey Allison Way toward northbound I-5 off-ramp.

Viewpoint 6: Looking east on Oregon 219 from Old Arney Way toward I-5 overcrossing.

*Figure 4-9*
Viewpoints 5 and 6
at this viewpoint. Viewer groups at this location would be motorists, business employees, and business patrons. Motorists’ response to this view would be low because the duration of their exposure would be short and their sensitivity would be limited. The response of business employees and patrons would be similarly low. Although their potential exposure could be longer than motorists, the attention of employees and patrons would be concentrated on activities inside the businesses rather than the roadway outside, and, as a result, their sensitivity and exposure would be low. Given the high level of positive visual quality change and the low viewer response, the visual quality impact at Viewpoint 2 would be moderately positive.

Although the visual quality impact of both build alternatives at Viewpoint 2 would be very similar, one major difference is that the roadway improvements under Alternative 2 (Widen North) would encroach farther into the foreground view of businesses to the north of the roadway and less into that of the businesses to south. Because the viewer response of business employees and patrons is low, the perceived visual impact of Alternative 2 would not be that different from Alternative 1 (Widen Equal). If the proposed project resulted in the permanent removal of commercial signs, Alternative 1 would have a more positive impact than Alternative 2 because more signs would be removed and not replaced.

Viewpoint 3
The visual quality change at Viewpoint 3 (Figure 4-8) would be high. Under Alternative 2 (Widen North), the southbound I-5 off-ramps would be much closer to the La Quinta Inn and would eliminate a vegetated area that provides a visual buffer between the motel and the existing off-ramp. The viewer group at this location is motel guests, who would have a moderate response based on their moderate sensitivity, moderate duration of exposure, but few numbers. Based on the high level of change and the moderate response of the viewers, the project would have a high adverse impact on this viewpoint.

Viewpoint 4
The visual quality change at Viewpoint 4 (Figure 4-8) would be low for both build alternatives. From a motorist’s perspective, the visual quality of the street would improve slightly with the addition of the planting strips, which would define the street edge and add visual interest. On the other hand, residents’ exposure to the roadway would increase because it would be closer to their homes, and, in some cases their backyard landscaping, which currently provides screening from the roadway, would be removed. Although the planting strips would provide some buffer from the traffic, it would not be as dense as existing landscaping and would therefore not provide the same degree of screening. The result would be a low positive visual impact for motorists but a moderate adverse visual impact for residents.

One difference between the build alternatives would be that residents would experience a greater adverse visual impact under Alternative 2 (Widen North), but that impact would still be considered moderate. Under Alternative 2, the roadway would be widened to the north only. The roadway would therefore be more visible to residents due to the more extensive removal of vegetative screening and the greater encroachment of the road into the foreground of the residents’ views.
Viewpoint 5
The level of visual quality change at Viewpoint 5 would be low for both build alternatives (Figure 4-9). The primary alteration at this viewpoint would be the creation of embankments for the northbound I-5 off-ramp and the loop on-ramp, creating a new landform that would resemble the existing form but would have a larger mass and would be closer to the foreground of the view. The new ramps would also result in the removal and obstruction of some commercial signs. Overall, the change in visual quality would be positive. The primary viewer group at this location would be patrons of Wal-Mart. This viewer group would have a low response to the visual changes at this viewpoint because of their low sensitivity, moderate numbers, and short length of exposure. Based on the low positive visual quality change and low viewer response, the visual impact at this location would also be low.

Viewpoint 6
The level of visual quality change at Viewpoint 6 would be moderate for both build alternatives (Figure 4-9). The change in visual quality would result from the addition of a planting strip. The planting strip would provide a distinctive and cohesive visual element to the roadway. The primary viewer group at Viewpoint 6 is motorists, who use the roadway in moderate numbers but have a low sensitivity to the view, which they see for a short period of time. The combined moderate visual quality change and low viewer response result in a low but positive visual impact.

One difference between the build alternatives is that Alternative 2 would result in the removal of two mature trees that provide some visual interest to the landscape at Viewpoint 6. The tree removal would make Alternative 2 have a slightly greater visual impact at this viewpoint.

Conclusion
An alternative would be considered to have a substantial adverse impact if a high adverse visual impact occurred at a majority of viewpoints. A high adverse impact would be expected at one of the six viewpoints for Alternative 1 (Widen Equal), which is less than a majority. At the three viewpoints where the visual changes would be different, the visual quality changes would be more adverse under Alternative 2 (Widen North) than Alternative 1 (Widen Equal). Neither build alternative would result in a substantial adverse visual impact on the project area because a high adverse impact would occur at only one of the viewpoints, which does not constitute a majority.

Access Option
The access option would have little effect on visual quality for either build alternative. Although a portion of the easement extending west from Lawson Avenue would result in the removal of groundcover, the majority of this easement and the easement west of Evergreen Road would include an already paved area and would cause neither the removal of structures nor a change in landform. The viewer group exposed to these easements would primarily be a small number of business employees and patrons, who would have a low response to the change based on their limited sensitivity and short duration of exposure. The visual impact would be minor.
Conservation and Avoidance Measures

Impacts of the proposed project cannot be avoided, but there would not be any substantial unavoidable adverse impacts.

Mitigation Design Considerations

The following mitigation measures would be implemented:

- Work with property owners to replace vegetation that provided screening for sensitive viewers (residents, golfers, and motel guests).
- Landscape the planting strip with vegetation that provides a cohesive and attractive street edge.
- Shield roadway lighting to ensure that light sources are not directly visible from residences and motels.
- Design gateway intersections at I-5 as community enhancement areas with features appropriate to community urban design goals.

Air Quality

The ADT for this project indicates that total air pollutant emissions would be similar for both build alternatives and the No Build Alternative. Any air quality benefits primarily would result from reduction of congestion at six signalized intersections and increased average speeds through the corridor.

Local carbon monoxide (CO) hot-spot modeling is performed when traffic volumes/speeds, intersection queuing, and operational characteristics warrant a more thorough investigation. Hot-spot analysis may be warranted when intersection LOS D or worse operational characteristics exist. No Build Alternative LOS levels are worse than D at several intersections in the study years 2003 and 2025 (Table 4-11). However, for both build alternatives, LOS is predicted to be C or better at five of six signalized intersections. The sixth intersection (Oregon 214 at Boones Ferry Road) would have an LOS D. However, this interchange would function more efficiently with the build alternatives than with the No Build Alternative as a result of proposed improvements. The project would decrease maximum CO concentrations at all affected signalized intersections relative to the No Build Alternative. Therefore, CO hot-spot modeling is not warranted for this project.

Access Option

The access option for both build alternatives would have no measurable effect on air quality.

Regulatory Requirements

The Oregon State Air Quality Implementation Plan (SIP) does not specify that transportation control measures are needed to attain or maintain air quality standards within the project area. Therefore, state and federal air quality rules regarding conformity of transportation actions with the SIP are not applicable to this project.
### Noise

The federal traffic noise model (TNM) was used to predict traffic noise levels for this project. The model takes into account the alignment and elevation of the roadway, the noise receptors (residences and businesses), and the presence of shielding provided by structures or topography. Modeled comparisons were made between the traffic projections for the peak volume hour and peak truck hour. This modeling revealed that the peak truck hour is typically the loudest traffic hour of the day. All traffic noise modeling was done with the peak truck hour traffic to provide the worst case traffic noise conditions.

A total of 55 locations or noise prediction sites were chosen as representative of the noise receptors on this project. A comparison was made for the existing peak truck hour, the no build future peak truck hour, and the build future peak truck hour at each of those sites. The noise levels are expected to rise by 1 to 4 (typically 1 to 2) decibels from the existing peak noise hour to the no build future peak noise hour. The noise levels are also expected to rise by 1 to 4 decibels from the existing peak noise hour to the build future peak noise hour. At most prediction sites, the noise levels would be the same or very similar (1- to 2-decibel difference) for the two build alternatives.

The increase of 1 to 4 decibels in traffic noise does not result in a substantial increase. As shown on Table 4-12, traffic noise impacts do occur and are expected to occur in the future at some of the noise prediction sites. Table 4-13 shows which noise prediction sites in the project area would experience a 3-decibel increase or more in noise levels under the build alternatives as compared to the No Build Alternative. A 3-decibel increase in noise levels is barely perceptible to the human ear.
### TABLE 4-12
**Number of Traffic Noise Impacts**

<table>
<thead>
<tr>
<th>Noise Sensitive Use</th>
<th>Existing Year</th>
<th>No-Build Alternative (Future)</th>
<th>Alternative 1 (Widen Equal)</th>
<th>Alternative 2 (Widen North)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residences</td>
<td>44</td>
<td>63</td>
<td>61</td>
<td>58</td>
</tr>
<tr>
<td>Commercial Buildings</td>
<td>5</td>
<td>8</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Apartment Buildings</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Retirements Homes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Medical Clinic</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Church</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Motel</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Golf Course</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: A “traffic noise impact” is defined as a receptor whose noise level exceeds the FHWA exceedance criteria for that land use type.

### Mitigation (Noise Abatement Measures)

When traffic noise impacts are identified for a proposed highway construction project, noise mitigation measures must be considered. Consideration of noise mitigation does not necessarily result in construction of noise mitigation measures. For a traffic noise mitigation measure to be recommended and incorporated, the measure must be both reasonable and feasible. Reasonableness deals with the cost to construct the noise mitigation measure. Feasibility deals with the mitigation measure’s ability to effectively reduce the traffic noise, as well as consideration of the adverse physical and environmental effects of such mitigation.

Federal funds may be used for noise abatement measures where:

a. A traffic noise impact has been identified,

b. The noise abatement measures will reduce the traffic noise impact, and

c. The overall noise abatement benefits are determined to outweigh the overall adverse social, economic, and environmental effects and the costs of the noise abatement measures.

There are several methods of noise mitigation that can be effective in mitigating traffic noise. Noise mitigation measures can include changes in roadway grade or alignment and/or traffic control measures such as truck restrictions or reductions in posted speeds. Such types of noise mitigation measures were considered for this project but rejected. These measures would result in a major inconvenience to the motoring public and are not in keeping with the design and purpose of this transportation facility and project.
TABLE 4-13
Noise Prediction Sites with Noise Level Increases of 3 dBA or More for Build Alternatives

<table>
<thead>
<tr>
<th>Prediction Site</th>
<th>Land Use Type</th>
<th>Alternative 1 (Widen Equal) Increase in Noise Level ($L_{eq}$)</th>
<th>Alternative 2 (Widen North) Increase in Noise Level ($L_{eq}$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS 1B</td>
<td>Residential</td>
<td>3 dBA</td>
<td>Less than 3 dBA</td>
</tr>
<tr>
<td>MS 3A</td>
<td>Residential</td>
<td>3 dBA</td>
<td>3 dBA</td>
</tr>
<tr>
<td>MS 4B</td>
<td>Residential</td>
<td>3 dBA</td>
<td>3 dBA</td>
</tr>
<tr>
<td>MS 6</td>
<td>Motel</td>
<td>4 dBA</td>
<td>4 dBA</td>
</tr>
<tr>
<td>PS 1</td>
<td>Residential</td>
<td>3 dBA</td>
<td>Less than 3 dBA</td>
</tr>
<tr>
<td>PS 2</td>
<td>Residential</td>
<td>3 dBA</td>
<td>Less than 3 dBA</td>
</tr>
<tr>
<td>PS 9</td>
<td>Commercial</td>
<td>3 dBA</td>
<td>3 dBA</td>
</tr>
<tr>
<td>PS 12</td>
<td>Commercial</td>
<td>3 dBA</td>
<td>3 dBA</td>
</tr>
<tr>
<td>PS 17</td>
<td>Commercial</td>
<td>Less than 3 dBA</td>
<td>3 dBA</td>
</tr>
<tr>
<td>PS 18</td>
<td>Residential</td>
<td>Less than 3 dBA</td>
<td>3 dBA</td>
</tr>
<tr>
<td>PS 19</td>
<td>Residential</td>
<td>3 dBA</td>
<td>Less than 3 dBA</td>
</tr>
<tr>
<td>PS 31</td>
<td>Residential</td>
<td>3 dBA</td>
<td>Less than 3 dBA</td>
</tr>
<tr>
<td>PS 37</td>
<td>Retirement</td>
<td>4 dBA</td>
<td>3 dBA</td>
</tr>
<tr>
<td>PS 46</td>
<td>Commercial</td>
<td>3 dBA</td>
<td>3 dBA</td>
</tr>
<tr>
<td>PS 47</td>
<td>Commercial</td>
<td>4 dBA</td>
<td>4 dBA</td>
</tr>
</tbody>
</table>

Note: A 3-dBA noise level increase is barely perceptible to the human ear.

Another method of noise reduction is the construction of traffic noise barriers (or sound walls). Noise barriers can be an effective method of noise mitigation if there is no need to include breaks to allow access to residences. There were several areas of this project where traffic noise barriers had promise and where noise barriers were analyzed to mitigate the traffic noise levels. Those areas are described below.

**Areas Considered for Noise Barriers**

Figure 4-10 shows the locations considered for noise barriers (or sound walls). The section of Senior Estates at the north end of the project located along I-5 in the area of the extended northbound on-ramp has eight homes that are identified as noise impacted with the future build condition (both Alternatives 1 and 2). A noise barrier approximately 835 feet long and 16 feet high, located approximately 3 feet inside the ODOT right-of-way line, can reduce the traffic noise levels at these homes from $L_{eq}$ 66-72 dBA to $L_{eq}$ 60-66 dBA. This is a noise reduction of 4 to 6 decibels at a cost of $266,500 with a cost-effectiveness of $33,500 per residence. This amount exceeds the typical maximum allowed for a noise wall and is close to the upper limit of $35,000 applied when extenuating circumstances exist. This area has a long history of noise complaints going back several years. In addition, several residents of
this neighborhood have attended the public meetings and expressed their desire and support for noise mitigation. On the basis of the long-standing requests for noise mitigation, it is recommended that the upper limit for noise mitigation be applied for this area, and the barrier is recommended for construction.

The second area of noise mitigation is the area west of I-5 and north of Oregon 219, between Woodland Avenue and Willow Street. This area has 21 homes fronting the highway that are identified as noise impacted under future conditions (for both build alternatives) and can receive effective noise mitigation. A noise barrier approximately 1,570 feet long and 12 feet high, located close to the right-of-way line, could reduce the traffic noise levels at these homes from $L_{eq} 65-68 \text{ dBA}$ to $L_{eq} 57-60 \text{ dBA}$. This is a noise reduction of 7 to 11 decibels at a cost of $377,000, with a cost-effectiveness of $18,000 per residence. It is noted that underground utilities are located in this area. Those utilities would, in all likelihood, need to be relocated. The cost to identify and move those utilities could increase the cost and complexity of the construction of this wall. The cost-effectiveness of this wall is well within the typical allowable maximum of $25,000 per residence, and the barrier is recommended for construction.

The third area of noise mitigation consideration is located north of Oregon 214, from Oregon Way to Astor Way. This area has a total of 34 residences that would experience traffic noise impacts under Alternative 1 (Widen Equal) and 29 noise-impacted residences under Alternative 2 (Widen North). A noise barrier 2,460 feet long and 12 feet high, located approximately 3 feet inside the right-of-way line, could reduce the traffic noise levels at these homes from $L_{eq} 65-70 \text{ dBA}$ to $L_{eq} 56-62 \text{ dBA}$. This is a noise reduction of 5 to 12 decibels at a cost of $590,500, with a cost-effectiveness of $14,400 per residence under Alternative 1 and $15,500 under Alternative 2. This wall has two sections, the first section being from Oregon Way to Broughton, and the second from Broughton to Astor Way. One residence (prediction site #35) is located just east of Astor Way. A noise barrier was considered for this home but rejected due to the home’s direct driveway access to Oregon 214 and flanking noise from both Astor Way and the east end of the barrier. Overhead utilities were noted in this area, which could increase the cost and complexity of the construction of this wall. A parcel of the property near the middle of this barrier is zoned for commercial use. In order to provide continuity, this wall was routed near and along the rear property line of this commercial property. This means that permission must be gained to construct or maintain this wall. The additional cost of acquiring the right to use this property has not been included in the estimate of cost for this barrier. This barrier is recommended for construction.

The fourth and final area for noise mitigation was located south of Oregon 214 and east of Cascade Drive at the Cascade Park Retirement Center. The outdoor activity area of the center is identified as traffic noise impacted. A noise barrier 300 feet long and 12 feet high, located approximately 3 feet inside the right-of-way line, could reduce the traffic noise levels in the outdoor activity area from $L_{eq} 67-70 \text{ dBA}$ to $L_{eq} 59-61 \text{ dBA}$. This is a noise reduction of 8 to 9 decibels at a cost of $72,000. This is considered a reasonable amount to provide noise mitigation for the outdoor activity area of this facility, and the barrier is recommended for construction.

At this time it appears the traffic noise barriers analyzed for this project are reasonable in cost and feasible to construct. The opinion of the noise-impacted residents, located
immediately behind these walls, will be sought as to the desirability of these walls. If the majority of noise-impacted residents’ desire the wall, it will be recommended for construction. The final decision on the construction of the wall and the type of wall will be made during the final design process.

**Noise Abatement Statement**

A final decision on the installation of the sound walls will be made upon completion of the project design and the public involvement process. The views of the affected residences and their approval of the mitigation measures would be considered in the final noise abatement decision.

**Hazardous Materials**

ODOT’s limited phase one study, conducted in May 2000, determined that of the 26 sites in the project area with potential concerns related to hazardous materials, eight of those sites could be affected by the build alternatives. The findings and recommended disposition of each of these sites with respect to hazardous materials follows.

**No Build Alternative**

The No Build Alternative would require no action on the part of ODOT with respect to contamination of sites with hazardous materials.

**Build Alternatives (Widen Equal and Widen North)**

The impacts identified for both build alternatives are similar. The same number of potentially contaminated sites would be affected for both build alternatives, but Alternative 2 (Widen North) may result in a greater area of impact on potentially contaminated properties to the north and a smaller area of impact on potentially contaminated properties to the south of Oregon 214/219.

West of I-5 along Oregon 219, acquisition of right-of-way would occur on two sites that have been identified as potentially having hazardous substances present in the environment due to storage and use of petroleum products and other hazardous substances. These sites, the Miles Chevrolet automobile dealership at 3001 West Newberg Highway and the Texaco service station at 100 Old Arney Road, do not have reported releases in the environmental agency databases. Because Alternative 2 would extend farther north onto the Miles Chevrolet and Texaco properties, Alternative 2 would have a greater area of impact on potentially contaminated properties.

East of I-5 along Oregon 214, right-of-way would be acquired from the Trailer World site at 2996 Newberg Highway. The site is listed as a leaking UST, but an NFA determination by ODEQ is recorded. Additional information would be needed to determine whether there are additional areas where contaminated soils or groundwater may be present. There is a potential for presence of hazardous building materials such as asbestos and lead-based paint, which can be a hazard to human health. Environmental requirements related to demolition of these structures is discussed below under Construction Impacts. Alternative 1
(Widen Equal) would extend farther south onto the Trailer World property and would therefore have a greater area of impact on this potentially contaminated property.

Farther to the east, the widening of Oregon 214 and intersection improvements would result in impacts at seven additional sites. The former Shell service station, located on the north side of Oregon 214 at 2995 Newberg Highway, is reported to have a release from a leaking UST. An investigation and cleanup are in progress and demolition is planned. If cleanup is incomplete prior to acquisition of right-of-way, additional cleanup could be required for soil and groundwater, long-term monitoring could be required for groundwater, or possible environmental liability could be continued.

Debris piles were observed in the alignment of planned improvements for Evergreen Road located northeast of the Shell station and west of the Crossroads Shopping Center. The debris appeared to be construction and yard waste. However, uncontrolled disposal areas may contain contaminated materials that could result in a release to the environment. Environmental requirements would be similar to those identified above.

The Mae Thai Restaurant, formerly an Exxon service station and leaking UST site, is located at 2515 Newberg Highway and has an NFA determination by ODEQ. The residential area to the east may contain residential heating oil tanks that have released or have a potential to release contaminants to soil or groundwater. Alternative 2 would extend farther north than Alternative 1 onto this potentially contaminated property.

Service stations south of Oregon 214 in the project area include the Chevron service station at 2990 Newberg Highway, Union 76 service station at 2874 Newberg Highway, and ARCO service station at 2720 Newberg Highway. The Chevron station has an NFA determination by the ODEQ. The Union 76 station and the adjacent scrap yard do not have reported releases, but current and possible historic activities may have resulted in release of petroleum and other contaminants to soil or groundwater. Environmental requirements could include additional cleanup for soil or groundwater, long-term monitoring for groundwater, or possible continued environmental liability. An investigation and cleanup are in progress at the ARCO service station. If cleanup is incomplete prior to acquisition of right-of-way, environmental requirements could include additional cleanup for soil and groundwater, long-term monitoring for groundwater, or possible continued environmental liability. Alternative 1 would extend farther south than Alternative 2 onto these potentially contaminated properties.

The Exxon service station located farther to the south of Oregon 214 at 850 Lawson Avenue does not have a reported release to the environment. Acquisition of right-of-way for improvements on Lawson Avenue may result in acquisition of unreported contaminated property, resulting in environmental requirements similar to those reported above.

Access Option:

The additional access option would result in potential acquisition of additional potentially contaminated property south of the Chevron service station at 2990 Newberg Highway and south of the ARCO service station at 2720 Newberg Highway.
Secondary Impacts

Secondary impacts are effects that are caused by an action and are later in time or farther removed in distance than direct impacts, but are still reasonably foreseeable. Only the subject areas for which there is a reasonable likelihood of secondary effects are addressed below.

Hydrology and Water Quality

Secondary impacts on the hydrologic regime resulting from the build alternatives include potential changes in channel morphology in the receiving water bodies due to increased runoff. Changes in channel morphology in Senecal Creek and Mill Creek would be anticipated during the high-flow events if proper water quantity control facilities were not constructed. Some of the changes in the channel morphology are primarily impacts that can be addressed during the final design. It is anticipated that secondary impacts would be mitigated through the stormwater facilities constructed as part of either build alternative.

Loss of infiltration capacity due to increases in impervious surface area may result in reduced base flow discharges. Lower base flow could, in turn, lead to higher stream temperatures during the low-flow summer months because shallow streams heat up more quickly than deep ones. Likewise, the reduction in low flow could result in higher concentrations of pollutants because there is less dilution. Mitigation could compensate for both hydrologic and water quality impacts.

Under the No Build Alternative, constricted traffic flow would result in larger idling times and slower moving traffic. This condition is expected to deteriorate even further as traffic volumes in the I-5 corridor increase to accommodate planned growth in the Woodburn area and intersection level of service degrades to LOS F. In the build alternatives, increased traffic capacity at the interchange may encourage economic development, bringing higher traffic volumes more quickly than the existing interchange. In either case, increased pollutant loading to the downstream watercourses would be expected.

Biological and Wetlands Resources

Uplands

A potential secondary impact on vegetation communities (including aquatic/wetland habitats) associated with expanded and/or new roadways is increased human access, with resulting habitat disturbance and degradation. Resulting biological impacts typically involve decreased function of native communities due to both community fragmentation and an increase in invasive plant species that respond favorably to disturbed and/or “edge” habitats. The existing condition of upland vegetation in the project area is already heavily influenced by human activity. No substantial secondary impacts on upland vegetation are expected as a result of either Alternative 1 or Alternative 2.

Wetlands

Potential additional secondary impacts (in addition to those described for vegetation communities) on wetlands and waterways associated with expanded and/or new roadways are the same as those discussed for Uplands, above. The functional integrity of aquatic...
habitats can be further susceptible to modifications in water flow and water quality degradation as a result of an increase in impermeable surface area. The extent and location of roadway improvements under both Alternative 1 and 2 would have negligible adverse hydrologic impacts on existing wetland conditions.

**Land Use**

**No Build Alternative**

The No Build Alternative could result in secondary (indirect) land use impacts. Existing traffic safety and congestion issues would be perpetuated with the No Build Alternative and could worsen over time. This could discourage and suppress the future development anticipated in the Woodburn Comprehensive Plan, particularly in the Woodburn/I-5 interchange area. In addition to the direct economic impact on the City of Woodburn, the slowing of planned development could result in pressure to develop elsewhere along the I-5 corridor in north Marion County. In the worst case, this constraint could encourage pressure for development in less suitable areas such as either of the interchanges just north or south of Woodburn in Aurora/Donald or Brooks.

**Build Alternatives**

Alternative 1 and Alternative 2 operate in a similar manner and therefore were analyzed together for secondary impacts.

Acquisition of property for right-of-way or changes in property access could result in a secondary impact consisting of the property being sold or otherwise converted to another use. For clarity, this impact is described in the discussion of direct impacts.

Another potential secondary impact would be the facilitation of development in the interchange area and elsewhere in the City of Woodburn as called for in the Woodburn Comprehensive Plan. This impact would be secondary to the improved travel conditions in the area anticipated to result from the project. Specifically, several vacant or underdeveloped parcels near the interchange could be redeveloped as an indirect response to the proposed project. The Crossroads Shopping Center, for example, is potentially underused and would not be substantially affected by either Alternative 1 or Alternative 2. All of the vacant developable parcels north and south of Oregon 214 also could present more attractive development opportunities as the traffic congestion in the area is eased.

**Socioeconomics**

The overall improvement in mobility resulting from the project might encourage more development within the area. Depending on the scale and type of new development, community cohesion may be affected; however, future development would occur in accordance with the city’s zoning codes and comprehensive plan. Demand on community facilities would likely increase if substantial new development occurs. To the extent development and redevelopment within the project area would occur, secondary impacts could include increased employment opportunities, increased assessed values and property tax revenues, and increased retail sales activity.
Cumulative Impacts

Analysis of cumulative impacts requires consideration of the impacts of potential past, present, and reasonably foreseeable future actions in combination with the impacts of the proposed project. The impacts of past projects are part of the description of existing conditions. Potential future projects are transportation projects identified in the City of Woodburn Transportation System Plan (TSP) and are listed in Table 4-14. Only the subject areas for which there is a reasonable likelihood of cumulative effects are addressed below.

### Table 4-14
Future Transportation Projects Included in Cumulative Impacts Analysis

<table>
<thead>
<tr>
<th>Capacity/Connectivity Projects</th>
<th>Operational Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Extend Evergreen Road to Parr Road</td>
<td>• Install a signal and a northbound right-turn lane at Butteville Road/Oregon 214</td>
</tr>
<tr>
<td>• Extend Stacey Allison Way to Parr Road</td>
<td>• Install a signal at the intersection of Meridian Drive/5th Street/Oregon 214</td>
</tr>
<tr>
<td>• Add a new collector or service facility between Evergreen Road and Stacey Allison Way</td>
<td>• Install a signal at the Front Street/Oregon 214 intersection</td>
</tr>
<tr>
<td>extensions</td>
<td>• Signalize and add a southbound left-turn lane at the Park Avenue/Oregon 214</td>
</tr>
<tr>
<td></td>
<td>• Add a southbound right-turn lane, a westbound right-turn</td>
</tr>
<tr>
<td></td>
<td>lane, and a westbound left-turn lane to the Oregon 99E/Oregon 214</td>
</tr>
<tr>
<td></td>
<td>• Signalize the Cleveland Street/Oregon 214 intersection</td>
</tr>
<tr>
<td></td>
<td>• Add a southbound left-turn lane to the Hardcastle Street/Front Street intersection</td>
</tr>
<tr>
<td></td>
<td>• Add a westbound left-turn lane to the Lincoln Street/Front Street intersection</td>
</tr>
<tr>
<td></td>
<td>• Add a southbound left-turn lane to the Cleveland Street/Front Street intersection</td>
</tr>
</tbody>
</table>

### Hydrology and Water Quality

No present or near-future projects are anticipated that would contribute to the cumulative impacts analysis. It is probable that development will occur within the Senecal and Mill Creek watersheds. This area is located adjacent to an expanding commercial complex. It is expected that individual developments would be required to meet peak discharge and water quality mitigation requirements similar to this proposed project.

Water quality impacts of the project should not, with adequate mitigation, contribute to identified problems in the receiving waters. Mitigation can effectively prevent an increase in peak discharges, but it is more difficult to avoid the loss of infiltration or the increase in storm event volumes. The project may therefore contribute to a continuing change in the hydrology of Senecal Creek and Mill Creek.

### Biological and Wetlands Resources

The project build alternatives would contribute to an overall loss of roadside vegetation and a very minor reduction of daylighted creek area. These resources are both degraded and not unique in the area. The overall impact would not be substantial at the regional level.
Land Use
The assessment of cumulative impacts was based on the impacts of the No Build Alternative and the build alternatives in combination with the anticipated transportation actions listed in Table 4-15 and the future land use actions in the Woodburn/1-5 interchange area.

Future Land Use Actions
The following future land use actions proposed near the interchange area have been identified:

- The Woodburn Company Stores’ Phase III expansion, which has been approved, will further expand the number of stores and customers at this location. The total size of this retail space will be about 400,000 sf when Phase III is completed.

- The 107-acre OPUS property at the southeast corner of Butteville Road and Oregon 219 is on the Governor’s high priority list for shovel-ready industrial property. This site is located outside the UGB and is zoned EFU. The Woodburn Comprehensive plan update would require future annexation and master planning of this site. No specific development proposals have been identified as of February 2004.

- The Montebello II subdivision, containing 95 lots south of Wal-Mart, has received preliminary approval from the City of Woodburn and is close to final approval as of February 2004.

Cumulative Impacts Analysis

No Build Alternative
Implementation of the foregoing transportation and land use projects without implementing the Woodburn Interchange Project would result in continued traffic congestion in the area, which in turn could suppress development provided for in the Woodburn Comprehensive Plan. Continued congestion also could promote development elsewhere in the region outside of planned grown areas.

Build Alternatives
Alternative 1 and Alternative 2 are considered to operate in a similar manner and therefore were analyzed together for cumulative impacts.

The three capacity/connectivity projects in Table 4-15 all would improve street connectivity and add capacity to the roadway network south of the study area’s SW quadrant. The nine geometry and signal improvements in Table 4-15 would contribute to improving traffic flow in the Woodburn area. Several of the treatments, including the geometry improvements at the Butteville Road/Oregon 219 and the Oregon 99E/Oregon 214 intersections, as well as the installation of signals at Butteville Road, 5th Street, Front Street, and Park Avenue, would improve traffic flow onto and along the Oregon 214/219 corridor.

Combined with either of the build alternatives, these transportation projects would support the adopted land use plan and would improve local circulation and interchange operations. Although the resulting commercial development could encourage some zoning changes from low-density residential to high-density residential or commercial, any such rezoning...
would require prior approval from the City of Woodburn. No adverse cumulative impacts on land use would result.

If implemented, the identified future land use actions would be consistent with the transportation and land use plans for the interchange area. Implementation of either of the build alternatives in combination with these future land use actions would facilitate planned land use in the area by improving traffic operations and circulation. No adverse cumulative impacts on land use would result.

**Socioeconomics**

Proposed road connections in the I-5 Business neighborhood (Evergreen Road and Stacey Allison Way to Parr Road), along with the proposed project, could increase the amount of business traffic traveling through the parts of the Senior Estates and I-5 Business neighborhoods that are south of Oregon 214/219. Increased business traffic could hinder local access within these neighborhoods for residents and community service providers. These improvements would not likely result in additional displacements because of the large amount of vacant land near the proposed connections.

The Woodburn Company Stores’ Phase II expansion is currently under construction (April 2004) and is scheduled for completion in November 2004. The $5.1-million expansion includes over 66,000 square feet of additional retail space and will add 22 tenants to the outlet mall. A Phase III expansion, currently in the planning stages, would further expand the number of stores, employees, and customers at this location. The continued success and expansion of the Woodburn Company Stores, in conjunction with the planned transportation improvements, could increase the pace of development activity in the area.

**Construction Impacts**

**Water Quality**

Roadway construction would cause temporary impacts. The following is a list of impacts that could occur during construction:

- Temporary loss of vegetation.
- Erosion of the fill in the project area if silt fence and other erosion-control BMPs are not installed properly. Sediment laden runoff from this fill could enter either receiving water body.
- Accidental spills of construction chemicals or fuel near or in receiving waters.

Although it is expected that the existing storm drainage collection system would largely serve the proposed improvements, during project design it may become necessary to remove, relocate, extend, or upsize existing drainage system features. This would result primarily in temporary construction impacts, because the general drainage patterns are expected to remain intact.
General Mitigation Measures

- Prohibit construction equipment from entering watercourses except when a specific construction task can only occur in the stream.

- Prohibit equipment washing in the watercourses.

- Obtain federal and state fill permits prior to construction.

Erosion Control and Pollution Control

BMPs, as described in the ODEQ 1200-CA permit issued to ODOT and the ODOT Erosion Control Manual, would be designed and installed for the proposed construction activities. In addition, the 1200-CA permit requires development and implementation of an erosion control plan as well as regular inspections. Erosion control measures are intended to minimize the transport of sediment from the project to the watercourses.

In order to prevent impacts from accidental spills during construction, the fueling of equipment and storage of fuel and construction chemicals would be kept far enough away from receiving waters so there is no chance of spilled material getting into surface water. This distance is commonly 90 meters. Chemical storage areas are also set up to prevent contamination of groundwater. The project would have a spill containment plan, and cleanup and containment materials would be kept onsite.

Biological Resources

Nonunique upland vegetation would likely be affected by temporary construction activities, including the need for staging areas. Neither temporary nor permanent project impacts would be allowed to occur within jurisdictional waters/wetlands without appropriate state and/or federal permits.

Mitigation measures for upland vegetation impacts include the following:

- Revegetate cleared and disturbed areas as soon as possible when construction is completed.

- Use best management principles for erosion control.

Cultural Resources

Archaeological potential within the project area consists mainly of paleontological and paleoarchaeological resources, although more recent prehistoric and historic archaeological resources may also be present.

Paleoarchaeological remains, if present within the project area, would be expected to be found within a few meters of the natural ground surface (several meters or more below the existing ground surfaces of the project area). A paleoarchaeological discovery in the project area would likely be considered scientifically significant. Such a discovery would have the potential to address research questions about early human occupation, settlement, and subsistence in Oregon and on the North American continent.

Subsurface construction in areas of intact, previously undisturbed soils should be closely observed by construction crews and other project workers during project construction.
Intact soils within the project area are most likely to exist beneath roadway overburden and ramping fill, under parking lot pavement and fill and under sidewalk areas, and beneath the first several (3 to 6) feet of disturbed soils in buried utility corridors. Intact soils are not likely to exist around building footings and foundations, interstate overpass pilings and footings, or in fill locations. To ensure that archaeological materials are readily recognized and properly treated during construction, it is important that construction crews, foremen, and other site workers be trained in the identification of archaeological remains. For this reason, a construction crew training session covering the identification of archaeological materials and the proper treatment of such materials would be held prior to the onset of construction.

In the event that cultural resources are discovered during construction, a qualified archaeologist would be summoned to the area to properly document and assess the significance of the find. As mentioned above, prehistoric archaeological discovery in the project area could prove to be an important contribution to the field of archaeology and paleontology. In addition, an archaeological monitoring protocol and accidental discovery plan would be prepared and discussed with the construction contractor prior to construction activities. Such a protocol would outline monitoring and documentation methodology, and would contain contingency plans for discoveries of different types of archaeological resources (i.e. historic, prehistoric, paleontological, and human remains). In the event that archaeological sites are discovered during construction, the archaeological monitoring protocol would be implemented.

In the unlikely event of a human remains discovery during project construction, all work in the area of the discovery would immediately cease, the area would be secured, and the County Medical Examiner (Rick Thompson, 503.588.5222) and State Historic Preservation Officer (James Hamrick, 503.986.0669) would be called to the area to assess the remains. If the remains are determined to be Native American, representatives of the affected tribes would be contacted, and an appropriate plan for the respectful reinterment of the remains would be devised through consultation between the tribes, the SHPO, and ODOT.

**Transportation**

It is ODOT’s policy to maintain reasonable access to businesses and residences during construction. Temporary delays in construction work zones would be limited to a specific time period, and contractors would be carefully monitored for compliance. Special provisions will be included with the project’s construction contract that bind the contractor to specific agreements reached with property owners during right-of-way negotiations.

**Land Use**

Construction of either of the build alternatives could result in direct land use impacts in the form of temporary bypasses, staging areas, excess materials storage areas, or similar temporary land uses associated with road construction. Many of these activities would be conducted within the project right-of-way. However, some construction impacts may require the temporary use of land outside the project right-of-way. Because any such uses would be temporary, they would not affect the overall land use or supply in the study area and no adverse impacts on land use would occur.
Socioeconomics
Construction of the project is expected to last approximately 3 years. Construction of the project would result in temporarily increased congestion and delays and would also decrease access to businesses in the project area. Movement of goods, services, and persons through the project area would be impeded during construction hours. ODOT would provide information on construction schedules and would provide signage to indicate changes in access or detours.

Social Impacts
Construction activities associated with building the project would generate noise and dust that would directly affect the homes located adjacent to or within approximately 500 feet of the proposed right-of-way. The Air Quality and Noise sections above present further discussion of these impacts. During road work, at least one lane in each direction would remain open; however, reduction in the total number of lanes operating would increase congestion and make it more difficult to travel between neighborhoods. This would be especially true for West Woodburn residents traveling east toward downtown Woodburn and I-5 Business and Senior Estate residents traveling toward I-5 commercial businesses. Lane closures and the presence of construction equipment would be a hazard to motorists at a level typical of other roadway projects.

Although at least one lane in each direction would remain open during construction, increased congestion would make it more difficult for the residents of the West Woodburn, I-5 Business, and Senior Estates neighborhoods to reach community facilities located along Oregon 214/219. Emergency vehicles would often be routed around the construction areas to improve response times, particularly during hours of construction and heavy traffic times.

Economic Impacts
Project construction would result in so-called multiplier effects. Indirect impacts would occur as construction firms purchase materials from local suppliers who, in turn, employ workers and purchase materials. Induced impacts would occur when wages paid to workers in construction trades or supporting industries are spent on locally produced goods and services. Businesses in the project area may experience more business activity because of the increased number of construction workers commuting to and from the project site.

According to updates to a study funded by ODOT in 1996, Economic Impacts of New Highway Construction and Street Expenditures in Oregon (E.D. Hovee & Company), $1 million of investment in highway infrastructure projects results in nearly 18.5 total full-time equivalent jobs (Policy Notes, May 2002). Total jobs fall into one of three categories. Of the 18.5 total jobs, 6.3 are expected to be direct jobs, 4.38 are estimated to be indirect jobs, and 7.82 are induced jobs (Policy Notes, May 2002).

For this project, the magnitudes of the secondary impacts within the project area are difficult to quantify at this time and would depend on many factors, including:

- Where construction workers live and spend their income.
- Where equipment and material needed for construction would be purchased.
Because of the project’s proximity to large population centers (i.e., Portland and Salem), it is not expected that the project would result in a large number of workers from outside a commutable distance to the project site. The large construction labor pool residing in the Portland-Salem corridor would likely provide the vast majority of workers for the project. The construction of the project would result in short-term employment opportunities for some residents in the county and would also result in indirect and induced employment in businesses that support the project. However, an increase in local employment is not expected to be substantial.

**No Build Alternative**
Under the No Build Alternative, the area would not experience the direct and indirect benefits associated with large construction projects, such as the creation of construction jobs and the business transactions for materials and services needed for construction. No additional property would be acquired for new right-of-way and there would be no resulting business or residential displacements. Commercial and tourist traffic would not experience construction-related delays that would be expected if the project were constructed.

**Alternative 1: Widen Equal**
The estimated project construction cost for Alternative 1 is $23.3 million. This cost includes roadwork, drainage, mitigation, staging, structures, signals, and contingencies. The cost estimates are preliminary and could change when final design is complete.

Assuming that the jobs created by the project would be distributed to the three job categories discussed previously and that the proportions estimated by ODOT exist at the project level, the $23.3 million project would result in approximately 140 jobs annually in the overall economy during the construction of Alternative 1. Job impacts would be expected to occur along the Portland-Salem corridor and would not be centralized around Woodburn. The total number of jobs created by the construction of the project is not expected to be a substantial impact on the economy.

**Alternative 2: Widen North**
The estimated project construction cost for Alternative 2 just slightly more than Alternative 1 at $23.4 million; thus, the employment estimates and associated impacts are expected to be similar to those discussed under Alternative 1.

**Mitigation Measures During Construction**
To offset adverse impacts during construction, the following mitigation measures are recommended:

- Provide construction flagging crews with radios so that emergency response services can call to forewarn them about approaching emergency response vehicles.

- Inform and update the appropriate county police and emergency service providers and local fire response team of all construction activities that would affect emergency response procedures.

- Install temporary signage to inform drivers of potential traffic delays due to construction and heavy equipment entering or leaving the highway.
- Install signage along Oregon 214/219 directing customers to businesses that may have altered access points during construction.

- If feasible, limit construction of the project to off-peak travel times to minimize construction-related congestion and disruptions to businesses.

- Involve affected business owners in a public relations campaign to educate the community on changes in travel patterns and business access. The program could include meetings with business owners, public open-house forums, informational articles in local news media, and printed pamphlets.

Visual Resources

Impacts

The No Build Alternative would not cause any construction-related impacts.

During construction, the same types of visual quality impacts would occur under Alternatives 1 and 2. Construction of the proposed project would cause temporary visual impacts through clearing, grubbing, and grading. These impacts would be temporary because the proposed project includes landscaping. Following construction, groundcover and plantings removed from the public right-of-way would be replaced by similar vegetation. Other temporary visual impacts would include the presence of construction equipment, materials, signage, and staging areas in the construction zone that would reduce the visual quality of the immediate area during construction.

If nighttime construction is used, temporary lighting may be necessary for certain project elements or at certain locations. This temporary lighting could affect residential areas and motels by exposing residents and motel guests to uncomfortable glare for unshielded light sources or by increasing ambient nighttime light levels. However, construction adjacent to residential areas would be subject to noise regulations, which are designed to minimize nighttime disturbance and would thereby provide indirect control of lighting impacts. Temporary lighting impacts could also be reduced by shielding light sources to block direct views from residential areas and by aiming and shielding to reduce spillover lighting.

Mitigation Measures During Construction

The following mitigation measures may be implemented during construction:

- Minimize clearing for construction and preserve existing stands of mature trees and other attractive natural vegetation to the greatest extent possible.

- Locate construction materials and equipment storage in areas that are not prominent, or screen storage areas from view.

- If construction occurs during nondaylight hours, shield construction lighting to ensure that light sources are not directly visible from residences and motels.

Air Quality

The No Build Alternative would not cause any construction-related air quality impacts.
During project construction, carbon monoxide and particulate matter emissions are expected to increase temporarily. The increase in emissions of these pollutants results from added congestion, construction vehicle exhaust, and earth excavation. To mitigate temporary emission increases in particulate matter (e.g., dust) due to construction activities, watering of exposed surfaces would be required to control dust generation.

**Noise**

Areas adjacent to the project would be exposed to construction noise. Although the exposure would be temporary, the additional noise could be disturbing to nearby receptors. The following mitigation measures may be implemented to comply with construction noise abatement measures:

- No construction would be performed within 300 meters (990 feet) of an occupied dwelling unit on Sundays or legal holidays and between the hours of 10:00 PM and 6:00 AM on other days, without the approval of the engineer.

- All equipment used would have sound control devices no less effective than those provided on the original equipment. No equipment would have un-muffled exhaust.

- All equipment would comply with pertinent equipment noise standards of the U.S. Environmental Protection Agency.

- No pile driving or blasting operations would be performed within 900 meters (2,970 feet) of an occupied dwelling unit on Sundays or legal holidays and between the hours of 8:00 PM and 8:00 AM on other days, without the approval of the engineer.

- The noise from rock crushing or screening operations performed within 900 meters (2,970 feet) of any occupied dwelling would be mitigated by strategic placement of material stockpiles between the operation and the affected dwelling or by other means approved by the engineer.

Should a specific noise impact complaint occur during the construction of the project, one or more of the following noise mitigation measures may be required at the contractor’s expense, as directed by the engineer:

- Locate stationary construction equipment as far from nearby noise-sensitive property as possible.

- Shut off idling equipment.

- Reschedule construction operations to avoid periods of noise annoyance identified in the complaint.

- Notify nearby residences whenever extremely noisy work will be occurring.

- Install temporary or portable acoustic barriers around stationary construction noise sources.

- Operate electric-powered equipment using line voltage power.

If the City of Woodburn has a noise ordinance that control construction noise, the construction activities would be in compliance with all applicable local noise ordinances.
Hazardous Materials

Impacts

The potential construction impacts of the two build alternatives are substantially similar and are discussed together.

Construction impacts include releases of contaminants to the environment by ground-disturbing or de-watering activities. Based on a review of environmental agency information, potential types of hazardous substance contamination that could be encountered during project construction are primarily petroleum-contaminated soil and groundwater. Other contaminants, such as volatile organic compounds and polychlorinated biphenyls (PCBs), were also identified in environmental media. If this contamination is not managed properly in accordance with existing regulations, there is the potential for impacts on human health and ecological receptors.

The sites identified within the project corridor are “reasonably predictable” sites where the nature of the contamination or potential contamination is available from files at the ODEQ. Reasonably predictable sites are typically small to medium in size, the potential contaminants are not extremely toxic or difficult to treat, and probable remediation approaches are straightforward. Examples of sites generally classified as “reasonably predictable” are gas stations and auto repair shops.

If demolition of structures occurs, hazardous materials including asbestos, lead-based paint, and PCBs may be present. Release of these hazardous materials during demolition could cause an impact on human health and the environment.

Both build alternatives include relocation of aboveground utilities to belowground utility corridors. Aboveground electrical utilities may include transformers that contain PCBs. Release of PCBs during their removal would cause an impact on human health and the environment.

In addition to identified USTs and LUSTs, unidentified or abandoned USTs may be present. Construction, particularly of underground utilities, may require excavation that could encounter USTs or the piping associated with the tanks. If the tanks or piping are disturbed during excavation, a release of hazardous materials or substances could occur, resulting in impact on human health and the environment.

The regulatory database search indicated that there are sites within the project area that are undergoing cleanup and are not indicated as having NFA status from ODEQ. Additional sites were identified within 1/4 mile of the project corridor that have identified groundwater contamination. During construction, an uncontrolled hazardous substance could be encountered in areas with known contamination, in areas where recorded activities such as hazardous waste generation or storage of fuel in USTs have the potential to have affected soils or groundwater, or in other areas not identified in the environmental database search. In such a case, the possible environmental impacts might include the following:

- Potential release of contaminated air emissions (dust and volatile organic compounds), soil, surface water, and groundwater during construction
• Potential alteration of contaminated groundwater plume(s) and generation of contaminated water during dewatering activities

• Potential alteration of contaminant migration pathways due to excavation and other construction activities

An additional potential impact common to roadway construction could be the release of a hazardous substance during construction. For example, fuels and oils needed for heavy equipment operation and maintenance might be spilled within the project area—a hazard common to all construction projects. Cleanup of the spilled material and disposal of wastes from cleanup, including contaminated soil, might add additional time and costs to construction operations. Large spills of hazardous materials during construction might also require emergency response agency intervention.

**Mitigation Measures During Construction**

In addition to the mitigation measures identified above, mitigation measures prior to and during construction may include the following:

• Comply with ODOT’s Hazardous Materials Procedure ENV 16-02 when acquiring properties with possible contamination.

• Phase construction activities in concert with any needed cleanup activities to avoid contaminated areas.

• Implement construction techniques that minimize disturbance to the subsurface and prevent the transport of possible contaminants to uncontaminated areas. These techniques should address de-watering activities, site grading and excavation, installation of light standards, stormwater pollution prevention, and spill prevention.

ODOT will prepare a comprehensive contingency and hazardous substance management plan and a worker health and safety plan that minimize the effects of identified and unanticipated hazardous substance impacts from contaminated soil and groundwater.
SECTION 5

Public and Agency Coordination

Introduction

This section describes the ongoing coordination with the public and agencies, including different committees that were formed for the project, outreach that was conducted, and public meetings that were held.

Stakeholder Coordination

Stakeholder Interviews

The PMT developed an interview strategy to elicit information on project issues and general project approach from Woodburn/I-5 interchange project area stakeholders. Data from interviews were used to develop a public involvement and agency coordination plan to detail outreach activities that were conducted during the project. The plan defined activities to be conducted throughout the project, expected timing in relation to decision points and project milestones, and participating roles, commitments, and lead-time requirements for decision makers and other participants. Measures to evaluate the effectiveness of the public involvement activities were also identified. The plan provided recommendations concerning membership of the SWG.

Committees

Three committees were formed to provide direction and input on the project: PMT, the SWG, and the Local Access Committee (LAC). The PMT consisted of lead ODOT and consultant team staff assigned to manage the project components as well as FHWA, city, and county staff who are responsible for planning and transportation policy within their jurisdictions. PMT meetings were held the first Tuesday of each month during the project.

The SWG consisted of representatives from local business, emergency services, residential communities, cultural communities, outlying communities, and other appropriate interest groups. The role of the SWG was to be advisory to the PMT on values, ideas, and concerns of the broader community. SWG meetings were held as follows:

- SWG Meeting #1 Chartering, March 20, 2003
- SWG Meeting #2, April 10, 2003
- SWG Meeting #3, April 24, 2003
- SWG Meeting #4, May 8, 2003
- SWG Meeting #5, June 12, 2003
• SWG Meeting #6, June 26, 2003  
• SWG Meeting #7, July 24, 2003  
• SWG Meeting #8, April 22, 2004  
• SWG Meeting #9, June 3, 2004  
• SWG Meeting #10, February 17, 2005  

The LAC functioned as a work group of the SWG. All property owners located immediately adjacent to the interchange and property owners who rely on access to or from Oregon 214/219 between Country Club Road and Woodland Avenue were invited to participate on the LAC. The purpose of the LAC was to recommend an access plan as a part of the recommended set of improvements to the Woodburn/I-5 interchange. The access plan together with the favored alternative was forwarded to the PMT from the SWG.

LAC meetings were held as follows:
• May 1, 2003—held jointly with SWG  
• May 15, 2003  
• June 5, 2003  

Outreach

Newsletters/Postcards/Fact Sheets
A fact sheet was developed in March 2003. A project newsletter was distributed to all property addresses and property owners within the projects area in May 2003. Two project postcards were distributed to the same mailing list and through the informational displays—the first in late May 2003, and the second in mid-June 2003.

Informational Displays
To reach the traveling public, cultural communities, and the surrounding community, informational displays were constructed at locations within and around the project area, including the Woodburn Company Stores, Wal-Mart, the Woodburn Public Library, Woodburn City Hall, and the community center at Senior Estates. The informational displays were in both English and Spanish and included maps, background information, issues to address, how to provide input, and a schedule postcard for participants to take home.

Media
Press releases were issued that announced process steps and opportunities for involvement. Press releases were distributed through ODOT’s communications office. Display ads were used to advertise public meetings in the Woodburn Independent and the City of Woodburn’s Quarterly Newsletter. The Woodburn Independent covered the process on a regular basis, with articles appearing weekly. Public meetings were covered by the papers mentioned above, as well as by television media and the Daily Journal of Commerce.
Website
A project website was maintained that provided information on the status of the project, alternative development, upcoming meetings, past meeting notes, and contact information. The website address is: http://www.odot.state.or.us/region2public/Woodburn_Interchange/

Public Meetings
Two public meetings were held to introduce the project to the public and discuss alternatives being studied, as follows:

• Open House 1 — May 29, 2003, 4:30 PM to 7:30 PM — United Methodist Church, 700 North Cascade Drive, Woodburn

  The purpose of this meeting was to provide participants an overview of the project. It also provided opportunity for the public to give input regarding issues that should be addressed in the project and potential ideas to be included in the alternatives. Thirty-six people signed as participants.

• Open House 2 — July 10, 2003, 4:30 PM to 7:30 PM — United Methodist Church, 700 North Cascade Drive, Woodburn

  The purpose of this meeting was to provide maps of the alternatives under consideration, the recommendations from the SWG, and the project goals, and to gather input on outstanding issues to address. Forty-three people signed in as participants.
SECTION 6

Summary of Proposed Mitigation and Conservation Measures Under Consideration

Introduction

This section summarizes the proposed mitigation and conservation measures under consideration for both build alternatives into one concise section. Commitments to carry forward specific mitigation and conservation measures will be made once an alternative is selected.

Hydrology and Water Quality

A Water Resources Baseline Report will need to be prepared once an alternative is selected.

Stormwater Management

Proposed stormwater mitigation includes engineered facilities such as water quality and detention facilities and a roadway stormwater system to collect and convey the stormwater from the paved surfaces to the facilities. This approach would concentrate the stormwater into a limited number of discharge locations to minimize the number of discharge locations and associated impacts from installing the detention facilities.

Detention facilities would be used to regulate surface flows leaving the site, ensuring that peak magnitudes at certain design events do not exceed historic conditions. This would reduce or prevent downstream flooding impacts, which are related primarily to peak magnitude storm events. Certain types of detention facilities, such as unlined ponds, would allow water to infiltrate into the ground and provide some mitigating base flow into the subsurface drainage paths, buffering against the loss of infiltration onsite from increased impervious area. Volumetric detention would be provided so that impacts on the existing watercourses are avoided.

Stormwater facilities would be designed to meet the criteria set forth by local and state agencies. The basis for stormwater detention and water quality treatment would be the guidelines set forth in the Design and Construction Manual of Clean Water Services of Washington County, Oregon. The stormwater conveyance system would adhere to the guidelines contained in the ODOT Hydraulics Manual.

Because there are no TMDLs set for Senecal Creek and Mill Creek, mitigation for this project would be based on not increasing the pollutant load in the two streams. This would be achieved by providing full treatment (average pollutant removal capability of 70 percent) for the water quality design storm for runoff from an area of highway equivalent to 140 percent of the new impervious surface area. Treating more area would result in a net decrease in pollutant load.
Several techniques and types of facilities can be used to treat stormwater. These include detention basins and vegetated water quality swales. Where detention is already being provided for hydrologic mitigation, it is often feasible to make the basins dual-purpose so they also provide water quality treatment.

**Culvert and Storm Pipe Design**

The following is a preliminary list of hydraulic criteria for use in developing the final culvert design in the filled Water F:

- Maximum headwater depth to culvert diameter ratio (HW/D) would equal one when conveying flows from the 50-year return flood event. This flood frequency criterion was obtained from the ODOT *Hydraulics Manual* for highways with design hourly volume (DHV) greater than 100. The design would check for potential backwater damage for flows generated from the 100-year and either the 500-year or the roadway overtopping flood, whichever occurs more frequently.

- Energy dissipation would be analyzed at the outlet end of the culvert. If the culvert discharge velocity exceeds what the existing soil can resist, energy dissipation would be required. ODOT recommends HEC-14, *Hydraulic Design of Energy Dissipaters for Culverts and Channels*, for the design of the energy dissipaters.

Energy dissipation and detention storage would be evaluated at the piped or open channel discharge location to minimize the degradation of existing watercourses.

It may be necessary to increase capacity in the existing piped conveyance systems or install new conveyance systems to accommodate surface drainage from the project. This would be determined during final design. However, use of onsite detention would work to reduce or eliminate the need for substantial changes in the capacity of outfalls or larger conveyance elements in the current system.

**Biological and Wetlands Resources**

**Vegetation**

Compensatory wetland mitigation may be required by the Army Corps of Engineers and ODSL for the 0.01-acre impact proposed by both build alternatives to Water F, a small area of open creek channel. Personnel within the ODSL wetlands/water permitting program would be contacted regarding the applicability of mitigation for the proposed impact. One mitigation option would be to provide onsite riparian plantings to offset the small amount of impact on the drainage system due to Water F impact. Another option, if compensatory mitigation is required, would be to propose offsite “indirect” mitigation, which state guidance allows for projects involving less than 0.2 acre without first considering onsite mitigation (OAR 141-085-0121(3)). The preferable method for satisfying offsite mitigation requirements is to purchase credits at a mitigation bank that services the area. An approved mitigation bank (Weathers) is located southwest of the project area that provides service for the Woodburn region. It is likely that, should mitigation be required for the proposed 0.01-acre stream impact, it would be satisfied by purchasing credits at the Weathers mitigation bank.
Compensatory mitigation for proposed impacts on Wetland A is unlikely to be required pending confirmation of nonjurisdictional status. Should mitigation be required, purchasing mitigation bank credits would likely satisfy requirements.

Mitigation measures for upland vegetation impacts include the following:

- Choose native plants for revegetation as practicable. Select plants to limit the need for mowing and other maintenance activities.

- Practice BMPs for erosion control.

ODOT would prepare and implement roadway landscaping plans and erosion control measures consistent with federal Executive Order 13112 (*Invasive Species*). These actions would be intended to avoid the introduction or spread of invasive species, including noxious weeds and undesirable native plants.

**Wildlife**

Mitigation measures for wildlife include the following:

- Revegetate cleared and disturbed areas as quickly as possible following completion of construction activity.

- Incorporate native plant species into the revegetation plan. Select plants to limit the need for mowing and other maintenance activities.

- Incorporate BMPs for erosion protection.

**Cultural Resources**

Mitigation measures for cultural resources include the following:

- Closely observe subsurface construction in areas of intact, previously undisturbed soils.

- Train construction crews, foremen, and other site workers in the identification of archaeological remains. Hold a construction crew training session covering the identification of archaeological materials and the proper treatment of such materials prior to the onset of construction.

- If cultural resources are discovered during construction, summon a qualified archaeologist to the area to properly document and assess the significance of the find.

- Prepare an archaeological monitoring protocol and accidental discovery plan and discuss with the construction contractor prior to construction activities.

- If human remains are discovered during project construction, immediately stop all work in the area of the discovery, secure the area, and call the County Medical Examiner (Rick Thompson, 503.588.5222) and State Historic Preservation Officer (James Hamrick, 503.986.0669) to the area to assess the remains.
If Native American remains are discovered during construction, contact representatives of the affected tribes and devise an appropriate plan for the respectful reinterment of the remains through consultation among the tribes, the SHPO, and ODOT.

**Socioeconomics**

To offset adverse impacts, the following mitigation measures are proposed:

- Compensate property owners for the fair market value of property acquired for new right-of-way. Occupants displaced by a highway project would be eligible for relocation benefits and assistance under the provisions of the ODOT’s Relocation Assistance Program (see Appendix C).

- The acquisition and relocation program would be conducted in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources are available to all residential and nonresidential relocatees without discrimination.  
  [http://www.odot.state.or.us/tsrow/publications.htm](http://www.odot.state.or.us/tsrow/publications.htm)

- When possible, resell parcels purchased as part of the right-of-way acquisition process for the same use designated for the land in the City of Woodburn Comprehensive Plan.

**Visual Resources**

The following mitigation measures are recommended following construction:

- Work with property owners to replace vegetation that provided screening for sensitive viewers (residents, golfers, and motel guests).

- Populate planting strips with vegetation that provides a cohesive and attractive street edge.

- Shield roadway lighting to ensure that light sources are not directly visible from residences and motels.

- Design gateway intersections at I-5 as community enhancement areas with features appropriate to community urban design goals.

**Noise**

For both build alternatives, noise barriers are proposed at four general locations in the project area: Woodburn Senior Estates, between Woodland Avenue and Willow Street, between Oregon Way and Astor Way, and at the Cascade Park Retirement Center. Once a preferred alternative is selected, specific noise barrier dimensions and costs would be identified.
APPENDIX A

Information Sources
APPENDIX A

Information Sources

Hydrology and Water Quality


Oregon Department of Environmental Quality. 2002 Database. 303(d) Listed Water Quality Limited Streams in the State of Oregon.


Biological and Wetlands Resources


Land Use


**Socioeconomics**


Kelley, Valerie, Dispatch Supervisor, Woodburn Police Department. November 14, 2003. Personal communication with Eric Wolin/CH2MHILL.


Roberts, Cleo, Office Manager, Woodburn Fire District. November 13, 2003. Personal communication with Eric Wolin/CH2MHILL.

U.S. Census Bureau. 1990 Census Data for Woodburn and Marion County.

U.S. Census Bureau. 2000 Census Data for Woodburn and Marion County.

U.S. Census Bureau. 1997 Economic Census. Summary Statistics for Marion County, OR.  
http://www.census.gov/epcd/ec97/or/OR047.HTM


Woodburn Area Chamber of Commerce Website. Available at: http://www.woodburnchamber.org/index2.htm


Woodburn School District Website. Available at: http://www.woodburn.k12.or.us

Visual Resources


Hazardous Materials

APPENDIX B

List of Supporting Technical Documents
APPENDIX B

List of Supporting Technical Documents

This Environmental Assessment summarizes the technical reports prepared for the Woodburn Interchange Project. The full technical reports are lengthier and more detailed than their representative sections in the Environmental Assessment.

These reports are available upon request from:

Environmental Services Section
Oregon Department of Transportation
1158 Chemeketa Street NE
Salem, Oregon 97301
503-986-3521

Or on the web at: http://www.odot.state.or.us/region2public/Woodburn_Interchange/


Oregon Department of Transportation, Woodburn Interchange Project, Air Quality Resources Technical Appendix, February 2004.


NOTE:

These brochures are the most current brochures available at the time of printing this EA. The brochures are in the process of being revised to reflect recently increased move benefits in site search for non-residential displacees and self-move for residential displacees. To obtain the revised brochures, please call Regina Callaway, ODOT Senior Right-of-Way Agent, at (503) 986-2613.
Moving Because of the Highway or Public Projects?
A description of the Oregon Department of Transportation Relocation Assistance Program

Department of Transportation policy requires that no family or individual will be required to vacate any dwelling until such displacee has found or has been offered comparable replacement housing.

All replacement housing offered will be fair housing open to all persons regardless of race, color, religion, sex, or national origin.

Relocation payments and relocation advisory services, pursuant to State and Federal law, may not be provided to an alien unless the alien is lawfully present in the United States, except in cases of exceptional or extreme hardship. Displacees will be asked to sign a “Certification of Legal Residency in the United States.”

Relocation legislation, because of its wide scope, is somewhat complicated and difficult to read and interpret. For the benefit of those who are affected by the Department of Transportation property acquisitions, this brochure summarizes the principal provisions of relocation services and benefits. However, persons reading this brochure are urged not to form advance opinions as to the benefits and amounts to which they may be entitled. The Right of Way Agent assigned to purchase property will have detailed information for displaced persons.

No relocation payment received by a displaced person under this part shall be considered as income for the purpose of the Internal Revenue code of 1954, which has been redesignated as the Internal Revenue Code of 1986 or for the purpose of determining the eligibility or the extent of eligibility of any person for assistance under the Social Security Act or any other Federal law, except for any Federal law providing low-income housing assistance.

**Relocation Services**
The Department of Transportation maintains Regional Right of Way offices in the following locations:

**Region 1**
123 NW Flanders
Portland, OR  97209
503-731-8400
888-769-7341

**Region 2**
455 Airport Rd SE Bldg A
Salem, OR  97301
503-986-2601
888-769-7342

**Region 3**
3500 Stewart Parkway #164
Roseburg, OR  97470
541-957-3559
888-769-7343
These offices maintain current lists of replacement dwellings, businesses, and farms for displaced persons, as well as current data regarding required deposits for utilities, closing costs, typical down payments, interest rates, and FHW and VA requirements and information. The offices also have maps showing the location of schools, parks, playgrounds, and shopping areas. Public transportation routes are shown, and schedules and fare information are available. Experienced Right of Way Agents are available to aid displaced persons to the fullest extent. Right of Way Agents do not expect and will no accept any fee for any service rendered.

- Eligibility

It is important to note that eligibility for any of the following benefits is not established until you have received a written notice of eligibility from the State.

- General Moving Expenses

Service charges for reconnecting utilities are reimbursable except under schedule move procedures.

- Individual and Family Moving Expenses

Any individual or family displaced by a Department of Transportation project is entitled to receive a payment for actual and reasonable expenses for moving personal property a distance not to exceed a 50-mile radius or to the nearest available and adequate site.

In order to obtain a moving expense payment, a displaced person must file, within 18 months after displacement, a written claim with the Department of Transportation on a form provided for that purpose. In some cases, a written arrangement with the Department of Transportation will allow the displaced person to present an unpaid commercial moving bill, and the Department of Transportation will make payment directly to the mover. If the residential displacee chooses, costs may be reimbursed according to set schedule based upon the number of rooms of furniture to be moved.

- Residential Moving Schedule

Unfurnished (Relocatee owns furniture)
$350 (1 room)  $700 (3 rooms)
$500 (2 rooms)  $900 (4 rooms)

Plus $175 for each additional room

Furnished (Relocatee does not own furniture)
$300 for first room plus $50 for each added room
- **Re-establishment Payment** (Businesses, farms, non-profit organizations only)

Displaced small businesses, farm operations and non-profit organizations may receive a payment not to exceed $10,000 for expenses actually incurred to relocate and re-establish themselves at a replacement site. Eligible expenses can include repairs and improvements required by law, replacement of soiled and worn surfaces at the replacement site and other modifications, exterior signing, advertisement of the replacement location, and estimated increased cost of operation of the first two years.

- **Business, Farm and Non Profit Organization Moving Expenses**

Displaced businesses, farm operations, and non-profit organizations are entitled to receive actual reasonable moving expenses for moving personal property a distance not to exceed a 50-mile radius or to the nearest available and adequate site. The actual and reasonable cost of searching for a replacement location may be claimed in an amount up to $2,500 for a farm, non-profit organization or business. Such payments must be supported by receipted bills or other evidence of expenses incurred.

As an alternate moving expense procedure, in the case of a self-move, the business, farm operation, or non profit organization may be paid an amount not to exceed the lower of two estimates secured by the Department of Transportation from qualified moving companies.

Under certain conditions, businesses, farms, and non-profit organizations may receive payments for direct loss of tangible personal property resulting from the necessity to relocate.

A displaced or discontinued business, non profit organization or farm operation, except advertising sign owners, may, under certain conditions, elect to receive a fixed payment in an amount equal to the average annual net earnings of the business or farm preceding the year in which such business or farm operation during the two tax years immediately preceding the year in which such business or farm operation is displaced. The payment cannot exceed $20,000 and will not be less than $1,000. Those who choose the fixed payment are not eligible for any other relocation benefit payment.

- **Storage of Personal Property**

Storage of personal property requires the written approval of the Department of Transportation and may not exceed twelve (12) months except in unusual circumstances. It should be clearly understood that those dislocates who accept the scheduled move or fixed payment are not eligible to receive the storage expense benefit.

- **Replacement Housing**

A displaced owner-occupant of a dwelling owned and occupied for 180 days or more immediately prior to the initiation of negotiations for such property may be eligible for additional payments, the combined total of which may not exceed $22,500. The replacement housing payment is the amount, if any, which when added to the amount for which the State acquired his or her dwelling, equals the actual cost which the owner is required to pay for a decent, safe, and sanitary replacement dwelling or the amount determined by the State as necessary to purchase a comparable dwelling, whichever is less. This payment includes compensation for increased interest costs for financing the replacement dwelling and actual closing costs incidental to the purchase of replacement housing.

A displaced owner-occupant of a dwelling actually owned and occupied by the owner for 90 days or more, but less than 180 days or a tenant-occupant of 90 days or more, immediately prior to initiation of negotiations for such property may be eligible for additional payments, the combined total of which may not exceed $5,250. This payment is the amount necessary to make a down payment on the purchase of a replacement dwelling and to reimburse the
relocatee for the actual closing costs incidental to the purchase of the replacement dwelling. Necessary deposits for taxes and insurance are not considered as closing costs.

In those cases where an owner-occupant of 90 days or more but less than 180 days, or a tenant-occupant of 90 days or more chooses to rent instead of purchase a replacement dwelling, he or she may, under certain conditions, be eligible for payment of up to $5,250 to rent a decent, safe, and sanitary replacement dwelling. Owner-occupants may not be limited to this amount.

The rent payment is the increase in rent necessary to rent a comparable dwelling for 42 months or the amount determined by the State as necessary to rent a comparable dwelling for 42 months, whichever is less. To be eligible for these benefits, the displaced occupant must purchase or rent and occupy a decent, safe, and sanitary replacement dwelling within one year after the required date of displacement or within one year after the actual date of displacement, whichever is later.

Claims for replacement housing differential payment and rent supplements must be made in writing on a Department of Transportation form supplied for this purpose and must be filed with the Department of Transportation no later than 18 months after the date of displacement.

Before payments for any replacement dwelling benefits can be made, the replacement dwelling must be checked by Department of Transportation personnel to ascertain that it meets the decent, safe, and sanitary standards established by the Federal Department of Transportation. It is recommended that this determination be made prior to a commitment to rent or buy. The decent, safe, and sanitary inspection of the replacement dwelling by agency personnel is for the sole purpose of determining a relocatee's eligibility for a relocation payment.
### General Summary of Relocation Benefits

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<thead>
<tr>
<th>Residential</th>
<th>Business, Farm, Non-Profits</th>
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<tbody>
<tr>
<td>Owner-occupant of 180 days or more prior to initiation of negotiations for the parcel</td>
<td>Owner-occupants and tenant-occupants entitled to same benefits.</td>
</tr>
<tr>
<td><strong>May be eligible for:</strong></td>
<td><strong>May be eligible for:</strong></td>
</tr>
<tr>
<td>Replacement Housing</td>
<td>Actual reasonable moving costs</td>
</tr>
<tr>
<td>Differential Payment</td>
<td></td>
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<tr>
<td>$22,500 max</td>
<td>Actual</td>
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<tr>
<td>Including:</td>
<td>Or</td>
</tr>
<tr>
<td>Costs incidental to purchase or replacement dwelling</td>
<td>Negotiated moving costs payment not to exceed lower of two estimates secured by agency</td>
</tr>
<tr>
<td>And including:</td>
<td>Plus</td>
</tr>
<tr>
<td>Increased interest cost on replacement dwelling</td>
<td>Tangible personal property loss due to relocation</td>
</tr>
<tr>
<td></td>
<td>Actual value or estimated costs to move, whichever is lower</td>
</tr>
<tr>
<td><strong>All displaces may be eligible for:</strong></td>
<td>Plus</td>
</tr>
<tr>
<td>Actual reasonable moving costs</td>
<td>Reasonable cost of search for new site</td>
</tr>
<tr>
<td></td>
<td>$1,000 max.</td>
</tr>
<tr>
<td>And,</td>
<td>Plus</td>
</tr>
<tr>
<td>Storage of personal property up to twelve months with prior approval</td>
<td>Storage of personal property for up to twelve months with prior approval</td>
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<td></td>
<td>Actual</td>
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<tr>
<td>Or,</td>
<td>Plus</td>
</tr>
<tr>
<td>Moving costs based upon schedule</td>
<td>Relocation expenses at the replacement site</td>
</tr>
<tr>
<td></td>
<td>$10,000 max.</td>
</tr>
<tr>
<td>Or,</td>
<td>Or</td>
</tr>
<tr>
<td>Fixed payment in lieu of all other benefits requires approval of agency</td>
<td>Average of annual net earnings for two years prior to year of relocation of $1,000 min., $20,000 max.</td>
</tr>
</tbody>
</table>
Los negocios, granjas y organizaciones sin fines de lucro que desplazadas tienen derecho a recibir gastos de mudanza para prestar la máxima ayuda posible a las personas desplazadas, necesarios para servicios públicos, costos de cierre, entregas de lucro desplazadas pueden recibir un pago no mayor de $5,250 para alquilar una vivienda de reemplazo decente, segura e higiénica.

Para ser elegibles para estos beneficios, el ocupante desplazado debe comprar o alquilar y ocupar una vivienda de reemplazo decente, segura e higiénica en un período de un año a partir de la fecha requerida de desalojo o un año después de la fecha real de desalojo, cualquiera sea la más tardía.

Los reclamos por pagados documentados con recibos de cuentas pagadas u otra evidencia de los gastos incurridos.

El pago de la vivienda de reemplazo es la cantidad, si la cantidad de lucro de las partes sociales y sujeto a las mismas, segura e higiénica establecido por el Departamento Federal de Transporte. Recomendamos que esta información se pongan de precio de su lugar o la cantidad que el Estado establece de acuerdo con el número de recámaras que posee en un ámbito de la vivienda para el pago de renta.

El pago de alquiler es el aumento en el alquiler necesario para el costo de la vivienda de reemplazo, alquilar, y para reembolsar a la persona reubicada para recibir un pago de reubicación.

El pago de reubicación es la cantidad, si la cantidad de lucro de las partes sociales y sujeto a las mismas, segura e higiénica establecido por el Departamento Federal de Transporte. Recomendamos que esta información se pongan de precio de su lugar o la cantidad que el Estado establece de acuerdo con el número de recámaras que posee en un ámbito de la vivienda para el pago de renta.

El pago de la vivienda de reemplazo es la cantidad, si la cantidad de lucro de las partes sociales y sujeto a las mismas, segura e higiénica establecido por el Departamento Federal de Transporte. Recomendamos que esta información se pongan de precio de su lugar o la cantidad que el Estado establece de acuerdo con el número de recámaras que posee en un ámbito de la vivienda para el pago de renta.
negocio sin un aviso escrito entregado por lo menos con 90 días de anticipación. Un ocupante residencial desplazado no tendrá que mudarse hasta 90 días después de que se ponga a su disposición una vivienda de reemplazo comparable.

Se volverá a notificar a la persona desplazada con 30 días o más de anticipación a la fecha en que deba desalojar la propiedad. Dicho aviso de 30 días no se enviará hasta que la propiedad pueda requerir que la persona dé posesión de la propiedad. Sin embargo, si se trata de una computa que no requiere que la persona se mueva, el acuerdo para comprar la propiedad puede requerir que la persona de posesión de su propiedad en el momento del pago.

APELACIONES

Toda persona reubicada que esté desconforme con alguna de las decisiones sobre su elegibilidad o su reclamo de pago de algún beneficio de reubicación tiene derecho de apelación. Los formularios de apelación se pueden obtener del agente de derecho de paso encargado de la compra de la propiedad. El Jefe Administrativo del Departamento de Transporte ha delegado su autoridad de revisión a un oficial de las decisiones sobre su elegibilidad o su reclamo de pago. Los formularios de apelación se pueden obtener de algún beneficio de reubicación tiene derecho de apelaciones. Se provee luego una decisión con las razones en las que se basa el resultado alcanzado.

EL AGENTE DE DERECHO DE PASO

Las personas reubicadas recibirán información relacionada con su elegibilidad y posibles beneficios del agente de derecho de paso asignado para la compra de la propiedad.

---

<table>
<thead>
<tr>
<th>NÚMERO DE FORMULARIO</th>
<th>ZONA DE VIVIENDAS PARA RESIDENCIAS PARA NEGOCIOS, GRANJAS Y ORGANIZACIONES S.F. DE L.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form 734-3772S (05-03)</td>
<td>IMPRIMIDO EN PAPEL RECICLADO</td>
</tr>
</tbody>
</table>

Los reglamentos del Departamento de Transporte establecen que no se puede obligar a ninguna familia o individuo a desalojar una residencia hasta que la persona desplazada haya encontrado o se le haya ofrecido una vivienda comparable para reemplazarla.

Toda vivienda de reemplazo ofrecida debe ser una vivienda justa, abierta a todas las personas sin consideración de raza, color, religión, sexo o nacionalidad.

No se puede usar fondos Federales para pagos de reubicación o servicios consultivos de reubicación a un extranjero que no esta legalmente en Los Estados Unidos, excepto en casos de extraordinario o extrema dificultad. Sin embargo, personas que no están legalmente en Los Estados Unidos pueden ser elegibles para recibir beneficios de reubicación usando fondos del Estado solamente, excepto en casos de extrema dificultad. A personas desplazadas se va pedir que firmen un "Certificado de Residencia Legal en Los Estados Unidos".

La legislación de reubicación, por su amplio alcance, es algo complicada y difícil de leer y interpretar. Para la información de quienes se vean afectadas por las compras de propiedad del Departamento de Transporte, este folleto resume las principales disposiciones sobre beneficios y servicios de reubicación. Sin embargo, quienes lean este folleto no deben formar opiniones adelantadas con respecto a los beneficios y cantidades que pueden tener derecho a recibir. El agente de derecho de paso asignado a la compra de una propiedad tendrá información detallada para las personas desplazadas.

DESCRIPTOR DEL PROGRAMA DE ASISTENCIA DE REUBICACIÓN DEL DEPARTAMENTO DE TRANSPORTE
Department of Transportation has the task of acquiring right of way. It is the aim and desire of the Department to obtain right of way with fairness and equity.

The State is empowered to acquire private property for public use. With this power goes the obligation to protect the rights of the individual property owner. The Department thus has a dual responsibility. It is to recognize and protect the individuals who are affected by acquisition of land, as well as competent and efficient service to the public.

**Public Hearings**
Public hearings, when required, are held during the location and design stages of a project. Such hearings provide opportunities for public participation to ensure that highway locations and designs are consistent with Federal, State and Local goals and objectives.

The corridor hearing is held after preliminary studies have been made on several possible routes. During the course of this hearing, testimony is recorded for study by Department personnel and the Transportation Commission. Upon selection of a corridor, a detailed survey within that corridor is made and a preliminary design plan developed for presentation at a “Design Hearing”.

The “Design Hearing” provides an opportunity to present testimony about the final highway design. In an instance where a choice of corridors is not involved, such as the case of an improvement to an existing highway, a single “Combination Corridor-Design Hearing” may be held.

After all data and testimony has been studied, a final design is adopted by the Transportation Commission and the acquisition of rights of way is authorized.

**Just Compensation**
Owners of property needed for a highway project will be offered Just Compensation for the required rights of way. Just Compensation includes the estimated value of all the land and improvements within the needed area. In addition, if only a part of a property is to be acquired, Just Compensation will also include any measurable loss in value to the remaining property due to the partial acquisition.

Just Compensation is based on the Department’s valuation of the needed property and its estimation of any damages to the remaining property. Department procedures, guided by Federal Regulations, have been designed to protect both owners of properties needed for highway rights of way as well as other taxpayers. The valuation process will be conducted either by an experienced and qualified employee of the Department or by an independent in the market that have recently sold, by knowledge and consideration of costs and depreciation for any
improvement(s) to be acquired, and when applicable, by the property's income potential. The final value determination will be based on this type of information from the local real estate market.

The property to be acquired is inspected by a qualified appraiser during the first part of the valuation process. With complex acquisitions involving large portions of the property, major buildings or improvements on the property, displacement of residents, and/or damages to the remaining part of the property not being acquired, property owners will be given 15 days to prepare the property, and will be given the opportunity to accompany the appraiser during a detailed inspection of their property.

Any increase or decrease in the value of needed property brought about by public knowledge of the upcoming highway project, is disregarded in the valuation process.

The final value estimate is reviewed for completeness and accuracy, and Just Compensation is established by the Department’s Review Appraiser. In addition to this estimate of Just Compensation, the Department will make an offer to purchase any remaining property determined to have no remaining economic value to the owner.

**Acquisition Procedure**

The Right of Way Agent who calls on you has studied the Department’s valuation of the needed property and can illustrate with maps and other data how the acquisition will affect your property. The Department’s offer will be confirmed in writing, together with an acquisition summary statement, and an appraisal, or evaluation sheet, which provides the basis for that amount. The Agent is authorized to obtain a deed from you to purchase your property, subject to the approval of the Transportation Commission. The Agent is unable, under Department procedures governing acquisitions, to engage in “horse trading”; rather the Agent is confined to those monetary values indicated by the appraisal process.

However, the Department is ready and willing to reconsider its position in light of any new evidence of value presented by you including a documented professional appraisal. The Department may not take any action which would coerce you into accepting its offer. Prohibited actions include advancing the time of condemnation, deferring negotiations or condemnation or postponing the deposit of funds in court for your use.

You need not accept the State’s offer or enter an agreement felt to be unfair. Owner’s have a minimum 40-day period to accept or reject the offer, unless an emergency has been declared. A refusal is simply a case of disagreement between the two parties on the value of the property.

In the event the parties are still unable to agree as to the compensation to be paid, or you cannot clear the title, mediation of differences between parties, conducted by an independent mediator, can be arranged by the Department in order to reach settlement prior to filing any condemnation action. Mediation is a non-binding process where all parties reach agreement.

In the event parties are still unable to agree as to compensation to be paid, or if title cannot be cleared, a condemnation action will be filed. Once condemnation is filed, a trial date will be determined. However, an owner can elect binding arbitration prior to trial, through the Court, for amounts of $20,000 or less, and non-binding arbitration for amounts between $20,000 and $50,000. Arbitration is not available above $50,000.

Discussions and mediation can, of course, continue even after a condemnation action is filed in an effort to resolve differences. The filing allows the State to proceed with the construction project.
- **Improvements**
  When the Department acquires an interest in your land, it must acquire an equal interest in your house or any other improvements located on the land acquired. If buildings are required to be removed, the Department may allow the owner to retain the improvements. If you are interested, this can be discussed with the Right of Way Agent.

- **Payment**
  If you sign a deed and any accompanying agreements, and the Transportation Commission approves it, then the transfer of title and payment may proceed. As in a private sale, you are responsible for clearing encumbrances to the title such as unpaid taxes, assessments, mortgages, outstanding leases and other liens against your property. The Right of Way Agent will assist you in clearing title. No payment can be made until a warranty deed conveying clear title to the Department has been recorded in the appropriate county records.

At the time the deed is available for recording, authorization is given to prepare a check for your property. Normally, when no cloud obscures the title, you will receive payment for your property about four weeks after you give the Department a deed to the property.

If the condemnation action has been filed, the amount established by the Department as Just Compensation will be deposited with the court for distribution in accordance with the order of the court.

You are entitled to be reimbursed for fair and reasonable costs you incur for expenses incidental to conveying your property to the Department. Such expenses could be, but are not necessarily limited to, penalty costs for prepayment of any pre-existing recorded mortgage encumbering your property, mortgage release fees, and the State’s portion of real property taxes.

- **Possession**
  You are not required to surrender possession of your property until you have been paid the agreed purchase price or an amount equal to the Department’s established estimate of just compensation has been deposited with the court for your benefit.

When negotiations begin, you, as well as any tenants occupying your property, will be notified in writing that it is the Department’s intent to acquire the property. You will not be required to move from your home, farm, or business location earlier than 90 days following that notice or within 30 days after payment, whichever is later. However, if the purchase does not require you to move, the agreement to purchase your property may require you to surrender possession of your property upon payment.

The Department is aware of the need for a reasonable time for relocation. If your property is not needed for several months, your continued occupancy may be permitted on a short-term basis. The amount of rent the Department may charge you, or another tenant, may not exceed the fair rental value of the property to a short-term occupant.
Right of Way Offices
For your convenience the Department maintains Regional Right of Way Offices in the following locations:

Region 1 – Portland
123 NW Flanders
Portland, OR 97209
Voice: 503-731-8400
Fax: 503-731-8458
Toll Free: 888-769-7341

Region 2 – Salem
455 Airport Road SE Bldg. A
Salem, OR 97301-5397
Voice: 503-986-2601
Fax: 503-986-2622
Toll Free: 888-769-7342

Region 3 – Roseburg
3500 Stewart Parkway Suite 164
Roseburg, OR 97470
Voice: 541-957-3559
Fax: 541-957-3563
Toll Free: 888-769-7343

Region 4 – Bend
63085 N Highway 97 Suite 102
Bend, OR 97701-9901
Voice: 541-388-6196
Fax: 541-388-6381
Toll Free: 888-769-7344

Region 5 – LaGrande
3012 Island Avenue
LaGrande, OR 97850
Voice: 541-963-7552
Fax: 541-962-9819
Toll Free: 877-851-9097
Adquisicion De Tierras Para Carreteras Y Proyectos Publicos

Descripción del programa de adquisición de tierras del Departamento de Transporte

Cuando se hacen mejoras a las carreteras, el Departamento de Transporte tiene que adquirir el derecho de paso. El objetivo y deseo del Departamento es obtener el derecho de paso en forma justa e igualitaria.

El Estado está facultado para adquirir propiedades privadas para uso público. Pero este poder viene también con la obligación de proteger los derechos de los propietarios. De modo que el Departamento tiene una doble responsabilidad -- reconocer y proteger a los individuos afectados por la adquisición de la tierra, y servir al público en forma eficiente y competente.

**Audiencias Publicas**

Las audiencias públicas, cuando son necesarias, tienen lugar durante las etapas de ubicación y diseño de un proyecto. Tales audiencias permiten la participación del público para asegurar que la ubicación y diseño de la carretera estén de acuerdo con los objetivos y metas locales, federales y estatales.

La audiencia del corredor tiene lugar después de los estudios preliminares sobre las diferentes rutas posibles. Durante el curso de esta audiencia, se registran testimonios para su estudio por parte del personal del Departamento y de la Comisión de Transporte.

Una vez elegido el corredor, se hace un estudio detallado de ese corredor y se desarrolla un plan de diseño preliminar para su presentación en la "Audiencia de Diseño."

La "Audiencia de Diseño " es una oportunidad para prestar testimonio sobre el diseño final de la carretera. Cuando el proceso de selección de corredor no es necesario, como en los casos de mejoras de carreteras ya existentes, es posible hacer una sola "Audiencia Combinada de Corredor- Diseño.'

Después de estudiar todos los datos y testimonios, la Comisión de Transporte adopta un diseño final y se autoriza la adquisición de los derechos de paso.

**Compensacion Justa**

A los propietarios de terrenos necesarios para un proyecto de carreteras se les ofrece una Compensación Justa por los derechos de paso requeridos. La Compensación Justa incluye el valor estimado de toda la tierra.
y de las mejoras dentro del área necesaria. Además, si se va a adquirir sólo una parte de la propiedad, la Compensación Justa también incluye cualquier pérdida notable en el valor del resto de la propiedad causada por la adquisición parcial.

El Departamento hace una Compensación Justa basada en la valoración de la propiedad necesaria y la estimación de cualquier daño al resto de la propiedad. Los procedimientos del Departamento, que se hacen de acuerdo con Regulaciones Federales, están diseñados para proteger tanto a los propietarios de los terrenos necesarios para el derecho de paso de las carreteras, como a los demás contribuyentes. El proceso de valoración está a cargo de un empleado calificado y experimentado del Departamento o de un evaluador independiente contratado por el Departamento. El valor se establece por comparación con propiedades similares vendidas recientemente en el mercado, por el conocimiento y consideración del costo y la depreciación para adquirir cualquier mejora, y si corresponde, por el potencial de la propiedad para producir ingresos. La determinación final del valor se basa en este tipo de información del mercado local de bienes raíces.

Durante la primera parte del proceso de valuación, un evaluador calificado inspecciona la propiedad a ser adquirida. Si se trata de adquisiciones complejas que involucran grandes porciones de propiedad, edificios o mejoras importantes de la propiedad, desplazamiento de residentes y/o daños a la parte de la propiedad que no va a ser adquirida, los propietarios tienen 15 días para preparar la propiedad y pueden acompañar al evaluador durante la inspección detallada de su propiedad.

En el proceso de valuación no se tiene en cuenta aumento o disminución alguna en el valor de la propiedad necesaria que ocurra como consecuencia del conocimiento público del proyecto de carretera próximo a construirse.

**Procedimiento De Adquisicion**

El Revisor de Valoración del Departamento controla que la estimación final de valor esté completa y exacta y establece la Compensación Justa. Además de esta estimación de Compensación Justa, el Departamento hace una oferta de compra del resto de toda propiedad si se determina que ésta no tiene valor económico restante para el propietario.

En el caso de que los partidos aun no lleguen a un acuerdo con respecto a la compensación a pagar, o si usted no puede librar el título de propiedad, el Departamento puede hacer arreglos para la mediación de las diferencias entre los partidarios, a cargo de un mediador independiente, para tratar de llegar a un acuerdo antes de iniciar una acción de expropiación. La mediación es un proceso no obligatorio donde todos los partidarios llegan a un acuerdo.
Usted no tiene que aceptar la oferta del Estado ni entrar en un acuerdo que Ud. no considere justo. Los propietarios tienen un periodo mínimo de 40 días para aceptar o rechazar la oferta, a menos que se declare una emergencia. Un rechazo es simplemente un caso de desacuerdo entre las dos partes sobre el valor de la propiedad.

En el caso de que los partidos aún no lleguen a un acuerdo con respecto a la compensación a pagar, o si usted no puede librar el título de propiedad, el Departamento puede hacer arreglos para la mediación de las diferencias entre los partidarios, a cargo de un mediador independiente, para tratar de llegar a un acuerdo antes de iniciar una acción de expropiación. La mediación es un proceso no obligatorio donde todos los partidarios llegan a un acuerdo.

En el caso de que los partidos aún no lleguen a un acuerdo con respecto a la compensación a pagar, o si usted no puede librar el título de propiedad, una acción de expropiación será llenada. Una vez presentada la acción de expropiación, se pone fecha para el juicio. Sin embargo, el propietario puede optar por arbitraje obligatorio previo al juicio, mediante el Tribunal, para cantidades de $20,000 o menores, y por arbitraje no obligatorio para cantidades de $20,000 a $50,000. El arbitraje no se puede usar para cantidades mayores de $50,000. Las conversaciones pueden continuar aún después de ser presentada la acción de expropiación, en un esfuerzo por resolver diferencias. La presentación permite al Estado proceder con el proyecto de construcción.

**Mejoras**

Cuando el Departamento adquiere un interés en su tierra, debe adquirir un interés igual en su casa o cualquier otra mejora ubicada en el terreno adquirido.
APPENDIX D
List of Preparers and Reviewers

Oregon Department of Transportation

Callaway, Regina, Senior Right of Way Agent, environmental experience since 1987

Carrow, Vince, Senior Air Quality Specialist, BS General Science, engineering experience since 1972, environmental experience since 1985

Cole, Terry, Project Leader, Special Projects Coordinator, BS in Geography, MS in Community and Regional Planning, transportation planning experience since 1985

Fletcher, William B., Water Resources Specialist, BS Geology, Cand. Real. Physical Geography, environmental experience since 1984

Francis, Ron, Wetlands Biologist, BS Soil Science and Crop Science, environmental experience since 1992

Goodwin, Dave, Senior Acoustical Specialist, engineering experience since 1969, environmental experience since 1985

Holthoff, M. Greg, NEPA Program Coordinator, M.S., Environmental Science; B.S., Geology, environmental experience since 1989

Schablitsky, Julie, ODOT Senior Archaeologist/Program Coordinator, Ph.D. Urban Archaeology, M.A. Applied Anthropology, B.A. Anthropology, archaeological experience since 1985

Upton, Dorothy, Senior Transportation Analyst, BS Civil Engineering, BS Industrial Management, Oregon PE license in Civil and Traffic Engineering, traffic engineering experience since 1989

Susan Vickers, Senior Environmental Project Manager, BS Ecology, graduate work in Recreation and Environmental Planning, environmental experience since 1972

Mark Wigg, Senior Environmental Project Manager, BS in Resource Conservation, environmental experience since 1977

Federal Highway Administration

Boesen, Anthony, PE, Highway Engineer, BS Civil Engineering, FHWA experience since 1990

Chang, Elton, PE, Environmental Coordinator, BS Civil Engineering, FHWA experience since 1971

Wichman, John, Right-of-Way Officer, BS Agricultural Business, right-of-way experience since 1968
Marion County
Sasaki, Les, Principal Planner

City of Woodburn
Rohman, Randy, Planner

CH2M HILL
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Assam, Mark, AICP, Environmental Planner
Ballantyne, Raena, Cultural Resources Specialist
Behn, Anne, AICP, Environmental Planner
Burkhardt, Tim, AICP, Environmental Planner
Carr, Theresa, Environmental Planner
Fall, Lisa, Environmental Planner
Hamstra, Tom, PE, Senior Transportation Engineer
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McRae, Jay, PE, Senior Transportation Engineer
O’Neill, Peggy, Wetlands Biologist
Playstead, Kurt, Economist
Sack, Erik, GIS Analyst
White, Lynette, Graphics Artist

Subconsultants
Kuhn, Julia, PE, Kittelson and Associates, Transportation Engineer
Damon, Jaime, Jeanne Lawson Associates, Public Involvement Specialist
Van Stuveren, John, Pacific Habitat Services, Biologist
Small, Fred, Pacific Habitat Services, Biologist
APPENDIX E

List of Agencies, Organizations, and Persons to Whom Copies of the Environmental Assessment are Sent
APPENDIX E

List of Agencies, Organizations, and Persons to Whom Copies of the Environmental Assessment are Sent

Federal Agencies
U.S. Department of Energy
U.S. Department of Agriculture
U.S. Department of Housing and Urban Development
Centers for Disease Control
Federal Aviation Administration
Corps of Engineers
Federal Activities EIS Filing Section
Environmental Protection Agency (Seattle)
Environmental Protection Agency (Portland)
U.S. Department of Commerce
U.S. Coast Guard
National Marine Fisheries Service
U.S. Department of the Interior, Washington D.C.
U.S. Department of the Interior, Fish and Wildlife Service
U.S. Department of the Interior, National Park Service (Seattle)
U.S. Department of the Interior, National Park Service (San Francisco)
U.S. Department of the Interior, Northwest Region
Advisory Council on Historic Preservation
Federal Emergency Management Agency

State Agencies
Department of Agriculture
Department of Energy
Department of Environmental Quality
Department of Fish and Wildlife
Department of Forestry
Department of Geology and Mineral Resources
Department of Land Conservation and Development
Division of State Lands
Economic Development Department
Parks and Recreation Department
Public Utilities Commission
State Historic Preservation Office
Water Resources Department
APPENDIX E
LIST OF PREPARERS

City and County Government
Marion County Planning Division
Marion County Public Works
City of Woodburn Planning Department
City of Woodburn Public Works Department
Woodburn City Council

Others
Stakeholder Working Group:
Kathryn Figley, Mayor, City of Woodburn
Mary Graves, Woodburn Company Stores
Patricia Milne, Marion County Commission
John Reppeto, WinCo Foods
Eric Smith, McDonalds
Kathy Wadsworth, First Student Transportation Services
Willis Grafe, Woodburn Senior Estates
Mindy Mayer, McDonalds
Harley Piper, Woodburn/Hubbard Area Advisory Committee
Scott Roerig, Woodburn Fertilizer
Patrick Vance, Woodburn Chamber of Commerce
Eric Olson, Elmer’s Woodburn
Dick Pugh, Westside Neighborhood
Cindy Woodley/Mayor, City of Mt. Angel
Dale Baker, Baker & Baker Towing
Willis Grafe, Woodburn Senior Estates

Local Access Committee:
Kevin Baker, Baker & Baker Towing
Dale Baker, Baker & Baker Towing
Jerry Wheeler, Woodburn Chamber of Commerce
Kristy Olson, Crossing Shopping Center
Mary Graves, Woodburn Company Stores (also SWG member)
Willis Grafe, Woodburn Senior Estates
Mindy Mayer, McDonalds (also SWG member)
Eric Smith, McDonalds (also SWG member)
Eric Olson, Elmer’s Woodburn (also SWG member)
Barbara Lucas, 2146 Clackamas Circle
Inger Stigerts, 966 Oregon Way
John Reppeto, Winco Foods (also SWG member)
Theresa Belden, Country Club Road
Randy Rohman, City of Woodburn
Naomi Zwerdling, City of Woodburn
Approximately 200 individuals will receive copies of this environmental assessment. It will also be announced through typical media outlets and will be available at public libraries. The environmental assessment will also be available on the project website at: http://www.odot.state.or.us/region2public/Woodburn_Interchange/.
APPENDIX F

Conformity with Planning Goals and Regulations
Conformity with Planning Goals and Regulations

This section includes the analysis of how the build alternatives conform with federal, state, regional, and local planning goals and regulations.

Local Plans and Policies

The Woodburn Comprehensive Plan and Transportation System Plan (TSP) are being updated and are anticipated for adoption in spring 2005. Because the draft TSP is likely to be adopted prior to completion of this Woodburn Interchange Environmental Assessment (EA), the draft TSP was used to evaluate the Woodburn Interchange Project’s conformance with local transportation plans.

Transportation Systems Plan

The Woodburn TSP identifies transportation needs to support planned land uses in the city over a 20-year time horizon as defined by the 2004 Woodburn Comprehensive Plan update. The TSP was created in accordance with the Transportation Planning Rule (Oregon Administrative Rule [OAR] 660-012-045) and the Comprehensive Land Use Planning Statute (Oregon Revised Statutes [ORS] 197.712). The Woodburn TSP was originally developed in 1996. The updated TSP serves as the new transportation element of the 2004 Woodburn Comprehensive Plan update.

Goals

The following two goals and policies in the TSP are directly related to the Woodburn Interchange Project.

Goal 2, Policy 2

This policy calls for a strategy to improve certain highways in Woodburn, including Oregon 214 and Oregon 219, through added travel lanes, signalization, and access management. The proposed Woodburn Interchange Project is consistent with this goal because it would add capacity and consolidate access along Oregon 214/219 in the city, with the objective of improving safety and mobility through the corridor.

Goal 3, Policy 1

This policy describes the need for access management strategies for three highways in Woodburn, particularly focusing on Oregon 214 between I-5 and Cascade Drive. The Woodburn Interchange Project is consistent with this goal because it would remove 14 driveways and modify an additional 4 driveways from full access to right-in, right-out only, instituting a higher degree of access control along this portion of Oregon 214/219.
Existing Conditions and Deficiencies
The TSP identified current deficiencies within the study area as follows:

- Page 3-2—Pedestrian facilities are not provided on Oregon 214 west of Evergreen Road.
- Page 3-10—Bicycle facilities are not provided on Oregon 214 west of Boones Ferry Road.
- Page 3-28—Twenty-three crashes have been reported at the intersection of I-5/Oregon 214 at the southbound ramp over the last 5 years.
- Page 3-28—Twenty-four crashes have been reported at the intersection of I-5/Oregon 214 at the northbound ramp over the last 5 years.
- Page 3-33—Relevant sections of Oregon 214 (milepost [MP] 36.63 to 36.79, MP 36.81 to 36.91, MP 36.84 to 36.95, and MP 37.03 to 37.12) are listed in the top 10 percent of Safety Priority Index System (SPIS) sites.

The Woodburn Interchange Project would address these deficiencies through the addition of pedestrian and bicycle facilities, roadway and intersection reconstruction, and access management on these roadways.

Future Transportation Conditions, Deficiencies, and Needs
The TSP identifies anticipated future transportation system deficiencies within the study area. By 2020, it is expected that both the northbound and southbound ramps of I-5 at Oregon 214/219 will reach capacity deficiency if no improvements are made to the existing system. Oregon 214/Evergreen Road is also expected to reach capacity deficiency by 2020, and Oregon 219/Woodland Avenue and Oregon 214/Oregon Way are expected to operate near capacity. The lack of pedestrian and bicycle facilities along Oregon 214 in the study area was also identified as a future transportation need.

The Woodburn Interchange Project would address these deficiencies through roadway and intersection reconstruction and access management on Oregon 214/219.

Transportation Systems Plan Alternatives
The TSP chapter on alternatives specifically proposes widening on-ramps and off-ramps at the I-5/Oregon 214/219 interchange, widening Oregon 214/219, and constructing turn lanes along Oregon 214 between Woodland Avenue and Oregon Way. These improvements are recommended in all three of the TSP alternatives discussed in this chapter.

The TSP recommends bicycle and pedestrian treatments for major streets. The proposed Woodburn Interchange Project build alternatives are consistent with the recommended projects in the TSP.

The Woodburn Interchange Project directly addresses the identified existing and future anticipated safety and capacity deficiencies along the Oregon 214/219 corridor and the I-5/Oregon 214/219 intersection. The proposed project is consistent with the Woodburn TSP.
City of Woodburn Comprehensive Plan (1978, amendments through 2004)

The Woodburn Comprehensive Plan was written in 1978 with subsequent amendments, the latest in 2004. The Woodburn Comprehensive Plan establishes goals for development and redevelopment in Woodburn over a 20-year time frame. It serves as the controlling land use document for the city and its urban growth boundary (UGB). The following policies within the transportation element are relevant to the Woodburn Interchange Project.

Policy H1-3

Policy H1-3 states that state and federal highways with routes through Woodburn should be improved in accordance with projected traffic volumes and other elements. Existing and projected traffic volumes are discussed in more detail in the Transportation Technical Report, but the current interchange operates near capacity and development in the area is growing at a rapid pace. With the widening included in the project build alternatives, the interchange is expected to operate at acceptable mobility levels in the year 2025.

Policy H1-5

Policy H1-5 states that the city should promote pedestrian safety and activity by providing sidewalks with a minimum 4-foot width. Currently, Oregon 214/219 does not have sidewalks near the I-5 interchange. The project build alternatives would provide 6-foot-wide sidewalks along Oregon 214/219 at this location.

Policy H1-8

Policy H1-8 stipulates that driveway access along Highway 214 be consolidated. More than 20 driveways are expected to be consolidated as part of the proposed project, from Oregon 214/219 or from Lawson Avenue and Evergreen Road. In addition, access to three businesses has been modified to right-in, right-out operations only. See the Transportation Technical Report for more information.

Woodburn Development Ordinance

The Woodburn Development Ordinance supplies a set of regulations for development within the City of Woodburn. Two sections of the ordinance—land use zoning and street design standards—are applicable to the proposed project. A new section addressing the Interchange Capacity Preservation Measures is also being drafted for inclusion in the Woodburn Development Ordinance. The predominant land use zoning for the study area is CG, although the predominant use in the SW quadrant is IL. At both edges of the proposed project footprint there are smaller areas of noncommercial land uses, including RS, R1S, and P/SP (see Figure 3-5 in the main body of this EA). Each of these zones allows “rights of way and easements and the improvements therein for streets…” as a permitted use.

Because I-5 and Oregon 214 are both under state jurisdiction, the local street standards in the Woodburn Development Ordinance do not apply to most of the proposed project. Modifications to access for city streets at Woodland Avenue, Old Arney Road, Lawson Avenue, Oregon Way, and Cascade Drive do not affect the footprint of the city roads beyond the intersection area. Modifications to Evergreen Road, however, are under city jurisdiction, and, therefore, local street standards apply. The standards relevant to this project are outlined in the following subsections.
Section 3.101.12.1B Street Improvement Standard

The City of Woodburn street improvement standards call for 12-foot travel lanes, 5-foot sidewalks, proper drainage facilities, and bicycle facilities for one side of the road. The extension of Evergreen Road north from Oregon 214 to Country Club Road (included in both build alternatives) would consist of two 12-foot travel lanes with no median and 2-foot shoulders. Curbs and gutters with 6-foot sidewalks would be added on both sides of the road.

No bicycle lane would be added, which does not comply with the City of Woodburn street improvement standards. A deviation from this standard would be required from the city for the project design.

Section 3.104.01A Street Access Required

This policy directs that every developed lot will be given an irrevocable access easement to have entry to a public street or shared driveway. The policy was established to guarantee that a property owner would have access to their property, and that customers could reach a business. The project build alternatives without the Access Option would eliminate two driveways to Evergreen Road—the Union 76 and ARCO parcels. Under this scenario, both parcels would be acquired by the Oregon Department of Transportation (ODOT). The Access Option (for both build alternatives) would provide access to the ARCO parcel by way of a 50-foot public road easement south of the ARCO structure.

Section 3.104.01B Access to City Streets, Permit Required

Modifications to access for city streets would be made at Oregon Way, Evergreen Road, and Lawson Avenue as follows:

- Eastbound on Oregon 214 from the I-5 interchange
  - Access to existing frontage road located in the SE quadrant of the interchange would be closed.
  - Only a right-in turn would be allowed to Oregon 214 onto Lawson Avenue. The right-out from Lawson onto Oregon 214 is prohibited.
  - No access would be allowed between Lawson Avenue and Evergreen Road (closes one access to McDonalds and two accesses to Union 76).
  - One right-in, right-out access would be allowed at the ARCO gas station and Dairy Queen; one right-in, right-out access would be allowed at Wells Fargo Bank (formerly Midland Bank).

- Westbound on Oregon 214 from Oregon Way toward the I-5 interchange
  - One mid-block access between Oregon Way and Evergreen Road would be allowed.
  - No access would be allowed between Evergreen Road and the I-5 interchange ramps.

- Access along Evergreen Road, north and south of Oregon 214
— No access would be allowed 200 feet from Oregon 214 except under the Access Option, where access to the Union 76 parcel would be allowed along its southern property line.

• Access along Oregon Way, south of Oregon 214
  — The Mid-Valley Bank would lose driveway access from both driveways onto Oregon Way under both build alternatives without the Access Option.

• Access along Country Club Road, north of Oregon 214
  — The Mae Thai Restaurant on the west side of Country Club Road would lose direct driveway access to Oregon 214. The northern driveway onto Country Club Road would remain.

Old Arney Road would remain as right-in, right-out access only. Although geometric modifications would be made to Woodland Avenue, access would not be affected.

Access modification permits would be requested from the city during the preconstruction phase of this project.


ODOT’s Woodburn/I-5 Interchange Refinement Plan was prepared in 1999 and 2000 to address the capacity and safety problems at the I-5/Oregon 214 interchange. This work was called for in the 1996 Woodburn TSP to determine the best way to address the problems at the existing Woodburn interchange. The study considered a total of ten alternatives, including a second interchange, a split diamond, a tight urban diamond, and a partial cloverleaf. Seven of these alternatives were dismissed, and three—the standard diamond, tight urban diamond, and partial cloverleaf—were recommended for advancement into the National Environmental Policy Act (NEPA) environmental documentation effort.

The refinement plan serves as a reference document to the Land Use Technical Report and does not contain any specific policies relevant to this review. This plan did address other interchange options originally raised in the 1996 TSP and provided guidance for access management and circulation options to consider during interchange project development. The refinement plan is an adopted part of the Woodburn TSP.

**Regional Plans and Policies**

**Willamette Valley Transportation Strategy—Phase One Report**

The Willamette Valley Transportation Strategy is a modal element of the Oregon Transportation Plan (discussed below under State Plans and Policies). The goal of the Willamette Valley Transportation Strategy is to improve mobility, industrial growth, and livability for communities in the Willamette Valley and promote an understanding of the extent and significance of the transportation interdependence among these various communities. The Woodburn Interchange Project build alternatives are compatible with this stated goal because they would facilitate improved mobility at the interchange and build-out of adjacent developable lands in this location to the densities identified in the
Woodburn Comprehensive Plan. Adjacent lands in this area are zoned for commercial use and identified as a commercial center. Transportation improvements to support focused development would discourage dispersed development in other locations. The project would improve livability by alleviating congestion on the roads, leading to shorter in-vehicle times and improved safety. Specific objectives of the plan relevant to the proposed project are discussed in the following subsections.

**Select Highway Projects that Maximize the Net Full Benefits to the Valley's Transportation System as a Whole**

The Woodburn interchange serves a regional market. Not only is it the most direct regional approach to the Woodburn Company Stores, which received 3.2 million visitors in 2002, but it provides access from I-5 to downtown Woodburn and many communities in north Marion County. The interchange currently operates near capacity and is projected to exceed capacity levels before 2020. The Woodburn Interchange Project build alternatives would make improvements to the interchange to provide a greater level of mobility and improved safety for travelers on I-5 and Oregon 214/219.

**Coordinate Highway Projects with Land Use Policies and Other Transportation Improvements**

The land surrounding the Woodburn Interchange is mostly zoned CG and LI. The build alternatives would bring Oregon 214 into compliance with state highway design standards and are compatible with local land use planning by improving access to commercial uses along Oregon 214/219.

**Make Strategic Capacity Enhancements to Controlled Access Highways**

The Woodburn Interchange Project build alternatives would create a strategic capacity enhancement to a controlled-access highway (I-5). The current interchange experiences higher than average accident rates and is operating near capacity. Development in the area is growing at a rapid pace. The project is strategic because it takes advantage of the infrastructure already in place and supports planned land uses in this location. The project would add capacity in a way that improves overall operations along I-5 and the Oregon 214/219 corridor, benefitting local as well as statewide and regional traffic.

**Improve North-South and East-West Links to the Existing State Highway System**

The main objective of the Woodburn Interchange Project is to improve the connection between I-5 (a north/south freeway through Woodburn) and Oregon 214/219 (an east/west state highway through Woodburn).

**Include Provision for Bicycle and Pedestrian Use in All New Facilities and Major Construction**

Currently there are no bicycle or pedestrian facilities along Oregon 214/219 in the study area. The proposed project would include bicycle lanes and sidewalks along Oregon 214 to improve connections for bicyclists and pedestrians between residential and commercial development east of I-5 with the outlet stores and residential areas west of I-5.

**Marion County Rural Transportation System Plan (1998)**

The published mission statement for the Marion County Rural Transportation System Plan (Marion County TSP) is to develop a balanced, multimodal transportation system to
accommodate planned growth, facilitate economic development, and maintain a high standard of livability. Goals of the plan that apply to the proposed project are as follows:

- Improve transportation system safety
- Provide an accessible, efficient, and practical transportation system
- Provide sufficient transportation capacity
- Consider land use and transportation relationships

The plan identifies the Woodburn interchange as unsafe and congested and recommends that a refinement study be conducted on constructing a new interchange in Woodburn or modifying the existing interchange.

Many of the policies in the Marion County TSP are related to the county road system. There are no county roads that would be affected by this project. Therefore, the following sections address only the more general policies that affect all proposed projects in Marion County.

**Transportation System Planning—Policy 2**

Policy 2 addresses the need to evaluate all investments in the transportation system for efficiency, effectiveness, and practicality. The Woodburn Interchange Project build alternatives qualify as an efficient investment because they would improve an existing interchange instead of building a new one. The project would be an effective investment because the capacity improvements would decrease congestion and support existing and planned development. The Woodburn Interchange Project would be a practical investment because capacity improvements in conjunction with access consolidation would improve local and regional mobility and safety.

**Transportation System Planning—Policy 8**

Policy 8 relates to the role of state highways and county arterials as the backbone of the transportation network. The Marion County TSP supports efforts to enhance and maintain the capabilities of these roads. I-5 and Oregon 214/219 are both under the state’s jurisdiction. The need for the capacity improvements, which has been identified in the Woodburn TSP and the Woodburn Comprehensive Plan, is also identified in the Statewide Transportation Improvement Program (STIP) described below under State Plans and Policies.

**State Highways**

The Marion County TSP section on state highways addresses the county’s desire to have ODOT address certain needs for the state highways within a 20-year time horizon. The Woodburn interchange is identified as such a need. The county recommends that ODOT conduct a refinement study to determine the best set of improvements for this location.

**Marion County Comprehensive Plan**

The goal of the Marion County Comprehensive Land Use Plan is to provide a guide to development and conservation of Marion County’s land resources and to create a long-
range policy guide that explains the basis for decisions about physical, social, and economic
development of the county.

The Marion County Comprehensive Plan generally applies to land under the county’s
jurisdiction that is outside the Woodburn city limits. The Woodburn Interchange Project is
completely inside Woodburn’s city limits and the UGB. The county’s transportation
element, however, does include policies relevant to the Woodburn Interchange Project.

Policy 1
Policy 1 states that additional interchanges onto I-5 from the northern county line to the
Chemawa interchange be discouraged. The Woodburn Interchange Project build
alternatives are consistent with this policy because they would create improvements to an
existing interchange rather than building a new one.

Policy 2
Policy 2 requires that the number of access points on collector and arterial roads be kept to a
minimum. The Woodburn Interchange Project build alternatives are consistent with this
policy because they would propose combine and consolidate existing accesses along
Oregon 214/219 and implement other access management changes.

Policy 4
The intent of Policy 4 is to minimize damage from highway projects on the natural
environment, specifically soil, timber, water, scenic, or cultural resources. The Woodburn
Interchange Project build alternatives are proposed for an area that is zoned commercial and
industrial and is already largely developed. There would be minimal damage to soil, timber,
water, scenic, or cultural resources, as described above.

Policy 13
Policy 13 states that new transportation facilities should use existing rights-of-way as much
as possible to minimize disruption to existing land use. The Woodburn Interchange Project
build alternatives are consistent with this policy because most improvements would be
made on or adjacent to existing rights-of-way. The project would have minor impacts on
surrounding land use (see the foregoing discussion).

State Plans and Policies

Oregon Transportation Plan
The goal of the Oregon Transportation Plan (OTP) is to promote a safe, efficient, and
convenient transportation system that improves livability and facilitates economic
development for residents of the state. The OTP sets out four goals with numerous actions
to support their achievement. Many of these actions do not apply to the Woodburn
Interchange Project, but relate more to the establishment of regional transportation plans.
Those actions that do apply are addressed below.
**Action 1G.4**

Action 1G.4 states that resources should be targeted to dangerous routes and locations in cooperation with local and state agencies. Currently, the I-5/Oregon 214 interchange is identified as a relatively high-accident location. The Woodburn Interchange Project build alternative would reconstruct this intersection to improve safety.

**Action 1H.3**

Action 1H.3 gives priority to funding transportation needs identified in state, regional, and local transportation system plans. The Woodburn Interchange Project is identified in the Woodburn Comprehensive Plan and the Woodburn TSP.

**Action 4G.1**

Action 4G.1 calls for preserving, maintaining, and improving transportation infrastructure and services that are of statewide significance. The Woodburn interchange links an interstate highway (I-5) with a state (district) highway (Oregon 214) and facilitates access to a popular regional commercial destination — the Woodburn Company Stores. The Woodburn Interchange Project calls for improving an existing interchange and is therefore consistent with this action.

**Action 4G.2**

Action 4G.2 requires that access control be a part of transportation system projects to achieve reasonable levels of service. The Woodburn Interchange Project build alternatives would enhance the already consolidated I-5 access to destinations within Woodburn and surrounding areas. Discussion of access control is continued in the Oregon Highway Plan section below.

**Action 4G.4**

Action 4G.4 calls for controlled accesses to statewide transportation corridors and facilities. The Woodburn Interchange Project build alternatives continue controlled access to I-5. Also, as part of the project, driveways along Oregon 214 would be consolidated and turn movements controlled through the installation of a center median. Elsewhere along the proposed footprint, raised curbs would be used to control turning movements. These changes would improve safety along the highway and meet state access control guidelines.

**Oregon Highway Plan**

The 1999 OHP is a modal element of the 1992 OTP and defines policies and investment strategies for Oregon’s state highway system over the next 20 years. The plan contains three elements: a vision element that describes the broad goal for how the highway system should look in 20 years; a policy element that contains goals, policies, and actions to be followed by state, regional, and local jurisdictions; and a system element that includes an analysis of needs, revenues, and performance measures.

The policy element contains several policies and actions that are relevant to the Woodburn Interchange Project, described in the following subsections.
Policy 1A, Action 1A.1

Action 1A.1 categorizes state highways for planning and management decisions. Under this policy, I-5 is classified as an Interstate Highway, which provides connections to major cities and regions within Oregon and facilitates movement to and from other states. The operational objective for Interstate Highways is to provide safe and efficient high-speed travel in urban and rural areas.

Oregon 214/219 is classified as a District Highway, which provides connections between small urbanized areas, rural centers, and urban hubs, as well as providing access for local traffic. The operational objective for District Highways is to allow safe and efficient moderate- to low-speed travel in urban and urbanizing areas for traffic flow as well as bicycle and pedestrian movements.

The Woodburn Interchange Project build alternatives would support the existing highway classifications and would enhance the ability of either I-5 or Oregon 214/219 to serve in their defined functions. Furthermore, by addressing capacity and safety issues, the Woodburn Interchange Project would improve their ability to serve their defined functions and support the operational objective for safe and efficient high-speed travel on I-5 and safe and efficient regional and local travel and access on Oregon 214/219.

Policy 1B, Action 1B.7

Policy 1B directs the state to work with regional agencies and local jurisdictions to consider land use when planning transportation systems and projects. Action 1B.7 gives special designations for certain land use patterns off the freeway to foster compact development patterns in communities. The four designations provided are special transportation area, commercial center, urban business area, and urban. Although the commercial center designation might apply to this interchange area, no formal designation has been made. Furthermore, the city is now pursuing a more industrial land use pattern as defined in the 2004 Comprehensive Plan update and in the Interchange Capacity Preservation Measures included in the Interchange Area Management Plan (IAMP). The designation would not change the design or operational parameters of the improvements proposed at this interchange or along Oregon 214/219.

Policy 1C, Action 1C.4

Action 1C.4 states that the timeliness of freight movements should be considered when developing and implementing plans and projects on freight routes. I-5 is part of the statewide freight system, and the Woodburn TSP identifies Oregon 214/219 as a truck route. The Woodburn Interchange Project build alternatives would replace the existing access ramps from and to the I-5 mainline with a partial cloverleaf design. This design is expected to reduce delay for vehicles accessing the freeway at this location, including commercial vehicles. The nature of the design is particularly accommodating to freight truck travel. Through improved ramp operations, the likelihood of vehicles queuing onto I-5 or trucks tipping over when turning to and from the ramps onto Oregon 214/219, as occasionally occurs today, would be virtually eliminated. This would also be a major improvement for through and local freight traffic on I-5 and Oregon 214/219.
Policy 1F, Action 1F.1

Action 1F.1 requires that highways operate at a certain level of mobility, depending on their location and classification. Part of this action requires that freeway interchanges be managed to maintain safe and efficient operation of the freeway through the interchange area. The OHP directs that the maximum volume-to-capacity (V/C) ratio for the ramp terminals of interchange ramps be the smaller of the values of the V/C ratio for the crossroad or 0.85. The Woodburn Interchange Project is inside the Woodburn UGB, but outside of the boundary of a Municipal Planning Organization (MPO). As such, the V/C ratio that applies to this road is 0.80. This V/C ratio is smaller than the state-supplied V/C ratio, and therefore applies to the threshold V/C ratio for the interchange ramp termini.

Furthermore, the policy states that the maximum V/C ratio for the interchange ramps exclusive of the crossroad terminals shall be the standard for the freeway (0.85). Expected V/C ratios for both build alternatives for the ramp termini are 0.58 at the I-5 southbound ramp and 0.63 at the I-5 northbound ramp. Therefore, the ramp termini of the proposed project would be within the required V/C ratio maximum. For more detail on V/C ratios, refer to the Transportation Technical Report.

Policy 1G, Action 1G.1

Action 1G.1 directs agencies to make the fewest number of structural changes to a roadway system to address its identified needs and deficiencies, and to protect the existing highway system before adding new facilities to it. The action ranks four priorities of projects, as follows:

- Preserving the functionality of the existing system
- Making minor improvements to improve the efficiency and capacity of the existing system
- Adding capacity to the existing system
- Building new transportation systems

The Woodburn Interchange Project falls under the top three priorities.

Priority One. Protect the Existing System
The project build alternatives would preserve the functionality of Oregon 214/219 by consolidating access points and improving the facilities for alternative modes of transportation, such as transit, cycling, and walking.

Priority Two. Improve Efficiency and Capacity of Existing Highway Facilities
Capacity improvements to Oregon 214 and to the northbound and southbound I-5 ramps fall under priority two, by making minor improvements to existing highway facilities. The proposed improvements would add to the existing roadway to improve safety and mobility along both I-5 and Oregon 214. Previous analysis indicated that protection of the existing interchange area was not a sufficient improvement to address the recent growth in this area.

Priority Three. Add Capacity to the Existing System
The project build alternatives would add capacity to the existing system by way of adding general purpose lanes to Oregon 214/219 and Evergreen Road and alignment corrections to
the corridor to better accommodate commercial vehicles. The analysis in this EA has demonstrated that any lesser measures would not address the project goals or other OHP policies.

**Policy 1G, Action 1G.2**

The intent of Action 1G.2 is to ensure that major improvement projects to state highway facilities have been through a planning process that involves coordination between state, regional, and local stakeholders and the public, and that there is substantial support for the proposed improvement. The Woodburn Interchange Project is consistent with Action 1G.2 because the project has gone through a thorough public alternatives development and evaluation process, as explained below.

Improvements to the I-5/Oregon 214 interchange are recommended in the 1996 and 2003 Woodburn TSP and the Woodburn Comprehensive Plan. In 2000, the Woodburn/I-5 Interchange Refinement Plan was published. This plan documents preliminary alternative analysis and recommendations for the EA, as well as stakeholder input. Of the 45 stakeholders interviewed, many agreed that the partial cloverleaf option (recommended in both of the proposed build alternatives) showed the lowest level of impacts and lowest cost and provided good traffic flow. The EA process currently underway is also the product of substantial stakeholder and public involvement, as documented elsewhere in this report.

Although the costs associated with restructuring the interchange are substantial, the project would use some of the existing pavement and bridge structure. Of the effective alternatives considered at this location, the partial cloverleaf option costs the least.

The timing of this project is in line with funding identified in the 2002–2005 and Draft 2004–2007 STIP, and follows the proposed timeline identified in the Woodburn TSP.

The 2002–2005 STIP includes $2 million for completing the EA and, if remaining funding allows, preliminary right-of-way acquisition. The 2004–2007 STIP includes $9.7 million for preliminary and final design and right-of-way acquisition, which is about 25 percent of the total funding expected to be needed to complete construction of this project.

**Policy 2F, Action 2F.1**

Policy 2F identifies the need for projects in the state to improve safety for all users of the state highway system. The Woodburn Interchange Project is consistent with this policy, in particular as it relates to motor vehicle safety. Both the Oregon 214/I-5 northbound ramp intersection and the Oregon 214/I-5 southbound ramp intersection have been identified as high-accident locations in the Woodburn TSP, with an average of between 4.4 and 5.0 crashes per year. In addition, several segments of Oregon 214/219 within the study area are listed in the top 10 percent of the SPIS list. The SPIS, which is maintained by the ODOT traffic management section, identifies locations where safety problems exist that may be addressed through operational or maintenance improvements. The top 10 percent SPIS sites are those with the highest priority. Study area intersections on the top 10 percent of the SPIS include Old Arney Road, the I-5 southbound ramp, the I-5 northbound ramp, and Lawson Avenue, based on data collected between 1998 and 2000.
Policy 3A, Action 3A.1

Action 3A.1 directs access management along state highways based on access management guidelines. I-5 is classified as an interstate freeway, and the proposed project complies with stated policies of no driveways, no traffic signals, no parking, and grade-separated crossings. Access and circulation issues are addressed in detail in the IAMP, and major actions are summarized below.

Oregon 214/219 is classified as an urban District Highway. The project supports the access management directives as follows:

**Discourage Private Access**
No access to privately owned roads is provided as part of the build alternatives. Three driveways would continue to have direct access to Oregon 214/219, all of which would be restricted to right-in, right-out operations only. In total, more than 20 driveways are expected to be consolidated as part of this project from Oregon 214/219 or the local streets, Lawson Avenue and Evergreen Road.

**Appropriately Space Public Road Connections**
The build alternatives would consolidate access and space access to better comply with state design standards.

**Discourage Traffic Signals**
The build alternatives would keep or improve the signals of Oregon 214 with Woodland Avenue, the I-5 southbound ramp, the I-5 northbound ramp, Evergreen Road, and Oregon Way. Signals are included as part of this project as a way to manage traffic flows in the north-south and east-west directions.

**Provide Nontraversable Medians**
The OHP directs that nontraversable medians be considered for roadway projects where a median could improve safety. Nontraversable 16-foot-wide raised curb medians with 1-foot shy distance on each side would be included along Oregon 214/219 to restrict left-turn movements. Medians are planned from the I-5/Oregon 214/219 interchange west to Woodland Avenue, and east from the interchange to Lawson Avenue. Medians are planned from Lawson Avenue to Evergreen Road and from Evergreen Road to Oregon Way. Full turning movements would be allowed at Woodland Avenue, Lawson Avenue, Evergreen Road, and Oregon Way.

**Prohibit Parking**
Parking along this segment of Oregon 214/219 is prohibited.

Policy 3A, Action 3A.2

Action 3A.2 relates to establishing spacing standards on state highways. The spacing standard for interstate and noninterstate freeway interchanges is 6 miles in rural areas. Although it does not add new access to the interstate highway interchange, the Woodburn Interchange Project complies with ODOT and the Federal Highway Administration (FHWA) minimum spacing standards. The closest intersections to the Woodburn interchange are located 7 miles to the north at Aurora/Donald and 8 miles to the south at Brooks/Gervais.
Policy 3A, Action 3A.3

Action 3A.3 calls for management of location and spacing of traffic signals along state highways. Table F-1 shows the spacing of intersections along Oregon 214/219 in the study area.

TABLE F-1
Intersection Signal Spacing in Study Area

<table>
<thead>
<tr>
<th>From Intersection</th>
<th>To Intersection</th>
<th>Spacing (feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-5/Oregon 214/219 Interchange</td>
<td>Woodland Avenue</td>
<td>1,080</td>
</tr>
<tr>
<td>I-5/Oregon 214/219 Interchange</td>
<td>Evergreen Road</td>
<td>900</td>
</tr>
<tr>
<td>Evergreen Road</td>
<td>Oregon Way</td>
<td>640</td>
</tr>
</tbody>
</table>

Intersection spacing does not meet the minimum 1/2-mile desired spacing as described in Action 3A.3. Left-turn storage pockets are planned for Oregon 214/219 at Woodland Avenue, Evergreen Road, and Oregon Way. According to the Traffic Technical Report, study intersections under the build alternatives would operate acceptably in the 2025 forecast year and would meet OHP mobility standards.

Policy 3C, Action 3C.1

Action 3C.1 requires that an IAMP be developed to protect the function of interchanges and provide safe and efficient operations between connecting roadways. An IAMP is currently being developed for the Woodburn interchange.

Policy 3C, Action 3C.2

Action 3C.2 addresses requirements for an interchange improvement project. These are discussed in the following subsections.

Spacing Standards

As mentioned above, the spacing standard for interstate and noninterstate freeway interchanges is 6 miles in rural areas. The Aurora/Donald interchange is 7 miles to the north of the Woodburn interchange and Brooks/Gervais is 8 miles to the south.

Necessary Supporting Improvements

Access control and channelization improvements are part of this project.

Access to Cross Streets

ODOT minimum spacing standards require that full access to cross streets be no closer than 1,320 feet from an interchange ramp. The nearest cross streets to the I-5/Oregon 214/219 intersection are Old Arney Road (500 feet to the west), Woodland Avenue (1,090 feet to the west), and Lawson Avenue (460 feet to the east). These cross streets exist today, and closing them to meet ODOT spacing standards would substantially affect land use and operations along Oregon 214/219. Evergreen, Arney, and Woodland are also closer to the I-5 ramps than called for by the spacing standards, but are essential to maintain local access and total transportation system circulation in the area. (Old Arney Road would be limited to right-
The IAMP being developed for the Woodburn interchange will serve as the documentation to support these deviations from the ODOT spacing standards.

**Road Classification**
The Woodburn interchange connects an Interstate Highway with a state-operated District Highway, which complies with the request that freeways connect with state highways.

**Alternative Transportation Modes**
Widening Oregon 214/219 for this project would create bicycle lanes and sidewalks on both sides to facilitate bicycle and pedestrian movement, including transit users. Fixed-route transit service is available along this stretch of Oregon 214/219 on weekdays between 9:00 AM and 5:00 PM.

**Policy 4B, Action 4B.4**
Action 4B.4 requires that highway projects encourage the use of alternative passenger modes to reduce local trips. The portion of the Woodburn Interchange Project that relates to Oregon 214/219 would add one bicycle lane and 6-foot sidewalks on both sides of the roadway, where bicycle and pedestrian facilities do not exist today. In addition, widening Oregon 214 would improve transit movement along the corridor and would facilitate bicycle and pedestrian movement between the retail development near the interchange and the residential uses to the east and west. ODOT is also pursuing the establishment of a transit park-and-ride facility on property purchased in the interchange area.

**Oregon’s Statewide Planning Goals**
The State of Oregon has established 19 statewide planning goals to guide local and regional land use planning. The goals express the state’s policies on land use and related topics. The Oregon Department of Land Conservation and Development has acknowledged that the Marion County Comprehensive Plan and the Woodburn Comprehensive Plan are in compliance with the statewide planning goals. Because the Woodburn Interchange Project is consistent with the city and county comprehensive plans (as discussed elsewhere in this report), the project is thus consistent with the statewide planning goals. No exceptions to statewide planning goals are needed.

**Transportation Planning Rule**
The Transportation Planning Rule (TPR) implements Oregon Statewide Planning Goal 12, which encourages construction of transportation facilities that are safe and efficient and designed to reduce automobile reliance. The objective of the TPR is to reduce air pollution, congestion, and other livability problems found in urban areas. Its relation to the proposed interchange project is described in the following subsections.

**660-012-0010—Transportation Planning**
Section 660-012-0010 discusses the two phases of transportation planning: transportation system planning, where land use controls are established, and transportation project development, where specific projects are designed to implement the TSP. Improvements to the Woodburn interchange are recommended in the 1996 and 2004 Woodburn TSPs. The build alternatives being analyzed through the EA process include reconstructing the
interchange from a diamond to a partial cloverleaf pattern and widening Oregon 214, bringing it up to state design standards.

660-012-0035 – Evaluation and Selection of Transportation System Alternatives

Section 660-012-0035 describes standards and alternatives available to entities weighing and selecting transportation projects, including benefits to different modes, land use alternatives, and environmental and economic impacts. The primary users of the Woodburn interchange are personal and commercial vehicles. Other modes, such as bicyclists and pedestrians, do not use the interstate highway system, and the City of Woodburn Transit Division does not operate a transit route on I-5. The objective of the proposed project is to improve mobility, improve safety, consolidate access, and bring Oregon 214 up to state design standards. A portion of this project would be widening Oregon 214 and adding bicycle and pedestrian facilities where currently there are none. ODOT is reviewing the need for and feasibility of creating a park-and-ride facility in the study area east of the I-5 interchange along Oregon 214. In addition, fixed-route transit operating along this corridor would benefit from the improved mobility at these intersections.

660-012-0050—Transportation Project Development

Section 660-012-0050 prescribes that transportation projects be reviewed for compliance with local and regional plans and, where applicable, undergo a NEPA process. This section of the EA addresses how the proposed project complies with applicable acknowledged comprehensive plan policies and land use regulations. When a preferred alternative is chosen, compliance and potential issues will be addressed.

Improvements at the Woodburn interchange are recommended in the 1996 and 2004 Woodburn TSPs.

ODOT Access Management Rules OAR 734-051

The intention of ODOT’s Access Management Rules is to balance the safety and mobility needs of travelers along state highways with the access needs of property and business owners. ODOT’s rules manage access to the state’s highway facilities to the degree necessary to maintain functional use, highway safety, and the preservation of public investment consistent with the 1999 OHP and local comprehensive plans.

734-051-0080, (2) Public Approach

Section 734-051-0080 provides details on how to address an application for public approach to a state highway. It is relevant to this project because both Alternative 1 and Alternative 2 propose consolidating approaches to improve safety and mobility along the Oregon 214/219 corridor. As described in Appendix D of the OHP, I-5 is classified as an Interstate Highway and Oregon 214/219 are classified as District Highways. Spacing standards that apply along Oregon 214/219 in the vicinity of the I-5 interchange are 1,320 feet from the centerline of the access ramp to the centerline of the closest public access roadway. Although the build alternatives consolidate more than 20 driveways, the proposed project does not meet these access standards. Table F-2 outlines those access points to Oregon 214/219 in the study area that would not meet the 1,320-foot standard under the proposed build alternatives. The IAMP being developed for the Woodburn interchange will serve as the documentation supporting deviation from this standard.
TABLE F-2
Proposed Deviations to Access Management Spacing Standards

<table>
<thead>
<tr>
<th>Name of Access</th>
<th>Distance from Closest Freeway Access Point (feet)(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Woodland Avenue</td>
<td>1,080</td>
</tr>
<tr>
<td>Old Arney Road</td>
<td>530</td>
</tr>
<tr>
<td>Lawson Avenue</td>
<td>460</td>
</tr>
<tr>
<td>Evergreen Road</td>
<td>900</td>
</tr>
<tr>
<td>Shared ARCO/Dairy Queen Access</td>
<td>1,110</td>
</tr>
<tr>
<td>Crossroads Shopping Center Access</td>
<td>1,200</td>
</tr>
<tr>
<td>Wells Fargo Bank (formerly Midland Bank) Access</td>
<td>1,280</td>
</tr>
</tbody>
</table>

\(^a\) Distances are recorded from the centerline of the nearest freeway ramp to the centerline of the intersection.

734-051-0080, (3) Safety Criteria
Section 734-051-0080 addresses safety factors to be considered when evaluating public and private accesses to a state highway. These factors include roadway character, traffic character, geometric character, and environmental character. Each of these elements is described in other sections of this EA or in the Traffic Technical Report. The Traffic Technical Report provides a study of the intersection crash history, which shows that the Oregon 214/I-5 northbound ramp and the Oregon 214/I-5 southbound ramp experience crash rates of 0.61 and 0.67 crash/ million entering vehicles (MEV), respectively. These two intersections experienced 24 and 23 crashes, respectively, between January 1997 and December 2001. The Traffic Technical Report states that the crash rates do not indicate a safety concern because there is less than 1.0 crash/MEV.

However, several segments of Oregon 214/219 within the study area are listed in the top 10 percent of the SPIS, a list that identifies locations at which operational or maintenance improvements may address safety problems based on crash frequency, crash rate, and crash severity data from the past 3 years. Intersections in the study area in the top 10 percent of the SPIS include Old Arney Road, the I-5 southbound ramp, the I-5 northbound ramp, and Lawson Avenue, based on data collected between 1998 and 2000. The top 10 percent of SPIS sites are evaluated and investigated for safety problems every year by the ODOT regional traffic engineers. It is expected that driveway consolidation would improve safety along the corridor, which is predominantly zoned commercial or industrial and largely developed.

734-051-0115, Access Management Spacing Standards for Approaches
Section 734-051-0115 states that access management spacing standards depend on highway classification, type of area, and posted speed, and are to be applied to reconstruction as well as new construction projects. The proposed project includes widening Oregon 214 from roughly 700 feet west of Woodland Avenue to the west to the intersection with Cascade Drive to the east, a stretch of roughly 0.9 mile. The build alternatives would consolidate access from more than 20 businesses to the state highway. Deviations to the access management spacing standards are being requested as part of the project. Section 734-051-0190 allows deviations in cases where a right of access exists, the designated access
management standards cannot be accomplished, and where the property(ies) do not have reasonable access. The proposed access management spacing deviation locations at Old Arney Road (right-in, right-out only), Woodland Avenue, Lawson Avenue (right-in, right-out only), Evergreen Road, the Crossroads Shopping Center (right-in, right-out only), and the Wells Fargo Bank (right-in, right-out only) all currently exist, are in areas where development has largely occurred, have proposed modifications to either consolidate or modify access, and provide the only reasonable access for many businesses to the public street system.

734-051-0125, Interchange Access Management Area Spacing Standards for Approaches
Policy 734-051-0125 calls for a plan to be developed for the management of grade-separated interchange areas to ensure safe and efficient operation between connecting roadways. An IAMP is being developed for the Woodburn interchange.

734-051-0155, Access Management Plans
Section 734-051-0155 encourages the development of highway segment access management plans, especially for facilities with high traffic volumes and/or that provide important statewide or regional connectivity, and have the following characteristics: where existing developments do not meet spacing standards, existing development patterns and plans would result in a deviation request, or an access management plan would preserve or enhance the safe and efficient operation of a state highway. The IAMP being developed for the Woodburn Interchange will also address this provision of Division 51.

734-051-0165, Design of Approaches
Section 734-051-0165 stipulates access control measures related to the construction or improvement of roads and/or interchanges. In accordance with 734-051-0165, approaches may be mitigated, modified, or closed pursuant to an adopted access management plan or IAMP. The proposed project consolidates roughly 20 driveways along the Oregon 214/219 corridor, Lawson Avenue, and Evergreen Road, closing driveways where multiple driveways exist and, where possible, combining driveways to serve multiple businesses. Five accesses would be modified from full access to right-in, right-out only: Old Arney Road, Lawson Avenue, the entrance to the Crossroads Shopping Center, the driveway to Wells Fargo Bank, and the shared driveway to the ARCO Station/Dairy Queen. As described under the discussion of OHP Action 1.G.2, the proposed project is listed in the Woodburn TSP and the Woodburn Comprehensive Plan, and funding is provided through the STIP for environmental assessment, design, and right-of-way acquisition. The project is not fully funded at this time.

Approaches to cross streets are not fully consistent with established access management standards, as listed in Table F-2. Deviations are described in the IAMP.

The Woodburn interchange connects an Interstate Highway to a state-controlled District Highway. Widening Oregon 214/219 would include adding bicycle and pedestrian facilities where none exist today. Fixed-route transit operations along this stretch of Oregon 214 would benefit from the widening project.

ODOT State Agency Coordination Program (December 1990)
State agency coordination programs describe what agencies will do to comply with Oregon’s land use planning program. Specifically, they describe how an agency will meet its
obligations under ORS 197.180 to carry out its programs affecting land use in compliance with the statewide planning goals and in a manner compatible with acknowledged comprehensive plans. Any needed local agency coordination not already accomplished or underway would occur before or as part of final project design. The consistency of the proposed alternatives with local plans documented above meets the stipulations of the state agency coordination program.

**Final Report Phase II Western Transportation Trade Network**

The Western Transportation Trade Network is a multi-state network of agencies addressing surface freight transportation issues with the goal of enhancing the economic prosperity of the 17 western U.S. states. The Phase II report identifies deficiencies in freight corridors around the study area and offers a set of possible solutions.

I-5 between Canada and Mexico is listed as one of 20 freight corridors in the Western Transportation Trade Network. The I-5 corridor has the highest percentage of pavement deficiencies and the second highest share of capacity deficiencies for the forecast year of 2016. The segment of I-5 between Eugene and Portland has a deficiency level of 22 percent, with an increase to 100 percent deficiency expected by 2016. One of the supplemental solutions offered by the network is to construct new or rehabilitate existing interchanges along I-5.

The Woodburn/I-5 Interchange build alternatives are consistent with the goals and recommendations of the Western Transportation Trade Network Phase II Report. The project would facilitate easier access to and from businesses in Woodburn, including the many large freight destinations in the interchange area.

**Federal Policies and Regulations**

With the exception of environmental regulations (e.g., wetlands, floodplains), there are no federal land use or management policies or regulations applicable to the Woodburn Interchange Project. Compliance with federal environmental regulations associated with the project is discussed elsewhere.