2020

Sustainability Progress Report

Oregon Department of Transportation

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.

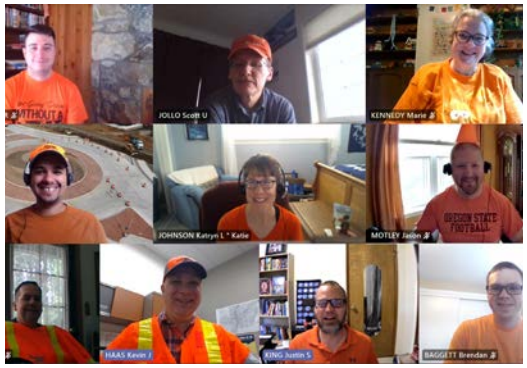
The Sustainability Plan lists strategies across several topic areas focused on economic, environmental, and social values. Goals within the Plan provide a clear set of long and short-run targets and expected outcomes. Strategies outline the various actions that will be taken by Lead Work Groups across 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 Program Manager.

Zechariah Heck, AICP
ODOT Sustainability Program Manager
(503) 986 4261
zechariah.heck@odot.state.or.us



Sustainability in an Unprecedented Year

From the COVID-19 pandemic to the formation of ODOT's Climate Office, the year 2020 was unprecedented in many ways. The Climate Office was just getting established in March as the novel corona virus was spreading across the world. To limit the spread of the virus, ODOT quickly transitioned to approximately 1,800 remote employees out of 4,500 total. A majority of the workforce reported to work throughout the state to ensure people and goods were still able to move efficiently despite normality coming to a screeching halt. While the Climate Office understood their work would be dynamic, nobody could have anticipated the challenges that arose in 2020.

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 Climate Office was established to consolidate efforts, including sustainability, into a more strategic approach toward a cleaner transportation future.

The Sustainability Program is responsible for implementing the agency's Sustainability Plan and reporting annually on performance metrics therein. For many reasons, the 2020 Progress Report looks different than previous reports. With many offices left vacant or with minimal staff to limit the spread of COVID-19, energy and water use decreased significantly. Similarly, agency fuel use was at a ten-year low due to limited vehicle use. It is interesting to note where there are major differences – perhaps caused by the pandemic, perhaps not – and where there actually was not much change despite agency operations being so different.

Modifications to Progress Report

ODOT Sustainability Plan Volume II – the most recent version – was published in November 2015. As mentioned in the 2019 Sustainability Progress Report, several performance measures do not have consistent or meaningful data available. The pandemic also impacted what information was available. Several 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 measures), or are reported elsewhere in the Agency (e.g., demographics).

Key Takeaways

The 2020 Progress Report highlights several takeaways:

Areas of new and continued success

- Greenhouse gas (GHG) emissions from agency buildings decreased by 20 percent.
- Use of low carbon intensity fuels are increasing.
- Hazardous waste generated by maintenance decreased by 35-percent.

Areas for improvement

- The anti-idling technology goal has not been met and is three years behind schedule.
- ODOT has fifteen (15) 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 2020

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.	⇧	Decreased by 20-percent (1,419 Metric Tons).	Financial Services; Facilities Section
	Total GHG emissions from ODOT's transportation fuel sources.	⇧	Emissions intensity was the lowest level since 2011 (78,632,455 CI).	Fleet Services; DAS
Building Energy Use	Building level Energy Use Intensity (EUI) per square foot per year.	⇧	Decreased by an average of 11.5 percent.	Financial Services; Facilities Section
Fleet Fuel Use	Total biodiesel and other alternative fuel use as percent of total fuel use.	⇧	52% of overall fuel use was bio or renewable diesel.	Maintenance and Operations - Fleet Program
	Total number of trucks using anti-idling technology as a percent of total truck fleet.	⇩	225 trucks use anti-idling technology, or 24% of the on-road diesel fleet (goal is 30% of fleet).	Maintenance and Operations - Fleet Program
	Hybrid, best-in-class high-mileage vehicles, and gasoline vehicles using alternative fuels as percent of all passenger sedans.	⇩	15 fewer sedans using alternative fuels (31% of total fleet).	Maintenance and Operations - Fleet Program
Material Resource Flows				
Waste and Recycling at Major Facilities	Recycling values in major facilities	⇔	139,228 pounds of paper (5% increase); 158,590 pounds of confidential shred (36% decrease); 409 pounds of plastics (96% increase); 39,336 pounds of electronics (65% decrease).	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.	⇧	98.7% 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.	⇧	Decreased by 1.5% in 2020 from the 2014 baseline.	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

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.

GHG from Building Energy

GHG emissions from electricity generation account for 25-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 70 ODOT buildings is continuously tracked through the Energy Star Portfolio Manager.[2] **Emissions decreased significantly, by 20-percent, in 2020 compared to 2019 emissions data.**

GHG Emissions Trend from Energy Use (Metric Tons CO2e)

Source: EPA Portfolio Manager, ODOT.

Note: Previous reports erroneously double-counted several buildings due to the Portfolio Manager format. Emission calculations have been updated.

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

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

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 twelve Major Facilities for this performance measure (see table below). EUI at Major Facilities was significantly lower by an average of 11.8-percent per building for the calendar year. The 2020 average EUI was 11.5-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 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

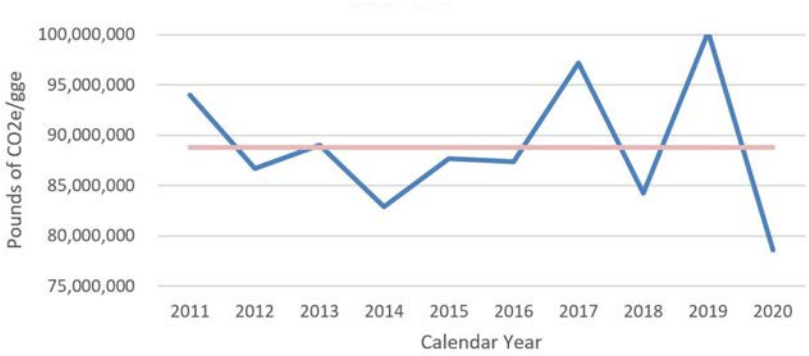
Property Name	2018 Site EUI (kBtu/ft^2)	2017 Site EUI (kBtu/ft^2)	City	Property GFA - Self-Reported (ft^2)	% Change (one year)	2015 Site EUI (Baseline)	% Change Over Baseline
Region 1 HQ, Garrett	27.6	33	Portland	94063	-16.4%	42.5	-35.1%
DMV HQ Office Bldg Salem	42.5	44	Salem	120790	-3.5%	54	-27%
Region 5 HQ Bldg	51.5	65.4	LaGrande	27900	-21.3%	62.9	-18.1%
Region 3 HQ Bldg	108.6	106.9	Roseburg	38186	1.6%	100.5	8.1%
Transportation Bldg. HQ	31.8	34.4	Salem	151635	-7.6%	35.8	-11.2%
Barlow School Offc Bldg	44.6	67.4	Portland	20000	-33.8%	74.8	-40.4%
Supply Ops, Purchasing, Bldg K	42.6	48.5	Salem	30000	-12.2%	40.6	4.9%
Project Mgrs & R/W, Building A	57.1	69.9	Salem	16700	-18.3%	59	-3.2%
Region 2 Headquarters, Bldg B	46	57.8	Salem	21900	-20.4%	51.4	-10.5%
Mill Creek Office Building	27	31.9	Salem	51120	-15.4%	31.7	-14.8%
Region 4 HQ, Bldg K	83.6	91.8	Bend	11000	-8.9%	101.5	-17.6%
Salem Materials Laboratory	164.8	134	Salem	54000	23.0%	147.5	11.7%
Average	62.4	65.4		53107	-11.8%	66.85	-11.5%

Source: ODOT Facilities Services, EPA Portfolio Manager, 2021.

GHG from Fleet Fuels

The carbon intensity from ODOT's vehicle fleet fuels decreased by 22-percent in 2020 compared to 2019 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. This is the second year in a row with an annual percent change greater than 10-percent – this time it is in a positive direction (i.e., decreased emissions).

ODOT Fleet - Annual Carbon Intensity Emissions of Fuel Use



Source: Oregon Department of Administrative Services; ODOT Fleet Services, 2021.

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.

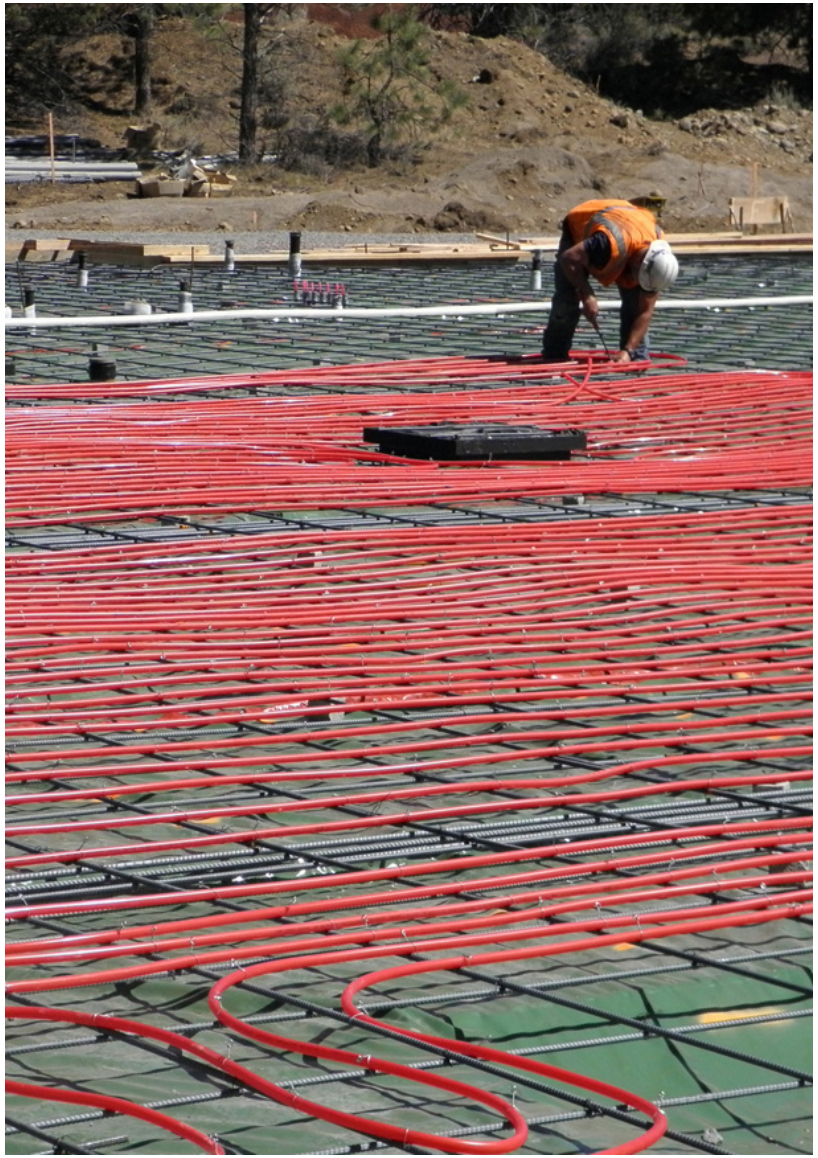
2020 SEM Savings

Electricity	449,948 kWh
Natural gas	19,190 therms
Combined savings	$49,286
Direct Incentives	$1,537

2019 SEM Savings

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

Note: Incentives fluctuate based on program offerings, which is why 2020 incentives are lower than 2019 despite significantly higher energy savings



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. 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.

2020 Status: 52-percent bio/renewable product dispensed.[3]

Total Biodiesel: 1,451,641 gallons (43-percent of total)

Total Renewable Diesel: 702,199 gallons (21-percent of total)

Total Ethanol: 1,120,515 gallons (33-percent of total)

R99 is a renewable diesel and has the lowest carbon intensity of all fuels with the exception of electricity. ODOT has 28 bulk fuel locations dispensing R99 in 2019, up from the 19 locations reported in 2019. And more are on the way! The ODOT Fleet Fuel Program is expanding the renewable fuel use now that R99 has become more available and price competitive.

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.

- **2020 Status:** 24-percent of on-road diesel fleet (225 trucks) are using anti-idling technology.[4]

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

- **2020 Status:** 31-percent (42 vehicles) of the passenger fleet meets this goal.

Total Sedans	139	
Total Alternative Fuel Sedans	42	31%
All Electric Sedans	3	2%
Electric Hybrid Vehicles	17	13%
Compressed Natural Gas	0	0%
E85 Ethanol	22	16%

Source: ODOT Fleet Services May 2021.

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.

3 This number represents the total percentage of pure bio/renewable fuel used (e.g., one B20 gallon equals two-tenths or 0.2 gallons of alternative fuel).

4 This number is not actively tracked.

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 at a large and decentralized organization like ODOT. ODOT uses many waste haulers throughout the state which often differ in the 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 in the Willamette Valley – reports the following recycling volumes for calendar year 2020, reflecting data from over 30 ODOT facilities.

Photo Credit: Garten Services, Inc.

2020 ODOT Recycling Totals

Material Types	Haul Volumes 2020	2019
Office Paper (lbs.)	139,228	131,290
Confidential Paper Shred (lbs.)	158,590	216,369
Plastics (lbs.)	409	14
Electronics (lbs.)	39,336	65,027

Source: Garten Services, 2021.

Note: Garten Services no longer tracks waste diversion streams that were reported previously.

Environmental Management System

Goal: Fully implement EMS standards at ODOT maintenance yards.

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

Average overall implementation in 2020 was 98.7%.

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.

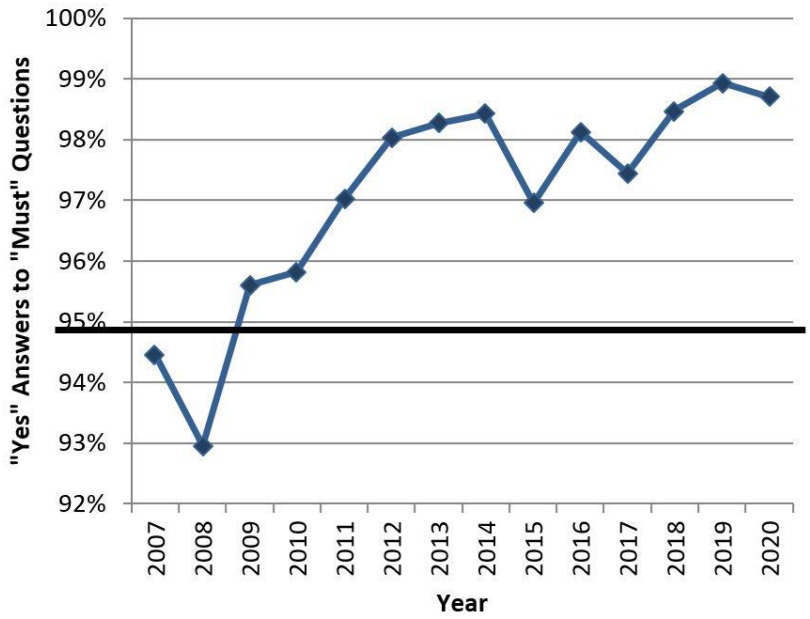
Three levels of audits are used to evaluate the EMS Program: Monthly Field Audits, Regional Audits, and Statewide Reviews. Seven procedures have been selected as indicators of EMS program implementation: drainage and water quality; aerosol cans; fuel; lighting; oil; pesticide; and winter maintenance 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.

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 2020

- Planned for 2020: 35
- Scheduled by Districts: 32
- Forms Received: 32
- 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 2020 all Maintenance yards were classified as "Very Small Hazardous Waste Generators".

Hazardous waste generated by Maintenance crews and equipment shops (combined statewide).[5]

- 2020: 0.79 tons
- 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 hazardous waste created each month in a calendar year and the amount stored onsite. Hazardous waste generation by Maintenance and Fleet through routine activities is minimal.

5 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 slightly, by 1.5-percent, during the 2020 water year as compared to the 2014 baseline. Water data is collected from 135 ODOT-owned metered sites across the state. This data was formerly reported annually to DAS and the Governor's Office per Executive Order 15-09. In 2021, E.O. 15-09 expired, however, ODOT finds inherent value in tracking water usage and continues to do so.

Water use in ODOT's leased properties increased significantly over the 2020 water year, and stands at 86-percent over the 2014 baseline. This data was collected from 32 leased sites across the state.

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.

ODOT's water use tracking pilot measures water usage at Major Facilities and select buildings to learn how certain operational changes, retrofits and conservation activities can reduce water use.

Statewide Metered Water Use

	Sites/ Accounts	2014 WY Baseline	2020 WY	Percent Gain/Loss
ODOT-owned Facilities	135	32,996,100	32,486,683	-1.5%
ODOT-leased Properties	32	1,297,386	2,420,200	86%

Economic Health

Small Business Program

The primary goal of the Small Contracting Program (SCP) is to provide a mechanism for outreach to targeted business entities. The SCP is a means to build effective working relationships with companies who can benefit from partnering with ODOT.

ODOT also strongly encourages, and is committed to, the participation of Emerging Small Businesses (ESB) in contracting opportunities. The mission of the ESB Program is to create new and innovative contracting opportunities for Oregon's small business community. It also assists ESBs in overcoming barriers to participating in the state's extensive public contracting procurement programs. ODOT's policy is not to discriminate on the basis of race, color, sex and/or national origin when awarding and administering those contracts.

Goal: Meet or exceed a six percent target for small-business contracting each year.

Performance Measure: Percent of ODOT contract dollars awarded to disadvantaged, minority, women, and emerging small businesses.

ODOT's Office of Civil Rights tracks dollars awarded to specific certified groups – as shown in the table to the right. The six percent goal for contracts with Emerging Small Business was not met; other categories exceeded the benchmark.

Reporting Period: 1/1/20 - 12/31/20	Dollars Awarded	% of Dollars Awarded
Total	**$469,102,826**	**100.00%**
Certified	$63,297,677	13.49%
Disadvantaged Business Enterprise	$62,053,407	13.23%
Emerging Small Business	$16,478,061	3.51%
Minority-Owned Business Enterprise	$33,385,281	7.12%
Women-Owned Business Enterprise	$33,267,437	7.09%

Certified group shave overlapping award amounts (i.e. a firm can have multiple certifications at once), so an award amount to a firm with multiple certification types will be attributed to multiple certification totals.