EXECUTIVE SUMMARY
Executive Summary

INTRODUCTION

The Oregon Department of Transportation (ODOT) and the Federal Highway Administration (FHWA) propose building the Newberg Dundee Bypass (Bypass) project, an 11-mile, four-travel lane, access-controlled expressway around the cities of Newberg and Dundee in Yamhill County, Oregon. The Bypass would reduce congestion on Oregon 99W through Newberg and Dundee by redirecting traffic traveling through these communities to the Bypass. Newberg and Dundee would have less congestion and noise along Oregon 99W, allowing both cities to make their downtowns more pedestrian-friendly and more enjoyable places to spend time, along with safer and faster travel for through traffic.

*The proposed project includes the Bypass, four interchanges, and changes to local roads and streets that need to be relocated for the Bypass. Figure ES-1 shows the general proposed project location.*

This Executive Summary provides an overview of the proposed project and its potential impacts. The Newberg Dundee Bypass Tier 2 Draft Environmental Impact Statement (Tier 2 DEIS), ODOT 2010, provides the information in greater detail.

In the Tier 2 DEIS FHWA proposes *de minimis* use of the Chehalem Glenn Golf Course and SP Newsprint Company Section 4(f) resources in the project area. A *de minimis* use of a Section 4(f) resource is a use that does not adversely affect the activities, features, and attributes that qualify a park or historic resource for protection under Section 4(f) of the U.S. Department of Transportation Act of 1966.

ODOT and FHWA invite participation in the review of the proposed project. Giving citizens, stakeholders, and public agencies the opportunity to review and comment on the proposed project is a vital part of the National Environmental Policy Act (NEPA) process that helps decision-makers evaluate project alternatives. Both public and agency comments are considered when ODOT and FHWA make their final decision on the proposed project.

**National Environmental Policy Act (NEPA):** Established in 1969, for environmental impact statements, this act requires public disclosure of all environmental impacts and allows public comment on federally funded projects.

Under Section 4(f) of the US DOT Act of 1966 (23 USC 138), "...declared to be the national policy that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."
Figure ES-1. General Proposed Project Location
To learn more about the proposed project or to submit comments on the Tier 2 DEIS and proposed Section 4(f) *de minimis* findings for the Chehalem Glenn Golf Course and SP Newsprint Company, please visit the Newberg Dundee Bypass website at http://www.oregon.gov/ODOT/HWY/REGION2/newbergdundee2.shtml.

Agencies and the public can send written and e-mail comments to:

Tim Potter, Area 3 Manager, Region 2
Oregon Department of Transportation
Mid-Willamette Valley Area
885 Airport Road SE, Bldg. P
Salem, OR 97301-4788
james.t.potter@odot.state.or.us

Comments can also be given at a public hearing held during the review of the Tier 2 DEIS. Following the public hearing, ODOT and FHWA will review, consider, and address all substantive comments. Responses to comments will be provided in the Tier 2 Final Environmental Impact Statement (Tier 2 FEIS). Comments on the Tier 2 DEIS must be received within 45 days from the date on the cover of this document.

**WHAT IS THE PURPOSE AND NEED?**

The Purpose and Need\(^1\) articulates why the proposed project is being considered and identifies the problems the project intends to solve.

*The Purpose of the proposed project is to improve mobility and safety for vehicle trips through Newberg and Dundee and to reduce congestion with fewer truck and passenger vehicle trips on Oregon 99W in these communities.*

*The Need for the proposed project includes relieving the increasing traffic congestion in the project area, and thereby make Newberg and Dundee better places to live. This includes making the Newberg and Dundee downtowns more pedestrian-friendly and therefore more enjoyable places to spend time.*

Over the last 10 years, traffic on Oregon 99W in downtown Newberg and Dundee has increased 40 percent. By 2030, traffic is estimated to increase another 40–80 percent.\(^2\) Throughout the week, traffic on Oregon 99W backs up for more than a mile in both directions through Dundee, where Oregon 99W has only one travel lane in each direction. On weekends, traffic frequently backs up on Oregon 99W as drivers travel to and from the Oregon Coast. Congestion makes it hard for drivers to enter or cross Oregon 99W in both Newberg and Dundee. Trucks add to the congestion problem, increasing noise and creating additional safety problems for pedestrians.

It now takes about 30 minutes to drive 11 miles on Oregon 99W from East Newberg to Dayton during the heaviest congestion. By 2030, it is estimated to take 50 minutes, if the proposed project is not built. In 2030, if the proposed project is built, travel time is estimated to take 12 minutes on the Bypass. With the Bypass, in 2030, downtown traffic would be reduced by 23 percent in Newberg and by 68 percent in Dundee.

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\(^1\) See Chapter 1 of the Tier 2 DEIS for the full Purpose and Need statement.

\(^2\) Newberg Dundee Bypass Transportation Technical Memorandum, ODOT 2009.
PROJECT HISTORY

The proposed project is being conducted under a tiered NEPA process. NEPA studies can be carried out in two stages or tiers. The Tier 1 process addressed “big picture issues” for the proposed project, and evaluated impacts based on general project information. The Tier 2 process concentrates on more design detail, evaluates the potential project impacts in greater detail, and looks at ways to avoid and minimize impacts or to provide mitigation for adverse impacts.

The Tier 1 process for the proposed project began in January 2000. This process considered the impacts of alternative corridors for locating the Bypass around Newberg and Dundee, and identified opportunities for proposed mitigation for adverse impacts created by the project. Tier 1 ended in 2005 when FHWA issued a Record of Decision (ROD) on the Tier 1 FEIS. The ROD explains why FHWA made the decision to advance the proposed project to Tier 2 and use the Bypass Approved Corridor (Corridor) as the location to build the proposed project (see Figure ES-1).

The Tier 2 DEIS presents more detailed information on existing conditions in the project area, and evaluates potential project impacts of the No Build Alternative and the Build Alternative with its various design options and local circulation options. The design options in the Build Alternative provide choices for the Bypass roadway and interchanges, while local circulation options provide choices for the changes to local roads and streets that would be needed because of the Bypass.

DECISION AUTHORITY

FHWA is the Federal decision-making authority and will make the final project decision through this NEPA process. As the proposed project is considered, it is important that both the public and public agencies have access to similar information and understand how the proposed project could affect them and the environment. Outside public input on the Tier 2 DEIS helps FHWA and ODOT evaluate the impacts of the proposed project, identify proposed conservation and mitigation measures, and choose the best overall alternative.

THE PROPOSED PROJECT

The proposed project is a four-lane, 11-mile, access-controlled expressway (the Bypass) located along the south sides of Newberg and Dundee, extending from the Oregon 99W/Oregon 18 junction near Dayton (approximately Oregon 18 milepost 51.6) to just past the top of Rex Hill, east of Newberg (approximately Oregon 99W milepost 19.6). Most of the proposed project is located in Yamhill County, but about 1,000 feet extends east of Newberg, along Oregon 99W, into Washington County.
Four interchanges provide access to and from the Bypass, and are located at each end of the Bypass and at two intermediate locations in Newberg and Dundee. The interchanges are:

- **Dayton Interchange**: Located on Oregon 18 near the Oregon 99/Oregon 18 junction.
- **East Dundee Interchange**: Interchange and a connector road located between Dundee and Newberg.
- **Oregon 219 Interchange**: Located at the south edge of the Newberg urban growth boundary (UGB) on Oregon 219.
- **East Newberg Interchange**: Located on the east side of Newberg at Rex Hill.

Also included in the proposed project are changes to local streets and roads that are needed because of the Bypass. Local circulation changes include reconnections of local roads and streets that are disrupted by the Bypass and locations for local roads crossing over the Bypass.

**HOW WAS THE BUILD ALTERNATIVE DEVELOPED?**

ODOT, FHWA, stakeholders, regulatory agencies, and the public worked together to develop the Build Alternative for the Bypass using a workshop process called Context Sensitive and Sustainable Solutions (CS3). The goal was to find a Bypass concept that best meets the project Purpose and Need and that is based on local public input and ideas.

To get ready for the first workshop, ODOT designers prepared a preliminary Bypass concept to use as a starting point for discussion. This Bypass concept was mostly located in the Corridor, met safety and operational standards, and met the proposed project Purpose and Need. To make the review of the Bypass concept easier, the designers divided the Bypass into segments. This let participants focus their input on specific locations of interest.

Workshop participants reviewed the preliminary Bypass concept and gave additional ideas and information about problems and opportunities in the project area (see Figure ES-1). Throughout the three CS3 workshops, the concept progressed with an emphasis on avoiding or minimizing impacts and enhancing community livability. For example, bridges were used instead of culverts at stream crossings to minimize wetlands and stream impacts, to provide better wildlife crossings, and to help fish passage. Whenever possible, the Bypass was also located away from natural resources as requested by natural resource agencies.

The workshops led to a Bypass configuration that includes many design options and local circulation options, and responds to ideas from the public, agencies, and stakeholders. The ideas included:

- Interchange design types.
- Berms for visual screening.
- Bypass roadway at-grade, below-grade, or above-grade.
- Local road connections, including roads crossing over the Bypass.

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4 See Chapter 5, Public and Agency Involvement, of this Tier 2 DEIS for more information on the CS3 process.
Screening Process
After the CS³ workshops, ODOT had to decide which design options and local circulation options to evaluate in the Tier 2 DEIS. The workshops produced 35 Bypass design options and 70 local circulation options. ODOT screened the options, choosing those that best met the Purpose and Need. The result was 11 Bypass design options and 3 local circulation options. This selected group of design options and local circulation options make up the proposed Build Alternative.

For additional information on the screening process, see Chapter 2 of the Tier 2 DEIS, or the September 19, 2006, Newberg Dundee Bypass Alternatives Screening Report, located on the project website at: http://www.oregon.gov/ODOT/HWY/REGION2/newbergdundee2.shtml.

WHAT ARE THE TIER 2 DEIS ALTERNATIVES AND CHOICES?
As the screening process eliminated many of the build alternatives, the Tier 2 DEIS for the proposed project only includes a No Build Alternative and a Build Alternative with numerous design options within it. However, the Build Alternative includes choices or design options within four of the nine Bypass segments. In those four segments, only one design option would be chosen.

The following section describes what is included in the No Build Alternative and Build Alternative.

No Build Alternative
The No Build Alternative presents the existing conditions and potential impacts if the proposed project is not constructed. Choosing the No Build Alternative does not mean nothing is done. Under this alternative, various state, county, or city transportation projects that are already planned, approved, and funded will be completed as scheduled. Oregon 99W and Oregon 219 remain in place (unchanged) and ODOT continues to perform regular roadway maintenance such as resurfacing and safety/operation improvement projects, including:


The transportation analysis conducted for the 2030 No Build Alternative will be updated to 2035 for the project’s Tier 2 FEIS.

Build Alternative
The Build Alternative is divided into nine segments making up the total project. Using segments allows local jurisdictions, agencies, and the public to focus their input on particular locations and areas of concern. The Bypass’s nine segments are shown on Figure ES-1.

Some segments include multiple design options and local circulation options, while others do not have options but have just one Bypass design and one plan for local circulation for the entire segment. When options are included, there are choices for the Bypass design and local circulation plans in that segment. The impact analysis for the Build Alternative
describes the different impacts of choosing between options and provides an opportunity to select the preferred option.

Each design option has a unique characteristic. For example, some of the design options are interchanges and others are for an at-grade, semi-depressed, or fully depressed Bypass in specific locations and some design options include earth berms located along the edge of the Bypass for visual screening. Figure ES-2 through Figure ES-7 show the main characteristics of segments, design options, and local circulation options.

**Characteristics of the Build Alternative**

The Build Alternative has the following characteristics throughout its entire length:

- Operating speeds of 55 mph.
- Four mainline travel lanes (two in each direction), each 12 feet wide.
- Paved shoulders (4 feet wide inside and 10 to 12 feet wide outside).
- Full access control along the Bypass.
- An average median width of 42 feet.
- Stormwater control features.

In addition, for the Build Alternative Oregon 99W remains the designated bicycle route through the Newberg and Dundee area. If the Bypass is constructed, existing Oregon 99W is anticipated to become Oregon 99W (Business). Bicycles are allowed on almost all Interstate and State Highways in Oregon, and the 10- to 12-foot-wide outside shoulders planned for the Bypass would safely accommodate bicycles. Local circulation changes to roads disrupted by the Bypass would be reconstructed to City or County design standards, which may include bicycle and pedestrian facilities.
**SEGMENT 1: Dayton Interchange**
Description: Partial Cloverleaf Interchange
Local Circulation Options:

Local Circulation Option A:
Connects Kreder Road to the interchange.

Local Circulation Option B:
Extends Ferry Street across Yamhill River connecting to Kreder Road (new bridge).

**SEGMENT 2: Dayton Interchange to Dundee UGB**
Description: At-Grade
Local Circulation: Reconnects Riverwood Road, Fulquartz Landing Road West/East and Crawford Lane to Oregon 99W that are disrupted by the Bypass.
**Figure ES-3. Build Alternative, Segment 3**

**SEGMENT 3: Dundee UGB to East Dundee Interchange**

**Design Option 3.A**
- Bypass 8-12 feet below-grade without berms

**Design Option 3.A2**
- Bypass 8-12 feet below-grade with 6-8 foot berms

**Design Option 3.B**
- Bypass at-grade without berms

**Design Option 3.B2**
- Bypass at-grade with 6-8 foot berms

Local Circulation Options for All Segment 3 Design Options:
- Bypass overcrossing options at either 6th, 8th, or 10th Street

Legend:
- Design Option 3.A Right-of-Way
- Design Option 3.A2 Right-of-Way
- Semi-Depressed Bridge Footprint
- At-Grade Bridge Footprint
- Bypass Approved Corridor
- Right-of-Way in Other Segments
- Urban Growth Boundary
- Bridges/Crossings
- City Limits
**Figure ES-4. Build Alternative, Segment 4**

**SEGMENT 4: East Dundee Interchange**

**Design Option 4.1**

- Local Circulation for both Segment 4 Design Options: Re-aligns Fox Farm Road and Dayton Avenue to connect with Oregon 99W.

**Design Option 4.2**

- Local Circulation for both Segment 4 Design Options: Re-aligns Fox Farm Road and Dayton Avenue to connect with Oregon 99W.
Figure ES-5. Build Alternative, Segment 5

SEGMENT 5: West Newberg to Oregon 219 Interchange

Design Option 5.1D.2

Bypass above-grade on fill; crosses over College and River Streets and the railroad; closes 11th Street.

Design Option 5.2D

Same as 5.1D.2 but shifts Bypass closer to SP Newsprint and leaves 11th Street open.

Design Option 5.1C.2

Bypass fully depressed between College and River Streets and the railroad; closes 11th Street.

Local Circulation for all Segment 5 Design Options:

- River and College Streets and Wynooski Road are connected over the railroad/Bypass.
- Waterfront and 14th Streets are relocated and reconnected to College Street.
- 9th Street extended between Pacific Street and Wynooski Road. Miller Place extended to new 9th Street. (Only applicable for Design Options 5.1C.2 and 5.1D.2)

SEGMENT 5: Right-of-Way in Other Segments

Bypass Approved Corridor

Right-of-Way in Other Segments

Urban Growth Boundary

Bridges/Crossings

City Limits

Local Circulation for all Segment 5 Design Options:

- River and College Streets and Wynooski Road are connected over the railroad/Bypass.
- Waterfront and 14th Streets are relocated and reconnected to College Street.
- 9th Street extended between Pacific Street and Wynooski Road. Miller Place extended to new 9th Street. (Only applicable for Design Options 5.1C.2 and 5.1D.2)
**Segment 6:** Oregon 219 Interchange

**Description:** Partial Cloverleaf Interchange

**Local Circulation:**
Re-aligns Wynooski and Wilsonville Roads and creates a cul-de-sac at Sandoz Road and Industrial Parkway; Adolf Road closed.
SEGMENT 8.1:
East Newberg Interchange
Description: Directional Interchange, connects Bypass and Oregon 99W at the bottom of Rex Hill.
Local Circulation: Extends Providence Drive to a new frontage road; re-establishes connections from Corral Creek Road and Veritas Lane through underpass under Oregon 99W ramps/Bypass to frontage road; re-aligns Harmony and Klimek Lanes to have access to Providence Drive rather than to Oregon 99W.

SEGMENT 8.1A: Rex Hill
Description: Widening of Oregon 99W to accommodate Bypass.
Local Circulation: Connects Old Parrett Mountain and Quarry Roads with overcrossing of Bypass. Constructs a new frontage road to consolidate Old Parrett Mountain and Haugen Roads; new frontage road will intersect Oregon 99W east of existing Haugen Road intersection.
Table ES-1 provides a description of the Build Alternative and includes the estimated construction and right-of-way costs for each segment and design option. The costs for local circulation improvements and relocation of utilities are included in the cost for each segment and/or design option. Table ES-1 also summarizes the major potential impacts of each segment and differences among design options for most of the environmental resources discussed below.

In Segments 1 and 3, there are choices between local circulation options. Table ES-2 provides a comparison of construction and right-of-way costs, along with the right-of-way acreage and land use impacts for each local circulation option.

See Chapter 2, Alternatives, of the Tier 2 DEIS for a complete description of each segment, design option, and local circulation option.
Table ES-1: Summary of Major Impacts and Differences Between Design Options by Segment and Resource

<table>
<thead>
<tr>
<th>Segment 1: Dayton Interchange – Partial cloverleaf interchange connecting to Kreder Road</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local Circulation</strong>: Option A: Connects Kreder Road to the interchange. Option B: Extends Ferry Street across Yamhill River connecting to Kreder Road (new bridge). (See Figure ES-2 and Table ES-2)</td>
</tr>
<tr>
<td><strong>Primary Type</strong>: Agricultural – 56 EFU acres</td>
</tr>
<tr>
<td><strong>Required Land Use Actions by Yamhill County</strong>: Goal Exception Modification Comprehensive Plan Amendment TSP Amendment Conditional Use Permit</td>
</tr>
<tr>
<td><strong>COST (MILLIONS)</strong>: $67.1 <strong>ROW</strong>: $3.1 <strong>Total</strong>: $70.2 <strong>Total Acres</strong>: 54-58 <strong>Residential</strong>: 0 <strong>Business</strong>: 2</td>
</tr>
<tr>
<td><strong>RIGHT-OF-WAY RELOCATIONS</strong>: 2 business relocations No noise impacts Moderate to Moderately High 0.31 acre directly impacted 5.9 acres of wildlife habitat directly impacted No subsurface or landslide impacts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Segment 2: Dayton Interchange to Dundee UGB – At-grade Expressway*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local Circulation</strong>: Reconnects some local roads to Oregon 99W that are disrupted by the Bypass (Riverwood Road, Fulquartz Landing Road West/East, Crawford Lane, etc.). (See Figure ES-2)</td>
</tr>
<tr>
<td><strong>Primary Type</strong>: Agricultural – 101 EFU acres <strong>Required Land Use Actions by Yamhill County</strong>: New Goal Exception Modification Comprehensive Plan Amendment TSP Amendment Conditional Use Permit</td>
</tr>
<tr>
<td><strong>COST (MILLIONS)</strong>: $112.3–$117.1 <strong>ROW</strong>: $21.6 <strong>Total</strong>: $133.9–$138.7 <strong>Total Acres</strong>: 107 <strong>Residential</strong>: 1 <strong>Business</strong>: 2</td>
</tr>
<tr>
<td><strong>RIGHT-OF-WAY RELOCATIONS</strong>: 1 owner-occupied residential relocation 2 business relocations No park impacts 4 residential impacts Low No wetlands 7.3 acres of wildlife habitat directly impacted No subsurface or landslide impacts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Segment 3: Dundee UGB to East Dundee Interchange</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Local Circulation</strong>: Bypass overcrossing options at 6th, 8th, or 10th Street. One crossing location to be chosen. (See Figure ES-3 and Table ES-2)</td>
</tr>
<tr>
<td><strong>DESIGN OPTION 3.A: Below-grade without berms</strong></td>
</tr>
<tr>
<td><strong>Primary Type</strong>: Future Residential <strong>Required Land Use Actions by Dundee</strong>: Comprehensive Plan Amendment TSP Amendment</td>
</tr>
<tr>
<td><strong>COST (MILLIONS)</strong>: $38.8 <strong>ROW</strong>: $10.9 <strong>Total</strong>: $49.7 <strong>Total Acres</strong>: 24 <strong>Residential</strong>: 0 <strong>Business</strong>: 0</td>
</tr>
<tr>
<td><strong>RIGHT-OF-WAY RELOCATIONS</strong>: No relocation or park impacts 33-35 residential impacts Moderately High – Without berms No wetlands 2.4 acres of wildlife habitat directly impacted Requires subsurface excavation and subdrainage</td>
</tr>
<tr>
<td><strong>DESIGN OPTION 3.A2: Below-grade with berms</strong></td>
</tr>
<tr>
<td><strong>Primary Type</strong>: Future Residential <strong>Required Land Use Actions by Dundee</strong>: Comprehensive Plan Amendment TSP Amendment</td>
</tr>
<tr>
<td><strong>COST (MILLIONS)</strong>: $38.8 <strong>ROW</strong>: $11.9 <strong>Total</strong>: $50.7 <strong>Total Acres</strong>: 29 <strong>Residential</strong>: 0 <strong>Business</strong>: 0</td>
</tr>
<tr>
<td><strong>RIGHT-OF-WAY RELOCATIONS</strong>: No relocation or park impacts 33-35 residential impacts Moderate – Berms provide visual screening No wetlands 2.4 acres of wildlife habitat directly impacted Requires subsurface excavation and subdrainage Requires additional right-of-way for berms</td>
</tr>
<tr>
<td><strong>DESIGN OPTION 3.B: At-grade without berms</strong></td>
</tr>
<tr>
<td><strong>Primary Type</strong>: Future Residential <strong>Required Land Use Actions by Dundee</strong>: Comprehensive Plan Amendment TSP Amendment</td>
</tr>
<tr>
<td><strong>COST (MILLIONS)</strong>: $26.2 <strong>ROW</strong>: $9.9 <strong>Total</strong>: $36.1 <strong>Total Acres</strong>: 22 <strong>Residential</strong>: 0 <strong>Business</strong>: 0</td>
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<tr>
<td><strong>RIGHT-OF-WAY RELOCATIONS</strong>: No relocation or park impacts 40-45 residential impacts High – Without berms No wetlands 2.3 acres of wildlife habitat directly impacted No subsurface excavation or subdrainage Less excavation and soil waste</td>
</tr>
<tr>
<td><strong>DESIGN OPTION 3.B2: At-grade with berms</strong></td>
</tr>
<tr>
<td><strong>Primary Type</strong>: Future Residential <strong>Required Land Use Actions by Dundee</strong>: Comprehensive Plan Amendment TSP Amendment</td>
</tr>
<tr>
<td><strong>COST (MILLIONS)</strong>: $26.2 <strong>ROW</strong>: $11.9 <strong>Total</strong>: $38.1 <strong>Total Acres</strong>: 26 <strong>Residential</strong>: 0 <strong>Business</strong>: 0</td>
</tr>
<tr>
<td><strong>RIGHT-OF-WAY RELOCATIONS</strong>: No relocation or park impacts 39-42 residential impacts Moderately High – Berms provide visual screening No wetlands 2.3 acres of wildlife habitat directly impacted No subsurface excavation or subdrainage Less excavation and soil waste Requires additional right-of-way for berms</td>
</tr>
</tbody>
</table>

Source: Newberg Dundee Bypass Tier 2 DEIS, ODOT 2009.

* Indicates where there are no design options or local circulation options under consideration.

* Right-of-Way (ROW): Segment or design option right-of-way cost includes right-of-way for local circulation. Right-of-way costs are in 2013 dollars.

* Total cost includes highest local circulation cost.
### Table ES-1. Summary of Major Impacts and Differences Between Design Options by Segment and Resource (continued)

#### Segment 4: East Dundee Interchange

Local Circulation* (See Figure ES-4) - Re-aligns Fox Farm Road and Dayton Avenue to connect with Oregon 99W.

**DESIGN OPTION 4.1: At-grade, semi-depressed, diamond interchange**

<table>
<thead>
<tr>
<th>COST (MILLIONS)</th>
<th>RIGHT-OF-WAY</th>
<th>RELOCATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction*</td>
<td>ROW*</td>
<td>Total</td>
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<tr>
<td>$117.3–123.1</td>
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<td>$149.9–164.7</td>
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<table>
<thead>
<tr>
<th>Required Land Use Actions by Yamhill County:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal Exception Modification</td>
</tr>
<tr>
<td>Comprehensive Plan Amendment</td>
</tr>
<tr>
<td>TSP Amendment</td>
</tr>
<tr>
<td>Conditional Use Permit</td>
</tr>
</tbody>
</table>

Primary Type: 7 owner-occupied and 3 renter-occupied residential relocations 3 business relocations No park impacts

Included in Segment 3

Moderate to High

4.65 acres directly impacted 23.9 acres of wildlife habitat directly impacted

Impact to landslide terrain and marginal slopes

<table>
<thead>
<tr>
<th>Local Circulation* (See Figure ES-4) - Re-aligns Fox Farm Road and Dayton Avenue to connect with Oregon 99W.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9th Street extended between Pacific Street and Wynoski Road.</td>
</tr>
<tr>
<td>Willer Place extended to new 9th Street.</td>
</tr>
</tbody>
</table>

**DESIGN OPTION 4.2: At-grade, semi-depressed, partial cloverleaf interchange**

<table>
<thead>
<tr>
<th>COST (MILLIONS)</th>
<th>RIGHT-OF-WAY</th>
<th>RELOCATIONS</th>
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<tr>
<td>Construction*</td>
<td>ROW*</td>
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<tr>
<td>$112.3–127.0</td>
<td>$31.7</td>
<td>$144.6–158.7</td>
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<table>
<thead>
<tr>
<th>Required Land Use Actions by Yamhill County:</th>
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</thead>
<tbody>
<tr>
<td>Goal Exception Modification</td>
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<tr>
<td>Comprehensive Plan Amendment</td>
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<tr>
<td>TSP Amendment</td>
</tr>
<tr>
<td>Conditional Use Permit</td>
</tr>
</tbody>
</table>

Primary Type: 7 owner-occupied and 3 renter-occupied residential relocations 3 business relocations No park impacts

Included in Segment 3

Moderate to High

4.65 acres directly impacted 23.9 acres of wildlife habitat directly impacted

Less impact to landslide terrain and marginal slopes

#### Segment 5: West Newberg to Oregon 219 Interchange

Local Circulation* - River and College Streets and Wynoski Road and the railroad are connected. Waterfront and 14th Streets are relocated and reconnected to College Street. 9th Street extended between Pacific Street and Wynoski Road. Willer Place extended to new 9th Street.

**DESIGN OPTION 5.1C.2: Fully depressed between College and River Streets and railroad, closes 11th Street**

<table>
<thead>
<tr>
<th>COST (MILLIONS)</th>
<th>RIGHT-OF-WAY</th>
<th>RELOCATIONS</th>
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<td>Construction*</td>
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<table>
<thead>
<tr>
<th>Required Land Use Actions by Newberg:</th>
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</thead>
<tbody>
<tr>
<td>Comprehensive Plan Amendment</td>
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<tr>
<td>TSP Amendment</td>
</tr>
</tbody>
</table>

Primary Type: 35 owner-occupied and 21 renter-occupied residential relocations 7 business relocations Closes 11th Street No park impacts

78-84 residential impacts 1 commercial impact Scott Lavaud Park and Evering Young Park

Moderately High – Below-grade has lower visual impact

No wetlands

10 acres of wildlife habitat directly impacted

Requires subsurface excavation, permanent subdrainage, and a permanent pump dewatering system

**DESIGN OPTION 5.1D.2: Bypass above-grade on fill; crosses over College and River Streets and railroad; closes 11th Street**

<table>
<thead>
<tr>
<th>COST (MILLIONS)</th>
<th>RIGHT-OF-WAY</th>
<th>RELOCATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction*</td>
<td>ROW*</td>
<td>Total</td>
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<td>$46.3</td>
<td>$122.3</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Required Land Use Actions by Newberg:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive Plan Amendment</td>
</tr>
<tr>
<td>TSP Amendment</td>
</tr>
</tbody>
</table>

Primary Type: 35 owner-occupied and 21 renter-occupied residential relocations 7 business relocations Closes 11th Street No park impacts

137-138 residential impacts 1 commercial impact Scott Lavaud Park and Evering Young Park

High – Above-grade has greater visual impact

No wetlands

10 acres of wildlife habitat directly impacted

Uses excavated soil minimizing off-site disposal Above-grade avoids dewatering

**DESIGN OPTION 5.2D: Same as 5.1D.2 but shifts Bypass closer to SP Newsprint and leaves 11th Street open**

<table>
<thead>
<tr>
<th>COST (MILLIONS)</th>
<th>RIGHT-OF-WAY</th>
<th>RELOCATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction*</td>
<td>ROW*</td>
<td>Total</td>
</tr>
<tr>
<td>$75.5</td>
<td>$41.1</td>
<td>$116.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required Land Use Actions by Newberg:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive Plan Amendment</td>
</tr>
<tr>
<td>TSP Amendment</td>
</tr>
</tbody>
</table>

Primary Type: 29 owner-occupied and 19 renter-occupied residential relocations 7 business relocations Does not close 11th Street No park impacts

137-138 residential impacts 1 commercial impact Scott Lavaud Park and Evering Young Park

Moderately High – Above-grade has greater visual impact

No wetlands

7.5 acres of wildlife habitat directly impacted

Uses excavated soil minimizing off-site disposal Above-grade avoids dewatering

#### Segment 6: Oregon 219 Interchange – Partial cloverleaf interchange*

Local Circulation* (See Figure ES-6) - Re-aligns Wynoski and Wilsonville Roads and creates a cut-de-sac at Sandosz Road and Industrial Parkway; Adof Road closed.

<table>
<thead>
<tr>
<th>COST (MILLIONS)</th>
<th>RIGHT-OF-WAY</th>
<th>RELOCATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction*</td>
<td>ROW*</td>
<td>Total</td>
</tr>
<tr>
<td>$51.2</td>
<td>$21.6</td>
<td>$72.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required Land Use Actions by Yamhill County:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal Exception Modification or UGB Amendment</td>
</tr>
<tr>
<td>TSP Amendment</td>
</tr>
<tr>
<td>Comprehensive Plan Amendment</td>
</tr>
</tbody>
</table>

Primary Type: 20 owner-occupied and 3 renter-occupied residential relocations 6 business relocations No park impacts

77 residential impacts

Moderately High to High

No wetlands

0.2 acre of wildlife habitat directly impacted

Requires subsurface excavation and subdrainage

---

Source: Newberg Dundee Bypass Tier 2 DEIS, ODOT 2009.

* Indicates where there are no design options or local circulation options under consideration.

* Segment or design option construction cost includes highest local circulation cost.

Construction costs include an estimate of relocation costs for utilities. Construction costs are in 2015 dollars.

* Right-of-way (ROW): Segment or design option right-of-way cost includes right-of-way for local circulation. Right-of-way costs are in 2015 dollars.

* Total cost includes highest local circulation cost.
**Table ES-1. Summary of Major Impacts and Differences Between Design Options by Segment and Resource (continued)**

### Segment 7: East Newberg to East Newberg Interchange

#### Local Circulation

- Fernwood Road structure over Bypass. (See Figure ES-6)

#### DESIGN OPTION 7.4C: Bypass closest to Newberg Providence Hospital

<table>
<thead>
<tr>
<th>COST (MILLIONS)</th>
<th>RIGHT-OF-WAY RELocations</th>
</tr>
</thead>
<tbody>
<tr>
<td>$61.8</td>
<td>$33.1</td>
</tr>
</tbody>
</table>

#### DESIGN OPTION 7.5C: Bypass shifts into Chehalem Glenn Golf Course

<table>
<thead>
<tr>
<th>COST (MILLIONS)</th>
<th>RIGHT-OF-WAY RELocations</th>
</tr>
</thead>
<tbody>
<tr>
<td>$61.8</td>
<td>$32.7</td>
</tr>
</tbody>
</table>

### Segment 8.1: East Newberg Interchange – Directional interchange connects Bypass and Oregon 99W at the bottom of Rex Hill*

#### Local Circulation

- Extends Providence Drive to a new frontage road; re-establishes connections from Corral Creek Road and Vertlas Lane through tunnel under Oregon 99W ramp/bypass from frontage road; re-aligns Harmony and Klikme Lanes to have access to Providence Drive rather than to Oregon 99W. (See Figure ES-7)

<table>
<thead>
<tr>
<th>COST (MILLIONS)</th>
<th>RIGHT-OF-WAY RELocations</th>
</tr>
</thead>
<tbody>
<tr>
<td>$47.9</td>
<td>$16.0</td>
</tr>
</tbody>
</table>

### Segment 8.1A: Rex Hill – Widening of Oregon 99W to accommodate Bypass*

#### Local Circulation

(See Figure ES-7)

- Connects Old Parrett Mountain and Quarry Roads with overcrossing of Bypass. Constructs a new frontage road to consolidate Old Parrett Mountain and Haugen Roads; new frontage road will intersect Oregon 99W east of existing Haugen Road interchange.

<table>
<thead>
<tr>
<th>COST (MILLIONS)</th>
<th>RIGHT-OF-WAY RELocations</th>
</tr>
</thead>
<tbody>
<tr>
<td>$14.2</td>
<td>$6.5</td>
</tr>
</tbody>
</table>

#### TOTAL

<table>
<thead>
<tr>
<th>COST (MILLIONS)</th>
<th>RIGHT-OF-WAY RELocations</th>
</tr>
</thead>
<tbody>
<tr>
<td>$568.5–$686.8</td>
<td>$184.2–$192.7</td>
</tr>
</tbody>
</table>

### IMPACTS

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Socioeconomic and Parks</th>
<th>Noise</th>
<th>Visual</th>
<th>Wetlands</th>
<th>Biological Resources</th>
<th>Geotechnical</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Source: Newberg Dundee Bypass Tier 2 DEIS, ODOT 2009.

* Indicates where there are no design options or local circulation options under consideration.

* Segment or design option construction cost includes highest local circulation cost. Construction costs include an estimate of relocation costs for utilities. Construction costs are in 2015 dollars.

* Right-of-Way (ROW): Segment or design option right-of-way cost includes right-of-way for local circulation. Right-of-way costs are in 2013 dollars.

* Total cost includes highest local circulation cost.

ES-17
Table ES-2. Comparison of Major Differences Between Local Circulation Options

<table>
<thead>
<tr>
<th>Segment 1: Dayton Interchange Local Circulation Options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPTION A</strong> Connects Kreder Road to the interchange</td>
</tr>
<tr>
<td><strong>OPTION B</strong> Extends Ferry Street across Yamhill River connecting to Kreder Road</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cost (millions)</th>
<th>Total Right-of-Way (acres)</th>
<th>Goal Exception Modification</th>
<th>Displacements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>ROW</td>
<td>Total</td>
<td>Residential</td>
</tr>
<tr>
<td><strong>Segment 1: Dayton Interchange Local Circulation Options</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OPTION A</strong> Connects Kreder Road to the interchange</td>
<td>$2.2</td>
<td>$0.3</td>
<td>$2.5</td>
</tr>
<tr>
<td><strong>Primary Land Use Type:</strong> Agriculture 5.3 EFU acres</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Required Land Use Action by Dayton:</strong> Goal Exception Modification, TSP Amendment, Conditional Use Permit, Comprehensive Plan Amendment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OPTION B</strong> Extends Ferry Street across Yamhill River connecting to Kreder Road</td>
<td>$8.3</td>
<td>$0.1</td>
<td>$8.4</td>
</tr>
<tr>
<td><strong>Primary Land Use Type:</strong> Agriculture 1.5 EFU acres</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Required Land Use Action by Dayton:</strong> Comprehensive Plan and TSP Amendment</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Emergency Service Preferred Option:</strong> Yes</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Segment 3: Dundee UGB to East Dundee Interchange Overcrossing Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>6TH 6th Street overcrossing</td>
</tr>
<tr>
<td><strong>Primary Land Use Type:</strong> Future Residential</td>
</tr>
<tr>
<td><strong>Primary Land Use Type:</strong> Future Residential</td>
</tr>
<tr>
<td><strong>Primary Land Use Type:</strong> Future Residential</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cost (millions)</th>
<th>Total Right-of-Way (acres)</th>
<th>Goal Exception Modification</th>
<th>Displacements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>ROW</td>
<td>Total</td>
<td>Residential</td>
</tr>
<tr>
<td>6TH 6th Street overcrossing</td>
<td>$8.1</td>
<td>$0.6–0.9</td>
<td>$8.7–9.0</td>
</tr>
<tr>
<td><strong>Primary Land Use Type:</strong> Future Residential</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Required Land Use Action:</strong> None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8TH 8th Street overcrossing</td>
<td>$8.7</td>
<td>$0.9–1.7</td>
<td>$9.6–10.4</td>
</tr>
<tr>
<td><strong>Primary Land Use Type:</strong> Future Residential</td>
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<tr>
<td><strong>Required Land Use Action:</strong> None</td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Emergency Service Preferred Option:</strong> Yes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>10TH 10th Street overcrossing</td>
<td>$16.7</td>
<td>$1.7</td>
<td>$18.4</td>
</tr>
<tr>
<td><strong>Primary Land Use Type:</strong> Future Residential</td>
<td></td>
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<tr>
<td><strong>Required Land Use Action:</strong> None</td>
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</tbody>
</table>

Source: Newberg Dundee Bypass Tier 2 DEIS, ODOT 2010.

WHAT ARE THE PROPOSED PROJECT’S POTENTIAL IMPACTS?

This section discusses how the Build Alternative potentially impacts the built and natural environments and summarizes only the major mitigation measures proposed for the project. Knowing the impacts of the alternatives assists in the selection of a Preferred Alternative. The No Build Alternative is not discussed in detail in this Executive Summary because in most cases its only potential impact is increased traffic congestion and noise along Oregon 99W and decreased livability in the downtown areas of Newberg and Dundee. In some of the sections, such as the Transportation section, additional information is given for the No Build Alternative if it is considered relevant when selecting a Preferred Alternative. For more information on No Build Alternative potential impacts, see Chapter 3 of the Tier 2 DEIS.

For the Build Alternative, where there are choices within a segment, potential impacts are compared among the design options and the local circulation options for that segment.
Understanding the impacts of the Build Alternative and the differences between design options and local circulation options helps to make the decision on what option to choose.

Mitigation measures for the Build Alternative have been considered throughout the Tier 1 and Tier 2 NEPA process with project designers carefully considering and addressing how to avoid and minimize potential impacts whenever possible. As a result, many impacts were avoided.

During the Tier 2 DEIS process, ODOT environmental staff and members of CETAS and the public have provided suggestions on ways to further avoid and minimize project impacts. The proposed mitigation measures vary among the resources and are fully described in Chapter 3 of the Tier 2 DEIS.

The following sections discuss the primary potential impacts and major proposed mitigation measures for the Build Alternative by resource area for the built and natural environments.

**Built Environment**

The built environment analysis includes the following resource areas:

- Transportation
- Land Use
- Right-of-Way
- Parks and Recreation
- Socioeconomics
- Environmental Justice (EJ)
- Utilities
- Cultural Resources
- Air Quality
- Noise
- Visual

Table ES-3 provides an overview of built environment potential impacts by segment and resource. In this table an unshaded cell means that impacts are minimal or non-existent, and a gray-shaded cell indicates that there are impacts in that segment for that resource. A diamond “◆” indicates that there is a substantial difference in impacts between design options in that segment.

**Table ES-3. Built Environment Impacts and Differences by Segment**

<table>
<thead>
<tr>
<th>Segment</th>
<th>Land Use</th>
<th>Right-of-Way and Socioeconomics</th>
<th>EJ</th>
<th>Parks and Recreation</th>
<th>Cultural Resources</th>
<th>Utilities</th>
<th>Noise</th>
<th>Visual</th>
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<tbody>
<tr>
<td>1</td>
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</tr>
</tbody>
</table>

Source: Chapter 3, Newberg Dundee Bypass Tier 2 DEIS, ODOT 2010.
Note: Air Quality is not included in this table because air quality impacts occur across the entire region and there are no air quality differences between design options. Transportation is not included in this table because the transportation analysis was performed for the entire Bypass length, not by segment.
In the following sections, note that only Segments 3, 4, 5, and 7 have design options. Only Segments 1 and 3 have local circulation options. As a result, specific design option discussions are not included for Segments 2, 6, 8.1, and 8.1A.

**Transportation**

The transportation analysis assessed traffic conditions for the year 2030 for the No Build Alternative and Build Alternative. This analysis considered:

- Daily traffic volumes on specific segments of the Bypass and on Oregon 99W.
- Whether intersections and the Bypass on- and off-ramps function safely.
- Travel times between key destinations or on heavily used sections of roads.

The project team evaluated the Build Alternative and design and local circulation options within segments. However, the results showed that there are no substantial differences in traffic impacts between any of the design or local circulation options within a given segment.

If the Bypass is constructed, key transportation consequences as forecasted for 2030 are as follows.\(^5\)

- **Fewer Vehicles on Oregon 99W:** All portions of Oregon 99W between East Newberg and Dayton, except for the area east of Rex Hill, will have traffic volume decreases of between 9,400 and 37,800 vehicles per day.

- **Shorter Travel Times on Oregon 99W and the Bypass:** Driving times on Oregon 99W between Newberg and Dayton would be 21 minutes westbound and 17 minutes eastbound during the p.m. peak in 2030. Travel times on the Bypass would be about 12 minutes between Dayton and Rex Hill in Newberg. For comparison, the 2030 No Build Alternative travel times are forecast to be 54 minutes westbound and 34 minutes eastbound between Newberg and Dayton during the p.m. peak on Oregon 99W.

- **Fewer Vehicles in Newberg and Dundee Downtowns:** There will be a decrease in 2030 daily traffic volumes in the downtown areas of Dundee and Newberg by 34,100 and 14,500, respectively. The number of freight trips in each of the downtowns will also be reduced by over 2,700 vehicles per day.

- **Fewer Failing Local Intersections:** In 2030, only three local intersections would remain congested, while with the No Build Alternative, 17 local intersections would be congested.

- **Safer Traffic Operations:** The forecast reduction in traffic volumes along Oregon 99W is expected to enhance safety because of improved traffic operations and a reduction in the potential for conflicts between vehicles. In Newberg and Dundee recent crash rates are 167% and 240%, respectively of the average crash rate for similar Oregon highways. Some of the higher crash rate is likely attributable to the congested intersections in these cities. The Bypass is expected to have 2030 daily traffic volumes ranging from 30,000 to 34,600 vehicles, and to operate with traffic volumes at or below 75 percent of capacity for each segment and interchange ramp. This could have a positive impact on safety due to lower vehicle densities and reduced conflicts.

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\(^5\) Newberg Dundee Bypass Transportation Technical Memorandum, ODOT 2009.
Land Use

As a result of the Tier 1 process, a Corridor was selected for the Bypass location. This resulted in 635 acres located inside the Corridor, which each of the jurisdictions designated for transportation use. Thus, no additional land use actions would be required for this land. The Build Alternative is estimated to impact between 446 and 461 acres of this area, depending upon the design options and local circulation options selected.

During this Tier 2 process some portions of the Bypass alignment are now located outside of the initial corridor identified during Tier 1 because additional site-specific analysis and/or public and agency input indicated the need to move the alignment to avoid impacts. Of the total project, between 105 and 121 acres would be outside the Corridor. Segments 1, 2, 4, 6, 7, and 8.1 include land that is outside of the Corridor, outside of a UGB, and that is designated for Exclusive Farm Use (EFU). This land would require a modification to the 2004 Goal Exception or a new goal exception, because the Statewide Land Use Goal calls for the preservation of resource lands such as farm land. The exception process would involve Yamhill County’s adoption of the goal exception and amendment of their comprehensive plan. It also includes a public hearing(s) and is appealable.

Where the Build Alternative requires changes to local circulation, a conditional use permit may be needed to authorize changes to alignment or function of local roads. In addition, the realignment of local arterials and collectors would require a comprehensive plan and transportation system plan (TSP) change. Most of the proposed local circulation changes that occur outside of the UGB and outside of the Corridor are conditionally allowed subject to state statutes governing uses within lands zoned for EFU.

Table ES-1 shows the primary land use impacts and land use actions for each segment and design option. Table ES-2 shows information for local circulation options.

The following mitigation measures for land use impacts are proposed:

- Full access control of the Bypass with connections to it only at the interchanges.
- Local jurisdiction adoption of needed land use actions, including required Goal Exceptions for the shifts to the alignment of the Bypass and interchanges.
- Local jurisdiction land use policies and coordination processes to protect the function and operation of the four interchanges.
- Adoption by the Oregon Transportation Commission of Interchange Area Management Plans for the four interchanges prior to construction.

Right-of-Way and Socioeconomics

The Build Alternative is estimated to impact between 446 and 461 acres of land for right-of-way purchase depending on the design options selected. The land needed for this right-of-way is located in the cities of Dayton, Dundee, and Newberg, and Yamhill and Washington Counties. ODOT estimates the Build Alternative would cost between $184 and $193 million in 2013 dollars for right-of-way acquisitions (see Table ES-1).

The right-of-way purchases for the Build Alternative would result in 95 to 103 residential relocations, depending on the design option selected, and 26 business relocations. The number of neighborhoods in Newberg potentially impacted would vary from one to three (Mill, Springbrook, and Avalon neighborhoods), also depending on the design option selected. All segments except Segment 3 would result in business or residential relocations. See Table ES-1 for a summary of business and residential relocations in each segment.
There are no important differences in right-of-way impacts related to displacements between the design options in Segments 3, 4, and 7 (there would be no displacements under any of the Segment 3 design options). There would be differences in the local circulation options in Segments 1 and 3 and in right-of-way impacts in Segments 4, 5, 7 and 8.1/8.1A.

In Segment 1, Local Circulation Option A would require about 5 acres and would cause future out-of-direction travel for emergency services to access the Dayton city limits north of the Yamhill River. Local Circulation Option B would require about 1.5 acres and would not cause this out-of-direction travel for emergency services.

In Segment 3, right-of-way purchase for the local circulation overcrossing options for 6th, 8th, and 10th Streets would vary between about 1.5 acres and about 4 acres. The Dundee Fire Department expressed a preference for the 8th Street overcrossing option, because it would have the most direct connection to Oregon 99W.

In Segment 5, Design Options 5.1C.2 and 5.1D.2 would each remove 56 residences, while Design Option 5.2D would remove 48 residences. Design Options 5.1C.2 and 5.1D.2 would displace residential units on both sides of 11th Street between Columbia Street and Wynooski Street and would close 11th Street. Design Option 5.2D would displace residential units only on the south side of 11th Street and keep 11th Street open to traffic. In addition, the Design Option 5.2D alignment impacts more of the SP Newsprint property, reducing residential and neighborhood impacts. With this design option, some displacement of SP Newsprint structures and facilities could occur; however, these could be relocated elsewhere on SP Newsprint property.

For Design Options 5.1D.2 and 5.2D, the Bypass is above-grade while Design Option 5.1C.2 is fully depressed. The above-grade Bypass would result in more noise impacts and would create a greater visual barrier between the adjacent neighborhood and the Willamette River. These impacts would also adversely affect the livability of the neighborhood and could influence some residents to relocate out of the area.

In Segment 7, right-of-way impacts and costs would be similar for Design Options 7.4C and 7.5C. However, Design Option 7.4C would divide the Newberg Providence Hospital campus, preventing construction of supporting medical buildings called for in the hospital's master plan.

See Chapter 3, Right-of-Way and Socioeconomics sections of the Tier 2 DEIS for more information on specific impacts.

The following mitigation measures for right-of-way and socioeconomic impacts are proposed:

- Work with displaced residents to find comparable replacement housing.
- Provide owners of displaced businesses with fair market-based compensation for land and improvements as required by law.
- Locate Design Option 5.2D as far south as possible to minimize impacts to Scott Leavitt Park and the neighborhood while preserving the viability of SP Newsprint.
- Maintain reasonable access to properties (residences and businesses) and across the Bypass, and minimize neighborhood segmentation and school route disruption.

---

6 The term residence, as used here, encompasses both single-family dwellings and apartments.
Environmental Justice

Environmental Justice Populations: A collective term for low-income and minority populations. Executive Order 12898 requires federal agencies “…to determine whether their programs, policies, and activities have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.”

Induced Growth: Often referred to as “sprawl,” it consists of growth directly resulting from a project and relocated or redirected growth from changes in accessibility.

Environmental Justice

All federally funded transportation projects must evaluate potential impacts to minority and low-income populations in an effort to prevent any disproportionate adverse impacts to these environmental justice (EJ) populations (Executive Order 12898). These impacts can be direct, as in the relocations discussed above, or indirect, such as better accessibility provided by the Bypass. This process balances beneficial impacts with adverse impacts and looks at the totality of the project’s impacts on EJ communities.

The Build Alternative has the potential to have both adverse and beneficial effects to EJ populations. Adverse impacts would not be disproportionately higher on EJ populations than on the general population. The Build Alternative would provide some beneficial impacts to EJ populations. Dayton has a higher percentage of minority and Hispanic residents than either Newberg or Dundee. Under the Build Alternative, these EJ populations would have greater access to employment, commercial, and service destinations in Newberg and Dundee because of the improved mobility and access provided by the Bypass.

None of the business displacements for the Build Alternative have been identified as part of any EJ community or serve a distinct EJ population.

Residential populations adjacent to the Bypass could have increased short-term direct impacts to air quality from construction activities. These impacts would likely be more pervasive in the higher density areas such as the south Newberg neighborhoods near the Oregon 219 interchange and the area north of SP Newsprint where there are potential EJ populations. It is unknown whether any of the households that may experience short-term, construction air quality impacts contain EJ populations, but this will be evaluated and updated in the Tier 2 FEIS. Long-term air impacts are modeled on a regional basis and are expected to decrease over time. There are no differences between any of the design options for air quality impacts on EJ populations, and air quality impacts are not anticipated to be disproportionately higher on EJ populations.

Design Options 5.1C.2, 5.1D.2, and 5.2D would have varying impacts on potential EJ populations in the south Newberg area, with Design Option 5.2D resulting in the least adverse impact. The impacts from Design Options 5.1C.2 and 5.1D.2 include residential displacements in South Newberg (over half of the residential displacements in the entire corridor), business displacements, impacts on neighborhood connectivity, long-term increases in noise, and short-term impacts associated with construction including noise, air quality and local circulation changes.

Design Option 5.2D would also result in an adverse impact, but of a lesser magnitude, because it would result in less encroachment into and displacement of homes in the South Newberg neighborhood. This area would experience the largest disruption to local connectivity, construction noise, and increases in long-term noise levels compared to other portions of the Build Alternative. None of the three design options would result in a disproportionately high and adverse impact to EJ populations.

If a disproportionate adverse impact affects an EJ community and there is no practicable alternative, mitigation measures will be considered.

For additional information on impacts, see Chapter 3, Environmental Justice section of the Tier 2 DEIS.

The following measures are being pursued to avoid EJ impacts:
- Locate Design Option 5.2D as far south as possible to minimize impacts to Scott Leavitt Park and the neighborhood while preserving the viability of SP Newsprint.
- Maintain local streets and driveways to properties (residences and businesses) and across the Bypass, and minimize neighborhood segmentation and school route disruption.

**Parks and Recreation Resources**

Seven existing recreational resources and five planned or proposed recreational facilities were analyzed for potential impacts from the Build Alternative, including NEPA, Section 4(f), and Land and Water Conservation Fund (LWCF) Section 6(f) impacts. None of the parks and recreation resources within the project area has used LWCF grant monies for acquisition or development. Therefore, there are no LWCF Section 6(f) impacts.

For parks and recreation resources, there are no differences in impacts in design options and local circulation options in Segments 1 and 3. There are no existing public parks in Segments 2, 4 and 6.

All Segment 5 design options are located south of Ewing Young Park and Scott Leavitt Park and would avoid direct use of the parks.

Segment 7 is the only segment with differences in parks and recreation impacts between design options. These differences are as follows:

- **Design Option 7.4C:**
  - Would impact two acres of the Chehalem Glenn Golf Course.
  - Would not fully accommodate the executed permanent easements between CPRD and Newberg Providence Hospital that allows CPRD to relocate Hole 2 of the Chehalem Glenn Golf Course, and Newberg Providence Hospital to fully develop its master plan.
  - Would require about four and half acres of the Newberg Providence Hospital campus.
  - Would fragment the hospital property, leaving an isolated parcel of about 2 acres on the southeast side of the proposed Bypass.

- **Design Option 7.5C:**
  - Would have the same impacts to the Chehalem Glenn Golf Course as Design Option 7.4C, except it would accommodate the permanent easements between the CPRD and Newberg Providence Hospital that allow relocation of Hole 2.
  - Is consistent with the Newberg Providence Hospital Master Plan because the planned highway improvements would not affect the proposed expansion of the hospital.

FHWA proposes a Section 4(f) de minimis finding for the Chehalem Glenn Golf Course that would be impacted by property acquisition required for the Bypass. The Chehalem Park and Recreation District has jurisdiction over the golf course. For more detail, see Proposed Section 4(f) De Minimis Use Findings below.

For additional detailed information on impacts, see the Parks and Recreation section of Chapter 3 of the Tier 2 DEIS.

The following mitigation measure for park and recreation impacts is proposed:

- Locate Design Option 5.2D as far south as possible to minimize impacts to Scott Leavitt Park and the neighborhood while preserving the viability of SP Newsprint.
Cultural Resources

Historic Resources

The Build Alternative would potentially affect six properties either listed or eligible for listing on the National Register of Historic Places (NRHP). A "No Historic Properties Adversely Affected" finding was made for these properties. This means the impacts do not harm the historic significance of the property. SHPO concurred with this determination.

Because there is no adverse effect, FHWA proposes a Section 4(f) de minimis finding for one historic resource (SP Newsprint) that would be impacted by property acquisition required for the Bypass. For more detail, see Proposed Section 4(f) De Minimis Use Findings below.

Archaeological Resources

The affected environment research included coordination with the Confederated Tribes of the Siletz Indians, Confederated Tribes of the Grand Ronde Community of Oregon, Confederated Tribes of the Warm Springs Indians, and Bands of the Yakama Indian Nation. To date none of the tribes have identified Traditional Cultural Properties (TCPs) within the proposed project area during consultations. ODOT requested rights-of-entry (ROEs) to 18 private properties where project archaeologists recommended conducting subsurface discovery probes. Probes were completed at these ten sites where access was granted. For the remaining eight ROEs (not granted) ODOT consulted with SHPO and the Confederated Tribes of the Grand Ronde Community of Oregon and the Confederated Tribes of Siletz Indians and agreed to postpone attempts to gain access to these properties until the Preferred Alternative is identified.

Sixteen isolated finds have been discovered and recorded in the project area. Eleven high potential areas (HPAs)—i.e., areas with a high potential to contain artifacts or remains—were identified in scattered locations in the project area. Following completion of discovery probes at several of the isolated find locations and HPAs, project archaeologists preliminarily recommend that no sites are eligible for listing in the NRHP. Surveys will be completed for four full or portions of HPAs, eight isolated find locations, and two archaeological sites until the Preferred Alternative is identified. (Note: These are locations where ROE has not been granted, but will be pursued by ODOT.) ODOT will complete survey work where needed after a Preferred Alternative is selected. This survey work and the Section 106 process will be completed before the Tier 2 FEIS is published.

ODOT will continue to evaluate modifications to the proposed project that might avoid, minimize, or mitigate potential adverse effects to historic properties. For more detailed information see the Cultural Resources section of Chapter 3 of the Tier 2 DEIS.

Proposed Section 4(f) De Minimis Use Findings

If appropriate, FHWA will consider two de minimis findings for Section 4(f) resources after the Tier 2 DEIS is published and public and agency comments are received. A de minimis use of a Section 4(f) resource is one that does not adversely affect the activities, features, and attributes that qualify the resource (in this case, a recreational resource, the Chehalem Glenn Golf Course, and an historic resource, the SP Newsprint Company) for consideration under Section 4(f).

FHWA proposes a de minimis finding for the Chehalem Glenn Golf Course (located in Segment 7). FHWA would make a de minimis finding after the public and agency comment period and public hearing for the Tier 2 DEIS. See Chapter 3, Parks and Recreation section, and Appendix A of the Tier 2 DEIS for a detailed discussion of Section 4(f) de minimis impacts to the Chehalem Glenn Golf Course.
FHWA also proposes a *de minimis* finding for the SP Newsprint Company historic property. The Oregon State Historic Preservation Office (SHPO) has concurred that historic properties are not adversely affected by the proposed project action and acknowledges that finding could be used for *de minimis* finding for the SP Newsprint Company, 1301 NE Winooski Road, property. See Chapter 3, Historic Resources, of the Tier 2 DEIS for a detailed discussion of Section 4(f) *de minimis* impacts to the SP Newsprint Company.

**Utilities**

Under the Build Alternative, potential impacts to utilities would be the costs utility companies need to pay for relocation of the utilities. Generally, utility providers pay for relocation if the utility is located within an ODOT right-of-way by permit or easement. ODOT pays for the relocation if the utility is within newly purchased right-of-way for the proposed project.

Differences in utility relocation costs between design options and local circulation options in each segment would be minor, except for Segment 5. The estimated utility relocation cost of Design Options 5.1C.2 and 5.1D.2 is about $2.6 million, each. The estimated utility relocation cost of Design Option 5.2D is about $2.1 million.

Most of the Bypass would be constructed on newly acquired right-of-way. Therefore, ODOT would be responsible for reimbursement of the cost to relocate existing utilities which need to stay in service. Overall estimated utility relocation costs are estimated at $12.8–$13.7 million in 2015 dollars.

**Noise and Vibration**

Noise impacts occur when either the ODOT noise impact criteria are reached or exceeded (65 dBA for residential/park properties or 70 dBA for commercial properties) or when predicted future levels for a design option increase noise levels by 10 dBA or more over existing conditions. The Build Alternative was evaluated to determine predicted noise levels in the year 2030. Depending upon the design options selected, the Build Alternative would cause noise impacts to between 237 to 311 residences, Scott Leavitt Park, Ewing Young Park, one commercial business, the CPRD Chehalem Glenn Golf Course, and Newberg Providence Hospital. Noise levels from operation of the Bypass in the year 2030 are predicted to increase in all segments except Segment 1. The increases range from 1 to 24 decibels.

*Table ES-4. Summary of Total Estimated Noise Impacts by Segment and Design Option*

<table>
<thead>
<tr>
<th>Segment</th>
<th>Design Option</th>
<th>Estimated Number of Residential Impacts(^a)</th>
<th>Estimated Number of Commercial Impacts</th>
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<tbody>
<tr>
<td>Segment 1</td>
<td></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Segment 2</td>
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<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Segment 3</td>
<td>3.A</td>
<td>33 to 35</td>
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<tr>
<td></td>
<td>3.A2</td>
<td>33 to 35</td>
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<td></td>
<td>3.B</td>
<td>40 to 45</td>
<td>0</td>
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<tr>
<td></td>
<td>3.B2</td>
<td>39 to 42</td>
<td>0</td>
</tr>
<tr>
<td>Segment 4</td>
<td>4.1 and 4.2</td>
<td>Included in Segment 3</td>
<td>Not modeled – no effect on number of impacts</td>
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\(^a\) Estimated.
Table ES-4. Summary of Total Estimated Noise Impacts by Segment and Design Option (continued)

<table>
<thead>
<tr>
<th>Segment 5</th>
<th>5.1C.2</th>
<th>78 to 84, 2 parks</th>
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<tr>
<td></td>
<td>5.1D.2</td>
<td>137 to 138, 2 parks</td>
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</tr>
<tr>
<td></td>
<td>5.2D</td>
<td>137 to 138, 2 parks</td>
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</tr>
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<td>Segment 6</td>
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<td>77</td>
<td>0</td>
</tr>
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<td>Segment 7</td>
<td>7.4C</td>
<td>14, CPRD Golf Course, Newberg Providence Hospital</td>
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</tr>
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<td></td>
<td>7.5C</td>
<td>12, CPRD Golf Course, Newberg Providence Hospital</td>
<td>0</td>
</tr>
<tr>
<td>Segments 8.1 and 8.1A (combined)</td>
<td>33</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>


* Residential impacts also include hospital and parks.

See Chapter 3, Noise and Vibration section, of the Tier 2 DEIS for more information on noise mitigation. A new noise study (for the Tier 2 FEIS) will be completed after a Preferred Alternative is identified. Mitigation would be analyzed for developments with plan approval issued prior to the Tier 2 ROD. Before construction, ODOT may evaluate whether additional study might be appropriate due to changes within the project area and to reconfirm the planned mitigation measures are appropriate.

In Segment 3, Design Options 3.A and 3.A2 would impact between 33 and 35 residences, while Design Option 3.B would impact between 40 and 45 residences. In the area west of the interchange and northwest of the Bypass where Design Option 3.B impacts 13 to 18 residences, Design Option 3.B2 would impact one to three fewer residences, or between 12 and 15. Differences in noise impacts are not anticipated for the 6th, 8th, and 10th Street overcrossings in this segment.

In Segment 7, Design Option 7.4C would impact 14 residences, and Design Option 7.5C would impact 12 residences; both design options would impact the CPRD Golf Course and the Newberg Providence Hospital. However, Design Option 7.5C would move the origin of potential noise and vibrations caused by the Bypass about 200 feet farther away from the hospital.

Vibration impacts may be of concern, particularly under Design Option 7.4C, because of the proximity of planned hospital buildings in relation to the Bypass location. Equipment such as medical imaging devices and surgical operations can be sensitive to earthborne vibration. Some operating rooms are planned to be located near the Bypass. In addition, potential future exterior sound levels are likely to cause a substantial increase in the sound levels at the outdoor Healing Garden at the hospital.

Noise mitigation is being investigated as part of the Build Alternative. Mitigation will mainly be in the form of noise walls or earthen berms. ODOT is committed to building noise barriers in locations where barriers are reasonable and feasible.

The following mitigation measure for noise impacts is proposed:

- Consider noise barriers for impacted residential properties with future sound levels at 60 dBA or higher as a result of the proposed project.

**Air Quality**

The proposed project is located in Yamhill County, which meets all national and state ambient air quality standards. A small part of the project (about 1,000 feet in length) lies within the proposed project boundary.
within the Portland Vancouver Air Quality Maintenance Area (AQMA) boundary for ozone. The AQMA is a designated attainment area for ozone, but an ozone maintenance plan is in place to ensure it remains in attainment. This project is not subject to regional or project level conformity.

Vehicle miles traveled (VMT) would increase under the Build Alternative and result in slightly higher regional emissions of carbon monoxide (CO), nitrogen oxides (NOx) and volatile organic compounds (VOC) than under the No Build Alternative. The shift of a major part of the traffic from the congested downtown areas to a less congested, non-urban area would likely improve the air quality in the more populated areas. The differences in VMT among the design options would not result in differing air pollutant emissions or have any effect on regional air quality.

Mobile source air toxics (MSATs) generally increase in proportion to the increase in VMT. However, MSATs will decrease over time because of the EPA’s national emission control program aimed at improving fuel efficiency and control technology. It is estimated that the reductions in MSAT emissions will be so great that MSAT emissions in the project area will be lower in all locations in the future even under the Build Alternative. Air quality is not a factor in the optimum design for the proposed project.

Visual Resources

The Build Alternative includes large visual elements such as interchanges, walls, berms, bridges, slopes, and culverts, and would remove trees, crops, and other vegetation. Visual impacts would be from views of the Build Alternative (primarily the Bypass) and views from the Bypass to the surrounding area (from a driver’s perspective). The Bypass would potentially have High visual impact, meaning there would be a high level of adverse visual change and/or views as described above.

In Segment 3, for both Design Option 3.A2 and 3.B2 (both at-grade), berms would screen the Bypass, but would eliminate views of the surrounding area from the Bypass. Design Options 3.A and 3.A2 (both below-grade) would have less visual impact.

Segments 4 and 5 would have the widest variety of visual impacts due to the number and types of potential viewers. Design Options 4.1 and 4.2 would remove riparian vegetation and orchards, changing the landscape. Nearby residences would view the Bypass, East Dundee connector road, and the structure over the railroad and Oregon 99W. In Segment 5, the Bypass would be at a larger scale than the residential neighborhood. However, Design Option 5.1C.2 (below-grade at College and River Streets) would have less impact than with the other design options.

In Segments 6, 7, 8.1 and 8.1A, the visual impacts would result from removing homes, commercial property, agricultural lands and riparian vegetation.

The following mitigation measure for visual impacts is proposed:

- Limit removal of existing vegetation and use landscaping for screening and blending the Bypass features with the natural environment.

Natural Environment

The natural environment includes the following resource areas:

- Water Quality and Hydrology
- Wetlands
- Biological Resources (Wildlife, Botanical and Fisheries Resources)
- Geotechnical
- Hazardous Materials
- Energy
Table ES-5 shows an overview of natural environment impacts by segment and resource. In this table an unshaded cell means that impacts are minimal or non-existent, and a gray-shaded cell indicates that there are impacts in that segment for a given resource. A diamond “♦” indicates that there is a substantial difference in impacts between design options in that segment.

Table ES-5. Natural Environment Impacts and Differences by Segment

<table>
<thead>
<tr>
<th>Segment</th>
<th>Water Quality and Hydrology</th>
<th>Biological Resources\textsuperscript{a}</th>
<th>Wetlands</th>
<th>Geotechnical</th>
<th>Hazardous Materials</th>
<th>Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>3</td>
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<td>♦</td>
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<td>4</td>
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<td>5</td>
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<td>6</td>
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<tr>
<td>7</td>
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<td>♦</td>
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<tr>
<td>8.1</td>
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<tr>
<td>8.1A</td>
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</table>

Source: Chapter 3, Newberg Dundee Bypass Tier 2 DEIS, ODOT 2010.

\textsuperscript{a} Biological Resources include Wildlife, Botanical and Fish Resources.

For the following sections, note that only Segments 3, 4, 5, and 7 have design options. Only Segments 1 and 3 have local circulation options. As a result, specific impact discussions are not included for Segments 2, 6, 8.1, and 8.1A.

**Water Quality and Hydrology**

The Bypass would cross 22 streams, requiring 39 bridges and 7 culverts. Separate eastbound and westbound Bypass structures would cross all streams. Some interchange ramps and relocated local roads would also cross streams. Potential impacts from bridges and culverts that could degrade the streams’ natural functions include:

- Channel narrowing
- Channel slope changes
- Water depth reductions
- Bank alterations
- Riparian plant losses
- Substrate changes (erosion or aggregation)
- Channel shade reductions

Potential impacts to water quality from the Build Alternative would come from increased impervious surface area (i.e., pavement) in the watershed (up to about 174 acres). More pavement would increase water contamination by runoff from the pavement. Without proper treatment, this contaminated runoff would degrade the water quality of nearby streams and the entire watershed. Pollutants in stormwater runoff include suspended sediments, nutrients, metals, and chemical compounds.

Design Options 3.A2, 4.2, 5.1C.2, and 7.4C would have slightly more pavement than the other design options in their segments, and could have a greater impact on streams. However, the minor differences among design options for acres of pavement, number of stream crossings, and number of bridges would be too small to measure the differences in water quality impacts. Any of the options that would involve work that affects streams would require permits or approvals (see Anticipated Permits and Approvals section).
project would also incorporate any mitigation measures that are required by the permit authorities for that work.

The Bypass design used conservation measures to avoid or minimize potential impacts to surface and groundwater hydrology and water quality. Stormwater conveyance and treatment systems would be built for new and relocated local roads. See the Tier 2 DEIS, Chapter 3, Water Quality and Hydrology section for the proposed locations of stormwater treatment facilities. Roadside bioswales would be located along the Bypass within the right-of-way. Bioswales would be designed to both effectively convey stormwater flow and treat potentially contaminated flow. Bioswales would substantially minimize the water quantity and quality impacts related to the new impervious surface. The specific treatment systems would be consistent with ODOT’s Hydraulics Manual. The Build Alternative would meet all storm water requirements. The right-of-way for bioswales and stormwater treatment facilities is included in the overall required right-of-way for the Build Alternative.

The following mitigation measures for water quality and hydrology impacts are proposed:

- Use full-span bridges for most of the stream crossings where feasible.
- Limit the areas of depressed roadways to minimize impacts to the shallow groundwater table in the project area.
- Use bioswales for stormwater conveyance and treatment with exact locations developed during final design.

**Biological Resources**

ODOT avoided direct impacts to wildlife and wildlife habitats within the project area to the extent possible during preliminary design of the Build Alternative. Depending on the design option selected, the Build Alternative would directly affect a total of between 77 and 80 acres of plant and wildlife habitat. The largest potential impacts from the Build Alternative would be a loss of about 40 acres of lowlands-conifer-deciduous forest habitat and about 27 to 28 acres of riparian-wetland habitat. Loss of other habitat types would be less than 4 acres each.

Direct impacts within the Build Alternative right-of-way would be both temporary and permanent. Most impacts to wildlife and wildlife habitats would be similar throughout the Build Alternative for all design options. However, Design Option 7.5C would have a greater impact on wildlife habitat than Design Option 7.4C. Design Options 7.4C and 7.5C are estimated to impact about 11.5 and 12.8 acres of wildlife habitat, respectively.

Wildlife corridors in the API are primarily located at or near stream crossings. For the Build Alternative, full-span bridges would be used to cross streams where feasible to maintain wildlife passage at these locations, as well as the riparian habitat. The use of full-span bridges would have smaller direct and indirect impacts on wildlife corridors than culverts. However, areas under bridges would receive little precipitation and would be fully or partially shaded making it hard for vegetation to survive. These areas would remain available for wildlife movement, but would provide poor habitat. Where culverts would be used, the design would attempt to maintain enough clearance to provide for wildlife passage also. In any event, there will be some existing wildlife corridors not located along stream courses that would be cut off by the Bypass and some wildlife species may cross over the new roadway, leading to a greater chance of animal fatalities.

Biologists identified four listed species as potentially occurring in the API: painted turtle, Northern Pacific pond turtle, Oregon giant earthworm, and bald eagle. ODOT will conduct additional field surveys if needed. ESA listed fish include the Upper Willamette River (UWR) spring-run Chinook salmon Evolutionary Significant Unit (ESU) and UWR winter-
run steelhead Distinct Population Segment (DPS). While coho salmon is a listed species and has been documented to occur in the Yamhill River, the listed ESU for this species is below Willamette Falls, which is located downstream and outside of the API.

Since ESA-listed fish species are present in the API, Section 7 consultation will continue with the National Marine Fisheries Service (NMFS) after publication of the Tier 2 DEIS. Section 7 consultation includes the completion of a Biological Assessment by FHWA and a Biological Opinion by NMFS.

The removal of vegetation along streambanks and by fill activities associated with culverts would modify aquatic habitat, including areas of permanent vegetation loss at bridge embankments, piers, culverts, and areas directly under bridge decking. Adverse aquatic habitat impacts related to these activities could include channel narrowing, channel slope changes, water depth reductions, substrate changes (erosion or aggregation), riparian plant losses, bank alterations, and channel shade reductions.

Performing culvert construction during the in-water work period and following NMFS and ODFW design guidelines for providing fish passage would reduce impacts to fish; however, these culverts could still adversely affect fish. Sunlight would be limited along much of the lengths of these culverts. While the habitat functions within culverts would be less than normal, fish and other invertebrates would still be able to use this habitat since the culverts would have natural substrate bottoms and typical stream flows would be maintained. There is little difference in the number or type of stream crossings for all design options.

The following mitigation measure for biological resources impacts is proposed:

- Use full-span bridges for most of the stream crossings where feasible.

**Wetlands**

The Build Alternative would result in total wetland losses of about 5.3 acres, with most occurring in Segment 4 (about 4.7 acres). A Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers would be required for filling wetlands (see Anticipated Permits and Approvals section). No wetlands would be directly impacted in Segments 2, 3, 5, or 6.

The following mitigation measure for wetland impacts is proposed:

- Compensate for wetland impacts by repairing, restoring, or enhancing wetlands to the extent practicable, and creating new wetland areas.

**Geotechnical**

The Build Alternative would include excavations below groundwater level, embankments, retaining walls, and cut and fill slopes, and would also cut across some geological hazard areas (earthquake and landslide areas, and steep slopes). Design options such as Design Options 3.A and 3.A2 that include a below-grade roadway would have more impacts related to groundwater levels, soil types, and bedrock materials.

In Segment 3, Design Options 3.A and 3.A2 would be 8 to 12 feet below-grade, would require more excavation, subsurface drainage, and a permanent dewatering system, and would lead to higher construction and maintenance costs. The at-grade construction for Design Options 3.B and 3.B2 would result in less excavated soil and soil waste, and would allow a longer construction season. With Design Options 3.A2 and 3.B2, construction would require more right-of-way for the berms, and berm construction could provide an opportunity to reuse soils that would otherwise be wasted.

In Segment 4, Design Option 4.2 would lessen the impacts over landslide terrain and marginally stable slopes, requiring fewer mitigation measures. Multiple small- to
moderate-sized landslides were observed in the Chehalem Creek Tributary and evidence of soil creep on the slopes was also observed on both sides of Chehalem Creek.

In Segment 5, Design Option 5.1C.2 would be the only design option more than 15 feet below-grade, and would require a pumped dewatering system during construction and for long-term operation. Potential impacts from dewatering wells include:

- Lowering of groundwater levels beneath nearby facilities, possibly causing decreased water levels in shallow domestic wells.
- Settlement under structures, possibly causing damage due to increased foundation soil stresses.
- Discharge of collected groundwater into drainage systems and streams. If discharged water is contaminated, proposed mitigation measures and treatment could be required.

The below-grade roadway area could also be susceptible to wintertime visibility reductions due to fog combining with steam generated by SP Newsprint. Also, below-grade roadways could require blasting to remove bedrock. Impacts from blasting include vibration, noise, and possible damage to nearby structures.

Design Options 5.1D.2 and 5.2D would be constructed fully above-grade on fill, which avoids the use of permanent dewatering wells, and avoids potential impacts to nearby wells, groundwater, and buildings near the Bypass. Shifting the Bypass south in Design Option 5.2D would mean less encroachment of the realigned Wynooski Road on the banks of Hess Creek North.

In Segment 7, Design Option 7.5C, the semi-depressed section of the Bypass undercrossing would be located farther from homes along Brutscher Street than with Design Option 7.4C, resulting in smaller embankments at the Fernwood Road/Brutscher Street intersection.

Other geotechnical issues for the Build Alternative include:

- Unsuitable fill soils in localized areas that could need removal or treatment.
- Retaining walls that could be needed in some areas instead of cut slopes (to protect adjacent facilities).
- Off-site disposal of about 900,000 to 1,900,000 cubic yards of excess material. At this stage of the project, ODOT has not identified material disposal sites. Disposal sites will be the responsibility of the Construction Contractor. Each site would meet all applicable laws and permitting requirements.

See the Chapter 3, Geotechnical section, of the Tier 2 DEIS for more information on impacts.

The following mitigation measure for geotechnical impacts is proposed:

- Limit the areas of depressed roadways to minimize impacts to the shallow groundwater table in the project area.

**Hazardous Materials**

State and federal databases that track hazardous materials sites revealed 73 such sites in the project area. Of these sites, 16 would be potentially impacted by the Build Alternative based on property acquisition, construction footprint, or other proposed project components.

There would be little difference in hazardous materials impacts among the design options for each segment. The same number of sites would be impacted for each, with only the
extent or size of the impact changing. The same amount of investigation is required regardless of the size of the impacted area. Combined, Segments 4 and 5 contain over half of the potentially impacted sites. The remaining sites are disbursed among Segments 1, 2, 6, 8.1, and 8.1A. There would be no impacted sites in Segments 3 and 7.

Hazardous materials sites impacted by construction of the Build Alternative could require long-term remedial actions to clean up or contain the contamination, benefiting the environment.

Operation and maintenance of the Build Alternative could create long-term impacts, including exposure to contaminated materials that are transported on the Bypass. Today, hazardous materials are transported on Oregon 99W through downtown Newberg and Dundee. The Bypass would provide an alternative route away from these densely populated areas. It is not expected that the operation or maintenance of the Bypass would increase the transport of hazardous materials.

Energy

The total predicted vehicle energy use in 2030 for the Build Alternative would be about 2.8 billion Btus. Compared to the No Build Alternative, the Build Alternative would increase vehicle energy use by about 195 million Btus. This is about a 7 percent increase in energy use over the No Build Alternative. Compared to existing conditions, the overall daily vehicle energy use under the Build Alternative in the year 2030 is expected to increase by 53 percent.

For the Build Alternative, total construction energy use would range from 7.5 to 9.1 trillion Btus. Vehicle use varies by vehicle type and vehicle miles travelled, thus more miles traveled and more traffic uses more energy. Although the Bypass would reduce traffic on the existing roadway, the overall corridor traffic will be higher than with the No Build, thus higher energy use.

CONTROVERSIAL ISSUES

Finding funds to build the proposed project and making a decision whether or not to toll the Bypass have been controversial issues for the project. ODOT hired two independent firms to evaluate tolling options for the proposed project. Both firms concluded that tolling the Bypass alone would not provide enough revenue to fund the proposed project. ODOT has decided not to pursue tolling at this point in time. For further information regarding tolling, see Chapter 2, Alternatives, of the Tier 2 DEIS.

Other controversial issues related to the proposed project that continue to be discussed include the following concerns:

- Overall funding sources and cost of the proposed project.
- Loss of farmland because of the proposed project.
- Geotechnical instability in the Chehalem Creek area.
- Noise impacts and particularly for noise increases impacting property adjacent to the Bypass.

BENEFITS

The Build Alternative would have benefits directly related to the proposed project’s Purpose and Need, including:

- Fewer Vehicles on Oregon 99W: A decrease in traffic volume between 9,400 and 37,800 vehicles per day would improve mobility and safety and relieve congestion
throughout the corridor. Decreased congestion would also reduce noise along Oregon 99W, particularly in Newberg and Dundee, where there would be increased livability.

- **Shorter Travel Times on Oregon 99W:** A time savings for drivers on Oregon 99W of 17 to 21 minutes, depending on the direction of travel, would also mean improved mobility and reduced congestion, which both contribute to community livability.

- **Fewer Vehicles in Newberg and Dundee Downtowns:** Decreased 2030 daily traffic volumes in the downtown areas of Dundee and Newberg by 34,100 and 14,500, respectively, would provide a more pedestrian-friendly environment with fewer cars and increased safety. The Build Alternative would also reduce freight trips in each of the downtown areas by over 2,700 vehicles per day.

- **Fewer Failing Intersections:** With the Build Alternative, three local intersections would fail to meet mobility standards by 2030, as compared to the No Build Alternative, which would have 17 local intersections that would continue to fail. However, even with the Build Alternative some intersections would need improvements.

- **Safer Traffic Operations:** The forecast reduction in traffic volumes along Oregon 99W is expected to enhance safety as a result of improved traffic operations and a reduction in the potential for conflicts between vehicles. This would be particularly evident in Newberg and Dundee where there are many existing congested intersections and, respectively, recent crash rates are 167% and 240% of the average crash rate for similar Oregon highways. The Bypass is expected to have 2030 daily traffic volumes ranging from 30,000 to 34,600 vehicles, and to operate with traffic volumes at or below 75 percent of capacity. This could have a positive impact on safety due to lower vehicle densities and reduced conflicts.

The Build Alternative would also provide beneficial impacts to EJ populations. Dayton has a higher percentage of minority and Hispanic residents than either Newberg or Dundee. These populations would have increased access to employment, commercial, and service destinations in Newberg and Dundee through the improved mobility and access provided by the Bypass.

**ANTICIPATED PERMITS AND APPROVALS**

ODOT anticipates the Build Alternative would require the following permits and approvals. For additional information on these permits and approvals, see the Tier 2 DEIS, Chapter 6.

**Federal**

**FHWA**

- Section 4(f) *de minimis* findings for Chehalem Glen Golf Course and SP Newsprint Company.

- Finding required by Executive Order 11990 that there are no practicable alternatives to construction in wetlands.

- Finding required for Executive Order 12898 for Environment Justice.
U.S. Army Corps of Engineers
- Federal Clean Water Act (CWA) – Section 404 Permit/Fill Removal Permit (Joint Permit Application)
- Pre-Construction Assessment for in-water work (with the Oregon Department of State Lands)

Environmental Protection Agency
- Hazardous Material Coordination

Federal Aviation Administration (FAA)
- FAA Form 7460

National Marine Fisheries
- Endangered Species Act (Public Law 93-205) Section 7 Consultation

U.S. Fish and Wildlife Service
- Endangered Species Act (Public Law 93-205) Section 7 Consultation

State of Oregon

Department of State Lands
- Federal CWA: Section 404 Permit/Fill Removal Permit (Joint Permit Application)
- Pre-Construction Assessment Permit for in-water work (with the U.S. Army Corps of Engineers)

Department of Transportation
- Permit for relocation of utility lines in a state road right-of-way

Department of Environmental Quality
- Clean Water Act, Section 401: Water Quality Certification
- CWA 402: National Pollution Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit
- Hazardous Material Coordination

State Historic Preservation Office
- Archaeological permit for site investigations

LOCAL JURISDICTIONS
Local jurisdictions in the project area include Yamhill and Washington Counties and the Cities of Newberg, Dundee, and Dayton.
Permits and Approvals Required by All Jurisdictions

**Land Use**
- See the Tier 2 DEIS, Chapter 6, Table 6.4.1, which lists each jurisdiction’s anticipated land use permit and approval requirements.

**Utilities**
- Requirements vary with each jurisdiction and will be determined at the time of project construction.

**Yamhill and Washington Counties**

**Noise**
- Noise Variance for construction activities

**PUBLIC AND AGENCY COORDINATION**
ODOT makes public and agency involvement a priority for every project, not only because some involvement is required by regulation, but also because better projects are built through collaboration. This collaboration has taken many forms since the first Tier 2 project newsletter was released and a steering committee meeting was held in September 2005. Collaboration and coordination will continue throughout the NEPA process and through final design and construction if the Build Alternative is selected for implementation.

The project team has engaged the public and met with elected officials, tribal representatives, and local, state, and federal agencies at key project milestones to obtain input and to inform and educate stakeholders about the project.

ODOT and FHWA coordination has included:
- NEPA scoping
- SAFETEA-LU Section 6002
- Public involvement
- CETAS involvement
- Advisory committees
- Environmental Justice Outreach Program
- Tribal consultation

Opportunities for public and agency involvement have included open houses, comment forms, news releases in local newspapers and on radio, agency field trips, meetings, workshops, newsletters, and a project website.

**TIER 2 DEIS ORGANIZATION**
The Tier 2 DEIS is organized into the following chapters:
- Chapter 1 describes the proposed project, the project area, and the Purpose and Need of the project, and establishes the fundamental reasons for the project’s development and evaluation.
- Chapter 2 describes the No Build Alternative, the Build Alternative and associated design options and local circulation options, the process used to develop the options, and the ODOT recommended alternative.
Chapter 3 is divided into sections for each resource area addressed by the Tier 2 DEIS. The chapter describes the existing conditions of the affected environment for all built and natural environment resources considered in the Tier 2 DEIS. It provides an analysis of the potential direct, indirect, and cumulative environmental impacts of the No Build Alternative and Build Alternative and design options and local circulation options. It also summarizes the proposed mitigation and conservation measures designed to avoid or minimize environmental impacts from the proposed project.

Chapter 4 discusses the tradeoffs between short-term uses of environmental resources and long-term benefits from the proposed project.

Chapter 5 describes the public and agency involvement process for the Tier 2 DEIS.

Chapter 6 describes the applicable approvals and permits relevant to the Build Alternative.

ODOT’S RECOMMENDED ALTERNATIVE

ODOT is recommending a Build Alternative. When deciding which design and local circulation options to include in the recommended alternative, ODOT evaluated options that best meet the Purpose and Need of the project. The following identifies the design and local circulation options in each segment of the Build Alternative that ODOT recommends. Additional detail on ODOT’s recommended alternative is in Chapter 2, Section 2.4 of the Tier 2 DEIS.

- Segment 1 – Dayton Interchange with Local Circulation Option A
- Segment 2 – Dayton to Dundee Section
- Segment 3 – Design Option 3.B2 and the 8th Street Overcrossing Local Circulation Option
- Segment 4 – Design Option 4.1
- Segment 5 – Design Option 5.2D
- Segment 6 – Oregon 219 Interchange
- Segment 7 – Design Option 7.5C
- Segment 8 (8.1 and 8.1A) – East Newberg Interchange and widening on Oregon 99W

HOW WILL THE PREFERRED ALTERNATIVE BE SELECTED?

Before release of the Tier 2 FEIS, ODOT and FHWA will select a Preferred Alternative for the proposed project. The selection will take place after the public comment period on the Tier 2 DEIS closes. In addition to comments received on the DEIS, ODOT and FHWA will review project impacts and project cost before selecting a Preferred Alternative. The Tier 2 FEIS will include a description of the Preferred Alternative and a discussion on why it was selected.

A summary of the public and agency comments on the Tier 2 DEIS, responses to the substantive comments, and the decision-making process for the Preferred Alternative will be included in the Tier 2 FEIS.
HOW CAN I COMMENT ON THE TIER 2 DEIS?

One of the primary purposes of preparing an EIS is to provide the public and agencies with information on which to make comments regarding the proposed project. Although comments are requested on the entire Tier 2 DEIS, ODOT and FHWA are particularly interested in comments regarding the selection of design options and local circulation options under the Build Alternative. If you prefer the Build Alternative, the following is a summary of the segments that have choices between design options and local circulation options where comments or preferences are particularly helpful:

- **Segment 1**
  - Local Circulation Option A (Connects Kreder Road to the Interchange)
  - Local Circulation Option B (Ferry Street extended to Kreder Road)

- **Segment 3**:
  - Design Option 3.A (Bypass below-grade without berms)
  - Design Option 3.A2 (Bypass below-grade with berms)
  - Design Option 3.B (Bypass at-grade without berms)
  - Design Option 3.B2 (Bypass at-grade with berms)
  - Local Circulation (One to be selected and applies to all above):
    - 6th Street Overcrossing
    - 8th Street Overcrossing
    - 10th Street Overcrossing

- **Segment 4**:
  - Design Option 4.1 (Diamond Interchange)
  - Design Option 4.2 (Partial Cloverleaf Interchange)

- **Segment 5**:
  - Design Option 5.1C.2 (Bypass depressed, closes 11th Street)
  - Design Option 5.D.2 (Bypass above-grade, closes 11th Street)
  - Design Option 5.2D (Bypass above-grade, leaves 11th Street open)

- **Segment 7**:
  - Design Option 7.4C (Bypass close to Newberg Providence Hospital)
  - Design Option 7.5C (Bypass shifts away from Newberg Providence Hospital)

To submit comments on the Tier 2 DEIS and Section 4(f) proposed *de minimis* findings, please visit the Newberg Dundee Bypass website at [http://www.oregon.gov/ODOT/HWY/REGION2/newbergdundee2.shtml](http://www.oregon.gov/ODOT/HWY/REGION2/newbergdundee2.shtml).
Agencies and the public can send written and e-mail comments to:
Tim Potter, Area 3 Manager, Region 2
Oregon Department of Transportation
Mid-Willamette Valley Area
885 Airport Road SE, Bldg. P
Salem, OR 97301-4788
james.t.potter@odot.state.or.us

Comments can also be given at a public hearing to be held during the public comment period for the Tier 2 DEIS. Following the close of the public comment period, ODOT and FHWA will review, consider, and address all substantive comments. Responses to substantive comments will be provided in the Tier 2 FEIS.