APPENDIX D. SUPPORTING DOCUMENTATION FOR CHAPTER 3

CONTENTS:

Air Quality Findings

ODOT and FHWA Efforts on Climate Change

Table D-1: SDEIS Land Use Impacts

SDEIS Land Use Impact Maps, Alternatives 2 and 3

Biological Assessment Letter of Submittal to National Marine Fisheries Service

National Marine Fisheries Service Biological Opinion

No Effect Memorandum for USFWS Species

U.S. EPA December 2, 2009 letter related to the Northwest Pipe and Casing site

Northwest Pipe and Casing Easement and Equitable Servitudes

Northwest Pipe and Casing Consent Decree

Table D-2: Evaluation of Noise Impact Mitigation Measures along Bluff

SE 82nd Avenue Floodplain Impacts Memo

Trillium Creek Floodplain Impacts and Culvert Analysis Memo

This page intentionally left blank

Air Quality Findings

U.S. Department of Transportation

Federal Highway Administration
Oregon Division
530 Center Street, Suite 100
Salem, Oregon 97301
503.399.5749

Federal Transit Administration
Region 10
915 Second Avenue, Room 3142
Seattle, Washington 98174-1002
206.220.7954

September 20, 2010

In Reply Refer To:
90.220
724.412

Ms. Robin McArthur, AICP
Planning and Development Director
Metro
600 NE Grand Avenue
Portland, OR 97232-2736

RE: USDOT Air Quality Conformity Determination
Metro 2035 Regional Transportation Plan (RTP) and 2010-2013 Metropolitan Transportation Improvement Program (MTIP)

Dear Ms. McArthur:

Thank you for your continued quality work in cooperation with the state, local government partners and other stakeholders in the Portland metropolitan area in developing transportation plans and programs that respond to community needs and improve quality of life to make the Portland area a desired place to live and contribute to the larger effort of *Making the Greatest Place*.

The Portland metropolitan area is designated maintenance for carbon monoxide. The U.S. Environmental Protection Agency (EPA) published a Federal Register Notice approving Portland's second 10-year carbon monoxide (CO) maintenance plan , with an effective date of February 23, 2006 (71 FR 3768).

The Clean Air Act of 1990, as amended, requires that transportation plans, programs and projects cannot create new violations of National Ambient Air Quality Standards (NAAQS), increase the frequency of severity of existing NAAQS violations or delay the attainment of NAAQS. The Metropolitan Planning Organization (MPO), the U.S. Department of Transportation (Federal Highway Administration (FHWA) and Federal Transit Administration (FTA)) are required to make a transportation conformity determination in non-attainment and maintenance areas as outlined in 40 CFR Part 93.104, Frequency of Conformity Determinations, 23 CFR 450, the FHWA and FTA Metropolitan Planning Rule, as well as Oregon Administrative Rule (OAR)340-252-0050. Transportation conformity ensures that federal funding and approval are given to those transportation activities that are consistent with air quality goals, and do not worsen air quality or interfere with the purpose of the State Implementation Plan (SIP).

FHWA and FTA have completed review of the Metro conformity determination for the Metro 2035 RTP and 2010-2013 MTIP. Our USDOT determination is based upon Metro's conformity determination analysis and documentation submitted to our offices by Metro's July 29, 2010, letter and attachments, and interagency consultation.

The Metro Council adopted the 2035 RTP, the 2010-2013 MTIP and associated air quality conformity determination on June 10, 2010, through Resolution 10-4150A. The conformity analysis provided by Metro indicates that air quality conformity requirements have been met. Based on our review we find that the 2035 RTP and the 2010-2013 MTIP conforms with the SIP in accordance with the transportation Conformity Rule and the Oregon Conformity SIP. The federal conformity determination was made after consultation with EPA Region 10, pursuant to the Transportation Conformity Rule.

This letter constitutes the joint FHWA and FTA air quality conformity determination for Metro's 2035 RTP and FY 2010-2013 MTIP. If you have any questions regarding this conformity determination, please contact Satvinder Sandhu, FHWA, at (503) 587-4723 or Ned Conroy, FTA at (206) 220-4318.

Sincerely,

Phillip Ditzler
FHWA Division Administrator

for R. F. Krochalis
FTA Regional Administrator

cc:

EPA (Wayne Elson)
FTA (Ned Conroy)
ODOT (Jason Tell, Region 1 Manager, Rian Windsheimer, Region 1, Planning Manager, Marina Orlando, Carol Newvine)
ODEQ (Dave Nordberg, Nancy Cardwell
TriMet (Alan Lehto)
Metro (Kim Ellis, Ted Leybold, Mark Turpel)

RTP Air Quality Conformity

Clackamas County and ODOT have worked with Metro to determine the Sunrise Project improvements that comprise the Sunrise Preferred Alternative, and are included in the recently updated 2009 Region Transportation Plan (RTP) financially constrained system. The project is described as a six-lane, limited access highway with auxiliary lanes from I-205 to Rock Creek Junction (split between OR 212 and OR 224), with transition segments back to existing facilities on each end of project corridor (to SE Webster Road x OR 224 in west, and SE 172nd Ave. x OR 212 in east). This project was modeled as part of the updated RTP air quality conformity analysis. The attached project list, and associated map of Sunrise Project Preferred Alternative, shows the approved financially constrained projects.

The draft RTP, which included the proposed project list, was approved so that staff could proceed to analyze the proposed system for air quality conformity, as required by state and federal law. The latest RTP analysis was conducted by Metro in October, 2009. Metro has confirmed its modeling of the entire Sunrise Project Preferred Alternative for air quality conformity as part of the 2035 RTP update. (see 10/26/09 e-mail from Thaya Patton, Metro.) The final RTP will be adopted June 2010.

Previously in the February 2008 Air Quality Conformity Determination for the 2035 Metropolitan Regional Transportation Plan (federal RTP) and the 2008-2011 Metropolitan Transportation Improvement Plan (MTIP), the project was described as a six-lane, limited access highway The project analyzed in this air quality report is also a six-lane expressway (a limited access highway) from I-205 to Rock Creek Junction (split between OR 212 and OR 224), with transition segments back to existing facilities on each end of project corridor (to SE Webster Road x OR 224 in west, and SE 172nd Ave. x OR 212 in east). Consequently, the project as described in this report is consistent with the conformity determination description, and thus conforms to the RTP and MTIP. The February 2008 conformity determinations had been reviewed and approved by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) on February 29, 2008.

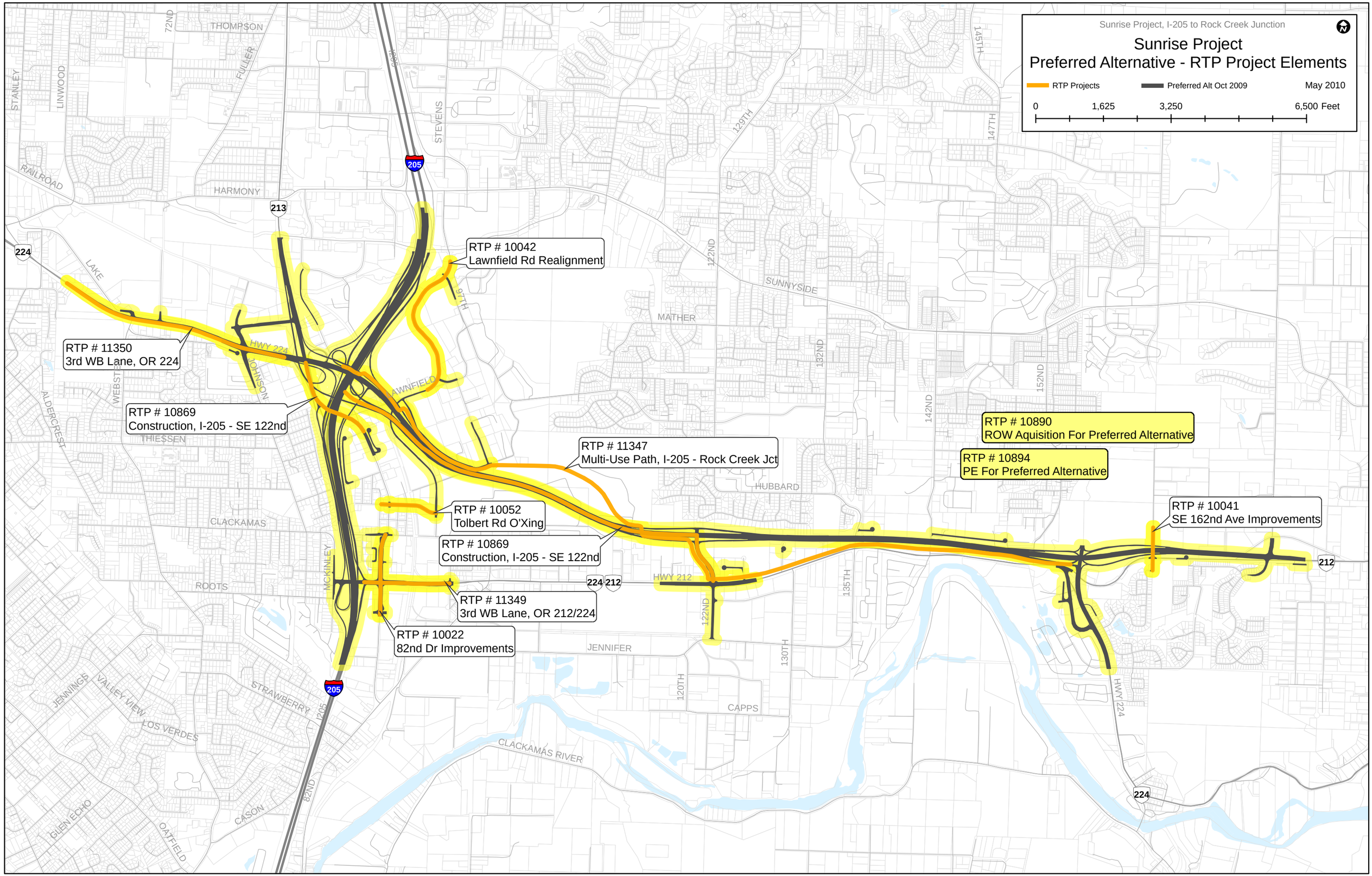
The findings of both the February, 2008, and October, 2009 analyses, showed that the project will not cause an exceedance of the NAAQS. Concentrations of CO in the Portland area do not currently exceed the NAAQS. The project will not delay timely implementation of Transportation Control Measures (TCMs) included in the Portland CO Maintenance Plan. The included control measures are transit service increases and bicycle and pedestrian paths.

REVISED 5/13/2010 4/22/2010

RTP Sunrise Project FEIS Elements

REVISED 5/13/2010 4/22/2010

Metro Project ID	Nominating Agency	Facility Owner / Operator	Project/Program Name	Project Start Location	Project End Location	Local Functional Classification	Project Purpose	Description	Cost to Date (for some Portland calcs)	Estimated Cost ($2007)	Time Period	Federal FC Priorities	2040 Land Use	Mobility Corridor or Community Building?	Primary Mode	Secondary Mode(s)
10022	Clackamas Co.	Clackamas Co.	SE 82nd Dr. Improvements	Clack-amas Rd.	1st Fred Meyer signal	Minor Arterial	Relieve congestion and provide better access to the Clackamas Industrial Area.	Widen to four through lanes, and signalized turn lanes, to accommodate truck movement, upgrade and improve intersection flow and operation		$ 34,000,000	2008-2017	x	Industrial area	MC	Roads/bridges	Freight
10041	Happy Valley	Clackamas Co.	162nd Ave. Extension South Phase 1	Rock Creek Blvd.	Goose-hollow Dr.	Collector	Improve north-south connectivity and provide congestion relief to 172nd Ave.	Construct a new 2 - 3 lane roadway with intersection improvements at Hwy 212 x 162nd on all 4 approaches.		$ 5,000,000	2008-2017	x	Employment area, Industrial area	MC	Roads/bridges	Pedestrian
10042	Clackamas Co.	Clackamas Co.	Lawnfield realignment	Lawnfield Rd.	Sunny-brook Blvd.	Local	Relieve congestion and provide better access to the Clackamas Industrial Area.	Realign the existing Lawnfield Rd. Road from 98th to 97th. ~~reduce the grade fro 18% to 8%~~.		$ 25,650,000	2008-2017	x	Industrial area	CB	Freight	Roads/ bridges
10052	Clackamas Co.	Clackamas Co.	Tolbert Road	SE 82nd Dr.	Industrial Way	Collector	Improve access to the Clackamas Industrial Area - Lawnfield Rd. road area.	Extend Tolbert Rd. across UPRR tracks, Industrial Way to SE 82nd Dr.		$ 17,500,000	2008-2017	x	Industrial area	CB	Roads/bridges	Pedestrian
10869	ODOT	ODOT	Sunrise Project: Construct improvements in the Sunrise Corridor consistent with the supplemental EIS	I-205	122nd Ave. x Hwy 212/224	Interstate	Address existing congestion and safety problems in Sunrise corridor; serve planned growth in Damascus TC; and provide improved access to I-205 for Clackamas Industrial Area.	Construct improvements consistent with the supple-mental EIS: 2-lane mainline; new O'Xing of I-205 connec-ting 82nd Ave. < > 82nd Dr.; 3rd WB lane, UPRR viaduct < > I-205; PE 162nd x OR 212.		$ 150,000,000	2008-2017	X	2040 Corridor	MC	Throughways	Freight
10890	ODOT	ODOT	Sunrise Project: Acquire right-of-way: Webster Rd. to SE 172nd Ave	Webster Rd. x Hwy 224	172nd Ave. x Hwy 212	Principal arterial	Preserve right-of-way for Phase 1 of Sunrise Project.	Acquire right-of-way: Webster Rd. to SE 172nd Ave. to accommodate six-through lane expressway, plus auxiliary lanes.		$ 145,000,000	2008-2017	X	2040 Corridor	MC	Throughways	Freight
10894	ODOT	ODOT	Sunrise Hwy. PE: Webster Rd. to SE 172nd Ave	Webster Rd. x Hwy 224	172nd Ave x Hwy 212	Principal arterial	Address existing congestion and safety problems in Sunrise corridor; serve planned growth in Damascus TC; and provide improved access to I-205 for Clackamas	Preliminary engineering and EIS fromWebster Rd. to SE 172nd.		$ 20,000,000	2008-2017	X	2040 Corridor	MC	Throughways	Freight
11347	Clackamas County	Clackamas County	Sunrise Multi- use path	I-205	Rock Creek Junction	Regional bikeway	Address gaps in regional bike and pedestrian system.	Construct new mullti use path to/from I-205 paralleling the Sunrise Project.		$ 6,000,000	2008-2017	x	Industrial area	MC	Pedestrian	
11349	ODOT	ODOT	Hwy 212/224 improvements	82nd	98th	Principal arterial	Relieve congestion and provide better access to the Milwaukie and Clackamas Industrial Areas.	Construct 3rd WB lane on Hwy 212/224		$ 20,000,000	2008-2017	x	Industrial area	MC	Freight	
11350	ODOT	ODOT	Milwaukie Expressway improvements	I-205	Webster Rd	Principal arterial	Relieve congestion and provide better access to the Clackamas Industrial Area.	3rd WB lane on Milwaukie Expressway (Hwy-224) from I-205 to/past Webster Rd		$ 5,000,000	2008-2017	x	Industrial area	MC	Freight	
										$ 428,150,000						

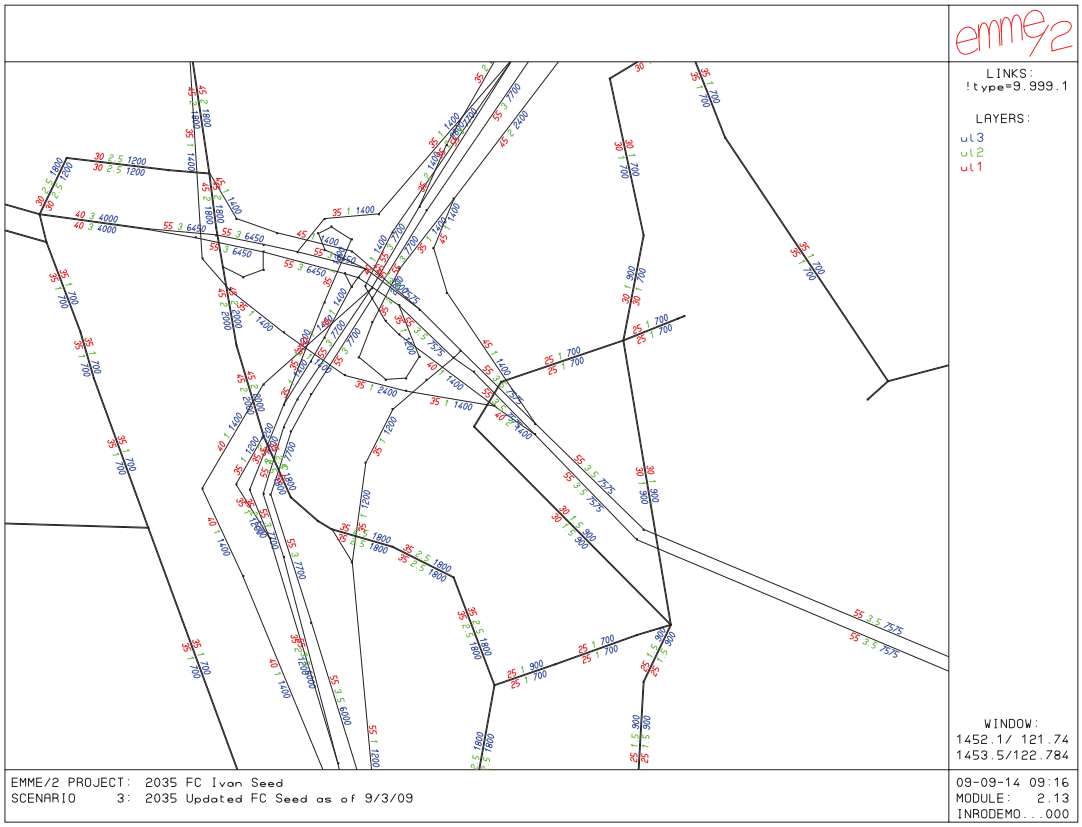


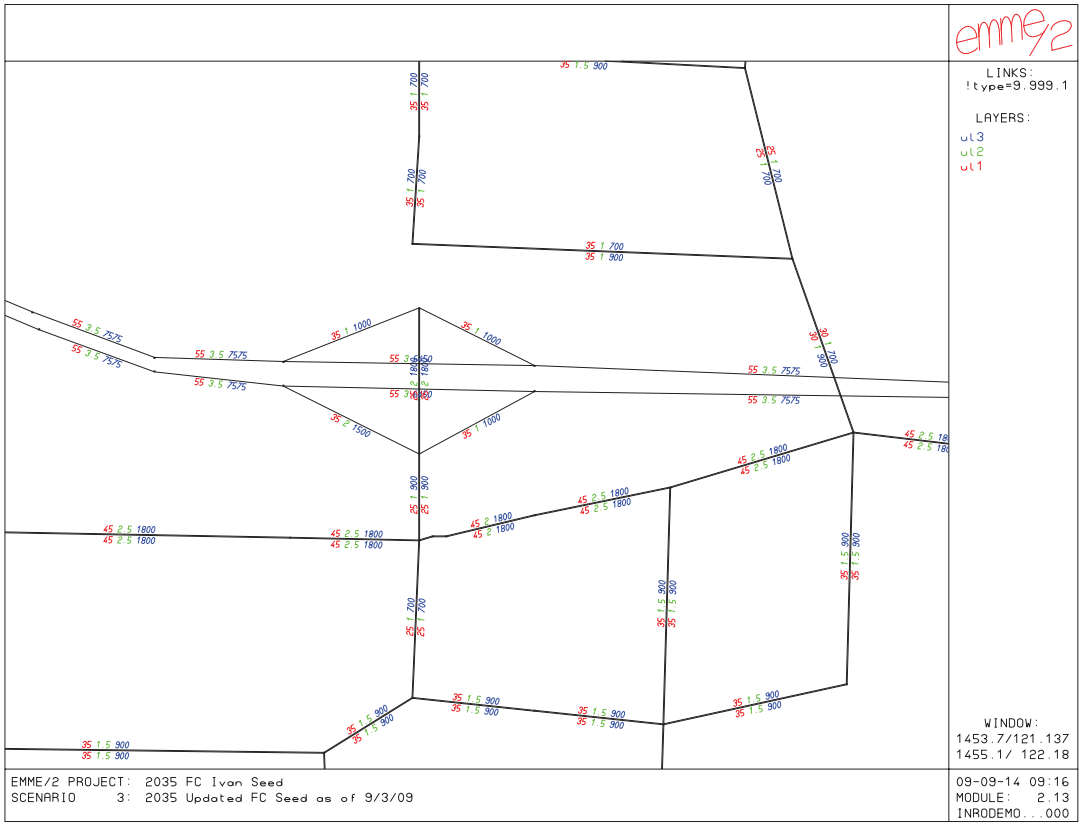
Sunrise Project, I-205 to Rock Creek Junction
Sunrise Project
Preferred Alternative - RTP Project Elements
RTP Projects
Preferred Alt Oct 2009
May 2010
0
1,625
3,250
6,500 Feet
RTP # 10042
Lawnfield Rd Realignment
RTP # 11350
3rd WB Lane, OR 224
RTP # 10869
Construction, I-205 - SE 122nd
RTP # 11347
Multi-Use Path, I-205 - Rock Creek Jct
RTP # 10890
ROW Aquisition For Preferred Alternative
RTP # 10894
PE For Preferred Alternative
RTP # 10052
Tolbert Rd O'Xing
RTP # 10869
Construction, I-205 - SE 122nd
RTP # 10041
SE 162nd Ave Improvements
RTP # 11349
3rd WB Lane, OR 212/224
RTP # 10022
82nd Dr Improvements
THOMPSON
STANLEY
LINWOOD
FULLER
STEVENS
RAILROAD
HARMONY
LAKE
HWY 224
JOHNSON
LAWNFIELD
WEBSTER
ALDERCREST
THIESSEN
CLACKAMAS
ROOTS
MCKINLEY
STRAWBERRY
JENNINGS
VALLEY VIEW
LOS VERDES
GLEN ECHO
OATFIELD
CASON
82ND
I205
97TH
SUNNYSIDE
MATHER
HUBBARD
HWY 212
JENNIFER
CAPPS
CLACKAMAS RIVER
HWY 224
122ND
129TH
132ND
135TH
130TH
120TH
142ND
147TH
145TH
152ND
72ND
205
213
224
212

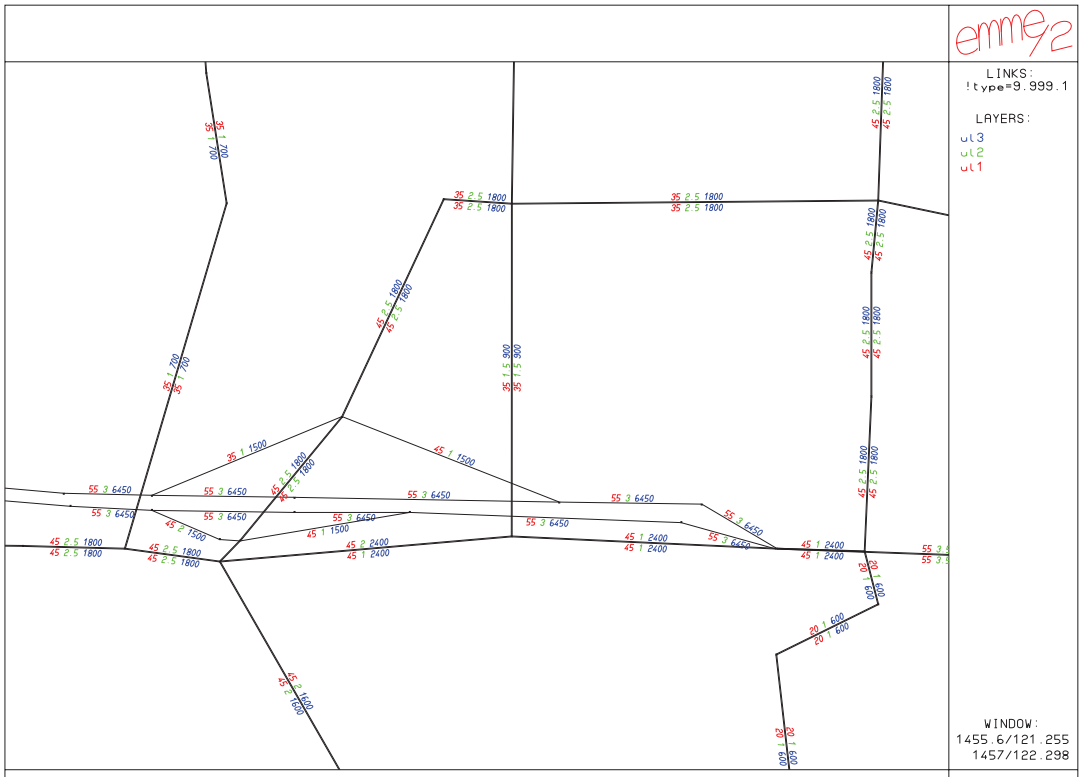
From: Thaya Patton [mailto:Thaya.Patton@oregonmetro.gov]
Sent: Monday, October 26, 2009 11:34 AM
To: PICCO Thomas J
Subject: RE: RTP 2035 model

"Attached find Metro EMME2 plots depicting coding for proposed improvements for the entirety of the Sunrise Project SDEIS Preferred Alternative. Metro intends to model the Sunrise Project Preferred Alternative as noted in the attached plots."

Metro EMME2 plots depicting coding for proposed improvements for the entirety of the Sunrise Project Preferred Alternative

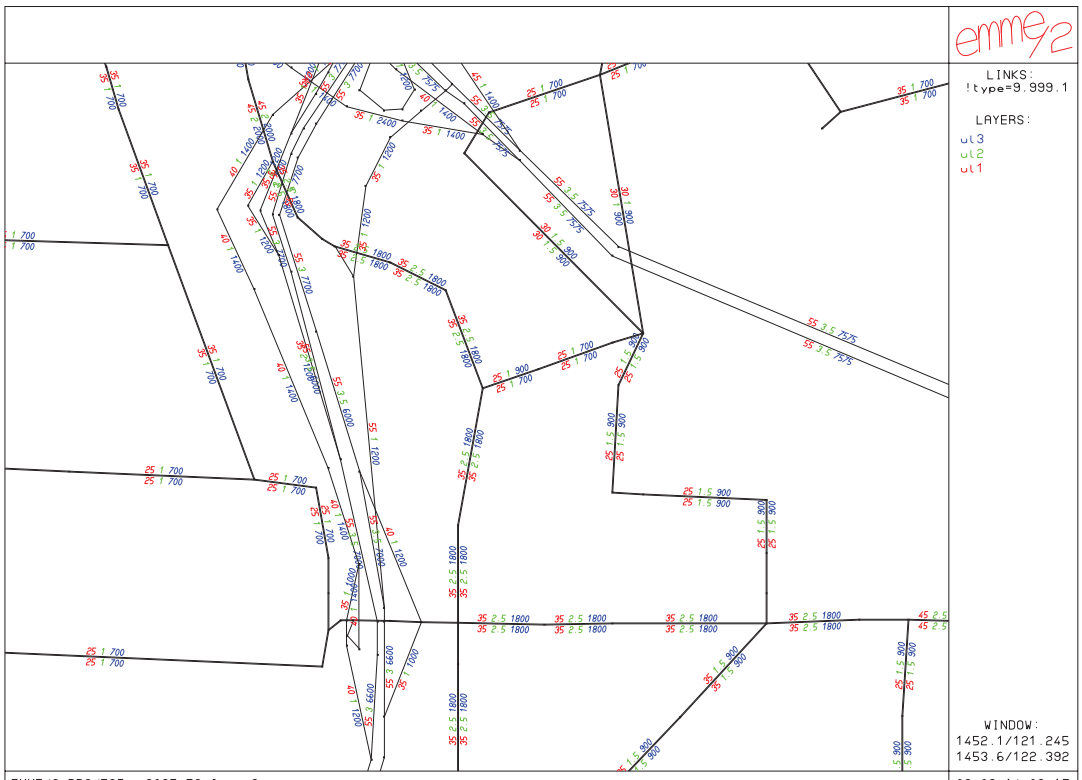






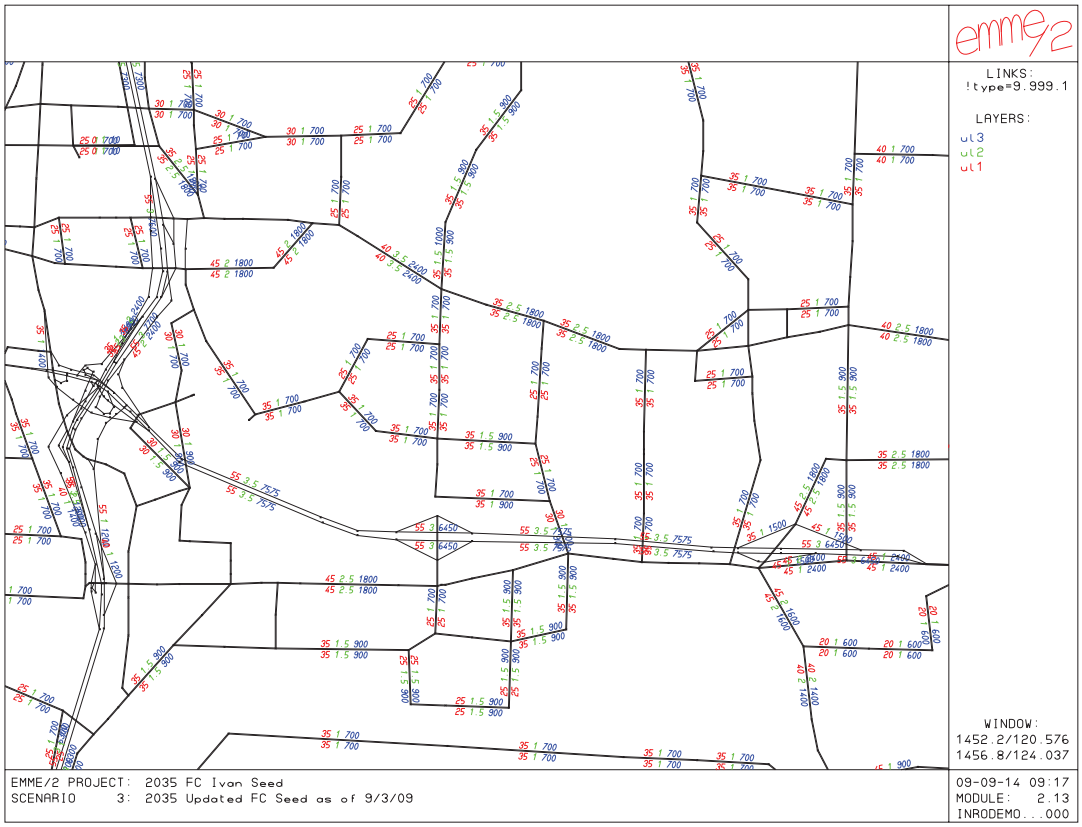
EMME/2 PROJECT: 2035 FC Ivan Seed
SCENARIO 3: 2035 Updated FC Seed as of 9/3/09

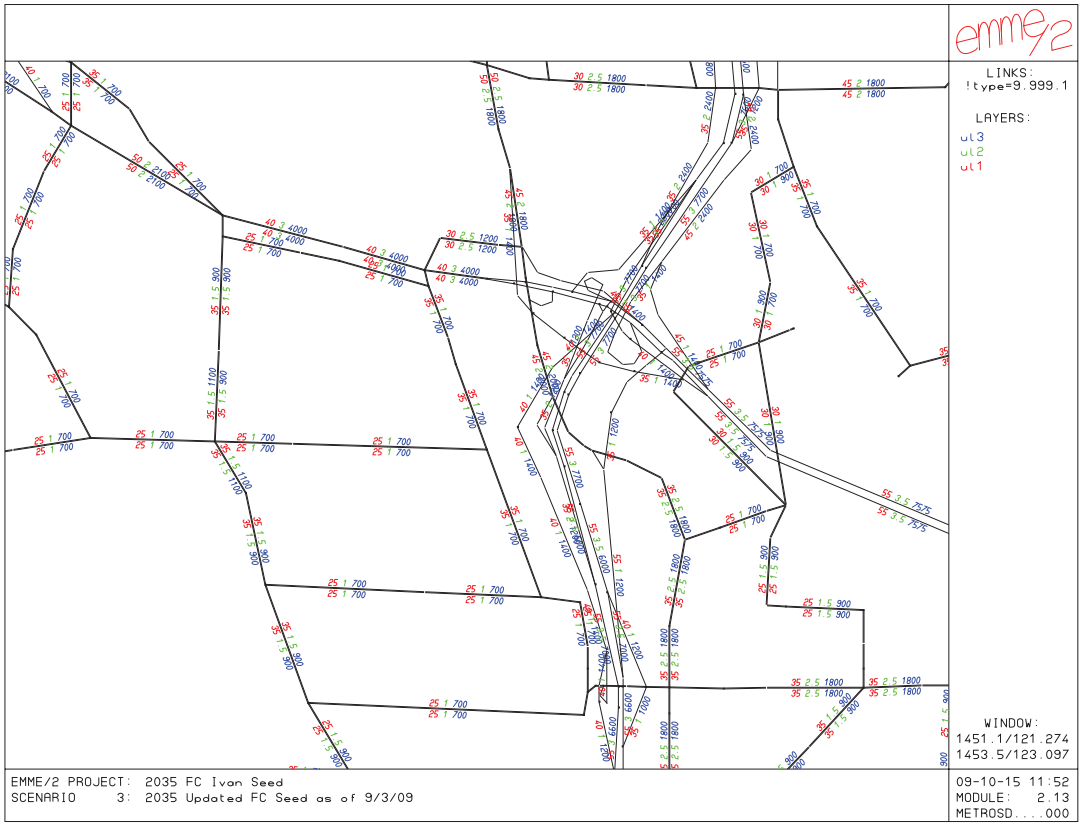
09-09-14 09:16
MODULE: 2.13
INRODEMO...000



EMME/2 PROJECT: 2035 FC Ivan Seed
SCENARIO 3: 2035 Updated FC Seed as of 9/3/09

09-09-14 09:17
MODULE: 2.13
INRODEMO...000


emme/2
LINKS:
!type=9.999.1
LAYERS:
ul3
ul2
ul1
WINDOW:
1452.2/120.576
1456.8/124.037
EMME/2 PROJECT: 2035 FC Ivan Seed
SCENARIO 3: 2035 Updated FC Seed as of 9/3/09
09-09-14 09:17
MODULE: 2.13
INRODEMO....000


emme/2
LINKS:
!type=9.999.1
LAYERS:
ul3
ul2
ul1
WINDOW:
1451.1/121.274
1453.5/123.097
EMME/2 PROJECT: 2035 FC Ivan Seed
SCENARIO 3: 2035 Updated FC Seed as of 9/3/09
09-10-15 11:52
MODULE: 2.13
METROSD.....000

ODOT and FHWA Efforts on Climate Change

ODOT's Internal Efforts on Climate Change

Introduction

The Oregon Department of Transportation is actively working toward reducing the amount of greenhouse gases (GHG) emitted by our operations and the transportation sector. By collaborating with others to develop innovative responses we are minimizing energy use in facilities, increasing fuel efficiency and use of low carbon fuels in the fleet, and encouraging employees to reduce their commuting energy use. ODOT is striving to operate sustainably; to be responsible for the impacts of our transportation operations and activities on our workforce, the environment, and the planet. Although ODOT may not achieve every emissions reduction goal, simply by focusing attention on GHG reductions and climate change, ODOT will move beyond what would have been achieved in a business-as-usual scenario.

Process of Internal Climate Change Related Efforts

- ODOT was the first state agency in Oregon to have a comprehensive Sustainability Program and the first to develop a sustainability plan.
- ODOT has a Sustainability Program manager, who reports to ODOT's chief of staff and interacts regularly with ODOT staff. Climate change is one of the many topics within the scope of **ODOT's Sustainability Program**.[1]
- ODOT has a **Climate Change Executive Group** comprised of senior executive staff, the purpose of which is to provide overall direction within ODOT regarding the interrelationship of GHG production, climate change and the planning and operation of Oregon's transportation systems.
- ODOT has a **Climate Change Technical Advisory Committee** (TAC), the purpose of which is to develop an understanding of the implications of climate change initiatives to the agency and its work. This group also provides credible technical advice regarding the interrelationship of GHG production, climate change, and the planning and operation of Oregon's transportation systems.
- ODOT representatives participate in a number of key groups:
    - Department of Environmental Quality Mandatory Greenhouse Gas Reporting Rulemaking
    - The Oregon Global Warming Commission (OGWC)
        - The Transportation and Land Use Committee of the OGWC
    - Oregon Sustainability Board
    - Low Carbon Fuel Advisory Committee
    - Truck Efficiency and Idle Reduction Committee

[1] ODOT has a Sustainability Council, comprised of mid- to senior-level managers representing a variety of functional and geographic backgrounds. The Council provides high-level direction, approves and monitors sustainability work items, and recommends policy and practice changes to ODOT's Director.

Internal Operations

- **ODOT Sustainability Volume II:**
  - The ODOT Sustainability Program is developing a Sustainability Plan comprised of three volumes covering the vision of sustainability at ODOT, ODOT's internal operations, and ODOT's sustainable management of the statewide transportation system.
  - **Volume II: *Sustainability Management Framework for ODOT's Internal Operations*** sets goals, strategies and performance measures for ODOT's internal operations, such as its facilities and fleet. There are seven focus areas in Volume II:
    - energy/fuel use and climate change
    - material resource flows
    - environmental stewardship
    - land use and infrastructure
    - economic health
    - social responsibility/ workforce well-being and development
    - health and safety
  - The goals and strategies in these seven focus areas will act as a roadmap for implementing sustainability within ODOT and its operations.
- **Conservation and Alternative Resource Teams** (CART) are small "green teams" of interested employees at major ODOT offices who help educate employees about work-related conservation efforts such as recycling, energy saving, and commuting options.
- ODOT undertakes annual reporting of its own GHG emissions to the Department of Administrative Services (DAS) and the Governor's office.
  - ODOT actively participated in the State of Oregon Greenhouse Gas Tracking Interagency Team to develop the methodology for agencies to track their own emissions.
  - Three sources are included: building energy use, fleet fuel use, and solid waste generation.
  - Internal processes are being updated to enable more accurate and efficient data tracking and reporting.
- **ODOT's Facilities Section** is a leader in state government.
  - Facilities Services is installing energy-efficient lighting, windows, insulation, thermostats, and white roofs to reduce energy costs in certain buildings when a replacement is needed. Through these actions ODOT is actively working to meet the Governor's energy goals.
  - The recommended project plans for the Transportation Building renovation meets Leadership in Energy and Environmental Design (LEED) Gold certification. This is justified by a cost-benefit study which showed that when lifecycle impacts are considered, a high performance environmentally friendly renovation of the Transportation Building would

save about $90 million over 20 years (compared to a market-rate renovation).

- **ODOT's Fleet Section** is a leader in state government.
    - As of 2009, there were 164 E85 (85% ethanol and 15% gasoline) vehicles in ODOT's fleet.
    - ODOT is replacing its older fleet with increased use of hybrid and all Electric Vehicles (EV) technology in sedans; including two 100 mpg Plug-in Hybrid Electric Vehicles (PHEV). Additionally, ODOT is exploring the feasibility of expanding electric plug-in facilities beyond the two located in Portland and Salem.
    - The Fleet Section updated the policy and fleet manual on proper tire inflation and maintenance to reduce tire wear and fuel consumption and improve safety.
    - ODOT successfully tested the Autotherm energy recovery system to reduce idling to conserve fuel and lower emissions in the heavy equipment fleet.
    - ODOT highway plans to meet and sustain a 30% B-20 biodiesel use by summer of 2010.
- ODOT strives to reduce energy consumption by its highway lighting systems.
    - For example, ODOT's Region 1 annual electric bill was over $1.2 million of which 50 percent came from signals and flashers. Region 1 has retrofitted 95% of its signals and flashers with power-saving LEDs resulting in energy consumption reductions equivalent to the annual power needed for over 140 Oregon homes. This has saved ODOT $110,000 per year on its electric bill.
    - ODOT continues to research and test innovative highway lighting technology that will reduce energy use, but still serve the essential purpose of lighting Oregon's highways.
- ODOT encourages alternative employee commute practices.
    - Employees who work outside Region 1 headquarters or the Capitol Mall, but within mass transit districts have the ability to purchase transit passes on a pre-tax basis via payroll deduction.
    - ODOT encourages participation in the Bike Commute Challenge, a competition between businesses to increase bicycle use, and the "Governor's Commute Challenge", which is aimed at reducing drive-alone trips.
    - ODOT employs technology solutions such as video conferencing, tele-conferencing, and web casts (I-link) to allow employees to participate remotely in meetings and conferences and avoid excessive travel.

The Department is already reducing emissions throughout the agency in its fleet and facilities. ODOT will need to continue this work and create new programs to both mitigate future emissions from its internal operations and adapt its facilities to potential climate change.

Appendix 1: Policy Mandates Related to Internal Operations

ORS 276.900 states that "It is the policy of the State of Oregon that facilities to be constructed or purchased by authorized state agencies be designed, constructed, renovated and operated so as to minimize the use of nonrenewable energy resources and to serve as models of energy efficiency."

OTP Policy 4.2.2 supports the conversion of fleets to more fuel-efficient and alternative fuel vehicles, especially those using renewable and cleaner fuels.

A goal of 20% energy reduction by state agencies by 2010 (over a 2000 baseline) is mandated by Executive Order 06-02; energy savings are required to come from both new and existing buildings and other metered electricity use.

When siting state office locations, Executive Order 94-07 "Siting State Offices in Oregon's Community Centers" requires preferential consideration be given to locations within central business districts and conveniently close to transit in communities that have transit service. Other areas of mixed use development that are highly accessible to the public, have a fully developed pedestrian circulation system, have high quality transit service (in those communities with transit service), and are designated as urban centers in the applicable comprehensive plan may also be given priority consideration.

OAR 330-130 prescribes procedures to minimize energy use in new and renovated facilities designed and constructed by state agencies; guidelines for implementing these procedures are given in the State Energy Efficient Design (SEED) Program Guidelines.

Governor Kulongoski has stated his desire for state agencies to purchase 100% of their energy from renewable sources by 2010.

Oregon's Renewable Energy Action Plan (REAP) mandates the following use of biofuels: 10% of the gasoline used by the state government's fleet vehicles will be E85 by 2010, increasing to 25% by 2025; 10% of the diesel used by state government's fleet vehicles will be B-20 by July 2007, increasing to 25% by July 2010 and 100% by 2025.

DAS Policy 125-6-010 "Sustainable Facilities Standards and Guidelines" requires:

- Building decisions must consider the full life of materials. The review must include life cycle assessment and life cycle cost factors.
- New state-owned buildings shall be designed to meet the point equivalent of a Leadership in Energy and Environmental Design (LEED) Silver rating.
- Renovations of state-owned or build-to-suit leased buildings shall be designed to meet the point equivalent of a LEED Certified rating.

DAS Policy 107-009-0050 "Sustainable Acquisition and Disposal of Electronic Equipment" requires the use of Electronic Products and Acquisition Technology (EPEAT) environmental and energy criteria for the purchase of computer equipment such as desktops, computer laptops, computer monitors, and input or output devices.

APPENDIX D. BRIEFING PAPER: ODOT'S EFFORTS ON CLIMATE CHANGE

Working Draft

INTRODUCTION

Climate Change mitigation encompasses activities devised to reduce the emission of greenhouse gases and thereby limit associated climate change. Climate change adaptation includes actions that would be implemented to respond to the effects of climate change. In its recent background document on climate change and transportation, the Federal Highway Administration listed the 4 primary climate change mitigation strategies to reduce greenhouse gas emissions from transportation. They are: (1) vehicle technology, (2) low carbon fuels, (3) vehicle miles traveled, and (4) systems efficiencies. The first two strategies are not directly affected by most ODOT activities. The second two mitigation strategies however, can be directly affected by ODOT and along with adaptation strategies characterize the efforts discussed in this document.

The purpose of this paper is to provide a quick topical listing of ODOT's current climate change efforts to brief both internal parties (managers and staff groups) and external constituents (legislators, various stakeholders, those involved in transportation funding discussions, and others with sufficient background and understanding of ODOT to quickly grasp the summary's context). Following this Introduction, the paper is organized into three major subgroups of climate change efforts:

- those **INTERNAL AND EXTERNAL EFFORTS** which are **PROCESS-RELATED**,
- those which are about ODOT's **INTERNAL OPERATIONS EFFORTS**,
- and those which are about the **EXTERNAL TRANSPORTATION SYSTEM EFFORTS**.

Following the 3 sections in the body of the paper are two Appendices that list **POLICY MANDATES RELATED TO INTERNAL OPERATIONS** and **POLICY MANDATES RELATED TO THE TRANSPORTATION SYSTEM**.

INTERNAL AND EXTERNAL PROCESS-RELATED EFFORTS

- ODOT has a Sustainability Program Manager, who reports to ODOT's Chief of Staff and interacts regularly with ODOT's Director, the Governor's Sustainability Advisor, and the Oregon Sustainability Board. Climate Change is one of many topics within the scope of ODOT's Sustainability Program which assists staff in carefully managing activities and assets so that the agency can sustain access to essential goods and services, economic opportunities, transportation choices, livable communities and healthy natural resources for all Oregonians.
- ODOT has a Sustainability Council, comprised of mid- to senior-level managers representing a variety of functional and geographic backgrounds. The Council provides high-level direction, approves and monitors sustainability work items, and recommends policy and practice changes to ODOT's Director.
- ODOT has a Climate Change Executive Group comprised of senior executive staff, the purpose of which is to provide overall direction within ODOT regarding the interrelationship of greenhouse gas production, global climate change and the planning and operation of Oregon's transportation systems. This group will provide a forum for discussion as to the work and activities of other internal committees and the impacts it has on the agency and their responsibilities.
- ODOT has a Climate Change Technical Advisory Committee the purpose of which is to develop an understanding of the implications of climate change initiatives to the agency and its work. Their purpose also includes providing credible technical advice regarding the interrelationship of greenhouse

gas production, global climate change and the planning and operation of Oregon's transportation systems, as well as the potential impacts of climate change on transportation infrastructure.

- The 2006 Oregon Transportation Plan (OTP) lays the policy foundation for addressing climate change. The OTP has seven broad goals, one of which is focused on sustainability. The sustainability goal has policy statements relating to environmental responsibility, energy, and creation of communities. Specific strategies are listed under each policy, some of which relate directly to climate change. In addition, climate change is discussed as one of the major challenges for the state's transportation systems.
- ODOT representatives participate in a number of key groups:
    - Governor's Climate Change Integration Group (CCIG) – through completion of Group's final report to the Governor, provided staff support, gave transportation and ODOT perspective, and reviewed report drafts.
    - Western Climate Initiative (WCI) – attend meetings and provide input.
    - Department of Environmental Quality Mandatory Greenhouse Gas Reporting Rulemaking – give transportation and ODOT perspective, member of the mobile source subcommittee.
    - The Governor's Transportation Committees including the Vision Committee and the Environmental Working Group – attend meetings and provide input.
    - The Global Warming Commission (GWC) - attend meetings and provide input.
    - The Transportation and Land Use Committee (T&LUC) of the GWC– provide staff support, attend meetings, and provide input.
    - The Modeling Subcommittee of the T&LUC – provide staff support, attend meetings, and have individuals that participate as full technical members.
    - The Big Look Task Force – attend meetings and provide input.
- ODOT is a member of the Oregon Natural Step Network, the Columbia Willamette Clean Cities Coalition, and will be a major sponsor of the Oregon Environmental Council 2008 Forum for Business and Environment.

INTERNAL OPERATIONS EFFORTS

- ODOT undertakes annual reporting of its own greenhouse gas emissions to the Department of Administrative Services (DAS) and the Governor's Office:
    - ODOT actively participated in the State of Oregon Greenhouse Gas Tracking interagency team (along with the Department of Environmental Quality, the Oregon Department of Energy, the Oregon University System, and the Department of Administrative Services) to develop the methodology for agencies to track their own emissions.
    - Three sources are included: building energy use, fleet fuel use, and solid waste generation.
    - Internal processes are being updated to enable more accurate and efficient data tracking and reporting.
- ODOT's Facilities Section is a leader in state government:
    - All new major facilities throughout the State are built to Leadership in Energy and Environmental Design (LEED) green building Silver standards at a minimum.
    - The Request for Proposals for the Transportation Building renovation targets LEED Gold as the desired level. This is justified by a cost-benefit study which showed that when lifecycle impacts are considered, a high performance environmentally friendly renovation of the Transportation Building would save about $90 million over 20 years (compared to a market-rate renovation).
    - ODOT is actively working to meet the Governor's energy goals through conservation measures and initiatives such as lighting switch-outs.
- ODOT's Fleet Section is a leader in state government:

  - In fiscal year 2007, 13% of the diesel fuels ODOT purchased were B20 biodiesel. In October 2007, the amount had increased to 22%, and ODOT is on track to meet the Governor's goal of 25% by July 2010.
  - Prioritizing hybrids and more efficient sedans over SUV's.
  - Switching out truck and message board lights to LED's to save energy and limit truck idling.
  - Beginning a project to convert an older Toyota Prius to a plug-in electric vehicle, aiming for 100 mpg.
  - Testing idle reduction technology on some of its heavy equipment.
- ODOT strives to reduce energy consumption by its highway lighting systems:
  - ODOT's Region 1 annual electric bill was over $1.2 million of which 50% came from signals and flashers. Region 1 has retrofitted 95% of its signals and flashers with power-saving LEDs resulting in energy consumption reductions equivalent to the annual power needed for over 140 Oregon homes. This has saved ODOT $110,000 per year on its electric bill.
- ODOT encourages alternative employee commute practices:
  - ODOT and/or DAS provide free transit passes to employees who work more than half time and more than 6 months a year at Region 1 headquarters in Portland and all employees who work within the Salem Capitol Mall area.
  - Employees who work outside Region 1 headquarters or the Capitol Mall but within mass transit districts have the ability to purchase transit passes on a pre-tax basis via payroll deduction.
  - ODOT encourages participation in the Bike Commute Challenge, a competition between businesses to increase bicycle use.
  - ODOT Policy PER 18 (Telecommuting) endorses telecommuting as a work option for selected employees; the policy states that "when appropriately applied, such practice can benefit both the Department and the employee in improved employee performance, enhanced employee morale, reduced commuting miles, and reduced air pollution and traffic congestion." ODOT's Virtual Private Network allows employees access to their files and email from home and other remote locations.
  - ODOT employs technology solutions such as video conferencing, tele-conferencing, and web casts (I-link) to allow employees to participate remotely in meetings and conferences and avoid excessive travel.
  - Inside ODOT articles promote ways to save fuel and other resources during work-related travel and employee commutes.
- Conservation and Alternative Resource Teams (CART) are small "green teams" of interested employees at major ODOT offices who help educate employees about work-related conservation efforts such as recycling, energy saving and commuting options. CART members have their supervisor's approval to spend a few hours a month on CART activities.

EXTERNAL TRANSPORTATION SYSTEM EFFORTS

Land Use and Planning

- ODOT provides financial and technical support to local governments and Metropolitan Planning Organizations in the development of plans under the Transportation Planning Rule (TPR) and Statewide Planning Goal 12. Oregon's TPR requires reduced reliance on Single Occupant Vehicles (SOV) and local actions encouraging the development and use of reasonable alternatives such as transit and ridesharing. Statewide Planning Goal 12 requires that transportation systems, to the fullest extent possible, should be planned to use existing facilities and rights-of-way provided that such use is not inconsistent with the environmental, energy, land-use, economic or social policies of the state.

- The Oregon Highway Plan (establishes long-range policies and investment strategies for the State Highway System) written in 1999 and amended as recently as January 2006, includes goals, policies, and actions associated with Land Use and Transportation Policies, Travel Alternatives, and Environmental Resources among others. Climate change is addressed through the associated goals and policies about Access Management, Transportation Demand Management (TDM), and actions that protect Air Quality.
- The 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 places 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 sketch-book planning tool to estimate greenhouse gas 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 future years.
- ODOT is a key participant in the Oregon Modeling Steering Committee (OMSC) formed to improve the state-of-the-practice and promote state-of-the-art land use-transportation modeling in the state of Oregon and serve as a consensus forum and support group to coordinate the land use-transportation modeling efforts of federal, state, regional and local agencies. The OMSC serves as a technical resource and peer reviewer of land use and transportation planning tools developed for greenhouse gas emission analysis.

Multi-Modal System

- ODOT's Public Transit Division assists communities with the development of alternative transportation options, including rideshare programs, park and ride lots, telecommuting programs, and information and incentive programs to encourage the use of alternatives to driving alone:
    - In 2005 ODOT worked with local jurisdictions to conduct individualized marketing pilot projects in Portland, Salem/Keizer, Eugene, and Bend. The program called TravelSmart uses innovative individualized marketing to encourage environmentally-friendly ways to travel.
    - In February 2006 ODOT, Metro, TriMet, City of Vancouver and other public and private partners launched the Drive Less/Save More Campaign in February 2006. The Drive Less/Save More Campaign seeks to reduce single-person car trips by promoting travel options like public transit, car pooling, biking and walking and encouraging drivers to trip chain or combine multiple errands into single trips.
    - ODOT Region 2 sponsors the Commuter Solutions Group in Lane County
    - ODOT is a key sponsoring agency for the Central Oregon Commute Options program, including the Central Oregon Rideshare & Transportation Demand management Program.
    - ODOT Regions dedicate a portion of their Statewide Transportation Improvement Program requests for funding capital investments in transit.
    - In 2004 ODOT Public Transit Division used flexible federal funds to initiate a small program to assist urban transit providers to replace older mass transit vehicles. The program started with $1 million annually and has been increased to $2 million annually, replacing roughly eight large buses each year.
    - ODOT encourages public transit providers to use alternative fuels where possible. Some providers are increasing the amount of biofuels they use, as well as experimenting with improved engines and hybrid options in their fleets.
    - ODOT Public Transit Division has used increases in federal funds for rural and intercity bus service to fund new or expanded service in Welches, Sandy, Yamhill County, Curry County, Linn County, Hood River, The Dalles, Columbia County and other areas of Oregon.

  - ODOT Transit Division and Rail Division have collaborated to improve and increase bus/rail connections. Service and schedules have been coordinated to connect additional Amtrak choices in Portland. Currently ODOT is testing productivity for weekend express bus/rail connections for Eugene and University of Oregon students.
  - ODOT Transit Division and the Governor's Office are collaborating in the "Governor's Commute Challenge". A 2008 summer activity challenging State Capital Mall employees to reduce drive-alone trips and save greenhouse gas emissions.
- 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. ODOT supports Amtrak rail service from Eugene to Portland, increasing to five trains and four Amtrak Thruway bus connections to trains per day.
- 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.
  - Safe Routes to School program will fund 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 (CMAQ) Improvement Program provides approximately $14 million per year of funds across Oregon for Transportation Demand Management (TDM), Transit, and Bicycle/Pedestrian facilities projects
- *Connect*Oregon 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.
  - *Connect*Oregon I, approved in the 2005 legislative session, has 40 projects all of which are underway, many of which are complete. It was a significant success with even non-funded applicants praising the process. Associated projects included the Portland Streetcar Lowell Extension, the Lane Transit District Pioneer Parkway Bus Rapid Transit Project, the City of Bend Public Transit Operations and Maintenance Center, and the Community Connection of Northeast Oregon multimodal Transit Consolidation and Improvement Project.
  - A bill for *Connect*Oregon II was successful in the 2007 Legislature. The Oregon Transportation Commission has recently approved the selection of projects for *Connect*Oregon II. Selected projects for include a Columbia County Public Transit Facility, the Lane Transit District Veneta Transit Center, the Salem-Keizer Transit District Keizer Transit Center, the City of Bend Central Oregon Inter-modal Transit Center, the City of Prineville Multi-modal Railroad/Freight Depot, and the Union County Alicel Inter-modal Rail Logistics Center.
- 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 Financial Services is assisting with the sale of $250 million of lottery backed bonds that will assist in capital construction of the TriMet light rail expansion and ODOT Public Transit is administering the distribution of $20 million in lottery backed bonds for the purchase of streetcars to enable streetcar system expansion.

Freight

- ODOT Motor Carrier's Green Light program helps truckers save time and money and reduce emissions by "preclearing" trucks so they don't have to stop at Oregon weigh stations – saving an estimated 113,000 hours and $13 million for truckers in 2006.
- TDD's Freight Mobility Section is conducting Oregon's first statewide freight planning effort, to ensure freight planning at local, statewide and regional levels reflects Oregon's sustainability as well as economic goals and strategies.
- In 2006, ODOT provided a $3 million loan to the non-profit organization Cascade Sierra Solutions (CSS) to fund heavy-duty truck efficiency and idle reduction programs that reduce fuel consumption and greenhouse gas emissions. CSS operates in the States of Washington, Oregon and California with a primary focus on the Interstate 5 corridor. This loan was unprecedented and ODOT worked closely with FHWA to make the money available. The loan funds purchases of fuel-saving equipment like auxiliary power units which CSS then leases to small truck operators.
- 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 and cab heat and air conditioning systems so that truck operators do not have to idle their diesel engines overnight.
- In light of the significant impact to the renewable energy sector and economic development in the state, ODOT accelerated decision-making processes to allow oversized vehicles on I-84 for shipping wind turbines.

Optimizing the System

- ODOT participated in the City of Portland's grant from the Climate Trust to improve signal coordination on 3 ODOT corridors in the Portland Metro area. The retiming was completed in 2005. It was estimated that the retiming would offset more than 33,000 metric tons of CO2 in the first year alone, with declining benefits after that. The grant paid for equipment to allow better signal coordination.
- ODOT's Region 1 has implemented adaptive ramp metering control systems. The ramp signals are optimized to keep the freeway traffic moving as well as possible depending on the level of congestion. This limits stopping and starting on the ramps and helps to reduce vehicular emissions and fuel consumption.
- Under the previous system the meters were pretimed and would stop vehicles on the ramps even when there was no congestion. Since 2004, ODOT has added a number of Intelligent Transportation System (ITS) technologies including cameras, variable message signs, highway advisory radio and weather stations to our inventory for operating the system. We have made improvements to our traveler information systems such as adding better information about public transportation options to TripCheck, delivering traveler information better formatted for wireless devices through our TripCheck Mobile system, and delivering traveler information to cable TV in several locations around the state. These technologies help optimize the use of the systems and ease peak demand.

Innovative Pilot Projects

- With direction from the legislatively mandated Road User Fee Task Force, ODOT developed an electronic mileage fee collection system that could support congestion pricing. This system, which would enable ODOT to disconnect its revenues from the consumption of fossil fuels, was tested in a year long study that ended in March 2007 and included a congestion pricing element.
- The Oregon Solar Highway Initiative – ODOT has initiated a project to demonstrate the viability of locating solar arrays along state highway rights of way. The first demonstration project is located at the interchange of I-5 and I-205 and will be operational before year's end. Funding for the project comes

through a public-private partnership with Portland General Electric (see http://www.oregon.gov/ODOT/HWY/OIPP/docs/solar_factsheet.pdf for details on the financing). ODOT will not own the array and is not responsible for operating or maintaining it. Instead ODOT will purchase the green power generated from the array at the same rate it would pay for grid energy – essentially getting caviar for the price of trout eggs. This is significant because unlike other state (General Fund) agencies, ODOT cannot purchase "green tags" or renewable energy certificates in order to secure green electricity, due to current interpretation of the constitutional limitations on the Highway Fund. ODOT can only get green energy by generating its own. This single installation will reduce annual carbon emissions by 38.9 metric tons of CO2e (carbon dioxide equivalent) compared to electricity purchased from the Pacific Northwest Regional Energy Grid. Future installations will include other ODOT properties, including roof tops, facility ground mounts, and right of way installations.

- ODOT Alternative Fuels Corridor - The Department is leading an effort 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, by developing partnerships with the private sector and/or other public partners.
- ODOT's Innovative Partnership Program is working with Portland General Electric and other partners on a demonstration project which will design standards for charging stations and develop a public awareness campaign to prepare for mass adoptions of plug-in cars over the next two to five years. For ODOT, the project is part of a larger effort that will investigate a variety of methods for funding, installing, and managing a network of charging stations.
- The Oregon Transportation Commission set aside $8 million in Operations Program funding to be utilized in a competitive project selection process to identify innovative concepts for reducing congestion and/or improving freight mobility on the state highway system. The program will fund the projects that best demonstrate innovative system operations and management strategies and technologies and that have the highest potential for improving the state of the practice for transportation operations. Project funding recommendations from the selection committee will be presented to the OTC in October 2008 for approval.

Highway Construction Projects

- The Columbia River Crossing project in the Portland area, undertook an analysis of greenhouse gas impacts as part of the Draft Environmental Impact Statement alternatives analysis.
- Various aspects of ODOT's innovative Context Sensitive and Sustainable Solutions (CS^3) approach to the OTIA III bridge program support greenhouse gas 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 a minimum of highway grade fuel where alternative fuels are not possible.

APPENDIX 1: POLICY MANDATES RELATED TO INTERNAL OPERATIONS

ORS 276.900 states that "It is the policy of the State of Oregon that facilities to be constructed or purchased by authorized state agencies be designed, constructed, renovated and operated so as to minimize the use of nonrenewable energy resources and to serve as models of energy efficiency."

A goal of 20% energy reduction by state agencies by 2010 (over a 2000 baseline) is mandated by Executive Order 06-02; energy savings are required to come from both new and existing buildings and other metered electricity use.

When siting state office locations, Executive Order 94-07 "Siting State Offices in Oregon's Community Centers" requires preferential consideration be given to locations within central business districts and conveniently close to transit in communities that have transit service. Other areas of mixed use development that are highly accessible to the public, have a fully developed pedestrian circulation system, have high quality transit service (in those communities with transit service), and are designated as urban centers in the applicable comprehensive plan may also be given priority consideration.

OAR 330-130 prescribes procedures to minimize energy use in new and renovated facilities designed and constructed by state agencies; guidelines for implementing these procedures are given in the State Energy Efficient Design (SEED) Program Guidelines.

Governor Kulongoski has stated his desire for state agencies to purchase 100% of their energy from renewable sources by 2010.

Oregon's Renewable Energy Action Plan (REAP) mandates the following use of biofuels: 10% of the gasoline used by state government's fleet vehicles will be E-85 by 2010, increasing to 25% by 2025; 10% of the diesel used by state government's fleet vehicles will be B-20 by July 2007, increasing to 25% by July 2010 and 100% 2025.

DAS Policy 125-6-010 "Sustainable Facilities Standards and Guidelines" requires:

- Building decisions must consider the full life of materials. The review must include life cycle assessment and life cycle cost factors.
- New state-owned buildings shall be designed to meet the point equivalent of a Leadership in Energy and Environmental Design (LEED™) Silver rating.
- Renovations of state-owned or build-to-suit leased buildings shall be designed to meet the point equivalent of a LEED™ Certified rating.

DAS Policy 107-009-0050 "Sustainable Acquisition and Disposal of Electronic Equipment" requires the use of Electronic Products and Acquisition Technology (EPEAT) environmental and energy criteria for the purchase of computer equipment such as desktops, computer laptops, computer monitors, and input or output devices.

APPENDIX 2: POLICY MANDATES RELATED TO THE TRANSPORTATION SYSTEM

OTP[1] 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 a diversified and cleaner energy supply, promote fuel efficiencies and prepare for possible fuel shortages.

OHP[2] 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 (The 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.

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.

[1] *Oregon Transportation Plan, 2006*

[2] *Oregon Highway Plan, 1999*

Highways & Climate Change

FHWA Activities

FHWA supports transportation and climate change research and disseminates the results, provides technical assistance to stakeholders, and coordinates its activities within U.S. DOT and with other Federal agencies. Click on the links below for more information.

Technical Assistance
Outreach/Education
Intra-agency and Interagency Coordination
Ongoing/Current Research

Technical Assistance

Modeling Assistance – The FHWA Resource Center Air Quality Technical Services Team can provide assistance with the use of existing and new models and tools to analyze GHG emissions, including a workshop on EPA's MOVES Model. For more information and contacts please refer to the FHWA Resource Center Air Quality Team web site at: http://www.fhwa.dot.gov/resourcecenter/teams/airquality/index.cfm.

Outreach/Education:

American Association of State Highway and Transportation Officials (AASHTO) Center for Environmental Excellence Climate Change Webinars – FHWA is partnering with AASHTO's Center for Environmental Excellence to conduct a series of webinars on Climate Change in 2010. For more information, contact Diane Turchetta (Diane.Turchetta@dot.gov or 202-493-0158).
DOT Transportation and Climate Change Clearinghouse is a "one-stop" source of information for the transportation community on transportation and climate change issues. For more information, contact Diane Turchetta (Diane.Turchetta@dot.gov or 202-493-0158) or Kathy Daniel (Kathy.Daniel@dot.gov or 202-366-6276).
Summary Report: FHWA/AASHTO Peer Workshop on Climate Change Adaptation (December 2008) – FHWA, in partnership with AASHTO, conducted a Peer Exchange on Climate Change Adaptation in Washington, DC. The peer exchange was an opportunity for senior representatives of selected State DOTs to share experiences and learn from one another regarding adaptation issues. For more information, contact Rob Ritter (Robert.Ritter@dot.gov or 202-493-2139).
Transportation and Climate Change News is a monthly newsletter that provides transportation stakeholders with up-to-date information on transportation and climate change milestones. For more information, contact Becky Lupes (Rebecca.Lupes@dot.gov or 202-366-7808).

Intra-agency and Interagency Coordination:

FHWA Working Group on Adaptation of Transportation Infrastructure to Climate Change Effects – FHWA has formed an internal working group to begin coordinating, leading and implementing agency activities on adaptation to address the various program, policy and technical challenges that the impacts of climate change will present to the transportation industry. For more information, contact Mike Culp (Michael.Culp@dot.gov or 202-366-9229).
Interagency Working Group on Transportation, Land Use, and Climate Change – The Working Group, which is comprised of over 10 Federal agencies, was formed as a result of an interagency meeting of senior managers hosted by FHWA's Office of Planning, Environment, and Realty in June 2008. The senior managers explored partnership opportunities to address GHG emissions from transportation sources. A staff working group is expanding the discussion to include how GHGs can be reduced through better land use planning and travel demand management that would result in lower VMT. FHWA hosted a second senior manager meeting in December 2008. For more information, contact Diane Turchetta (Diane.Turchetta@dot.gov or 202-493-0158).
USDOT Center for Climate Change and Environmental Forecasting – FHWA is a member of this multi-modal effort to research and evaluate transportation strategies to reduce GHGs and to prepare for the potential effects of climate change on transportation systems.

Ongoing/Current Research:

Evaluate How Land Use, Transportation Infrastructure, and Policy Changes Affect Travel Activity and GHG Emissions – The objective of this research is to develop analysis tools that will allow planners and policy makers in small to medium metropolitan areas evaluate how land use, transportation infrastructure, and policy changes affect travel activity and GHG emissions. The work is expected to be completed in the early to mid 2010 timeframe. For more information contact Supin Yoder (Supin.Yoder@dot.gov or 708-283-3554).

Reducing Energy Usage through Transportation Planning for Megaregions – This research will produce tools to help transportation planners reduce the transportation system's energy consumption. Transportation and land use will be considered as a system with respect to energy consumption. The research will identify and refine organizational tools that can build planning capacity and enable planners from numerous MPOs to plan as a unit – a megaregion – and will produce a sketch planning computer tool to help planners implement the capacity-building and megaregion tools. The research results will help create a roadmap for implementing strategies to reduce transportation's energy demand on a megaregion scale. For more information, contact Rob Kafalenos (Robert.Kafalenos@dot.gov or 202-366-2079).

Sustainability Evaluation and Planning Guidance for Transportation Systems – This research will focus on how to incorporate sustainability in transportation planning to address challenges facing the nation's transportation infrastructure including nonrenewable fuel depletion and the resulting energy insecurity, GHG emissions, global climate change, local air quality, fatalities and injuries, congestion, noise pollution, low mobility, ecosystem damage and lack of equity. For more information, contact Diane Turchetta (Diane.Turchetta@dot.gov or 202-493-0158).

Travel Demand and Climate Change – Developing Effective Policy Approaches for Slowing VMT Growth – Through research and dialogue with pivotal stakeholders this project will help determine the extent to which new energy/GHG performance goals may complement or conflict with fundamental transportation system performance and inform the development of effective policy frameworks for slowing VMT growth and reducing GHG emissions. For more information, contact Diane Turchetta (Diane.Turchetta@dot.gov or 202-493-0158).

To provide Feedback, Suggestions or Comments for this page contact Diane Turchetta, Becky Lupes, or Rob Kafalenos.

This page last modified on May 18, 2010

Table D-1: SDEIS Land Use Impacts

Table D-1. SDEIS Land Use Impacts

Property ID# (on map)	Address	Primary Use	Estimated Property Area (acres)	Estimated Right-of-Way Impact (Partial or Full Acquisition)*
1	No address	Industrial	1.04	Partial
2	No address	Industrial	7.62	Partial
3	No address	Industrial	3.31	Alt 2 & 3: C-1: Full, C-2: Partial, C-3: Full
4	No address	Industrial	0.87	Partial
5	8225 SE Deer Creek Lane	Industrial	2.43	Partial
6	No address	Industrial	0.47	Partial
7	8155 SE Deer Creek Lane	Industrial	1.92	Partial
8	8085 SE Deer Creek Lane	Commercial	2.20	Partial
9	No address	Industrial	3.35	Partial
10	8277 SE Deer Creek Lane	Commercial	2.05	Full
11	13750 SE Johnson Road	Commercial	14.10	Partial
12	7700 SE Lake Road	Multifamily	1.90	Partial
13	14000 SE Johnson Road	Commercial	0.75	Full
14	7800 SE Lake Road	Commercial	0.29	Full
15	No address	Public Service	4.19	Partial
16	No address	Industrial	3.40	Partial
17	No address	Industrial	0.41	Full
18	13350 SE Johnson Road	Industrial	8.58	Partial
19	No address	Industrial	1.28	Partial
20	13377 SE Johnson Road	Industrial	1.13	Partial
21	7924 SE Lake Road	Multifamily	3.36	Partial
22	14090 SE Johnson Road	Multifamily	0.24	Partial
23	14100 SE Johnson Road	Multifamily	0.19	Partial
24	7200 SE Harmony Road	Industrial	60.29	Partial
25	13011 SE 84th Avenue	Commercial	1.39	Partial
26	9300 SE Sunnybrook	Commercial	6.63	Partial
27	13035 SE 84th Avenue	Commercial	1.24	Partial
28	13435 SE 97th Avenue	Commercial	4.22	Partial
29	No address	Open Space	2.74	Partial
30	13101 SE 84th Avenue	Industrial	4.92	Partial
31	No address	Open Space	3.07	Partial
32	13455 SE 97th Avenue	Commercial	14.94	Partial
33	13340 SE 84th Avenue	Industrial	24.34	Partial
34	No address	Open Space	2.34	Partial
35	13309 SE 84th Avenue	Commercial	7.35	Partial
36	No address	Commercial	12.21	Full
37	13517 SE Ambler Road	Industrial	2.60	Full

* The acquisition estimates represent the best information available at the current stage of design and the actual amounts are expected to change based on final design.

Table D-1. SDEIS Land Use Impacts

Property ID# (on map)	Address	Primary Use	Estimated Property Area (acres)	Estimated Right-of-Way Impact (Partial or Full Acquisition)*
38	No address	Industrial	2.86	Partial
39	No address	Industrial	0.28	Partial
40	13621 SE Ambler Road	Industrial	0.22	Partial
41	13651 SE Ambler Road	Industrial	0.24	Partial
42	9415 SE Lawnfield Road	Industrial	42.41	Partial
43	No address	Commercial	1.33	Full
44	13850 SE Ambler Road	Commercial	0.48	Full
45	No address	Commercial	0.49	Full
46	No address	Open Space	2.22	Full
47	No address	Open Space	2.13	Full
48	No address	Railroad	0.50	Full
49	No address	Industrial	0.04	Full
50	14242 SE 82nd Drive	Industrial	6.73	Full
51	No address	Industrial	0.00	Full
52	No address	Industrial	2.85	Partial
53	No address	Industrial	1.23	Partial
54	No address	Industrial	4.10	Partial
55	14235 SE 98th Court	Industrial	1.00	Partial
56	14434 SE Industrial Way	Industrial	8.76	Partial
57	No address	Industrial	1.50	Full
58	9200 SE Lawnfield Road	Commercial	10.15	Full
59	9001 SE Lawnfield Road	Industrial	1.07	Full
60	No address	Railroad	0.45	Full
61	9180 SE Lawnfield Road	Industrial	1.09	Full
62	9160 SE Lawnfield Road	Industrial	1.17	Full
63	14600 SE 82nd Drive	Industrial	0.72	Partial
64	14450 SE 98th Court	Industrial	1.92	Partial
65	9200 SE Lawnfield Road	Commercial	0.29	Full
66	14600 SE 82nd Drive	Industrial	0.89	Partial
67	14646 SE 82nd Drive	Industrial	2.31	Partial
68	9200 SE Lawnfield Road	Commercial	0.34	Full
69	14570 SE 82nd Drive	Industrial	0.43	Partial
70	14510 SE 98th Court	Industrial	2.00	Partial
71	No address	Industrial	0.06	Partial
72	No address	Open Space	4.85	Full
73	No address	Industrial	1.61	Full
74	8811 SE Herbert Court	Industrial	5.37	Full
75	8921 SE Herbert Court	Commercial	0.84	Full
76	9200 SE Lawnfield Road	Industrial	2.83	Full
77	14692 SE 82nd Drive	Industrial	2.88	Partial
78	No address	Industrial	1.64	Full
79	9200 SE Lawnfield Road	Industrial	17.67	Partial

Table D-1. SDEIS Land Use Impacts

Property ID# (on map)	Address	Primary Use	Estimated Property Area (acres)	Estimated Right-of-Way Impact (Partial or Full Acquisition)*
80	14625 SE 82nd Drive	Commercial	1.41	Partial
81	8830 SE Herbert Court	Industrial	2.38	Partial
82	14726 SE 82nd Drive	Industrial	1.99	Partial
83	8810 SE Herbert Court	Industrial	0.90	Full
84	14721 SE 82nd Drive	Commercial	0.95	Partial
85	14735 SE 82nd Drive	Industrial	2.44	Partial
86	9039 SE Jannsen Road	Industrial	10.61	Partial
87	9651 SE Mather Road	Industrial	0.50	Full
88	9801 SE Clackamas Road	Industrial	44.94	Partial
89	8856 SE Jannsen Road	Multifamily	0.88	Full
90	8810 SE Jannsen Road	Multifamily	0.20	Full
91	8909 SE Tolbert Street	Residential	0.98	Full
92	8850 SE Tolbert Street	Residential	0.52	Full
93	No address		0.38	Partial
94	No address		0.29	Partial
95	No address		2.45	Partial
96	8880 SE Tolbert Street	Residential	0.30	Full
97	15301 SE 92nd Avenue	Public Service	6.66	Partial
98	No address	Industrial	1.09	Full
99	No address	Industrial	0.24	Full
100	8905 SE Clackamas Road	Multifamily	0.75	Full
101	15700 SE McKinley Avenue	Industrial	4.32	Partial
102	No address	Commercial	0.70	Full
103	15536 SE 82nd Drive	Commercial	0.47	Partial
104	9350 SE Clackamas Road	Commercial	5.13	Partial
105	15525 SE 82nd Drive	Commercial	0.16	Full
106	15547 SE 90th Avenue	Commercial	0.18	Full
107	15601 SE 90th Avenue	Commercial	0.07	Full
108	No address	Commercial	0.09	Full
109	15551 SE 90th Avenue	Commercial	0.50	Full
110	15571 SE 82nd Drive	Commercial	0.15	Full
111	15630 SE 82nd Drive	Industrial	0.57	Partial
112	15599 SE 82nd Drive	Commercial	0.17	Full
113	15625 SE 90th Avenue	Commercial	0.58	Full
114	15700 SE 82nd Drive	Commercial	1.93	Partial
115	15661 SE 82nd Drive	Commercial	0.20	Full
116	15711 SE 90th Avenue	Public Service	0.30	Full
117	15675 SE 82nd Drive	Commercial	0.20	Full
118	No address	Public Service	0.20	Partial
119	15775 SE 82nd Drive	Commercial	0.40	Full
120	15791 SE 90th Avenue	Commercial	0.39	Full
121	15765 SE McKinley Avenue	Residential	0.20	Partial

Table D-1. SDEIS Land Use Impacts

Property ID# (on map)	Address	Primary Use	Estimated Property Area (acres)	Estimated Right-of-Way Impact (Partial or Full Acquisition)*
122	15805 SE McKinley Avenue	Residential	0.24	Partial
123	9040 SE Adams Street	Commercial	1.08	Partial
124	No address	Commercial	0.91	Partial
125	No address	Commercial	0.40	Partial
126	9040 SE Adams Street	Commercial	0.26	Full
127	15950 SE 82nd Drive	Commercial	1.06	Partial
128	15815 SE McKinley Avenue	Residential	0.20	Partial
129	8725 SE Hood Street	Residential	0.19	Partial
130	No address	Railroad	1.11	Partial
131	No address	Railroad	0.72	Partial
132	No address	Commercial	0.55	Full
133	15966 SE 82nd Drive	Commercial	1.67	Full
134	15960 SE 82nd Drive	Commercial	0.70	Full
135	15929 SE McKinley Avenue	Commercial	0.91	Partial
136	15970 SE 82nd Drive	Commercial	0.23	Full
137	15960 SE 82nd Drive	Commercial	0.41	Full
138	16016 SE 82nd Drive	Commercial	2.47	Partial
139	16010 SE 82nd Drive	Commercial	0.52	Partial
140	15997 SE 82nd Drive	Public Service	0.20	Full
141	8734 SE Jefferson Street	Residential	0.24	Partial
142	16087 SE 82nd Drive	Commercial	1.56	Partial
143	16002 SE 82nd Drive	Commercial	0.46	Full
144	16035 SE McKinley Avenue	Residential	0.24	Partial
145	16050 SE 82nd Drive	Commercial	6.79	Partial
146	16040 SE 82nd Drive	Commercial	0.56	Partial
147	16301 SE 82nd Drive	Commercial	12.39	Partial
148	16115 SE 82nd Drive	Commercial	0.57	Full
149	14421 SE 98th Court	Industrial	7.12	Partial
150	9200 SE Mather Road	Industrial	9.63	Full
151	10105 SE Mather Road	Industrial	2.90	Partial
152	10037 SE Mather Road	Industrial	4.55	Partial
153	No address	Industrial	2.76	Partial
154	9885 SE Mather Road	Industrial	1.71	Full
155	No address	Industrial	0.47	Full
156	No address	Industrial	1.84	Full
157	No address	Industrial	4.42	Full
158	No address	Industrial	121.09	Full
159	No address	Industrial	30.96	Full
160	No address	Industrial	5.27	Partial
161	No address	Industrial	9.92	Partial
162	No address	Industrial	1.15	Partial
163	No address	Industrial	0.80	Partial

Table D-1. SDEIS Land Use Impacts

Property ID# (on map)	Address	Primary Use	Estimated Property Area (acres)	Estimated Right-of-Way Impact (Partial or Full Acquisition)*
164	No address	Industrial	3.20	Full
165	11811 SE Hwy 212	Industrial	2.26	Full
166	15648 SE 114th Avenue	Industrial	1.50	Partial
167	No address	Industrial	5.61	Partial
168	11811 SE Hwy 212	Industrial	1.18	Partial
169	11805 SE Hwy 212	Industrial	4.14	Partial
170	No address	Industrial	4.64	Alt 2: Full, Alt 3: Partial
171	11811 SE Hwy 212	Industrial	2.00	Partial
172	12441 SE Hwy 212	Industrial	4.52	Alt 2: Full, Alt 3: Partial
173	11857 SE Hwy 212	Commercial	1.00	Partial
174	No address	Commercial	0.68	Partial
175	11901 SE Hwy 212	Commercial	0.91	Partial
176	11951 SE Hwy 212	Commercial	0.85	Partial
177	11985 SE Hwy 212	Commercial	0.85	Partial
178	11767 SE Hwy 212	Commercial	1.93	Partial
179	12441 SE Hwy 212	Commercial	1.22	Partial
180	11500 SE Hwy 212	Industrial	74.90	Partial
181	12000 SE Hwy 212	Industrial	4.70	Partial
182	12128 SE Hwy 212	Commercial	0.56	Full
183	15927 SE 122nd Avenue	Commercial	0.63	Partial
184	15981 SE 122nd Avenue	Commercial	0.61	Partial
185	16007 SE 122nd Avenue	Industrial	0.59	Partial
186	16121 SE 122nd Avenue	Industrial	2.18	Partial
187	14917 SE 142nd Avenue	Industrial	15.52	Partial
188	13300 SE Hubbard Road	Multifamily	14.20	Partial
189	13601 SE Hwy 212	Industrial	1.73	Full
190	13605 SE Hwy 212	Industrial	2.37	Full
191	No address	Industrial	5.59	Partial
192	14917 SE 142nd Avenue	Industrial	0.00	Full
193	No address	Industrial	4.64	Full
194	No address	Industrial	0.40	Full
195	No address	Industrial	0.72	Full
196	No address	Residential	1.49	Partial
197	13601 SE Hwy 212	Industrial	0.54	Full
198	13605 SE Hwy 212	Industrial	0.51	Full
199	No address	Industrial	10.73	Partial
200	15251 SE 142nd Avenue	Industrial	7.79	Partial
201	15251 SE 142nd Avenue	Industrial	0.00	Full
202	15312 SE Hubbard Road	Commercial	0.65	Full
203	No address	Commercial	0.34	Alt 2 & 3: C-1 & C-2 Partial, C-3: Full
204	13585 SE Hwy 212	Industrial	1.80	Alt 2 & 3: C-1 & C-2 Partial, C-3: Full
205	13611 SE Hwy 212	Industrial	1.01	Alt 2 & 3: C-1 Partial, C-2: No Impact, C-3: Full

Table D-1. SDEIS Land Use Impacts

Property ID# (on map)	Address	Primary Use	Estimated Property Area (acres)	Estimated Right-of-Way Impact (Partial or Full Acquisition)*
206	13052 SE Bluff Drive	Residential	0.56	Partial
207	12988 SE Bluff Drive	Residential	0.53	Partial
208	No address	Industrial	1.83	Alt 2 & 3: C-1 Full, C-2 & C-3: Partial
209	12996 SE Bluff Drive	Residential	0.53	Partial
210	13008 SE Bluff Drive	Residential	0.53	Partial
211	13026 SE Bluff Drive	Residential	0.53	Partial
212	13042 SE Bluff Drive	Residential	0.61	Partial
213	No address	Industrial	7.82	Full
214	No address	Public Service	0.27	Full
215	15319 SE Hubbard Road	Residential	1.39	Full
216	12601 SE Hwy 212	Industrial	20.90	Partial
217	13565 SE Hwy 212	Industrial	2.24	Alt 2 & 3: C-1 & C-2 Full, C-3: Partial
218	15351 SE For Mor Court	Industrial	1.37	Full
219	15450 SE For Mor Court	Industrial	1.30	Full
220	13141 SE Hwy 212	Industrial	3.94	Full
221	13171 SE Hwy 212	Residential	0.99	Full
222	13489 SE Hwy 212	Commercial	1.30	Full
223	No address	Industrial	2.00	Full
224	15401 SE For Mor Court	Industrial	0.21	Full
225	13499 SE Hwy 212	Industrial	0.43	Full
226	No address	Industrial	1.12	Alt 2 & 3: C-1 Partial, C-2: Full, C-3: No Impact
227	15450 SE For Mor Court	Industrial	2.06	Full
228	15350 SE Hubbard Road	Commercial	0.50	Full
229	No address	Commercial	0.12	Full
230	15451 SE For Mor Court	Residential	0.94	Full
231	13163 SE Hwy 212	Industrial	0.37	Full
232	13003 SE Hwy 212	Residential	1.79	Partial
233	13003 SE Hwy 212	Industrial	1.67	Partial
234	13111 SE Hwy 212	Industrial	0.64	Partial
235	13163 SE Hwy 212	Residential	0.38	Full
236	13273 SE Hwy 212	Industrial	0.43	Full
237	15580 SE For Mor Court	Commercial	1.32	Partial
238	15525 SE For Mor Court	Industrial	2.81	Partial
239	No address	Industrial	5.14	Partial
240	12209 SE Hwy 212	Industrial	0.83	Partial
241	No address	Industrial	0.38	Partial
242	No address	Industrial	1.17	Partial
243	15651 SE 125th Court	Industrial	0.85	Partial
244	15600 SE For Mor Court	Industrial	1.17	Partial
245	13019 SE Jennifer Street	Industrial	6.00	Partial
246	13150 SE Hwy 212	Industrial	2.43	Partial
247	13012 SE Hwy 212	Industrial	1.58	Partial

Table D-1. SDEIS Land Use Impacts

Property ID# (on map)	Address	Primary Use	Estimated Property Area (acres)	Estimated Right-of-Way Impact (Partial or Full Acquisition)*
248	13013 SE Jennifer Street	Industrial	6.60	Partial
249	15730 SE 130th Avenue	Industrial	2.62	Partial
250	12211 SE Hwy 212	Commercial	0.67	Full
251	12301 SE Hwy 212	Industrial	1.68	Partial
252	No address	Industrial	1.84	Partial
253	12275 SE Hwy 212	Commercial	0.84	Partial
254	12900 SE Hwy 212	Industrial	3.92	Partial
255	12249 SE Hwy 212	Commercial	0.60	Full
256	12710 SE Hwy 212	Industrial	3.03	Partial
257	12500 SE Hwy 212	Industrial	1.68	Partial
258	12500 SE Hwy 212	Industrial	2.24	Partial
259	12300 SE Hwy 212	Industrial	2.02	Partial
260	12300 SE Hwy 212	Industrial	1.69	Partial
261	12250 SE Ford Street	Industrial	19.60	Partial
262	No address	Residential	3.52	Partial
263	No address	Public Service	19.56	Partial
264	16163 SE Hwy 212	Public Service	49.76	Partial
265	15037 SE Aspen Way	Residential	0.15	Full
266	14983 SE Glenbrook Road	Residential	0.18	Full
267	14988 SE Glenbrook Road	Residential	0.17	Full
268	15059 SE Aspen Way	Residential	0.15	Full
269	15062 SE Aspen Way	Residential	0.14	Full
270	14991 SE Glenbrook Road	Residential	0.18	Full
271	14999 SE Glenbrook Road	Residential	0.20	Full
272	15017 SE Glenbrook Road	Residential	0.24	Full
273	15017 SE Glenbrook Road	Residential	0.13	Full
274	15025 SE Glenbrook Road	Residential	0.12	Full
275	15033 SE Glenbrook Road	Residential	0.12	Full
276	15041 SE Glenbrook Road	Residential	0.12	Full
277	15049 SE Glenbrook Road	Residential	0.12	Full
278	15057 SE Glenbrook Road	Residential	0.12	Full
279	15065 SE Glenbrook Road	Residential	0.12	Full
280	15073 SE Glenbrook Road	Residential	0.12	Full
281	15081 SE Glenbrook Road	Residential	0.11	Full
282	15089 SE Glenbrook Road	Residential	0.12	Full
283	No address	Residential	0.03	Full
284	15202 SE 142nd Avenue	Residential	3.81	Alt 2 & 3: C-1 Full, C-2: Partial, C-3: Full
285	15270 SE 142nd Avenue	Residential	4.09	Alt 2 & 3: C-1 Full, C-2: Partial, C-3: Full
286	14489 SE Hwy 212	Industrial	2.95	Alt 2 & 3: C-1 Full, C-2: Partial, C-3: Full
287	14801 SE Morning Way	Industrial	15.73	Alt 2 & 3: C-1 Full, C-2: Partial, C-3: Full
288	15119 SE Dayspring Lane	Residential	7.51	Partial
289	No address	Commercial	5.17	Partial

Table D-1. SDEIS Land Use Impacts

Property ID# (on map)	Address	Primary Use	Estimated Property Area (acres)	Estimated Right-of-Way Impact (Partial or Full Acquisition)*
290	14801 SE Morning Way	Residential	1.22	Full
291	15221 SE Hwy 212	Commercial	3.75	Partial
292	No address	Industrial	1.85	Alt 2 & 3: C-1 Full, C-2: Full, C-3: Partial
293	15434 SE 142nd Avenue	Industrial	4.05	Alt 2 & 3: C-1 No Impact, C-2: Full, C-3: Partial
294	14505 SE Hwy 212	Industrial	1.83	Full
295	14763 SE Morning Way	Industrial	1.50	Alt 2 & 3: Full, D-2: No Impact, D-3: Full
296	No address	Industrial	0.93	Alt 2 & 3: Full, D-2: No Impact, D-3: Full
297	14850 SE Morning Way	Industrial	1.04	Full
298	15000 SE Morning Way	Industrial	1.59	Full
299	15431 SE 152nd Drive	Industrial	0.48	Full
300	15481 SE 152nd Drive	Industrial	0.39	Full
301	15501 SE 152nd Drive	Industrial	0.48	Full
302	15951 SE Hwy 212	Industrial	14.95	Full
303	No address	Industrial	0.14	Full
304	15583 SE Hwy 212	Residential	1.23	Full
305	15252 SE Hwy 224	Commercial	6.89	Partial
306	No address	Industrial	2.25	Full
307	15278 SE Hwy 224	Industrial	4.19	Partial
308	15302 SE Hwy 224	Residential	0.94	Partial
309	No address	Residential	7.46	Partial
310	15576 SE Hwy 224	Residential	3.74	Partial
311	No address	Residential	1.11	Partial
312	No address	Residential	6.55	Partial
313	No address	Residential	0.50	Full
314	16298 SE Scoria Lane	Residential	0.11	Partial
315	16292 SE Scoria Lane	Residential	0.05	Partial
316	16286 SE Scoria Lane	Residential	0.05	Partial
317	16304 SE Scoria Lane	Residential	0.10	Partial
318	16280 SE Scoria Lane	Residential	0.08	Partial
319	16310 SE Scoria Lane	Residential	0.05	Full
320	16316 SE Scoria Lane	Residential	0.06	Full
321	16274 SE Scoria Lane	Residential	0.06	Partial
322	16322 SE Scoria Lane	Residential	0.09	Full
323	16268 SE Scoria Lane	Residential	0.04	Partial
324	16328 SE Scoria Lane	Residential	0.07	Full
325	16334 SE Scoria Lane	Residential	0.04	Full
326	16340 SE Scoria Lane	Residential	0.04	Full
327	16346 SE Scoria Lane	Residential	0.06	Full
328	16352 SE Scoria Lane	Residential	0.06	Full
329	16358 SE Scoria Lane	Residential	0.04	Full
330	16364 SE Scoria Lane	Residential	0.04	Full
331	16370 SE Scoria Lane	Residential	0.06	Full

Table D-1. SDEIS Land Use Impacts

Property ID# (on map)	Address	Primary Use	Estimated Property Area (acres)	Estimated Right-of-Way Impact (Partial or Full Acquisition)*
332	16376 SE Scoria Lane	Residential	0.06	Full
333	16382 SE Scoria Lane	Residential	0.04	Full
334	16388 SE Scoria Lane	Residential	0.04	Full
335	16394 SE Scoria Lane	Residential	0.04	Full
336	16400 SE Scoria Lane	Residential	0.06	Full
337	16406 SE Scoria Lane	Residential	0.06	Full
338	16412 SE Scoria Lane	Residential	0.04	Full
339	16418 SE Scoria Lane	Residential	0.04	Full
340	16424 SE Scoria Lane	Residential	0.04	Full
341	16430 SE Scoria Lane	Residential	0.07	Full
342	16436 SE Scoria Lane	Residential	0.07	Full
343	16442 SE Scoria Lane	Residential	0.04	Full
344	16448 SE Scoria Lane	Residential	0.04	Full
345	16454 SE Scoria Lane	Residential	0.04	Full
346	15601 SE Hwy 224	Residential	1.15	Partial
347	16460 SE Scoria Lane	Residential	0.06	Full
348	16466 SE Scoria Lane	Residential	0.06	Full
349	16472 SE Scoria Lane	Residential	0.04	Full
350	16478 SE Scoria Lane	Residential	0.04	Full
351	16484 SE Scoria Lane	Residential	0.04	Full
352	16490 SE Scoria Lane	Residential	0.07	Full
353	No address	Residential	0.08	Full
354	15798 SE GEM Court	Residential	0.12	Partial
355	16409 SE Hwy 212	Residential	18.92	Partial
356	No address	Residential	16.22	Partial
357	17981 SE Hwy 212	Residential	16.75	Partial
358	16725 SE Hwy 212	Residential	2.31	Partial
359	No address	Residential	0.38	Partial
360	No address	Residential	2.39	Partial
361	16711 SE Hwy 212	Residential	3.21	Partial
362	No address	Residential	6.84	Partial
363	No address	Residential	2.59	Partial
364	No address	Residential	9.96	Partial
365	17141 SE Hwy 212	Residential	4.09	Full
366	16631 SE Hwy 212	Residential	3.79	Full
367	17691 SE Hwy 212	Public Service	0.51	Partial
368	No address	Public Service	1.02	Partial
369	17717 SE Hwy 212	Public Service	0.87	Full
370	15601 SE Bel Air Drive	Residential	1.69	Partial
371	15600 SE Bel Air Drive	Residential	2.23	Partial
372	17746 SE Hwy 212	Residential	3.60	Partial
373	17780 SE Hwy 212	Residential	1.17	Partial

Table D-1. SDEIS Land Use Impacts

Property ID# (on map)	Address	Primary Use	Estimated Property Area (acres)	Estimated Right-of-Way Impact (Partial or Full Acquisition)*
374	15514 SE Anderegg Parkway	Residential	19.09	Partial
375	17900 SE Hwy 212	Residential	1.67	Partial
376	17310 SE Belview Lane	Residential	1.79	Partial
377	17370 SE Belview Lane	Residential	1.70	Partial
378	17424 SE Belview Lane	Residential	1.50	Partial
379	17458 SE Belview Lane	Residential	1.31	Partial
380	13488 SE Hwy 212	Residential	0.77	Partial
381	13470 SE Hwy 212	Residential	0.96	Partial

.