

2019

Sustainability Progress Report



Preface

ODOT's *Sustainability Plan (Volume II)* was created pursuant to the 2001 Oregon Sustainability Act. In 2000 and 2003, Governor's Executive Orders were issued to support and drive specific sustainability actions within state government operations. These Orders direct state agencies to hire program coordinators, develop plans, and work to incorporate sustainability into government practices.

The Sustainability Plan lists strategies across several topic areas focused on economic, environmental, and social values. Goals within the Plan provide a clear set of long and short-run targets and expected outcomes. Strategies outline the various actions that will be taken by Lead Work Groups across the agency to achieve measurable results. ODOT publishes annual reports that share progress made toward the goals identified in the Sustainability Plan. Performance measures identified in the progress reports enable the agency to evaluate trends and highlight successes.

ODOT staff use both the Sustainability Plan and annual progress reports to aid decision-making in a way that makes ODOT a more sustainable agency.

Progress toward ODOT's sustainability goals would not be possible without the dedication of employees that implement conservation practices and suggest ways to do things better. Thank you to all employees who make ODOT sustainable!

Questions or comments regarding this report, or any other sustainability topic, can be directed to the Sustainability Planner or the Climate Office.

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I Integrating Sustainability

ODOT leadership recognizes the importance of reducing carbon emissions from transportation and the impacts the climate is having on Oregon's transportation system. In March 2020, the Climate Office was established to consolidate efforts into a more strategic approach toward a cleaner transportation future. The mission of the Climate Office is to identify and pursue actions that reduce transportation greenhouse gas (GHG) emissions and the Agency's carbon footprint. The Sustainability Program is an integral part in achieving this mission.

The 2019 Progress Report is the last summary of ODOT's sustainability performance prior to the creation of the Climate Office. Now a part of the Climate Office, the Sustainability Program scope or work will expand beyond focusing on the Sustainability Plan to include research and pilot projects, grant management, and general leadership on low-carbon construction materials and resource conservation.

Moving forward, sustainability plans and progress reports may reflect the work being performed by the entire Climate Office. That said, the Sustainability Program will continue to report on required components of the Sustainability Act and subsequent Executive Orders.

Modifications to Progress Report

ODOT Sustainability Plan Volume II – the most recent version – was published in November 2015. Several performance measures do not have consistent or meaningful data available. Additionally, getting the Climate Office up and running diverted some resources that would have otherwise been able to report on other performance measures.

The following bullet points list performance measures that are not reported on in the 2019 Progress Report. Several of these measures are always reported, if data is available for that year (e.g., SEED/LEED construction). Other measures are not reported due to lack of data (e.g., green procurement). And, lastly, others are no longer relevant to the Sustainability Program (e.g., safety measure), or are reported elsewhere in the Agency (e.g., contracting, demographics).

- Percent of employees that participate in the monthly transit pass payroll deduction program.
- Use of video and web conferencing for meetings.
- Amount of green office supplies and equipment purchased by ODOT or provide by contractors.
- Quantity of printer/ copier paper purchased by ODOT.
- The weighted average of postconsumer recycled content of printer/ copier paper purchased.
- Annual total for DAS copy center costs.
- Number of landscaping projects at new or renovated Major Facilities that include native, non-invasive, drought tolerant plants.
- Amount of "green" janitorial supplies purchased by ODOT through price agreements or provided by janitorial contractors.
- Number of non-exempt new Major Facilities that meet high-performance standards (LEED or SEED) or equivalent in accordance with other state agency criteria.
- Percent ODOT contract dollars awarded to disadvantaged minority, women, and emerging small businesses.
- Employment demographics (age, race, sex, ethnic origin) compared to county workforce demographics.
- Percent of non-seasonal employees leaving the agency with less than five years of service.
- Time loss injury rate per 100 ODOT employees.

Key Takeaways

The 2019 Progress Report highlights several takeaways:

Areas of new and continued success

- Use of low carbon intensity fuels are increasing and becoming more readily available.
- Maintenance demonstrated 98-percent compliance with priority procedures in EMS program.
- Water use decreased by 22-percent at ODOT-owned facilities.

Areas for improvement

- Total gallons of fleet fuel used increased by 19 percent.
- The anti-idling technology goal has not been met and is two years behind schedule.
- ODOT has seven (7) fewer sedans using alternative fuels.

The Sustainability Program will further research reasons why performance measures are not being met and strategize ways to improve.



ODOT Sustainability Performance Measures - Trends and Summary (2019)

Focus Areas and Sub-Areas	Performance Measures	Trend Performance Compared with Goal	Summary	Primary Data Source
Energy/ Fuel Use and Climate Change				
Greenhouse Gas (GHG) Emissions	Total GHG emissions from ODOT's building energy use.	↓	GHG emissions slightly increased by 0.08%, or by 8 Metric Tons.	Financial Services; Facilities Section
	Total GHG emissions from ODOT's transportation fuel sources.	↓	Vehicle fleet GHG Emissions Intensity reached the highest level since 2010.	Fleet Services; DAS
Building Energy Use	Building level Energy Use Intensity (EUI) per square foot per year.	↑	EUI decreased at Major Facilities by an average of 1.5 kBtu/ft ² from the 2015 baseline.	Financial Services; Facilities Section
Fleet Fuel Use	Total biodiesel and other alternative fuel use as percent of total fuel use.	↑	ODOT exceeded the B20 goal at 69% of overall fuel use in 2019..	Maintenance and Operations - Fleet Program
	Total number of trucks using anti-idling technology as a percent of total truck fleet.	↓	ODOT operates 225 trucks using anti-idling technology, or 23% of the on-road diesel fleet. The goal of exceeding 30% of fleet has not been met.	Maintenance and Operations - Fleet Program
	Hybrid, best-in-class high-mileage vehicles, and gasoline vehicles using alternative fuels as percent of all passenger sedans.	↓	ODOT has seven (7) fewer sedans using alternative fuels from the 2018 progress report, representing a decrease from 42% to 39% of total fleet.	Maintenance and Operations - Fleet Program
Material Resource Flows				
Waste and Recycling at Major Facilities	Recycling volumes in major facilities	↔	ODOT recycled 131,290 pounds of paper, 216,369 pounds of confidential shred, 14 pounds of plastic, and 65,027 pounds of electronics.	Major Facilities; Garten Services

Focus Areas and Sub-Areas	Performance Measures	Trend Performance Compared with Goal	Summary	Primary Data Source
Environmental Stewardship				
Maintenance Environmental Management System (EMS)	Percentage measure of maintenance yards following the “must” BMPs in the seven priority procedures of the EMS program.	↑	ODOT Maintenance demonstrated 98% compliance with priority procedures.	Office of Maintenance
Hazardous Materials	Amount of hazardous waste generated at each maintenance yard with goal of maintaining conditionally exempt status under federal laws.	↔	Maintenance yards are successfully reducing waste and maintaining status as Conditionally Exempt Hazardous Waste Generators.	Office of Maintenance
Water Use at Major Facilities	Total reduction in non-essential water use (gallons) at Major Facilities.	↑	Water use decreased 22% at ODOT-owned facilities statewide.	Central Services

Legend:

↑	Data shows ODOT meeting/ exceeding the related goal or there is an upward trend of improvement.
↔	Data shows ODOT met the goal but the metric is on an even or downward trend.
↓	Data shows ODOT did not meet the goal and metrics on a downward trend.

Energy Fuel Use and Climate Change

ODOT is working to reduce the amount of GHG emitted by its operations and the transportation sector. This work involves collaboration with others to develop innovative responses, minimizing energy use in facilities, increasing fuel efficiency in fleet vehicles, and encouraging employees to reduce vehicle commutes.

Greenhouse Gas Emissions

Goal: Arrest growth in GHG emissions from ODOT fleet and facilities.

Performance Measures: Total GHG emissions from ODOT's building, energy, and transportation (fuel) sources.

ODOT is committed to minimizing its impact on the environment through the reduction of GHG emissions from all activities and sources. Reducing energy use and using alternative vehicles and fuels will help the agency reach its GHG reduction goals.



GHG from Building Energy

GHG emissions from electricity generation account for 26.9-percent of total emissions in the United States, the second largest source.¹ Thus, energy efficiency in ODOT buildings is an important part of the agency's sustainability goals.

Energy usage from over 100 ODOT buildings is continuously tracked through the Energy Star Portfolio Manager.² **Emissions increased slightly, by 0.08-percent (or 8 Metric Tons of CO₂e), in 2019 compared to 2018 emissions data.**

GHG Emissions Trend from Energy Use (Metric Tons CO₂e)



Source: EPA Portfolio Manager, ODOT.

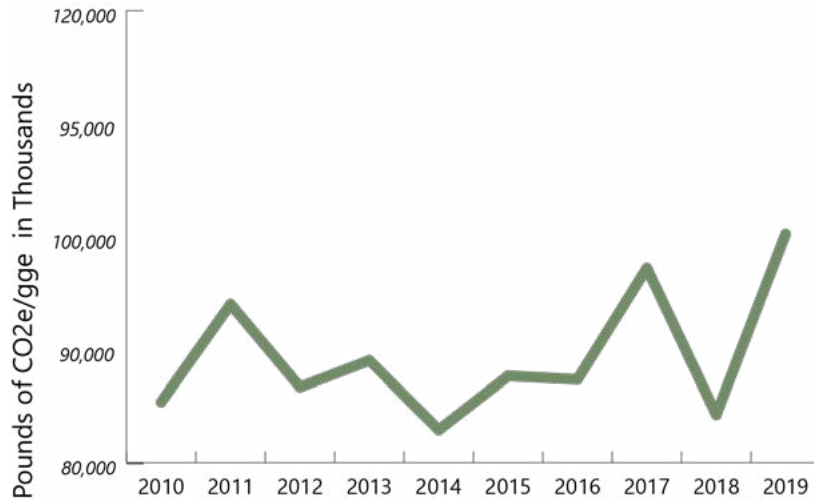
¹ Sources of Greenhouse Gas Emissions | Greenhouse Gas (GHG) Emissions | US EPA

² Use Portfolio Manager | ENERGY STAR Buildings and Plants | ENERGY STAR

GHG from Fleet Fuels

The carbon intensity from ODOT's vehicle fleet fuels increased over 19-percent in 2019 compared to 2018 levels. ODOT's fleet fuel use fluctuate year to year due to many factors, such as weather, agency workloads, and construction activity. A 10-percent year-over-year change is typical based on data accumulated from 2010. It is not clear why ODOT's fleet fuel use dramatically increased in 2019, although increased construction activity is suspected.

ODOT Fleet - Annual Carbon Intensity Emissions of Fuel Use



Source: Oregon Department of Administrative Services; ODOT Fleet Services, 2020.



Building Energy Use

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

Performance Measures: Building level EUI per square foot per year.

ODOT focuses on 12 Major Facilities for this performance measure (see table below). EUI at Major Facilities was slightly higher by an average of 1.6-percent per building for the calendar year. However, the 2019 average EUI was 1.1-percent below the 2015 baseline.

Note: CY 2015 is the baseline for state agencies concerning the goal of a 20-percent reduction in EUI by 2023. Data is being tracked in Portfolio Manager and applies to 109 metered sites greater than 5,000 square feet. ODOT also continues to implement projects that include a mix of renewable energy sources consistent with the State Energy Efficient Design (SEED) program (ORS 276.900).

Energy Use Intensity (EUI) at ODOT Major Facilities – Percent Change 2015-2018

Property Name	2018 Site EUI (kBtu/ft ²)	2017 Site EUI (kBtu/ft ²)	City	Property GFA - Self-Reported (ft ²)	% Change (one year)	2015 Site EUI (Baseline)	% Change Over Baseline
Region 1 HQ, Flanders	33	34.3	Portland	94063	-3.8%	42.5	-22.4%
DMV HQ Office Bldg Salem	43.3	48.8	Salem	120790	-11.3%	54	-19.8%
Region 5 HQ Bldg	65.4	61.9	LaGrande	27900	5.7%	62.9	4.0%
Region 3 HQ Bldg	106.9	101	Roseburg	38186	5.8%	100.5	6.4%
Transportation Bldg. HQ	34.4	33.8	Salem	151635	1.8%	35.8	-3.9%
Barlow School Offc Bldg	67.4	72.6	Portland	20000	-7.2%	74.8	-9.9%
Supply Ops, Purchasing, Bldg K	48.5	44.4	Salem	30000	9.2%	40.6	19.5%
Project Mgrs & R/W, Building A	69.9	64.9	Salem	16700	7.7%	59	18.5%
Region 2 Headquarters, Bldg B	57.8	52	Salem	21900	11.2%	51.4	12.5%
Mill Creek Office Building	31.9	31	Salem	51120	2.9%	31.7	0.6%
Region 4 HQ, Bldg K	91.8	89.9	Bend	11000	2.1%	101.5	-9.6%
Salem Materials Laboratory	134	141.2	Salem	54000	-5.1%	147.5	-9.2%
Average	65.4	64.7		53107	1.6%		-1.1%

Source: ODOT Facilities Services, EPA Portfolio Manager, 2019.

Strategic Energy Management (SEM)

ODOT Facilities Services works with facility managers to implement energy efficiency projects, maximize incentives, and track building performance. Facilities Services also enrolls new buildings into the SEM program, a partnership with the Energy Trust of Oregon. The use of SEM allows a comprehensive review of energy efficiency solutions. SEM helps to assess, prioritize, and select efficiency practices and projects. There are currently 18 ODOT sites enrolled in the SEM program statewide.

2019 SEM Savings

Electricity	126,758 kWh
Natural gas	11,114 therms
Combined savings	\$19,030
Direct Incentives	\$4,758



Fuel Use

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

Performance Measures:

1. Total biodiesel and other alternative fuel use as a percent of total fuel use.
2. Total number of trucks using anti-idling technology as a percent of total truck fleet.
3. Hybrid, best-in-class high-mileage vehicles, and gasoline vehicles using alternative fuels as percent of all passenger sedans.

ODOT's Fleet Section continue to meet and exceed the agency's goals for alternative vehicles and fleet fuels. One goal that likely needs to be updated because of continued performance is to use a B-20 equivalent in 35-percent of all diesel used by on-road vehicles each year. In addition to using alternative fuels with less embodied carbon, the agency also purchases hybrid and electric vehicles and equipment to reduce overall fuel use.

2019 Status: 69-percent of diesel fuel use was B20 equivalent.³

Total Biodiesel/Renewable Diesel Usage in 2019: **1,436,232 gallons**

- Biodiesel – 1,139,958 gallons
- Renewable diesel – 296,274 gallons

R99 is a renewable diesel and has the lowest carbon intensity of all fuels with the exception of electricity. ODOT has 19 bulk fuel locations dispensing R99 in 2019, up from the 11 locations reported in 2018.

The Sustainability Plan has a goal to achieve 30-percent of ODOT on-road light to heavy duty trucks using anti-idling technology by 2018.

³ B20 is a blend of at least 20% biodiesel and 80% petroleum diesel. Although biodiesel can be used at any mixture, including 100% biodiesel, the B20 mixture is considered a typical blend for normal use in conventional diesel engines.

- **2019 Status:** 23-percent of on-road diesel fleet (225 trucks) are using anti-idling technology.

Another goal is to increase the number of vehicles in the passenger fleet using hybrid, best in class high mileage vehicles, or gasoline vehicles using alternative fuels.

- **2019 Status:** 39-percent (57 vehicles) of the passenger fleet meets this goal.

Total Sedans	146	
Total Alternative Fuel Sedans	57	39%
All Electric Sedans	3	2%
Electric Hybrid Vehicles	16	11%
Compressed Natural Gas	0	0%
E85 Ethanol	38	26%

Source: ODOT Fleet Services March 2020.

Overall, ODOT currently owns 340 E-85 vehicles and 20 hybrid or plug-in hybrid electric vehicles which includes (3) Chevy Volts, (12) Toyota Prius, (4) Ford Escapes, (3) Nissan Leafs, and (1) Ford Transit Van.



I Material Resource Flows

Waste Minimization and Recycling

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

Performance Measure: Recycling volumes in Major Facilities.

ODOT works to reuse and recycle all materials from its operations, including paper, plastics, electronics and metals. It is difficult to track waste volume data collection at a large and decentralized organization like ODOT. One reason is that ODOT uses many different waste haulers throughout the state which often differ in the type of client and account information gathered. Tracking the actual volume or weight of waste disposal is also a challenge.

Garten Services, Inc. – a Salem-based nonprofit that manages recycling efforts at several ODOT facilities – reports the following recycling volumes for calendar year 2019, reflecting data from over 30 facilities within the Willamette Valley.



Photo Credit: Garten Services, Inc.

2019 ODOT Recycling Totals

Material Types	Haul Volumes
Office Paper (lbs.)	131,290
Confidential Paper Shred (lbs.)	216,369
Plastics (lbs.)	14
Electronics (lbs.)	65,027
Waste Diverted from Area Landfills (cubic yards)	849

Source: Garten Services, 2020.

In 2019, ODOT's recycling efforts:

- Saved the equivalent of **2,955 trees**;
- Reduced GHG emissions equivalent to removing **156 cars** from the road for a year; or
- Saved energy equivalent to **28,962 gallons of gasoline**.

Environmental Management System

Goal: Fully implement EMS standards at ODOT maintenance yards.

Performance Measure: Percentage measure of maintenance yards following the “must” Best Management Practices in the seven priority procedures of the EMS.

Average overall implementation in 2019 was 98.2%.

ODOT’s Maintenance Yard EMS represents the cornerstone of Maintenance’s commitment to the ODOT Sustainability Plan. Developed in 2004 and initiated in 2005, the EMS Policy and Procedures Manual (Manual) provides straight-forward BMPs for managing materials used in the day-to-day maintenance and operation of the highway system.

ODOT Maintenance employees strive to make the EMS program part of standard operating procedures.

Three levels of audits are used to evaluate the EMS Program: Monthly Field Audits, Regional Audits, and Statewide Reviews. Seven procedures have been selected as indicators of EMS program implementation: drainage and water quality; aerosol cans; fuel; lighting; oil; pesticide; and winter maintenance chemicals. These priority procedures were selected because of the type of wastes generated, the degree of regulation, continued confusion implementing the BMPs, and potential to impact natural resources. Each of the seven priority procedures are evaluated at each Maintenance yard during the Regional Audit.

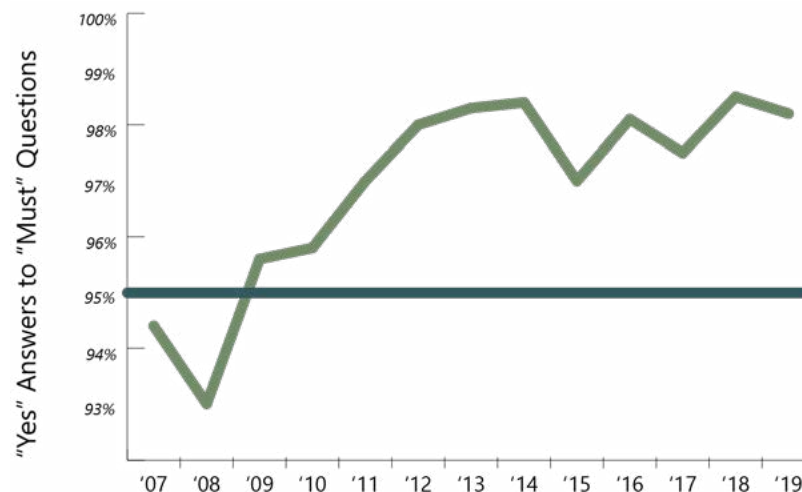
Regional Audit packets that contain questions to be asked at each facility are created by the Maintenance and Operations Branch and distributed to District Managers.

BMPs throughout the Manual that are required by law or ODOT policy are identified by the word “must.” Responses to Regional Audit questions in the priority procedures regarding “must” practices are compiled to evaluate progress implementation of the EMS Program. Guidance materials are updated as needed to improve success.

Summary of Regional Audits in 2019

- Planned for 2019: 30
- Scheduled by Districts: 29
- Forms Received: 29
- Procedures Audited: 22 of 22

Average Statewide Implementation of “must” BMPs in Priority Procedures



Hazardous Materials

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

Performance Measure:

- Amount of hazardous waste generated at each maintenance yard and truck shop each year, with the goal of maintaining Conditionally Exempt Status under federal laws.

In 2019 all Maintenance yards were classified as “Very Small Hazardous Waste Generators”.

Hazardous waste generated by Maintenance crews and equipment shops (combined statewide)⁴:

- 2019: 1.13 tons
- 2018: 1.56 tons
- 2017: 1.46 tons

Very Small Hazardous Waste Generators is the lowest category of hazardous waste generator, as defined by Department of Environmental Quality. 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 onsite. Hazardous waste generation by Maintenance and Fleet through routine activities is minimal.



De-icer container.

⁴ Information on hazardous waste generation is tracked by the crews and compiled biannually by the Maintenance and Operation Branch. Hazardous waste generation is tracked at 89 maintenance facilities.

Water Use at Major Facilities

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

Performance Measure: Total reduction in non-essential water use (gallons) at Major Facilities.

ODOT's water usage decreased by 22-percent during the 2019 water year as compared to the 2014 baseline. Water data is collected from 128 ODOT-owned metered sites across the state. Water use data is reported annually to DAS and the Governor's Office per Executive Order 15-09.

Water use in ODOT's leased properties increased over the 2019 water year, and stands at 112-percent over the 2014 baseline. This data was collected from 32 leased sites across the state. Water usage from maintenance activities was not available at time of this report.

Water Action Teams are embedded in Divisions across ODOT in support of the state's goal of reducing non-essential water consumption 15-percent by 2020. Most facility landscaping irrigation is shut down. Where improvements can be made, work is underway to better track facility-level water usage and drive reductions through targeted equipment retrofits and other conservation actions.

Although changes to ODOT's accounting systems allow for water use tracking, challenges remain with facility metering and consistent and accurate data entry. As with most performance measures, data accuracy and reliability will likely improve overtime.



Statewide Metered Water Use relative to 2014 Water Year (WY) baseline

Expenditure Accounts (EAs)	Sites/Accounts	2014 WY Baseline	2016 WY	2017 WY	2018 WY	Percent Gain/Loss
ODOT-owned Facilities	128	31,380,017	30,861,483	36,285,273	25,746,710	-22%
ODOT-leased Properties	32	1,297,386	4,061,136	4,333,629	2,749,060	112%

I On the Horizon

Now part of the Climate Office, the Sustainability Program will be involved in several new projects that will help ODOT achieve goals related to addressing climate change. In addition, the 2015 edition of the ODOT Sustainability Plan (i.e., Volume II) is in need of updating to reflect new state and agency priorities. This update will be accomplished through review of performance measures and objectives. Updated sustainability topics may be included to reflect current activities and priorities from the Strategic Action Plan and the ODOT Climate Office.

The following bullet points summarize a few projects that will positively contribute to the Sustainability Plan:

- **GHG Inventory** – An emissions assessment of ODOT operations, maintenance and construction practices with the intention to establish a baseline and identify opportunities for improvement.
- **LED Street Light Conversions** – Following a Region 1 pilot, staff will be pursuing ways to convert state-owned street lights to energy efficient LEDs.
- **Transportation Electrification** – Two studies are underway that will help identify areas needing extra focus and investment to increase the electrification of the state's transportation system, including electrifying ODOT fleet vehicles and charging opportunities for staff.
- **STIP GHG Evaluation Project** – Integrating a climate lens through decision making for transportation projects (the end result will inform more sustainable design and construction).

Sustainability at ODOT is an iterative process where goals and strategies are understood to change and evolve over time. At the time of writing this report, the COVID-19 pandemic continues to impact daily life. Future progress reports and updated editions of the Sustainability Plan will undoubtedly reflect changes stemming from the pandemic, including 1,600 ODOT employees teleworking, a significant national unemployment rate, and mandated safety precautions to limit the spread of the virus. The Sustainability Program will continue to evolve in a way that sets relevant, yet challenging goals for the agency to work toward.

