

Changing How Government Works: Utah State Government Air Quality Best Practices

Coordinator of Resource Stewardship Annual Report & Summary of Best Practices to Improve Air Quality FY 2021

Report prepared in compliance with Utah Code § 63A-1-116(3)(b)



Utah Department of
**Government
Operations**

Clear the Air Challenge

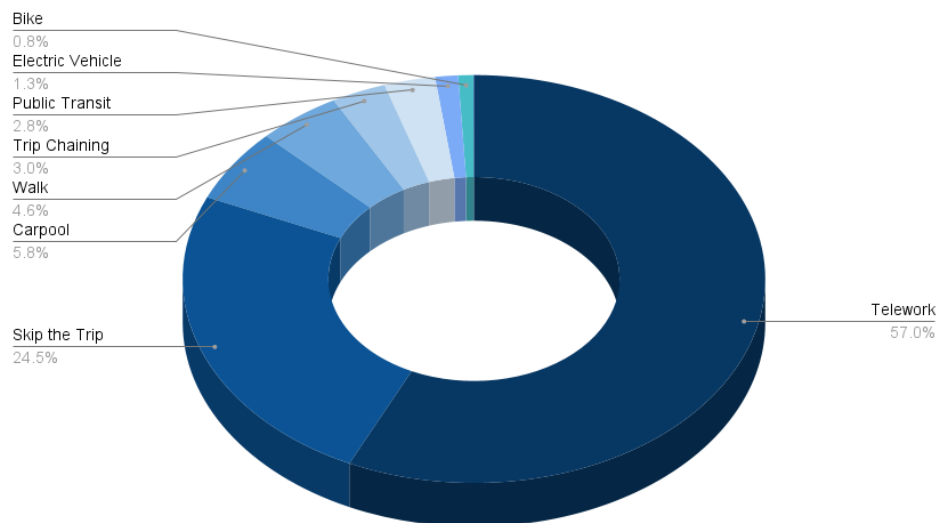
2021 State of Utah Participation

- During the month of February each year, the State of Utah participates in the Clear the Air Challenge. For the 2021 Challenge, 357 employees across 18 agencies participated.
- In total, the State of Utah saved 178,539 pounds of CO₂, which saves the same amount of Green House Gases (GHGs) as taking about 18 passenger vehicles off the road for a year.
- State employees completed 230,608 miles using alternative modes of transportation. That's like driving from Salt Lake City to St. George over 763 times.
- During the 2021 Clear the Air Challenge, the State of Utah witnessed a 170% increase in teleworking alone from the previous 2020 Clear the Air Challenge. This increase in teleworking was due to statewide telework implementation as a response to COVID-19 and a change in messaging strategies by TravelWise Utah.



2021 Clear the Air Challenge State of Utah Travel Mode Breakout

of Trips by Mode



Responsible Travel: Forever Mighty

Utah Office of Tourism

- The [Utah Office of Tourism](#) has created a Utah Office of Tourism Forever Mighty® Marketing Co-Op program. The purpose of the program is to leverage state and partner funding to elevate Forever Mighty messages to visitors of Utah.¹
- The Forever Mighty initiative encourages travelers to explore Utah thoughtfully and safely by being well prepared, aware of our delicate ecosystems, and engaged with the local communities they are visiting. Forever Mighty also aims to inspire residents, visitors, businesses and stakeholders to take an active role in preserving and enriching Utah through advocacy, ambassadorship and stewardship opportunities.
- As Utah grows as a destination and visitation to the state rises, it is increasingly important to manage and protect Utah's tourism assets, communities and cultures.



Utah Office of Energy Development (OED)

Voluntary Home Energy Information Pilot Program

- The Utah Office of Energy Development (OED) has been working on a voluntary home energy information (labeling) pilot program, as required by HB 235 (2020) Voluntary Home Energy Information Pilot Program.
- HB 235 directs OED to:
 - » Identify a home energy performance report
 - » Identify building energy assessment software
 - » Establish workforce training requirements
 - » Establish criteria for receiving rebates
 - » Determine the process for issuing home energy performance scores
 - » Identify opportunities to promote awareness
 - » Identify ways to increase the availability of educational materials
 - » Establish a mechanism for reports to be inputted to consumer-facing real estate information sources
 - » Establish data collection and maintenance procedures
- These tasks aim to promote energy efficiency through education and the application of the program.
- The ranking system gives a score of a home's energy performance, which can be used to compare it to other similar properties. This information can inform new homeowners on their purchasing decision, as well as encourage existing prospective homeowners to improve their home's score. Improving one's score with retrofitting upgrades can help lessen energy consumption and save money for the homeowner.
- Utah will be the first state in the country to have an air quality metric on a home energy scorecard.



Low Income Weatherization Assistance Program

- OED has partnered with the Low Income Weatherization Assistance Program (LIWAP) to create a series of educational videos for their clientele regarding typical questions they are asked and energy efficiency applications for homeowners that can reduce energy consumption, emissions and costs.



Building Talks

- OED has partnered with Rocky Mountain Power and Dominion Energy to deliver residential and commercial energy code training throughout the state of Utah.
- The program also develops and disseminates energy code educational materials throughout the 3-year period from July 1, 2020, to June 30, 2023.
- The training sessions and educational materials developed under this agreement will educate tradespeople, officials, and professionals with the goal of advancing energy efficiency and improving compliance with current International Energy Conservation Code (IECC) residential and commercial energy code, as adopted by the State of Utah.



Alignment with Governor Cox's One Utah Roadmap

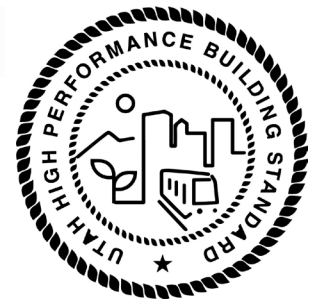
State Sustainable Procurement Program (SPP)

- The Utah Division of Purchasing and General Services (Purchasing) has developed a new 'Think Utah' campaign², which is designed to increase local business contracts with the state. A branch of this new program is 'Sustainable Utah' which measures the positive environmental impact accrued by keeping business local.
- To date, Purchasing's SPP has already put several new sustainable technologies under state contract, including electric buses, electric vehicle charging stations and green cleaning products.
- Diverse groups of community sustainability experts have also been brought together in order to assist in the RFP process of reviewing new sustainable technologies and services that are being considered for State contract. These community groups include:
 - » University of Utah
 - » Weber State University
 - » City of Moab
 - » Salt Lake City, Inc.
 - » Utah Clean Cities
 - » Summit County
 - » Park City Municipal Corporation
 - » Utah State University
 - » Southern Utah University
 - » Provo City
- Through partnership with Amazon Business, Purchasing can now utilize Amazon's Climate Pledge Friendly[®] and Compact by Design[®] programs. These programs provide third-party sustainability certification and waste-wise product education.
- In 2022, Purchasing plans to host a Sustainable Purchasing Summit in March with the intent of bringing together governments, higher education, non-profits, and vendors to discuss how to expand SSPs in the procurement sector.

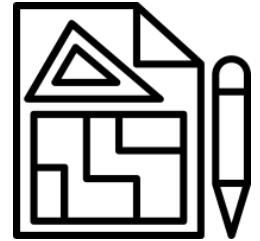


High Performance Building Program

- The Division of Facilities Construction and Management's (DFCM) High Performance Building Standard (HPBS) program outlines performance and sustainability requirements for new construction with the goal of reducing the total cost of ownership over a building's lifetime.
- Over the last 15 years, DFCM has completed around 100 buildings under HPBS. Right now there are around 50 in various stages of design and construction.
- In February 2021, a new update of the HPBS was released. The process involved collaboration with a variety of local industry experts including architects, design engineers, energy engineers and building commissioning agents. It incorporates lessons learned over the past 4 years and is supported by proven results.
- A few of the notable changes in the update include:
 - » Streamlined documentation
 - » Full design and contractor fees tied to compliance with HPBS documentation requirements
 - » Specific energy use targets based on building type
 - » Ongoing data collection to measure post-occupancy building performance against targets developed during design
 - » A plaque of recognition



Statewide Space Master Plan



- In 2020, DFCM completed the first Statewide Space Master Plan. The plan looked at 215 state office locations, both owned and leased sites. The plan laid out multiple consolidation scenarios that would allow the State to exit 91 locations, 43 of which are leased, if the plan were fully implemented. Exiting those 91 locations would realize \$569 million in operational cost avoidance over 50 years and potentially create a cost avoidance of \$429 million in new construction.
- The Master Plan indicated the construction of seven new regional centers and the renovation of four existing regional centers. The new centers would be in St. George, Heber, Cedar City, Vernal/Roosevelt, Price, Brigham City, and Richfield. Existing centers for renovation are in Ogden, Moab, Logan, and Provo.
- Salt Lake Valley scenarios mainly focus on renovating currently owned State office buildings to allow for business today, including teleworking.
- Building and renovating these regional centers would allow increased support to State employees in rural areas since it creates drop-in space with amenities such as high-speed internet and conferencing space without having to drive to the Wasatch Front. The regional centers will also allow state agencies to provide multiple services to state citizens in these centralized, but more remote, locations.
- In order to support appropriate renovation work, the Division also updated the State's Space Use and Utilization Standards in 2020. These standards lay out a process and space specifications to allow space to be updated to how work is completed today which will make it more efficient, increase utilization, modernize State office space and make employees more productive. These standards were tested at the Taylorsville State Office Building and have continued to be refined throughout the pandemic as the success of wide-spread telework became clear. One of the main adjustments to the standard was to increase the level of desk sharing required to support telework efficiently from an average of 1.25 people per desk to an average of 1.56 people per desk.

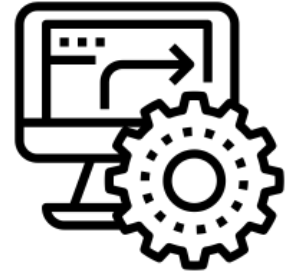
State Facility Energy Efficiency Fund



- The State Facility Energy Efficiency Fund (SFEEF) was established by DFCM in FY08 to provide State agencies and institutions with the ability to borrow money to complete energy efficiency improvements. Repayment of the loan is achieved by capturing cost savings from reduced energy use and demand and by capturing utility incentives. Borrowed funds are paid back into the SFEEF so that it can be lent out again.
- There are currently 9 active projects and 2 in development. The SFEEF has \$1,290,285 available when project costs are reduced by payback recovered.
- One project completed recently was the Recommissioning of the Snow College Humanities Building. The recommissioning study found that the HVAC system was running 24/7 and had excessive cycling between heating and cooling. The project updated the building automation control system including updating operating sequences and was completed in fall 2017. The project cost \$86,487 but resulted in savings of \$23,800 per year with savings of 184,500 kWh and 10,150 dekatherms (dth). This allows payback to be achieved in 3.6 years.
- An Evaporative Cooling addition is currently being scoped out for the Cannon Health Air Handlers.

Building Automation System Upgrade

- Beginning in 2019, DFCM has been implementing a Building Automation System (BAS), or HVAC control, upgrade at Utah Valley University (UVU).
- The UVU BAS Upgrade project began as a state-funded FY19 Capital Improvement (CI) project with a budget of \$969,000 which then received additional CI funding of \$814,000 in FY20.
- The purpose of the project was to upgrade antiquated HVAC controls in multiple buildings across UVU's campus. Focus was given to ensure that controls were upgraded and correctly programmed in order to maximize energy efficiency; resulting in a campus-wide controls upgrade and recommissioning project.
- Through partnership with KW Engineering who brought energy engineering expertise, DFCM was able to seamlessly integrate the project with Rocky Mountain Power's Wattsmart program so that additional incentives could also be acquired.
- DFCM has completed HVAC controls upgrades and recommissioning in six of UVU's buildings, as well as chilled water system control upgrades across the entire campus.
- These upgrades have brought in a total of \$430,401 in incentives from Rocky Mountain Power and have resulted in annual savings of 3.9 million kilowatt-hours of energy with an estimated cost avoidance of \$179,000. Incentive funds have gone back into the project to fund HVAC control upgrades in additional UVU buildings.
- Incentive moneys have all gone back into the project and have funded HVAC control upgrades in an additional 6 buildings as well as the start of a heating water system upgrade across campus.



Fleet Operations

- The Utah Division of Fleet Operations (DFO) increased focus on shared motor pools during FY21. With agencies adopting shared motor pools, fleet vehicles can be utilized more effectively, ultimately leading to the overall decrease in the number of State fleet vehicles. The following agencies utilize shared motor pools:
 - » Department of Environmental Quality
 - » Utah State Tax Commission
 - » Department of Human Services
 - » Department of Natural Resources
 - » Utah Department of Transportation
 - » Department of Government Operations
- All 243 State fueling sites now provide Tier 3 fuel.
- The DFO standard vehicle is the newest model year Toyota Prius, Gen 3.
- Of the 986 vehicles that DFO has purchased since the 2017 model year, 974 (or 99%), have been Tier 3 vehicles. Of these 986 same vehicles that DFO has purchased since the 2017 model year, 526 (or 53%) of all new, people-transport vehicles have met the bin 2 requirements outlined in the Environmental Protection Agency's 40 C.F.R. 86.1811-04(c)(6) regulation, Emission Standards for Light-duty Vehicles, Light-duty Trucks and Medium-duty Passenger Vehicles.³
- During 2021, DFO completed a revised Geotab Telematics Pilot Study Final Report. In the report, one area of focus was the reduction of idling. During the pilot, the telematics devices would emit an audible alert when a driver had exceeded the agency's agreed upon idle time limit. Thanks to this alert, it's estimated that 8.1 metric tons of carbon dioxide (CO₂) were avoided, providing significant improvement to Utah's air quality. For reference, it would take 134 tree seedlings ten years to remove that much CO₂ from the atmosphere.

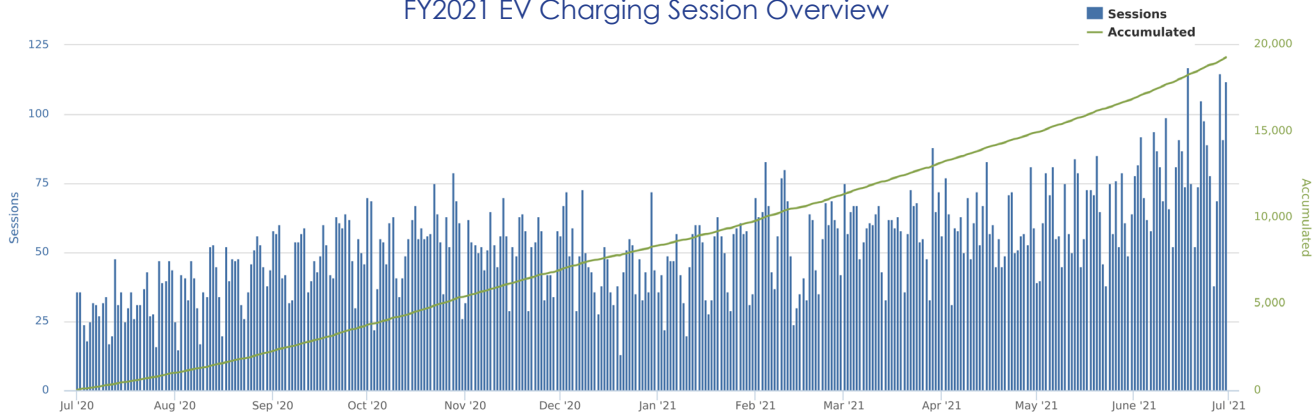


State Electric Vehicle Charging Infrastructure

- The State of Utah currently has 163 networked electric vehicle charging stations. During FY21 there were 19,288 charging sessions, which resulted in an estimated 151,792 kilograms of Green House Gases (GHGs) being avoided.
- This is a 61% increase in the total number of sessions and a 178% increase in the total amount of GHG savings compared to FY20.



FY2021 EV Charging Session Overview



New Digital Government Services

Career Service Review Office

- The Career Services Review Office (CSRO) has digitized its services and continues to utilize Webex. CSRO reported that having digital hearings has made a big difference to witnesses especially. Rather than a witness having to wait hours or even up to 2 days to speak, CSRO can now notify a witness 10 minutes before they are due to speak. This saves the witness and CSRO a substantial amount of time.



Motor Vehicle Division

- The Motor Vehicle Division (DMV) began the Utah Person-to-Person (UPP) program in late spring 2021. The program currently allows person-to-person transactions with Utah titles to be initiated from a home computer and finalized via mail or at a DMV office. During the height of the COVID-19 pandemic, DMV witnessed an increase in the utilization of the online renewal process via 'Renewal Express (REX)', Utah's official vehicle renewal site, as well as their 'On-The-Spot (OTS)' renewal stations. Customers utilizing REX/OTS reduced the need to go to a DMV office and those that use REX to renew their vehicles online help to mitigate vehicle emissions.
- The Utah DMV has also taken advantage of partnerships through dealerships to improve their customer experience. Participating dealerships provide title, registration and plates to customers purchasing vehicles directly from the dealership. This avoids any additional trip to a DMV office for the selling dealer or the customer.



Coordinator of Resource Stewardship

- The Coordinator of Resource Stewardship (CRS) Customer Service Summary (CSS) is now in a digital format.⁴ The dashboard report gives an overview of how state agencies are doing in implementing activities and practices that will help improve Utah air quality. The dashboard is updated after each fiscal year.



State Teleworking

Post-COVID State Teleworking

- Since FY2020, the number of eligible remote work positions has increased by 1,517 positions, bringing the total number of Long Term Eligible remote work positions to 9,303. That's 42% of the total State workforce that is eligible to work remotely more than 50% of the time.
- The Utah Labor Commission was able to discontinue their lease in St. George since all of those employees continue to telework full-time. This allowed the Labor Commission to create a cost avoidance of \$47,000 a year. Additionally, 90% of the Labor Commission workforce is continuing to telework.
- Utah Courts was not in the process of converting over to the State telework initiative until the COVID-19 pandemic forced them to reevaluate building occupancy. The Courts reported that 1,147 employees (including Justices, Judges and employees) participated in teleworking over the past year, which is 74% of Court personnel.



Surge Teleworking

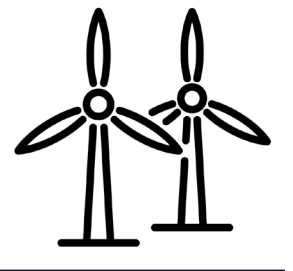
- On June 3, 2021, pursuant to SB 15 (2021), the Governor's Office of Planning and Budget called the first Surge Remote Work Day.
- Surge Remote Work is implemented when the Division of Air Quality predicts a Mandatory Action Day. For June 2021, nine of the twenty-two work days (or 41%) were deemed Surge Remote Work Days.
- For FY2022, the Division of Human Resource Management will be collecting and reporting on the number of eligible employees that participate in the program.



Alternative Energy Implementation

Utah National Guard

- The Utah National Guard is currently designing the addition of a new 2.0 MW wind turbine at Camp Williams. Construction is expected to begin in 2023.
- The project is part of the Energy Resilience and Conservation Investment Program (ERCIP), a subset of the Defense-Wide MilCon Program which is specifically intended to fund projects that improve energy resilience, contribute to mission assurance, energy conservation, and reduce the Department of Defense's energy costs. ERCIP accomplishes this through construction of new, high-efficiency energy systems and technologies or through modernizing existing energy systems.
- This turbine is part of a larger project establishing a micro grid system at Camp Williams. When completed, the micro grid system will include:
 - » Existing 1.3 MW of solar panels
 - » Existing 660 kW
 - » Existing 800 kW diesel backup generator
 - » 800 kW natural gas backup generator
- Finally, the system also integrates a 300 kW/410kWh Battery Energy Storage System (BESS). In total, this full array will produce an estimated 3,785 kW of energy which would be enough to power 3,127 homes for one year, when based on an average Utah residential customer.⁵

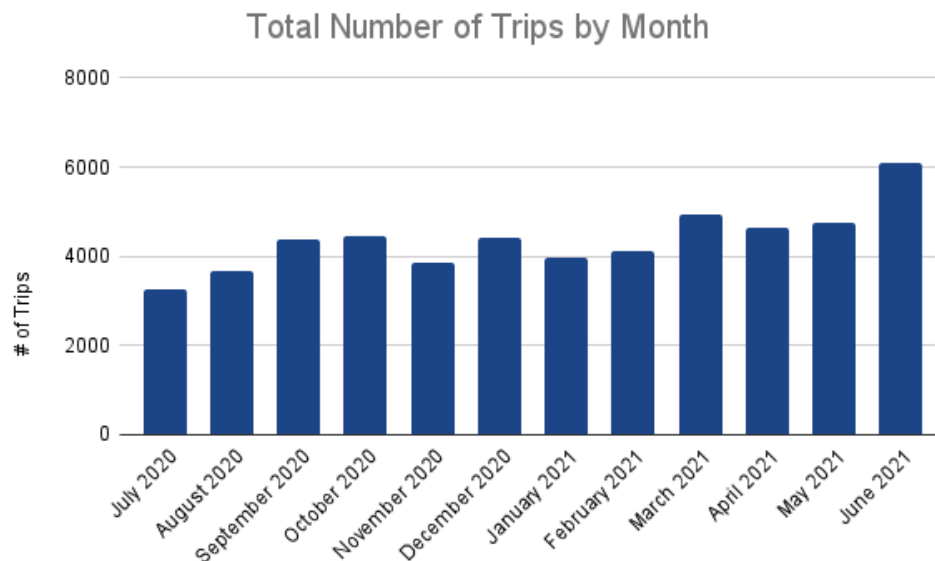


State of Utah ECO Pass Program

FY21 State Agency Participation



- Beginning in FY21, the State of Utah entered into a new annual contract with the Utah Transit Authority (UTA). Under the new contract, State employees could choose to participate on a monthly basis. Additionally, each state agency could choose how much of the monthly fee the employee would pay. Some agencies, rather than have an employee pay a portion of the fee, required certain levels of participation instead.
- A total of 21 agencies participated in the program with 52,472 trips being taken during the duration of the contract.
- The state will continue the ECO Pass program for FY2022 in the same format. The Department of Government Operations, who administers the contract, expects to see a steady increase in participation as staff return to their offices and become more comfortable again riding public transit.



1. "Forever Mighty." Visit Utah, Utah Office of Tourism, visitutah.com/plan-your-trip/forever.
2. "Quote-Local." Utah Division of Purchasing and General Services, Utah Division of Purchasing and General Services, 28 Jan. 2021, purchasing.utah.gov/quote-local/.
3. "40 CFR § 86.1811-04 - Emission Standards for Light-Duty VEHICLES, Light-Duty Trucks and Medium-Duty Passenger Vehicles." Legal Information Institute, Legal Information Institute, www.law.cornell.edu/cfr/text/40/86.1811-04.
4. "Introduction to the Customer Service Summary." Department of Government Operations, Coordinator of Resource Stewardship, 2020, govops.utah.gov/resource-stewardship/coordinator-of-resource-stewardship-dashboard/.
5. "Instantly See the Electric Rates and Plans Available to Your Home or Business: How Much Electricity on Average Do Homes in Your State Use? (Ranked by State)." Electric Choice, www.electricchoice.com/blog/electricity-on-average-do-homes/.

Driving Toward Better Air Quality Year-around

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