3.18 CLIMATE CHANGE

3.18.1 Greenhouse Gas

The issue of greenhouse gas (GHG) emissions and global climate change is an important national and global concern that ODOT and FHWA, as well as various state and federal agencies, are addressing.

The transportation sector is the second largest source of total GHG in the U.S., and the largest source of carbon dioxide (CO₂) emissions—the predominant GHG. In 2004, the transportation sector was responsible for 31 percent of all U.S. CO₂ emissions. The principal anthropogenic (human-made) source of carbon emissions is the combustion of fossil fuels, which accounts for approximately 80 percent of anthropogenic emissions of carbon worldwide. Almost all (98 percent) of transportation-sector emissions result from the consumption of petroleum products, such as gasoline, diesel fuel, jet fuel, and residual fuel oil.

GHG emissions analyses may be informative at regional, state, or national levels when conducted during local and regional land use planning processes. ODOT’s recent land use and transportation modeling efforts have shown that land use patterns have a much greater impact on all emissions than do highway expansions. Further, the needs for most highway projects are typically a result of land use changes, development, growth, and other local and regional changing trends.

As of the date of publication of this Tier 2 FEIS, no federal laws specifically require GHG emissions analysis in project-level National Environmental Policy Act (NEPA) documents. NEPA requires federal agencies to scope and address the significant issues of any proposal and to concentrate on the analyses of issues that can be truly meaningful to the consideration of and comparison between project alternatives. In the absence of federal regulations and a regional or national framework for considering the implications of project-level GHG analyses, FHWA concludes that GHG emissions calculated for project alternatives cannot be usefully evaluated in the same way that vehicle emissions are evaluated within a local project-level context. An attempt at this type of analysis would not inform project decision making in any meaningful way.

Table PA 3.18-1 illustrates the relationship of current and projected Oregon highway CO₂ emissions to current global emissions. This table also illustrates the size of the project area relative to total Oregon travel activity. In 2005, total statewide annual vehicle miles traveled (VMT) (all roads) were 35.3 billion. According to the Oregon Transportation Plan, Transportation Needs for the Years 2005–2030, Oregon’s forecasted state highway VMT growth rate is 1.35 percent per year. If total VMT grows at the same rate, the value in 2010 will be 37.7 billion and the value in 2030 will be 49.4 billion.

Table PA 3.18-1. Greenhouse Gas Emissions

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<td>30,990</td>
<td>21.0</td>
<td>15.0 to 18.0</td>
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Source: Newberg Dundee Bypass Tier 2 Final Energy Technical Memorandum, ODOT 2012.
Note: MMT – million metric tons
Because climate change is a global issue, the emissions changes due to the Preferred Alternative and Phase 1 of the Preferred Alternative (Phase 1) are minute. Overall, CO₂ emissions from the Oregon highway system are expected to decrease slightly between 2011 and 2035 because of the fuel economy and renewable fuels programs in the Energy Independence and Security Act of 2007.

FHWA is also working with other modal administrations through the Department of Transportation’s Center for Climate Change and Environmental Forecasting to develop strategies to reduce transportation’s contribution to GHGs—particularly CO₂ emissions—and to assess the risks to transportation systems and services from climate changes. See Appendix H for additional information on strategies FHWA is pursuing at a national level.

3.18.2 Oregon Strategies

There are numerous goals for states and the nation, and strategies to reduce GHG emissions are currently being addressed by ODOT and other state agencies throughout Oregon.

On August 7, 2007, the Climate Change Integration Act went into effect with the passage of Oregon House Bill 3543. The bill creates GHG emissions reduction goals, for the State of Oregon, which aim to reduce emissions 10 percent below 1990 levels by 2020 and achieve a 75 percent reduction below the 1990 levels by 2050. The bill also created the Oregon Global Warming Commission (Commission) that is responsible for recommending policies to state and local governments to reduce GHG emissions. The Commission is expected to promulgate rules to direct agencies on how to regulate and enforce the legislation.

House Bill 2001, the Oregon Jobs and Transportation Act, is the transportation funding plan adopted by the 2009 Legislature. Environmental stewardship and multimodal funding are core themes of the bill.

House Bill 2186, passed in 2009, is legislation that seeks to reduce Oregon’s GHG emissions. The bill requires the creation of a task force to evaluate land use and transportation scenarios that would meet community needs and at the same time reduce GHG emissions.

Oregon Revised Statute 366.514 requires that wherever highways, roads, or streets are constructed or reconstructed, footpaths and bicycle trails will be built as part of these projects.

Intelligent transportation systems and land use planning policies will be among several strategies necessary to meet the state’s goal of reducing GHG emissions. To accomplish this, the Commission has formed a Land Use and Transportation Committee (Committee). The scope and function of the Committee is to work with state agencies, including ODOT and the Oregon Department of Land and Conservation and Development (DLCD), to integrate GHG reduction goals into state transportation planning and land use policies currently under development. Transportation and land use policies will be designated to stop the growth of GHG emissions, and then reduce emissions over time according to the specific goals set out by the Oregon Legislature. This collaboration resulted in Oregon Senate Bill 1059, passed during the Oregon Legislative Assembly 2010 Special Session. The act more formally expresses the work that the two agencies (ODOT and DLCD) will conduct to reduce GHG emissions and limit expenditures. Appendix H includes Senate Bill 1059.

The Oregon Sustainable Transportation Initiative is an integrated statewide effort to reduce GHG emissions from transportation while creating healthier, more livable communities and greater economic opportunity. The initiative is housed in the
Transportation Development Division and is led by Margi Bradway, ODOT’s Sustainability Program Manager.

Research is also underway to develop more capable models for measuring, analyzing, evaluating, and reporting GHG emissions. ODOT is coordinating with other state and federal agencies (U.S. Department of Energy, Oregon Department of Environmental Quality, FHWA, and the U.S. Environmental Protection Agency) to determine appropriate contexts for measuring impacts from transportation and land use changes.

Appendix H includes a summary of additional ODOT strategies regarding climate change.

### 3.18.3 Preferred Alternative and Phase 1

Because GHG emissions are measured on a global scale and because the differences in emissions associated with the design options are minute, if measurable, this resource area did not weigh into the selection of design options included in the Preferred Alternative or Phase 1.

### 3.18.4 Mitigation

ODOT does not propose short- or long-term mitigation for the Preferred Alternative or Phase 1.
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