

## Sustainable Transportation System and Climate Change

### Introduction

The Oregon Department of Transportation recognizes that the transportation sector in Oregon generates significant greenhouse gases (GHG) and contributes to climate change. In Oregon, transportation accounts for an estimated 38 percent of Oregon's carbon dioxide emissions, with vehicle carbon dioxide emissions predicted to increase by 33 percent by 2035 due to increased driving. The purpose of this fact sheet is to provide a topical listing of ODOT's current climate change efforts in the area of the sustainable transportation system.



### Land Use and Planning

- The 2006 [Oregon Transportation Plan](#) provides a vision for the state's transportation system and lays out the policy foundations for addressing climate change. The Plan includes a sustainability goal which has policy statements relating to environmental responsibility, energy, and creation of communities. Some of the strategies related to these policy statements relate directly to climate change.
- Under the **Transportation Planning Rule (TRP)** and the Statewide Planning Goal 12, ODOT provides financial and technical support to local governments and Metropolitan Planning Organizations (MPO). Oregon's TRP requires reduced reliance on Single Occupant Vehicles (SOV) and local actions to encourage the use of alternative modes of transportation.
- **Transportation and Growth Management (TGM)** Program supports community efforts to expand transportation choices for people. By linking land use and transportation planning, TGM works in partnership with local governments to create vibrant, livable communities in which people can walk, bike, take transit, or drive where they want to go.
- ODOT's Transportation Planning Analysis Unit is developing the **GreenSTEP** model, a planning tool to estimate GHG emissions from the surface portions of the transportation sector and to assist in determining how the transportation sector can meet the statewide emissions targets in the future.
- "**Least cost planning**" methods currently in progress will lead toward better consideration of transportation demand management, system management, and non-highway mode alternatives in the planning process.

### Multi-Modal System

- ODOT's [Public Transit Division](#) assists communities with the development of alternative transportation options including transit, rideshare programs, walking, bicycling, and other alternatives to driving alone:

## ODOT Sustainability Program Facts

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- Over the last several years, ODOT has worked with local jurisdictions on a number of innovative **Transportation Demand Management** (TDM) projects that promote the use of alternative modes of transportation. A few of the programs include: TravelSmart, The Drive Less/ Save More Campaign, Commuter Solutions Group, and the Central Oregon Commute Options program.
  - In 2004 ODOT Public Transit Division used flexible federal funds to initiate a program to assist urban transit providers in replacing older and less efficient mass transit vehicles.
- **ConnectOregon** is a lottery bond based initiative to invest in air, rail, marine, and transit infrastructure to ensure Oregon's multi-modal transportation system is strong, diverse, and efficient.
  - *ConnectOregon* I funded 38 projects, all of which are underway, with many completed. *ConnectOregon* II, building off the success of *ConnectOregon* I funded an additional 30 projects which will continue to improve the flow of commerce, remove delays and improve safety. The 2009 Oregon Legislature has approved a *ConnectOregon* III, with projects currently in the application process. All three *ConnectOregon* projects are improving the connections between the highway system and other modes of transportation.
- The **ODOT Rail Division** represents and advocates for customers of railroads, both passenger and freight, to ensure a safe, efficient and reliable rail transportation system.
  - Oregon was awarded \$8 million from the 2009 American Recovery and Reinvestment Act for a high-speed rail line from Eugene to Portland. While this is not enough money to complete a project it has helped fund research into the project and project alternatives.
- The **ODOT Bicycle and Pedestrian Program** provides direction to ODOT in establishing pedestrian and bicycle facilities on state highways and provides support to local governments, governmental and non-governmental organizations, and private citizens, in planning, designing and constructing pedestrian and bicycle facilities.
  - The **Transportation Enhancements** program pays for millions of dollars of sidewalk and streetscape improvements, bicycle lanes, and multi-use pathways projects each year.
  - The **Safe Routes to School program** funds Oregon schools and school districts with over \$3 million for education and enforcement projects designed to encourage and enable easier and healthier ways for children to walk and bike to and from school safely, reducing the need to drive.
- The **Congestion Mitigation and Air Quality Improvement Program** provides approximately \$14 million per year of funds across Oregon for TDM, transit, and bicycle/pedestrian facilities projects in designated urban centers.
- ODOT is a key partner with other public agencies in financing transit expansions in the Portland metro area:
  - ODOT allocated \$7 million of federal Surface Transportation Program funds and provided right-of-way at a significant below-market value to support the expansion of TriMet light rail along the I-205 corridor.



# ODOT Sustainability Program Facts

## Freight

- ODOT's [Freight Mobility Unit](#) commissioned a **Climate Change Study** to analyze GHG emissions, potential mitigation strategies, and impacts to freight from climate change.
- ODOT [Motor Carrier's Green Light program](#) helps truckers save time and money and reduce emissions by "preclearing" trucks so they do not have to stop at Oregon weigh stations. A DEQ study found that in 2008 this preclearance system will allow trucks to avoid 1.5 million weigh station stops and thus will result in 1,300 metric tons less carbon dioxide emitted into the air.
- ODOT participated in a 2005 Oregon Solutions project to promote truck stop electrification, and a number of truck plazas in Oregon have invested in electrified hookups. These are used to power refrigeration trucks, cab heat, and air conditioning systems so that truck operators do not have to idle their diesel engines overnight.

## Innovative Pilot Projects

- [The Oregon Solar Highway Initiative](#) – In 2008, ODOT completed the nation's first solar photovoltaic project in the highway right-of-way. The first demonstration project is located at the interchange of I-5 and I-205. The 594 solar panels produce nearly 112,000 kilowatt hours annually and use the utility grid as a battery, supplying energy during the day to light the interchange at night.
- [Electric Vehicles](#) – The US Department of Energy announced in August 2009 that Oregon was selected as one of the five test markets for the largest deployment of electric vehicles (EVs) and the associated charging infrastructure. Nissan North America, partnering with the Electric Transportation Engineering Corporation (eTec) will deploy approximately 1,000 Nissan electric cars (the "Leaf") in Oregon and as many as 2,500 charging stations to be installed at homes and businesses. Deployment of Nissan's EVs is scheduled for fall of 2010 and charging infrastructure installations are expected to begin in summer 2010.
- **ODOT Alternative Fuels Corridor** – The Department is leading an effort with Washington and California to incubate the distribution of alternative fuels and/or solar powered charging stations for plug-in electric hybrid vehicles along the I-5 corridor to help increase the market demand for alternative fuel vehicles.



## Highway Construction Projects

- Various aspects of ODOT's innovative [Context Sensitive and Sustainable Solutions](#) (CS<sup>3</sup>) approach to the **OTIA III Bridge Program** to support GHG reductions:
  - The OTIA III **Access/Staging Performance Standard** limits truck idling to five minutes, except in extreme cold weather or when needed for other reasons.
  - The OTIA III **Materials Procurement and Use Performance Standard** requires contractors to use ultra-low sulfur fuel, bio-diesel, or EPA-verified fuel additives in vehicles and equipment where possible and available, or minimum of highway grade fuel where alternative fuels are not possible.
- The [Columbia River Crossing](#) (CRC) project, located in a five-mile area between Portland and Vancouver, Washington, undertook an analysis of GHG impacts as part of

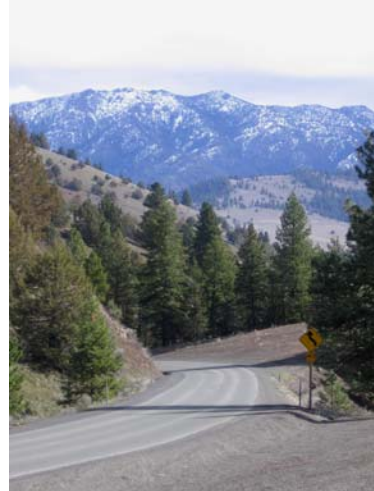
## ODOT Sustainability Program Facts

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a Cumulative Effects analysis in the Draft Environmental Impact Statement (DEIS). The CRC project worked with Washington Department of Transportation, the Federal Highway Administration, and the Federal Transit Authority to analyze potential cumulative impacts of the construction and operation of the project. The DEIS also discussed potential adaptation measures to be taken to prepare for effects of climate change, such as a rise in river level.

- **Greenroads** – ODOT is currently in the process of evaluating three pilot projects, in various levels of completion, based on the Greenroads sustainability performance metric. Greenroads was developed out of the University of Washington in consultation with CH2M HILL. The Greenroads performance metric awards points for more sustainable practices during the design and construction phases of roadway projects and awards a certification level based on the number of points earned, much like the LEED program does for buildings.

Through the efforts of **ODOT's Climate Change Executive Group and Technical Advisory Committee**, ODOT will continue to play an important role in the avoidance of future climate change through development of mitigation actions related to Oregon's transportation system as well as actions that will adapt the transportation system to climate change already anticipated.



## Appendix 1: Policy Mandates Related to the Transportation System

OTP<sup>1</sup> Policy 1.1 – It is the policy of the State of Oregon to plan and develop a balanced, integrated transportation system with modal choices for the movement of people and goods.

OTP Policy 2.1 – It is the policy of the State of Oregon to manage the transportation system to improve its capacity and operational efficiency for the long term benefit of people and goods movement.

OTP Policy 4.2 – It is the policy of the State of Oregon to support efforts to move to diversified and cleaner energy supply, promote fuel efficiencies and prepare for possible fuel shortages.

OHP<sup>2</sup> Policy 4B – It is the policy of the State of Oregon to advance and support alternative passenger transportation systems where travel demand, land use, and other factors indicate the potential for successful and effective development of alternative passenger modes.

OHP Policy 4D – It is the policy of the State of Oregon to support the efficient use of the state transportation system through investment in transportation demand management strategies.

ORS 469.010 states that “It is the goal of Oregon to promote the efficient use of energy resources and to develop permanently sustainable energy resources” and includes the following policy: “energy-efficient modes of transportation for people and goods shall be encouraged, while energy-inefficient modes of transportation shall be discouraged.”

House Bill 3543 (Climate Change Integration Act) created specific greenhouse gas emissions reduction goals for the state:

- 1) By 2010, arrest the growth of Oregon’s greenhouse gas emissions and begin to reduce them.
- 2) By 2020, achieve greenhouse gas levels that are 10 percent below 1990 levels.
- 3) By 2050, achieve greenhouse gas levels that are at least 75 percent below 1990 levels.

House Bill 2001 (Oregon Jobs and Transportation Act) is the transportation funding plan adopted by the 2009 Legislature. Three core themes emerged from the legislation:

- 1) accountability, innovation, and environmental stewardship
- 2) highway, road, and street funding
- 3) multimodal funding

House Bill 2186 is wide-ranging legislation that seeks to reduce Oregon’s greenhouse gas emissions. Section 10 requires the creation of a Metropolitan Planning Organization (MPO) Greenhouse Gas Emissions Task Force to evaluate alternative land use and transportation scenarios that would meet community growth needs, while reducing greenhouse gas emissions and recommend future legislative action to support such efforts.

ORS 366.514 requires that wherever highways, roads, or streets are being constructed, reconstructed, or relocated, footpaths and bicycle trails will be built as part of these projects. The amount expended by ODOT shall never in any one fiscal year be less than one percent of the funds received from the Highway Fund.

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<sup>1</sup> Oregon Transportation Plan, 2006

<sup>2</sup> Oregon Highway Plan, 1999