

# 2011 ODOT Sustainability Progress Report



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Thank you to all the employees that are helping to make ODOT sustainable!

If you have any questions regarding this report or any other sustainability related questions please contact the Sustainability Program or a member of the [ODOT Sustainability Council](#).

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## Integrating Sustainability at ODOT

The Oregon Department of Transportation (ODOT) is a leader in sustainability. From the use of biofuels in its fleet to putting solar panels on the right-of-way, ODOT practices sustainability in its day-to-day operations. The ODOT [Sustainability Council](#) provides the vision and direction for sustainability, but it is all ODOT employees who help implement the sustainable measures. The ODOT Sustainability Council was integral in the creation of the ODOT Sustainability Plan (Plan), which sets a strategic and comprehensive approach for incorporating sustainability into agency operations. The Plan is used by ODOT managers and staff in planning, decision-making, purchasing, construction, and maintenance and operations of facilities as well as other routine activities.

Sustainability planning requires an integrated systems approach to decision-making. The intangible benefits of a sustainability program act as core value drivers to the organization, enhancing health, safety, and diversity. In fall 2010, ODOT released [Volume II of its Sustainability Plan](#). Volume II, *Sustainability Management Framework for ODOT's Internal Operations*, sets goals, strategies, and performance measures for ODOT's internal operations.

This 2011 edition of the Sustainability Progress Report highlights some of the sustainability projects occurring over the last year in ODOT's internal operations and reports on the agency's progress towards meeting its sustainability goals and performance measures in Volume II. For more detailed information regarding performance measures and strategies for each of the seven focus areas outlined in the Plan, please refer to [Volume II](#).

While this report focuses on ODOT's internal operations, the agency is engaged in planning and policy level initiatives, like the [Oregon Sustainable Transportation Initiative \(OSTI\)](#) and [Least Cost Planning](#), that will guide ODOT's sustainable management of the broader transportation system.

## Performance Measure Tracking Re-evaluated

In 2011 the Sustainability Program performed an evaluation of the performance measures in Volume II. The purposes of the evaluation were to ensure that each performance measure reflected the desired outcome of ODOT's sustainability goals, and to evaluate barriers to data collection. In consultation with the lead contacts for the focus areas and the ODOT Sustainability Council, some of the performance measures were changed or re-worded to obtain more accurate measurements of progress. This 2011 Progress Report reflects many of these changes, as approved by the Sustainability Council; although there is still work to be done on performance measures in some focus areas.

The Plan is intended to be a living document, meaning updates and changes are expected as more data becomes available and technologies change. In fact, an update of Volume II is scheduled for 2012, which will reflect the changes made to the performance measures. This update will also allow ODOT and the Sustainability Council to evaluate and develop another set of short-term goals.

### **'Major Facilities' Defined**

The Sustainability Council in consultation with Central Services decided to focus much of the performance measure tracking on ODOT's largest (square footage) and most populated facilities or

'Major Facilities'. Key contacts within Facilities are developing a plan for establishing a baseline and implementation plan for sustainability measures at the 13 identified Major Facilities, including water use, waste and recycling rates, energy use, and paper use. This is not to discount the sustainability work done in the other ODOT facilities, but in terms of tracking performance measures, it is most practical and feasible to focus on these larger facilities at this time.

This annual progress report will report on sustainability stories from around the state and from facilities of all sizes. In the future, all facilities may be monitored and measured for all the sustainability goals in Volume II, however at this time that is not possible. Nevertheless, progress will be made and sustainability goals will be met if all ODOT staff participate in implementing and integrating sustainability into their everyday work.

<b>ODOT Major Facilities – Sustainability Performance Measures</b>					
<b>Building Name</b>	<b>Address</b>	<b>City – County</b>	<b>Number Employees</b>	<b>Square Foot</b>	<b>Construction Year</b>
Region 5 Headquarters	3012 Island Ave	LaGrande – Union County	94	27,900	1990
Region 1 HQ	123 Flanders St.	Portland – Multnomah County	250	94,063	1961
Region 3 HQ	3500 NW Stewart Pkwy.	Roseburg – Douglas County	106	38,186	1993
DMV HQ	1905 Lana Ave	Salem – Marion County	519	120,790	1992
Short Term Lease	3930 Fairview Industrial Dr SE	Salem – Marion County	149	65,726	2001
Long Term Lease	4040 Fairview Industrial Dr SE	Salem – Marion County	255	82,644	
East Salem Compound B	455 Airport Rd. SE.	Salem – Marion County	56	21,900	1942
East Salem Compound A	455 Airport Rd. SE	Salem – Marion County	94		1966
East Salem Compound K	455 Airport Rd. SE	Salem – Marion County	92	30,000	1953
PUC Building	550 Capital St. SE	Salem – Marion County	210	46,657	
Mill Creek	555 13 <sup>th</sup> St. SE	Salem – Marion County	203	51,120	1972
Materials Lab	800 Airport Rd. SE	Salem – Marion County	99	54,000	1987
Jackson County Roads & Parks	200 Antelope Rd.	White City – Jackson County	73	7,495	

## Changing the way ODOT handles its building expenditures

The Transportation Environment Accounting and Management System (TEAMS) is the Department's financial system of record and also a useful tool for tracking data in areas like electricity, water, and natural gas use. In late 2010 and early 2011 ODOT Financial Services, in consultation with the TEAMS Structure Group, worked to update TEAMS so that the system can better track expenditures by facility, and in turn help track performance measures for Volume II. This will help the agency to more accurately account for how its money is spent on facilities and better track sustainability measures like energy and water use. In the past it was not possible to determine if a charge under the object detail for water was for sewer services, facilities water use or storm water.

Starting on July 1, 2011 those responsible for inputting data into TEAMS must now ensure they are entering the information under the correct Expenditure Account (EA) and appropriate object detail. The updated utility object details in TEAMS allow for more accurate accounting for the utility that is being charged. Additionally, each owned and leased facility now has its own EA. The update to TEAMS brings consistency and standardization to some of ODOT's charges; thus reporting and tracking become easier and more accurate. Finally, the update to the TEAMS process represents good business practices, meaning ODOT is now able to more accurately track facility expenditures.

## Energy Use, Fuel Use, and Climate Change

ODOT is actively working toward reducing the amount of greenhouse gas emissions emitted by its operations and the transportation sector by collaborating with others to develop innovative responses, minimize energy use in facilities, increase fuel efficiency and use of low carbon fuels in the fleet, and encourage employees to reduce their commuting energy use.

### Greenhouse Gas Emissions

Goal: Arrest growth in emissions from ODOT's internal activities, including fleet and facilities.

#### Performance Measure

1. Total greenhouse gas emissions from ODOT's building, energy, transportation and solid waste sources.

Inherent to ODOT's operations is the release of greenhouse gases. However the agency is committed to minimizing its impact on the environment through the reduction of emissions from all agency activities. Implementing strategies from the various focus areas in Volume II, such as reducing facility energy use, increasing recycling, and using alternative commuting options will help ODOT reach its goal of reducing its overall greenhouse gas emissions.

One positive step towards reducing emissions in 2011, was the purchase of five Nissan LEAF all electric vehicles. These vehicles provide a clean alternative for work-related travel, and are perfect for day-meeting travel.



As Bruce Erickson, ODOT Fleet Manager said “For the light fleet vehicles commuting between other metropolitan areas, these (Nissan LEAFs) are perfect.” Along with the vehicles, ODOT also received charging station equipment for the five facilities where the vehicles are housed.

ODOT is making great progress in implementing strategies which may help reduce its greenhouse gas emissions. The next step is to more accurately measure and track the actual emissions from ODOT’s operations. The updated TEAMS reporting structure established in 2011, in conjunction with the work of the ODOT Sustainability Council to revise performance measures will provide some of this more accurate data.

**ODOT Locations for Nissan LEAF Vehicles:**

1. Mill Creek Building, Salem
2. Region 2 Headquarters, Salem
3. Materials Lab, Salem
4. Region 1, Flanders Building, Portland
5. District 4 Office, Corvallis

**Building Energy Use**

Goal: Reduce energy consumed in the day-to-day operations of ODOT’s facilities.

Performance Measures

1. Electricity use per square footage of leased and owned buildings.
2. Renewable energy as a percentage of electricity grid mix.

In Calendar Year (CY) 2011 (not including December) ODOT achieved a **16.9%** reduction in kWh per square footage of facility space over the CY 2004 baseline. This was achieved through energy efficiency upgrades, but also because of all the ODOT employees who conserve energy by turning off computers and lights.

In 2011, ODOT took advantage of energy incentive programs, like those offered through Energy Trust of Oregon, to complete energy saving projects like lighting retrofits (installing more energy efficient lighting in office facilities), window upgrades, insulation upgrades, and HVAC upgrades on buildings in the East Salem Compound.

ODOT operations requires electrical service for roadway illumination and traffic signals, as well as for its facilities. Most facilities have a meter and are charged by the utility company for the kWh usage at that facility. On the other hand, most street lights and traffic signals do not have a meter and are charged a set amount by the utility company. In order to more accurately report our actual electricity usage, we now code the invoices with two different object details in TEAMS (Electricity Metered and Electricity Unmetered). Although the utility companies do not usually show us the

**Lighting Project at Building B:**

The re-lamping of Building B is providing numerous benefits in both energy and economic savings, here are some of the impressive numbers.

Estimated Annual Energy Savings: 87,772 kWh

Estimated Annual Cost Savings: \$8,439

Estimated Installation Cost:	\$37,247
<i>minus</i> Energy Trust of Oregon incentive:	(\$10,740)
<i>minus</i> BETC:	(\$9,602)

Net Installation Cost:	\$ 16,905
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Energy Savings Payback (in years):	2.6 years
% of Installed cost paid by incentives:	55%

kWh used for unmetered items, they have to estimate the usage in order to calculate the rate charged. Therefore, we can estimate the kWh usage for unmetered usage based on the charge on the invoice. This will provide a more accurate report of ODOT's actual electricity usage. Though energy usage may be higher than reported in the past, it is important that we are collecting the most accurate data possible.

Natural gas usage per square footage of facility space decreased by **21.79%** over the 2004 baseline year.

**Fuel Use**

Goal: Increase the use of alternative fuels and vehicles in ODOT's fleet.

Performance Measures

1. Total biodiesel as percent of total diesel use.
2. Total number of trucks using anti-idling technology.
3. Hybrid, best-in-class high-mileage vehicles, and gasoline vehicles using alternative fuels as percent of all light-duty gasoline-powered vehicles.

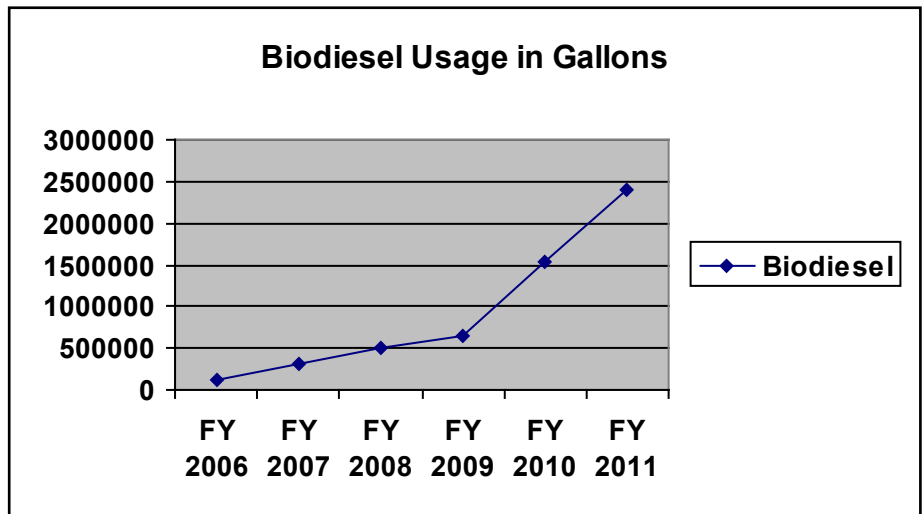
ODOT's Fleet Section and agency crews are doing a great job meeting and exceeding its biodiesel use goals. In fact, ODOT is currently using 37% B-20 biodiesel equivalent. In addition to using alternative fuels, ODOT also purchased hybrid and electric vehicles and equipment to reduce overall fuel use. ODOT's motorized inventory consists of 3,426 pieces of equipment, broken down as follows:

- 1,860 diesel powered vehicles or equipment
- 1,264 unleaded gasoline vehicles
- 206 E-85 vehicles
- 70 LPG (propane) powered vehicles or equipment
- 19 hybrid or Plug in Hybrid Electric Vehicles
- 5 all electric vehicles
- Over 100 trucks using anti-idling technology

ODOT currently uses **37%** B-20 biodiesel equivalent, surpassing its short-term goal of 25%.

In 2011, the Region 1 Electrical Crew purchased a Freightliner M-2 diesel/ electric hybrid bucket truck. The unit is estimated to get between 9 to 12 MPG, compared to an equivalent sized non-hybrid unit that only gets 7 to 9 MPG.

The truck also incorporates idle reduction technologies, including a 340 volt PEC (battery pack) that powers the electric power take off unit which runs the hydraulic system that operates the man-lift boom for approximately 30 minutes a cycle before the engine automatically starts to charge the battery pack for 8 minutes, then turns off again.



If the man-lift were to be used continuously for 4 hours, the engine would only run for about 32 minutes as opposed to running at high idle for 4 hours straight with a non-hybrid ePTO equipped unit. Reducing the idle time by nearly 3.5 hours on a 4 hour project results in a huge monetary savings, in terms of reducing fuel consumption. This is a great acquisition for ODOT, not only representing a savings in fuel usage, but also helping reduce ODOT's impact on the environment and human operator health by limiting idling and reducing emissions.



### Employee Commute and Transportation Options

Goal: Reducing single-occupancy vehicle trips.

ODOT encourages its employees to take public transportation, bike or walk, carpool or vanpool, use highly efficient vehicles, teleconference, or work from home. In 2011, ODOT took steps towards developing a more comprehensive, agency-wide employee commute and transportation options program. *Drive Less Connect* went online in Oregon in 2011. This state-of-the-art software allows users to seek ride matches for commuting to and from work, but the service also offers ride matching to events such as concerts and sporting events; as well as helps the user find bike buddies. *Drive Less Connect* serves Oregon, Washington, and Idaho as the one-stop database and matching service for rideshare opportunities. Sponsored by ODOT's Public Transit Division, *Drive Less Connect* is aimed at reducing travel costs, congestion, and greenhouse gas emissions. Check out [Drive Less Connect](#)



Also, as they do every year, various ODOT offices and areas participated in the Bike Commute Challenge, sponsored by the Bicycle Transportation Alliance. The Bike Commute Challenge is a fun way for employees to use alternative commuting options, in a competitive and spirited way.

The Sustainability Council, in consultation with ODOT's Public Transit Division, is working on the development of performance measures for employee commute and transportation options.

#### 2011 Results from the Bike Commute Challenge:

- ODOT Salem Area Team - 59 active riders and 4,284.02 miles logged in September.
- ODOT Region 1 Team - 27 active riders and 3,911.8 miles logged.
- ODOT Albany Team - 5 active riders and 674.8 miles logged.
- ODOT Region 4 Team - 18 active riders and 1,655.3 miles logged.
- ODOT Region 5 Team - 7 active riders and 461 miles logged.
- ODOT Eugene/Springfield Team - 3 active riders and 268.4 miles logged.
- ODOT Roseburg Team - 3 active riders and 343.6 miles logged.
- ODOT Region 3 Team - 1 active rider and 208 miles logged.
- Columbia River Crossing Team - 7 active riders and 1748.6 miles logged.

## Materials Use

Sustainability is more than just reducing emissions, it also involves purchasing materials and equipment that are energy efficient and environmentally-friendly, recycling and reusing them whenever possible, and finally, selling or disposing of them in an environmentally-responsible manner.

### Waste Minimization and Recycling

Goal: Reduce total waste produced at ODOT facilities and increase recycling.

#### Performance Measure

1. Recycling rate in Major Facilities.

ODOT works to reuse and recycle all materials from its operations, this includes paper, plastics, and even metal signs. Despite its work and commitment to reducing waste, there are many difficulties inherent in waste volume data collection at a large, decentralized, and diverse organization like ODOT. For example, ODOT uses many different waste haulers throughout the state. These vendors often differ in what client and account information they gather. In addition, a monthly rate is usually charged for a certain size dumpster; regardless of how full it is at the time of pickup, so there is no way to track the actual volume (or weight) of disposed waste. Finally, due to the nature of the agency, ODOT is responsible for collecting waste that is not necessarily generated by its employees. In the case of roadwaste, landslide debris, and materials collected at rest areas, the agency does not have direct control over how much waste is produced, it is simply the agency's responsibility to collect and dispose of the material.

The destination landfills for ODOT's Major Facilities' waste are all capped for methane flaring or capture, which helps eliminate disposal-related emissions.

The ODOT Sustainability Council pulled together a small sub-group to brainstorm and determine possible solutions for calculating waste at ODOT's Major Facilities. The group is in the early stages of collecting basic information about how waste is handled at these facilities, including size and number of dumpsters, frequency of pickups, waste hauler vendor, and location of the landfill the vendor disposes the waste. This baseline information is a good start; next the sub-group will work on ways to start at least estimating the amount of waste disposed, by conducting pilots at the Major Facilities.

As ODOT continues to implement strategies and actions from Volume II, we may develop a more accurate methodology for determining waste volumes; therefore the Sustainability Program and others will continue to research the best management practices of solid waste measurement at facilities.

## Paper Use

Goal: Reduce amount of paper waste and increase the recycled content of the paper products ODOT purchases.

### Performance Measures

1. Weighted average of post-consumer recycled content of paper purchases.
2. Percentage of total bids received electronically.

In July 2007, ODOT implemented an electronic bidding system using Expedite® software and the Bid Express™ system for preparing and submitting electronic bids on highway and bridge construction projects. Among the many benefits and motivations for implementing electronic bidding, the contributions towards ODOT's sustainability, in particular paper use reduction, were key factors:

Reduce waste and cost of paper to print and distribute bidding documents:

- ODOT can electronically post its project information for contractors to use in Bid Express™.
- Contractors can access all project information and bidding documents electronically and complete bid entries from their computers.
- Contractors can revise their bid documents as many times as they wish electronically without the use of paper.

Reduce waste and costs for filing and handling paper bids:

- ODOT and contractors both benefit from reducing the number of paper documents filed in their offices and staff costs of moving the paper manually through the bidding system.
- Errors from missing pages are virtually eliminated when using electronic bidding.

### **Key 2011 Successes (as of November 30, 2011):**

- 72 electronic bidders
- 371 out of 639 bids received were electronic; 58%

Eliminate postage and special delivery costs (FedEx and UPS) and ensure timely delivery:

- Bids are transmitted using online, secure bid submission system over the internet.
- Electronic transmission is immediate and timely submission is documented.

Eliminate gas consumption, road travel and staff cost to deliver paper bids to Salem:

- Contractors do not have to travel to Salem to deliver a timely paper bid, thereby reducing transportation costs to the bidder and saving wear and tear on vehicles and roads. This also helps avoid traffic delays that might compromise a timely submittal.

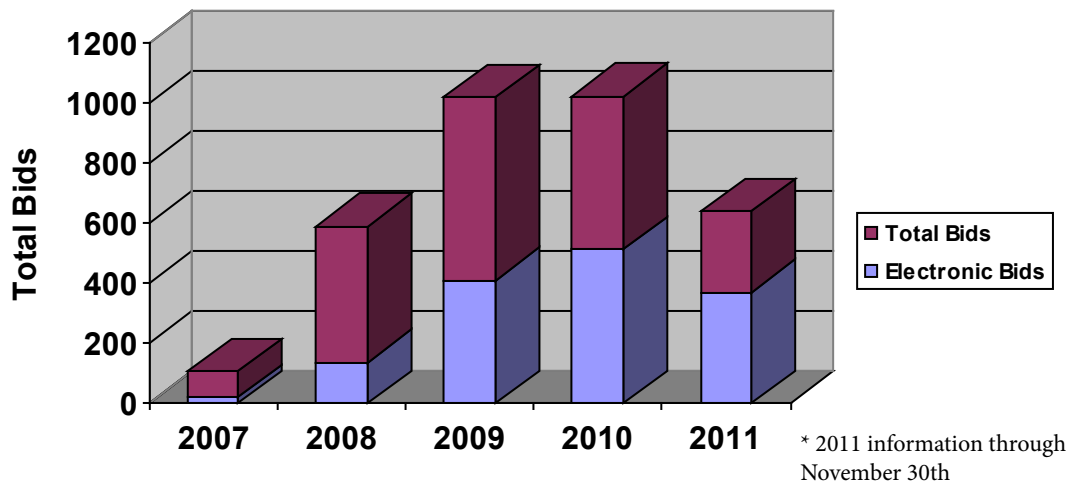
Both ODOT and contractors benefit greatly from the use of electronic bidding through faster and more accurate means of submitting, reviewing and processing bids. Additionally, starting next year, ODOT will be reporting on amount of paper saved and the cost savings associated with the reduction in paper use.

### Next Steps - Electronic Bidding Information Distribution System (e-BIDS)

ODOT is developing an electronic system for distributing plans, specifications and reference documents to bidders it is currently available for internal users and will be available to external users by February 14, 2012. This system will be free to bidders and will result in the following types of benefits:

- *Improve efficiency:* 24-hour access to documents; bidders do not have to drive to Salem to purchase documents or wait for UPS or FedEx delivery of documents ordered through ODOT.
- *Reduce confusion:* The latest version of the documents will be posted on the e-BIDS site.
- *Sustainability:* Reduce material costs associated with copying and physical distribution for ODOT. Bidders can share electronic files with potential subcontractors and suppliers, or the subcontractors and suppliers can access the electronic bidding documents themselves.
- *Improve customer service:* Documents in electronic file format; search capability; automated check of bidder's pre-qualification status.
- *View plans before being listed as Plan Holder:* Bidders can self-identify that they are bidding on the job as a prime so that interested subcontractors will know who to contact.

### Number of Electronic Bids



### Electronics Purchasing and Waste

Goal: Purchase and dispose of electronics according to the standards set forth by DAS policy.

#### Performance Measure

1. Percent of desktops and laptops in use that meet DAS energy requirements in price agreements with vendors.

In order to conduct business, ODOT employees require the use of a variety of electronic equipment, from computers to printers and teleconference equipment to traffic survey tools. The proper disposal of electronic waste is extremely important due to the harmful environmental and human health impacts of the waste. It is a great accomplishment that ODOT is disposing of all its information technology (IT) hardware equipment according to industry best practices with maximum feasible recycling and reuse of components.

Additionally, ODOT is purchasing only desktop and laptop computers that meet the energy and environmental requirements in the price agreements established by DAS.

## Environmental Stewardship

This focus area goes to the heart of ODOT's responsibility and commitment to maintaining and operating the agency's facilities in a sustainable and environmentally-sensitive manner.

### Environmental Management System

Goal: Fully implement the EMS standards at ODOT maintenance yards.

#### Performance Measure

1. Percent measure of maintenance yards in compliance with the seven priority procedures of EMS.

ODOT's Maintenance Yard Environmental Management System (EMS) represents the cornerstone of Maintenance's commitment to the ODOT Sustainability Plan. Initiated in 2005, the EMS Policy and Procedures Manual (Manual) provides straightforward best management practices (BMPs) for managing materials used in the day-to-day maintenance and operation of the highway system. ODOT Maintenance employees have worked hard to make the EMS program part of their standard operating procedures and it shows in their compliance rates for the seven priority procedures in EMS.

The 2009 EMS Manual contains 21 procedures. Each procedure includes BMPs for the storage, handling, and disposal of a specific type of material. BMPs that are required by law or ODOT policy can be identified by the word "must." The EMS Manual also contains BMPs for drainage and water quality.

Priority procedures were selected based on the types of wastes represented, significance of laws governing the management of the material, re-occurring confusion over the management of the material, and the potential to impact the environment. Priority procedures are used as an indicator of how well we are meeting state or federal laws.

The Seven Priority Procedures are:

1. Drainage/ Water Quality
2. Fuel
3. Oil
4. Aerosol Cans
5. Lighting Products
6. Pesticide
7. Winter Maintenance Chemicals

#### **Summary of Regional Audits**

Audits on 2011 List: 33  
Audits Scheduled To Date: 33  
Audit Forms Received To Date: 33  
Procedures Audited To Date: 22 of 22

Three levels of audits are used to evaluate the EMS Program: Monthly Field Audits, Regional Audits, and Statewide Reviews. Monthly Field Audits are completed at each yard by someone familiar with the yard. Regional Audits are completed by a District Manager (or their designee) and a representative from either Regional HazMat or the Office of Maintenance. Regional Audits are performed at 105 maintenance yards and remote storage locations once in a three-year period. The other Procedures are audited at least once per year per Region.

Percent Compliant By Region in 2011 - "Must" Questions Only					
Procedure	Region 1	Region 2	Region 3	Region 4	Region 5
Drainage/ WQ	100%	100%	97%	100%	99%
Fuel	99%	99%	98%	99%	99%
Oil	99%	100%	99%	98%	100%
Aerosol Cans	96%	100%	93%	86%	91%
Lighting Products	84%	95%	77%	94%	86%
Pesticide	100%	100%	100%	100%	99%
Winter Maintenance Chemicals	95%	97%	94%	96%	100%

### Hazardous Materials

Goal: Reduce the use of hazardous chemicals and materials in facilities.

#### Performance Measure

1. Amount of hazardous waste generated at each maintenance yard and truck shop each year.

ODOT Maintenance and Fleet crews have taken great steps in reducing hazardous waste generation, which is shown through the designation of all maintenance yards as Conditionally Exempt Generators, or the lowest generator status.

#### Generator Status at ODOT

There are three categories of hazardous waste generators: Conditionally Exempt Generator (CEG), Small Quantity Generator (SQG), and Large Quantity Generator (LQG). Generator status is determined by the amount of hazardous waste created each month in a calendar year and the amount of hazardous waste that is stored on-site.

A facility must meet all of the following conditions each calendar month to be classified as a CEG

- Generate 2.2 pounds or less of acute hazardous waste,
- Generate 220 pounds or less of hazardous waste,
- Generate 220 pounds or less of spill cleanup debris classified as hazardous waste, and
- Never have more than 2,200 pounds of hazardous waste on-site at any one time.

Total Pounds of Hazardous Waste Generation for 99 Maintenance Yards (January - June 2011):  
**1,967 pounds**

All Maintenance Yards are classified as CEGs as of June 2011

#### Hazardous Waste Generation at ODOT

Hazardous waste generation is tracked at 99 maintenance facilities. These facilities include maintenance yards and sand sheds where seasonal activities may occur.

Maintenance and Fleet crews record the amount of hazardous waste generated on the EMS Waste Generation Log. Several yards have multiple crews responsible for recording waste generation. The information is requested and compiled biannually by the Office of Maintenance and Operations.

Maintenance and Fleet have taken significant steps in the last 15 years to reduce hazardous waste generation. In many cases hazardous waste generation is influenced by issues outside the control of Maintenance. For example, heavy winter weather may increase the need for equipment maintenance increasing solvent and aerosol usage and increasing the need for filter changes. Hazardous waste may also be created by spills, cleanup activities, and building maintenance. Occasionally an increase in hazardous waste generation may be observed.

Comparison to other Departments of Transportation (DOTs) is difficult because CEGs are not required to report waste generation. DOTs may not be listed in the national biennial reports because the individual facilities are CEGs. The following data from the “National Biennial Waste Report: Based on 2009 Data” appears to be waste created from maintenance related activities.

- CalTrans District 4 Maintenance (6 facilities) = 193 tons
- New Jersey DOT Maintenance Facilities (8 yards) = 51 tons
- King County Road Services & Metro Transit = 18 tons
- Washington DOT Eagle Harbor Repair Facility = 5 tons
- Maine DOT Fleet Service Facility in Augusta = 3 tons

A description of the waste is not included in the report, so the data could include wastes created from remediation or cleanup activities (instead of maintenance actions).

		<b>Hazardous Waste Generation from January- June 2011</b>					
		<b>(pounds)</b>					
		<b>aerosol cans</b>	<b>can popper residue</b>	<b>solvent</b>	<b>unleaded fuel filters</b>	<b>other hazardous</b>	
R 1	2A	23	1	0	10	0	
	2B	76	18	160	8	4	
	2C	8	12	256	4	0	
R 2	1	4	12	0	0	0	
	3	0	21	0	9	149	
	4	21	5	0	0	0	
	5	9	23	0	0	0	
R 3	7	0	5	90	6	0	
	8	56	1	160	27	0	
R 4	9	29	37	18	9	0	
	10	36	35	64	4	0	
	11	0	5	0	5	4	
R 5	12	7	22	332	7	0	
	13	37	26	80	6	0	
	14	16	3	0	8	0	
<b>TOTAL (pounds)</b>		<b>320</b>	<b>227</b>	<b>1,160</b>	<b>103</b>	<b>157</b>	<b>1,967</b>
<b>(tons)</b>		<b>0.16</b>	<b>0.11</b>	<b>0.58</b>	<b>0.05</b>	<b>0.08</b>	<b>0.98</b>

## Water Use at Major Facilities

Goal: Reduce water use in buildings, landscape irrigation and rest areas.

### Performance Measure

1. Total gallons of water used by a Major Facility.

The implications of wasting water are costly for ODOT and for all Oregonians. As stated earlier, the update to TEAMS will allow for better tracking of water use at ODOT facilities. In the past it was not possible to determine if a charge under the object detail for water was for sewer services, facilities water use, or storm water. With the updated system now in place, ODOT will be able to start reporting on water use of its Major Facilities starting in 2012.

The renovated T-Building includes storage tanks that will collect rain to be used in a grey water system. This system will use the collected water to flush toilets and irrigate the landscape, an excellent technique to maximize water efficiency at the T-Building.



## Land Use and Infrastructure

When ODOT builds new facilities or remodels existing facilities, the agency can reduce its carbon footprint by reducing energy use and using sustainable materials. This includes both siting facilities so that they are easily accessible and developing facilities that meet low carbon and energy efficiency standards.

## Siting of Major Facilities

Goal: Locate new facilities in a manner that supports compact and mixed land use.

### Performance Measure

1. Index of access to alternative modes (walking, biking, and transit) from new Major Facilities.

New Major Facilities should be located in a manner that supports compact land use and encourages employees to reduce commuting and travel energy. State policy calls for siting state offices and other facilities when feasible in central business areas that are highly accessible to the public and have pedestrian and transit services. ODOT's goal is to site Major Facilities in both large and small urban centers except when the operations of the facility are incompatible with the urban center.

No new Major Facilities were constructed in 2011, however ODOT did finish the construction of the Baker City Maintenance Station. Due to the operations at typical maintenance facilities, which for example involve dust, noise, and 24-hour lighting it is usually inappropriate to site these facilities within urban settings. The station was built to State Energy Efficiency Design (SEED) standards with 1.5% of funding for solar energy.

## High Performance Major Facilities

Goal: Build new facilities to meet high performance standards for air, water, and energy use.

### Performance Measure

1. Percent of non-exempt new Major Facilities that meet high-performance standards (LEED or SEED) or equivalent in accordance with other state agency criteria.

All new ODOT Major Facilities must meet the requirements of the State Energy Efficiency Design (SEED) program.

The remodelling of the Transportation Building is a great example of a high performance major facility at ODOT.

The state is targeting Leadership in Energy and Environmental Design (LEED) Gold or Platinum certification levels on the remodel, meaning it must meet strict sustainability standards, including standards for energy efficiency, using local and regional materials, enhancing the environment, and creating a healthy workspace.

### What is SEED?

Originally established in 1991 as a result of Oregon State Law (ORS 276.900-915), SEED directs state agencies to work with the Oregon Department of Energy to ensure cost-effective energy conservation measures are included in new and renovated public buildings.

In 2001, the law was revised to require that all state facilities constructed after June 30, 2001 exceed the energy conservation provisions of the Oregon State building code by 20% or more.

The renovated T-Building will be a safer, healthier place for employees and visitors. It will contain:

- Energy efficient lighting, heating and air conditioning systems;
- Rooftop solar panels generating power for the grid;
- Seismic retrofits;
- Environmentally-friendly storm water runoff system;
- Native planting;
- Effective ventilation and daylight throughout;
- New plumbing for healthy water; and
- Many other elements that contribute to sustainability.

Read more about the status of the [T-Building Renovation](#)



Frames for rooftop solar panels on T-Building.

## Economic Health

In a difficult economic climate, using resources in a sustainable and responsible manner becomes even more important. ODOT's purchasing decisions can contribute to Oregon's economy when the agency buys local products and uses local business services. Additionally, using life cycle costing for major expenditures can help the agency save money over the lifespan of a product or structure, thus ultimately benefiting the agency's bottom line.

### Local Purchasing

Goal: Make purchases for internal operations where feasible that meet criteria for being local.

Two programs at ODOT that are encouraging and providing opportunities to Oregon's small business entities are the Emerging Small Business (ESB) Program and the Small Contracting Program for Construction. It is the goal of these programs to assist small organizations in overcoming barriers to participating in the state's extensive public contracting procurement programs. These programs help stimulate the local economy and provide opportunities for local small businesses.

The mission of ODOT's ESB Program is to create new and innovative contracting opportunities for Oregon's small business community and focuses on two agendas: 1) create immediate contracting opportunities on ODOT contracts; 2) develop ESB firms' abilities to grow and compete for larger ODOT contracts.

"ODOT leadership supports stimulating the Oregon economy by creating opportunities for small businesses." - Michael Cobb, Office of Civil Rights, Workforce Development, and Small Business Support.

As of March 2011 there were:

- 1,857 small Oregon companies certified as ESBs
- 496 qualified as Disadvantaged Business Enterprises
- 687 qualified as Minority-owned Business Enterprises
- 1,117 qualified as Women-owned Business Enterprises

The ESB program benefits ODOT's sustainability values in many ways, including stimulating the local economy and a portion of the ESB Program funds are going towards projects that are upgrading ODOT facilities to improve on energy efficiency and overall performance.

To meet the demands of the current economic struggles, ODOT's implementation strategy for the ESB Program dramatically changed its face in 2011, drawing on internal resources from a variety of departments to deliver over \$4 million in small projects within six months before June 30, 2011; which equaled over 50% of the Biennial program budget. Contracts moved through the Office of Procurement and local ODOT districts and into the hands of successful ESB contractors across the state, providing over 60 projects to firms ready and able to participate. The final six months of calendar year 2011 will deliver more than 30 contracts to ESB firms, with over 300 projects anticipated throughout the 2011-2013 Biennium to help develop ESB firms grow and successfully compete for ODOT contracts.

Strategies considered early in project identification targeted 30 projects exclusively identified to provide important upgrades to lighting, heating, roofing, doors and windows to lengthen the life and

improve energy efficiency of ODOT facilities, as well as lighting upgrades at rest stops, highway ramps, and tunnels. A majority of projects delivered through the ESB Program provide some sustainable benefits, although not specifically targeted as such.

Building strong, sustainable businesses is at the heart of the ESB Program. To provide the resources necessary to core business development, educational and mentorship opportunities, the ESB Program has been restructured to significantly impact business across the state by forging new relationships with public and private agencies for the benefit of a stronger economy. The awareness of sustainable needs can be found at every corner of the state, and the ability to make the most of every dollar is exemplified through the work of ODOT’s ESB Program.

The Small Contracting Program (SCP) was first established and launched as a pilot program in the Portland Metro area (Region 1) in 2006. ODOT quickly realized the potential, flexibility and necessity of this program and revised the program to incorporate statewide service in the spring of 2007.

The goal of the SCP is to provide a contracting mechanism for outreach to business entities. Much like the ESB Program, SCP is welcomed by ODOT as a means to build effective working relationships with companies who can benefit from the knowledge and experience working as Prime contractors on ODOT projects. As an adjunct to this goal ODOT staff provides a mentor relationship with these companies, working with them to gain the skills required to be successful in contracting opportunities with ODOT.

“Through the Small Contracting Program, ODOT is supporting Oregon’s economy by building sustainability for small businesses and tapping into their expertise as we work to build a stronger transportation system.” - Matt Garrett, Director, ODOT

The SCP is made up of two divisions: Architectural and Engineering (A&E) and Related Services (SCPAE) and Other Services (SCPOS).

<b>As of August 2011 there were:</b>	
SCPOS	SCPAE
124 contracts; Total contract value \$3,512,496	89 contracts, Total value \$2,153,239
631 companies registered under the Services Category	771 companies registered under Construction Category
315 of 631 registered as OMWESB	316 of 771 registered as OMWESB

The SCP continues to benefit ODOT in many ways. It gives ODOT flexibility to utilize local contractors supporting large infrastructure projects. It promotes sustainability by providing opportunities (jobs), safety to the traveling public such as hazardous tree removal and landslide evaluations. SCP is used to support wetlands habitat promoting a sustainable ecology for Oregon’s ecosystems. Contractors hired through the SCP bring innovative strategies to ODOT projects, for example, the introduction and analysis of solar power energy.

## Life Cycle Cost

Goal: Make purchases based on the best life cycle value, not simply initial cost.

### Performance Measure

1. Percent of expenditures over \$100,000 undergoing a simple life-cycle cost evaluation.

A life cycle cost is the total cost to the state of acquiring, operating, supporting, maintaining and (if applicable) disposing of items being acquired. ORS 184.423 states that *Investments in facilities, equipment and durable goods should reflect the highest feasible efficiency and lowest life cycle costs.* ODOT is exploring ways, in consultation with DAS, to perform life cycle cost analyses on a variety of procurements such as Information Technology hardware, fleet purchases, office supplies, and other materials.

The Sustainability Council and others at ODOT are re-evaluating the appropriate performance measure for life cycle costing, however there are areas where ODOT is looking at multiple factors when costing items, not just the initial up-front cost.

Fleet currently uses a replacement system called the condition model which creates a formula that compares vehicle usage (miles driven), age, and equipment repairs. This access database compares all the equipment in ODOT's fleet and determines a numerical ranking of all equipment from 'Very Poor' to 'Very Good'. Fleet uses the equipment model results to recommend equipment replacement at ODOT.



The Fleet Section is in the process of upgrading the current Equipment Management System which is over 21 years old with a new system that will add several new factors into the model. What fleet will be able to do with the new system is add other factors into the replacement criteria as well as being able to adjust the ratio and weighting of the factors. In other words Fleet may decide to use five factors, age, usage, repairs, replacement cost, and fuel. The ratio is adjustable and would not have to be an even 20% split between the factors, some factors like fuel use or efficiency could be weighted. Fleets long-term plan is to use this system as more of a life cycle costing replacement plan. The system will also allow Fleet to pinpoint the optimum time to turn over equipment for the highest resale value. The funds received back from turned in equipment sales can be used to replace more equipment. This method could change the equipment replacement mode from reactive to proactive, ultimately saving money and keeping the most efficient vehicles possible in our fleet.

## Social Responsibility

ODOT must have a fully skilled, competent and diverse workforce to carry out its mission. As the number of retirements increase, ODOT must recruit employees with diverse backgrounds, retain the expertise of experienced employees, and develop employee skills to meet new challenges to the agency and the transportation system.

### Workforce Diversity

**Goal:** Actively pursue strategies for current employees, job applicants, and contractors to attain equity and equality in all employment and contractual opportunities offered by ODOT.

Performance Measure

1. Employment demographics of Major Facilities (age, race, sex, ethnic origin) compared to county demographics where those facilities are located.

It makes good business sense and is part of the agency's social responsibility to value diversity and actively pursue equity and equality in all employment and contractual opportunities offered by ODOT. ODOT will continue to employ and develop positive, creative, and innovative tools for recruiting, achieving and supporting a diverse workforce to sustain its ability to carry out its transportation mission.



### 2011 ODOT Employee Demographics

Male: 63%	White Non-Hispanic: 90%	Under 35 years: 12%
Female: 37%	Native American/ Pacific Islander: 2%	Between 35-49: 35%
	Hispanic: 4%	Between 50-64: 50%
	Black: 1%	Over 65 years: 3%
	Asian: 3%	

Demographics of Major Facilities Compared to Counties Where Facilities Are Located										
	Douglas		Jackson		Marion		Multnomah		Union	
	ODOT	County*	ODOT	County	ODOT	County	ODOT	County	ODOT	County
White	89%	92.4%	92%	88.7%	89.6%	78.2%	82%	76.5%	94%	93.1%
Native Am./ Pacific Island	3.6%	1.9%	3%	1.5%	2%	2.3%	2%	1.6%	2%	2%
Hispanic	2.8%	4.7%	3%	10.7%	4%	24.3%	2%	10.9%	3%	3.9%
Black	2.8%	.3%	0	.7%	1%	1.1%	4%	5.6%	0	.5%
Asian	1.8%	1%	2%	1.2%	3.4%	1.9%	9%	6.5%	1%	.8%
Female	28%	50.6%	27%	51.3%	52%	50.2%	37%	50.5%	29%	50.8%
Male	72%	49.4%	73%	48.7%	48%	49.8%	63%	49.5%	71%	49%

\*County data is from 2010 Census data, respondents could mark more than one ethnicity, therefore some percentages over 100%.

Employment demographics represent a piece of the diversity story at ODOT, however it is the training, conferences, and educational opportunities on diversity and cultural competency that may provide a clearer picture as to how ODOT is fostering workforce diversity and understanding. The 2011 Diversity Conference experienced its largest attendance in its 18-year history, with about 1,900 registrations, including many ODOT employees. Additionally, ODOT’s training class, “Building Intercultural Competency - Module 1” continued throughout 2011. Over 1,813 employees and 342 managers have participated in the class, which aims to improve the ability of ODOT staff to interact effectively with people of different cultures. Module 2 is now available for all employees and offers them the opportunity to build on what was learned in Module 1, and enhance their ability for intercultural communication and understanding.

## Employee Retention and Development

Goal: Provide opportunities for career development in order to retain a fully-skilled and engaged workforce.

### Performance Measure

1. Percent of non-seasonal employees leaving the agency with less than five years of service.

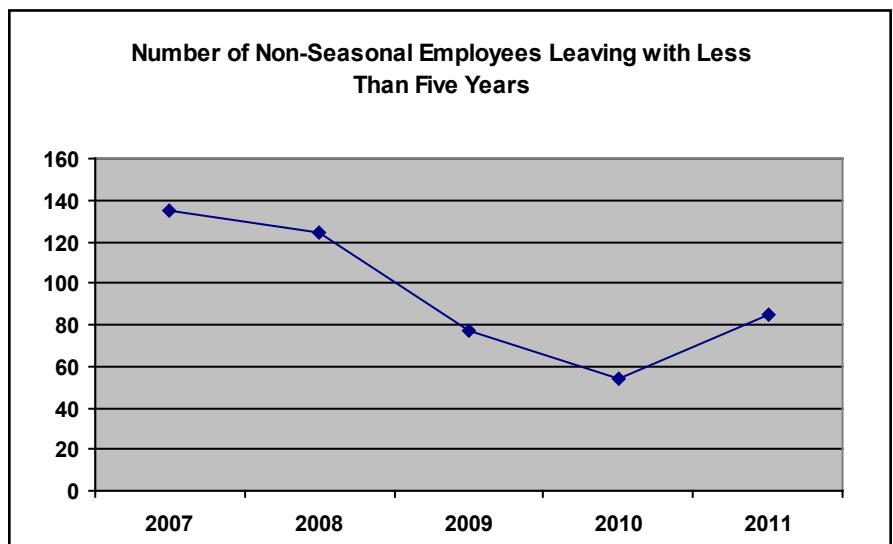
The case for talent retention includes several factors, perhaps most importantly maintaining institutional knowledge, bolstering in-house training resources, long-term cost reduction to the taxpayer, and mentor/ internship program successes for new employees. Taking these factors into consideration has allowed the agency to assess its strengths and strategies for more aggressive retention outcomes over the next several biennia. By sustaining employment, ODOT inherently becomes more sustainable.

Starting in 2011, the ODOT Highway Leadership Team invited current (or aspiring) mid-level managers to embark on an exciting 18-month journey that will:

In 2011, **30%** of those non-seasonal employees who left the agency had five years or less of service.

- Help prepare them to successfully transition into positions of increased responsibility and leadership.
- Create opportunities to build leadership networks throughout the Highway Division.
- Allow employees to demonstrate their leadership skills on a statewide level.
- Increase personal discovery of self-knowledge and professional growth.

The Highway Leadership Institute offers 10 to 15 employees from around the state a combination of instructor led training, cultural competency workshops, electives, mentorships and hands-on business line experiences. It is programs like this that help develop the next generation of managers and encourage further learning and development within ODOT.



## Health and Safety

To carry out its responsibilities, ODOT needs a healthy workforce. Its employees, in return, need to be able to rely on a safe work environment that continuously reduces risk of injury. Health and safety really are the basis for maintaining a sustainable workforce.

### Employee Safety

**Goal: Work towards having zero injuries on the job at ODOT.**

#### Performance Measure

1. Rate per 100 full-time equivalent positions of workers' compensation disabling time loss claims.

ODOT employees need to be able to rely on a safe work environment that continuously reduces risk of injury. Division and Region Safety Action Plans identify specific activities and expectations related to safety, health, and risk management. The Sustainability Plan aims to enhance these programs.

In 2011, an agency-wide Key Performance Measure (KPM) for Employee Safety was established. The KPM will measure: *ODOT employee occupational injury and illness rate per 100 full-time equivalent positions for workers' compensation disabling time loss claims.* This KPM will now be used as the performance measure in Volume II.



The official reporting for this KPM started in 2011, however ODOT does have data from the SAIF Corporation on the number of accepted and denied claims and the number of time loss days for prior years.

Check out the [ODOT Safety Indicator Dashboard](#)

