

Collaborating for Clean Air: Utah State Government Air Quality Best Practices

Coordinator of Resource Stewardship
Annual Report &
Summary of Best Practices to Improve Air Quality
FY 2022

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



Utah Department of
**Government
Operations**

Division of Facilities Construction & Management

Water Conservation Efforts

- As requested by HB121 (2022), Water Conservation Modifications, the Utah Division of Facilities Construction and Management (DFCM) has been compiling baseline water usage data from FY20. DFCM is also working to identify, prioritize, and fund agency & institution property capital improvement projects such as metering and smart irrigation technology, all of which will be required to meet mandated water use restrictions.
- DFCM is currently encouraging agencies to install smart time clocks on irrigation systems and add sub-metering to their water systems.
- Additionally, the grounds crews of DFCM are being trained on the irrigation cup test to help in fixing sprinkler heads and prevent the over-watering of lawns.
- In May 2022, irrigation requirements were implemented to supplement [Executive Order 2021-10](#). DFCM added a quantitative precipitation rate to support turfgrass dormancy. DFCM developed the supplemental requirements with Utah State University (USU) Center for Water Efficient Landscaping (CWEL).
- DFCM required grounds supervisors to receive CWEL certifications. DFCM then put on regional trainings for state and other partners. This allowed several entities across Utah to evaluate their systems and, in some cases, improve efficiencies by greater than 50%.



Electric Lawn Equipment Pilot

- Beginning in FY21, DFCM began a two-phased pilot of electric-powered lawn equipment with funding from the DAQ Clean Air Retrofit, Replacement and Off-Road Technology ([CARROT](#)) program. All major campuses were included in this pilot.
- Electric Trimmers showed to be the most successful, but the leaf blowers also received positive feedback. DFCM expects maintenance costs to be less overall due to fewer moving parts in the equipment. The largest hurdles to the pilot included leadership mentality around electric lawn equipment (pre-conceived notions about electric tools in general) and campus design (i.e. hills or space between lawn maintenance areas).
- DFCM continues to utilize the equipment procured under the pilot and continues to monitor use to track overall performance. DFCM plans to expand the electric lawn equipment fleet, particularly to the Utah State Developmental Center Complex in FY23.



Indoor Air Quality Research

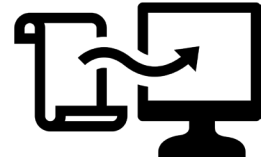
- In partnership with the University of Utah's Department of Atmospheric Sciences, DFCM conducted a published research study titled, "[Long-term analysis of the relationships between indoor and outdoor fine particulate pollution: A case study using research grade sensors](#)". The study looked at three state-owned facilities, one of which was the Unified State Laboratories.
- Indoor air quality is highly variable and strongly dependent on outdoor pollution events (i.e. wildfires). The year-long study highlighted that granular indoor/outdoor air quality research over long term periods is understudied. In order to better understand the relationship between both air qualities, a statistical comparison of indoor/outdoor pollution levels was performed.
- In conclusion, while the Unified State Laboratories building provided a relatively protective environment for its occupants during wintertime inversion events, the indoor air quality was comparable to the outdoor air quality during wildfire and fireworks events.



Digitization of Services

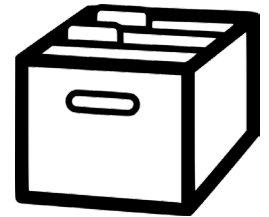
Division of Technology Services

- The Utah Division of Technology Services (DTS) implemented Adobe [eSign](#) in December of 2021 as one of the ways to digitize paper-based transactions.
- Through digitization, DTS is also helping to reduce the state's overall environmental impact. Between December 2021 and August 2022, DTS estimates that 38,520 gallons of water have been conserved, 32,400 pounds of greenhouse gas emissions (GHGs) have been averted, and 13,452 kW hours of energy have been saved as well.¹



Division of Archives & Record Services

- The Utah Division of Archives is a part of the State Electronic Records Initiative ([SERI](#)), in coordination with the Council of State Archivists.
- For FY22, Archives digitized 931.2 gigabytes of permanent electronic records. That is equivalent to an estimated 9,312,000 documents
- By digitizing records, Archives aids in using less trees for paper production, and therefore leaves the trees to do their work as carbon sinks and continue to absorb carbon dioxide, CO₂.
- Additionally, Archives had 1,499 scan-on-demand requests. This is an increase of 172% compared to FY21 and eliminates the need for mailing, saving transportation emissions.



Division of Fleet Operations

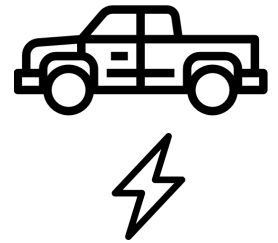
Group EV Procurement RFI

- The States of Utah, Nevada, New Mexico, and Wyoming have received little attention from electric vehicle manufacturers in regards to partnering on pilot programs and communicating about production rollouts by manufacturers which are focusing primarily on Zero-Emission Vehicle (ZEV) states.
- As a solution to this issue, the DFO formed a coalition of governmental entities and businesses across Utah, Nevada, New Mexico and Wyoming to address electric vehicle needs. Utah aims to combine buying power of these fellow non-ZEV states in order to encourage EV manufacturers to come and sell aggressively in each of these states.
- The State of Utah's community partners were from the Utah Climate Action Network (UCAN) Electrified Fleets working group which provided input and support of the RFI. Partners included:
 - » Salt Lake City
 - » Harmons Grocery Company
 - » Park City
 - » Utah Clean Energy
 - » University of Utah
 - » US Forest Service
 - » Summit County
 - » Utah Division of Fleet Operations (DFO)
 - » OED
- The model doesn't involve a government mandate, but it is made up of volunteer customers looking to improve the air quality of their states through the implementation of electric vehicles in their prospective fleets.
- The RFI went out for 6 months. DFO was pleased with vendor response and plans to go out for an RFP within the coming year.



Electric Pickups

- During FY22, DFO ordered a total of five electric pickups for State Fleet. The specific model chosen was the 2022 Ford F-150 Lightning.
- Of the five electric pickups ordered, one was received in FY22 and the remainder are expected in FY23.
- DFO partnered with Kennecott Utah Copper LLC, a division of Rio Tinto Group, for the Magna 4th of July Parade when Rio Tinto's electric pickup was not delivered in time. So, DFO employee Ray Brusik, drove the vehicle in the parade. Rio Tinto wanted to highlight that they, like the State of Utah, are committed to a sustainable future by leading the way in adopting clean energy.
- The electric pickup that has arrived will be delivered to the Utah Department of Environmental Quality (DEQ) in September 2022. The remaining electric trucks will go to UDOT.



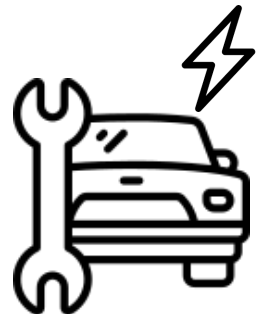
State EV Expansion Steering Committee

- During Utah's 2020 legislative session, Representative Robert Spendlove and Senator David Buxton sponsored House Bill 259 directing UDOT to develop a [Statewide Electric Vehicle \(EV\) Charging Network Plan](#).
- The Plan's objective is two fold: to ensure access to DC Fast Charge (DCFC) electric vehicle chargers at least every 50 miles along Utah's interstate highways, and along other key highways, and to prepare for the EV charging capacity needs in Utah's urban and rural areas. This document is intended to fulfill the directives of HB 259, include contributions from stakeholder engagements, and provide guidance for EV charging station developers regarding implementation of Electric Vehicle Service Equipment (EVSE) on a statewide level.
- UDOT's Utah Statewide Electric Vehicle Charging Plan, published in June 2021, recommended the forming of a committee intended to meet to discuss topics and strategies relating to the implementation of the Statewide EV Charging Network Plan. Such a committee was put together and the Coordinator of Resource Stewardship is one of the several state agency and community partner members.
- UDOT submitted the first edition of the [Utah NEVI Plan](#) to the Joint Office for review and approval in July 2022. On September 14, 2022, the State of Utah was notified that the Joint Office approved of the Utah NEVI Plan. Updates of the programs will be shared in the next edition of this report.



EV Workforce Initiative

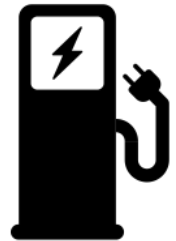
- EV adoption continues to grow throughout Utah. Owners and fleets have limited options for charging and repair in areas outside of the Wasatch Front. There is a need to have qualified mechanics to maintain and repair these vehicles.
- With the help of Infrastructure and Investment Jobs Act funding, the State of Utah hopes to expand on the success of the Utah Office of Energy Development (OED) led Utah Rural Energy Diversification and Innovation ([U-REDI](#)) program. In partnership with Weber State University (WSU), the U-REDI program proposes the deployment of existing EV mechanic curriculum to High Schools and Technical College automotive programs throughout Utah using a Train the Trainer model. The project overview was presented to the [Clean Air Caucus](#).
- In partnership with the Utah Clean Air Partnership (UCAIR), Utah Clean Cities Coalition, WSU, OED, UDOT, Utah Governor's Office of Economic Opportunity (GO Utah), and the Department of Government Operations (through the Division of Fleet Operations and the Coordinator of Resource Stewardship), the group has applied for IJIA Area of Interest (AOI) 8: Community Engagement, Outreach, Technical Assistance, and Training in Under-served Communities & AOI 11: Addressing Critical Training Needs for Transportation Decarbonization.



Research Partnerships

EV Watts

- Beginning in July 2021, the State of Utah began its participation in the Department of Energy's (DOE) EV Watts (Electric Vehicle Widescale Analysis for Tomorrow's Transportation Solutions) program. The State's participation was principally sharing data from the State's numerous EV charging stations.
- EV WATTS addresses a growing need for practical information about vehicle electrification. The EV WATTS project team collects charging station (electric vehicle supply equipment, or EVSE) data from many partners across the U.S. The project applies proven data collection and analysis methodologies to collect, validate, clean, anonymize, analyze, and summarize data from both existing and new EVSE deployments. Analyzing this data helps create a better understanding of charging patterns and infrastructure performance to inform the U.S. DOE research.



Stanford Graduate School of Business

- The Stanford Graduate School of Business approached the DFO with a class project to increase private sector investment into EV charging infrastructure.
- DFO shared the State of Utah's EVSE data and continues to work with the research group on sharing of best practices. Research results should be released in Fall 2022.



Brigham Young University

- A Ph.D. student in the Instructional Psychology & Technology program at BYU partnered with the Coordinator of Resource Stewardship on a study titled, "Non-formal Adult Education and Environmental Sustainability: A Case Involving the Utah Clear the Air Challenge". The study analyzed how the State of Utah promotes the Clear the Air Challenge with its staff.



Teleworking

UCAIR Telework Resource Center

- In June 2020, the Utah Clean Air Partnership ([UCAIR](#)) and a number of partners came together to ask 7,500 employers and employees about their use of teleworking during the pandemic and what it might look like afterward.
- To capitalize on the large-scale trial of telework during the COVID-19 pandemic, UCAIR and its partners have assembled this one-stop, simple collection of resources for employers interested in continuing to telework into the future.
- Post-pandemic, UCAIR found that after being immersed in teleworking, partners reported that:
 - » 86% have a positive attitude about teleworking
 - » 93% of employees said they want to continue teleworking, specifically on poor air quality days
 - » 94% of employers said they are likely to continue to allow their employees to telework moving forward, specifically on poor air quality days



Surge Remote Work

- During FY22, 49 mandatory action days were called by the Utah Division of Air Quality (DAQ) due to exceedingly poor air quality, and one Special Circumstance Day was declared by the Chief of Staff due to snow.
- There were 10,220 employees eligible for Surge teleworking during FY2022. A total of 276,391 telework shifts were recorded.



Sustainable Purchasing

Sustainable Purchasing Summit

- In March of 2022, the Coordinator of Resource Stewardship, in partnership with the Utah Division of Purchasing and General Services, hosted the State of Utah's first Sustainable Purchasing Summit as part of Purchasing's Spring Procurement Education Partnership (PEP) with National Association of State Procurement Officials (NASPO).
- Speakers at the first Sustainable Purchasing Summit included:
 - » Arizona State University
 - » Representative Joel Briscoe
 - » Amazon Business
 - » Utah Sustainable Business Coalition
 - » Division of Facility Construction and Management (DFCM)
- A total of 103 participants attended the Summit in-person and approximately 104 attended online through "Watch Parties" located in Davis County and St. George.
- Purchasing and the Coordinator of Resource Stewardship, plan to host another Sustainable Purchasing Summit in March 2023 after receiving such a positive attendance and feedback from the 2022 Summit.



Amazon Sustainable Purchasing Dashboard

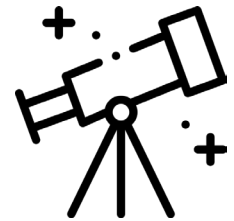
- Beginning in Fiscal Year (FY) 2022, Amazon Business implemented a Sustainable Purchasing dashboard for the State of Utah.
- The dashboard allows Purchasing to drill down into the Amazon purchase data and filter out how many purchases were “[Climate Pledge Friendly](#)”
- “Climate Pledge Friendly highlights products that are certified by one of the sustainability certifications featured on Amazon’s certification page, or by Amazon’s own “[Compact by Design](#)” certification.
- For FY22, 398, or 1% of purchases made, were “Climate Pledge Friendly”.
- Purchasing hopes to increase the number of “Climate Pledge Friendly” purchases through education and outreach to users of the State of Utah Amazon Business account.



Utah Office of Tourism

Dark Sky Month

- The International Dark-Sky Association and the Utah Office of Tourism (UOT) celebrate Governor Cox’s declaration of April as [Dark Sky](#) Month. Astrotourism and dark sky messaging complement the tourism Red Emerald Strategic Plan, aiming to elevate life in Utah through responsible tourism stewardship.²
- Utah has the highest concentration of certified International Dark Sky Parks and Communities in the world.
- Like poor air quality, research suggests that artificial light at night can negatively affect human health. Artificial light, it is suggested, increases risks for obesity, depression, sleep disorders, diabetes, breast cancer, and more.
- Light pollution is also estimated to produce 21 million tons of carbon annually due to wasted night lighting in the United States. Globally, light pollution accounts for 1% of emissions.³
- Approximately \$3.3 billion dollars are wasted annually due to poor lighting practices, creating additional energy costs.



Red Emerald Strategic Plan

- The Utah Office of Tourism has a [Red Emerald Strategic Plan](#) which aims to spread out visitation throughout the state and the year, not just high season and highly visited places. Helping visitors prepare to travel responsibly is a key element.
- The strategy focuses on the quality of visits rather than the number of visitors and manages visitation consistent with local community priorities.



Destination Stewardship & Development

- [Destination Development](#) is any activity, investment, and/or decision that increases and promotes the quality of a destination. What makes a place good to visit also makes a good place to live. Destination Management is the policies, practices, etc. related to the administration of a destination and its resources.
- The UOT combines Development with Destination Management to create Destination Stewardship. UOT provides Destination Development Programing to help areas better brand their community as a destination for Utah tourism.



Leave No Trace



- The Utah Office of Tourism (UOT) has kicked off a “[Leave No Trace](#)” initiative as part of their Forever Mighty campaign. The program implements seven principles for responsible recreation which, if followed, will help keep Utah Forever Mighty.
- These 7 principles are:
 - » Know Before You Go
 - » Research your destination, plan for a range of conditions, and create a backup plan.
 - » Stick to Trails and “Overnight Right”
 - » Following signage, sticking to the path and using a little know-how will keep Utah’s trails and campsites safe and open.
 - » Trash Your Trash
 - » Correctly dispose of all waste.
 - » Protect Indigenous Cultural Heritage
 - » Observe and admire indigenous cultural structures, objects, rock imagery, and historical inscriptions at a respectful distance.
 - » Minimize Campfire Impacts
 - » In areas where fires can be built, keep them small and in existing fire rings and be prepared to extinguish them completely.
 - » Keep Wildlife Wild
 - » Respect wildlife by only observing from a distance. Save human food for humans. Ensure pets are within your control. Know local fishing, hunting and boating guidelines and regulations
 - » Share Our Parks, Trails, and Roads
 - » Be patient, minimize noise, reduce speed, both in town and on the trail.

Employee Outreach & Education

2022 Clear the Air Challenge

- The Clear the Air Challenge officially moved from the month of February to July, beginning in 2022.
- The State of Utah participated in the Challenge as usual, results will appear in the FY2023 annual report from the Coordinator of Resource Stewardship.



2022 GovOps Challenge

- Beginning in FY22, the Department of Government Operations (GovOps) merged the Department of Administrative Services, the Department of Technology Services, and the Department of Human Resource Management.
- GovOps has worked diligently to create a new sense of teamwork and unity.
- To aid in this new culture development, GovOps hosted Lunch & Learns with multiple community and other state agency partners.
- These Lunch & Learns included speakers from:
 - » Office of Energy Development (OED)
 - » Department of Natural Resource’s (DNR) Water Conservation Division
 - » The “[Punk Rock Farmer](#)”, Aldine “Al” Grossi of KRCL 90.9 FM, a local Salt Lake City gardening expert who works with community partners on increasing knowledge of growing their own food.



Division of Motor Vehicles (DMV)

Utah Person-to-Person (UPP)

- In late spring 2021, the Utah Division of Motor Vehicles (DMV) launched its [“Utah Person-to-Person”](#) (UPP) program which allows person-to-person transactions for vehicles with Utah titles to be initiated from a home computer if desired.
- In mid-October of 2022, customers will start the transaction from home, receive a temporary permit and submit the transaction by attaching the required documents through an online request. After the request is received, the DMV mails the customer their new registration and decals at a later date; no need to go to a DMV office.



Online Renewal Process

- During the height of the pandemic we saw an increase in the utilization of our online renewal process via [‘Renewal Express \(REX\)’](#), Utah’s official vehicle renewal site, as well as our ‘On-The-Spot (OTS)’ renewal stations.
- Customers utilizing REX/OTS reduce the need to go to a DMV office and those that use REX to renew their vehicles online help to mitigate vehicle emissions.



Appointment Scheduler

- The new DMV [‘Appointment Scheduler’](#) has proven to be an effective way to improve the customer experience overall when utilized and managed properly.
- By scheduling an appointment in advance, customers can educate themselves on the documentation needed for their transaction type prior to their appointment, and they can expect prioritized service and typically shorter wait times in our office lobbies.



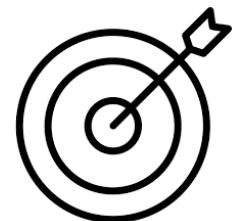
Auto Dealer Partnerships

- The Utah DMV has developed partnerships with auto dealerships called Self-Platers.
- Self-Plating dealerships issue license plates and month/year decals to customers purchasing vehicles directly from the dealership. This avoids any additional trip to a DMV office for the customer.



Future Goals

- DMV Renewal Computer Kiosks: the DMV continues to look for ways to provide better service through various access points. The DMV anticipates these will be self-service kiosks potentially located at our larger state-run DMV offices.
- DMV continues to focus on customer services, particularly by shortening transaction times.

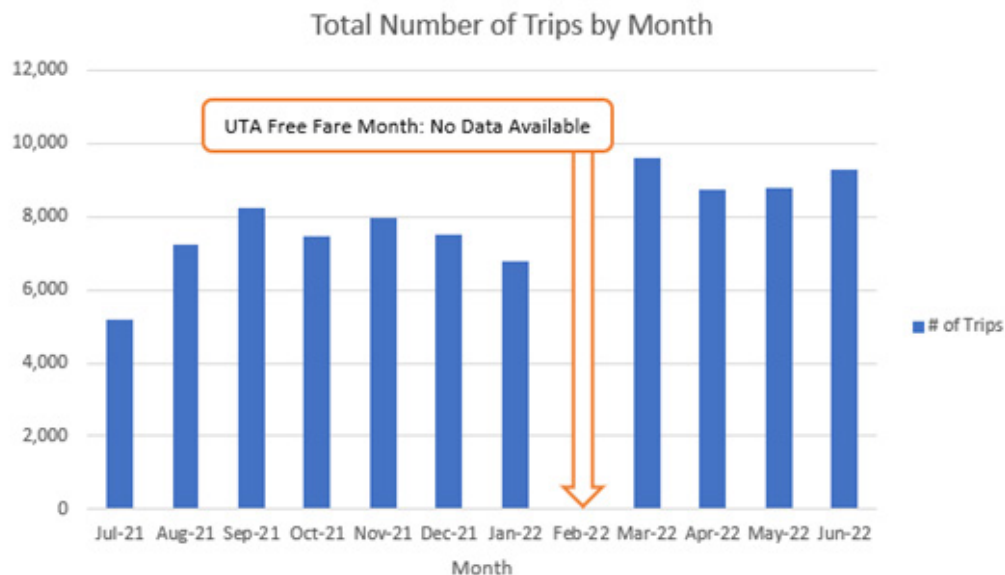


State of Utah ECO Pass Program

FY22 State Agency Participation



- The FY2022 UTA ECO Pass contract is a continuation of the previous contract where each state agency can choose how much of the monthly fee the employee pays out of the set monthly rate. Some agencies, rather than have an employee pay a portion of the fee, require certain levels of participation instead.
- During FY2022 a total of 86,834 trips were completed by State employees participating in the FY2022 State of Utah UTA ECO Pass contract. That's a 65% increase compared to FY2021.
- A total of 30 agencies participated this fiscal year, a 43% increase from the previous fiscal year.
- The Department of Government Operations, through the Utah Division of Human Resource Management, now manages the State ECO Pass contract.
- No data is available for February 2022 as the Utah Transit Authority (UTA) hosted "Free Fare February" so no ridership data was gathered.



1. Utah Division of Technology Services. "Reducing Our Environmental Impact." *eSign*, Utah Division of Technology Services, <https://esign.utah.gov>
2. "The International Dark-Sky Association and Utah Office of Tourism Celebrate Declaration of Dark Sky Month." *International Dark-Sky Association*, 28 Apr. 2021, <https://www.darksky.org/utah-declares-april-dark-sky-month/>
3. Light Is Energy: Estimating the Impact of Light Pollution on Climate Change, International Dark-Sky Association, 2 Aug. 2022, <https://www.darksky.org/light-is-energy-estimating-the-impact-of-light-pollution-on-climate-change/>.

Driving Toward Better Air Quality Year-around

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