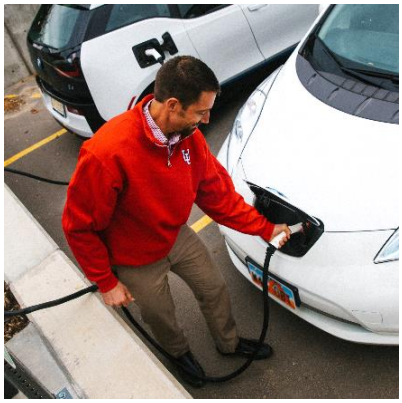


Electrified Transportation Roadmap

Best Practices and Clean Air Solutions Guide for Local Governments in Utah

UTAH CLEAN ENERGY

SALT LAKE CITY

25 STRATEGIES: How Local Governments Can Drive Electrified Transportation Solutions

The following 25 strategies are provided as a roadmap to assist cities, towns and counties in Utah as they advance electrified transportation in their communities. These strategies represent near-term opportunities to reduce pollution, lower fuel costs, serve emerging community needs and encourage electrified mobility solutions across the five category areas listed below.

Local governments are invited to explore the suggestions included here and develop a strategic approach informed by local priorities and investment opportunities. A number of Utah-based organizations are identified on the final page of this guide and we encourage you to engage these experts for technical assistance and partnerships while you plan next steps.

Charging Infrastructure
Electric vehicle (EV) charging infrastructure is crucial to encouraging EV adoption and sustaining local growth of the EV market. Cities, towns and counties have opportunities to develop public EV charging sites and/or encourage related investments through policy and promotion activities.

Electrified Vehicle Fleets
Local governments can lead by example through purchasing and using plug-in electric vehicles as part of their own municipal fleets. These vehicles offer the ability to dramatically reduce air quality pollutants and carbon emissions while lowering operating and maintenance costs for the fleet.

Electrified Mobility Solutions
The benefits of electrified transportation extend beyond privately owned EVs. Electrified transit, e-bikes and shared mobility platforms such as car sharing and rideshare all present opportunities to reduce pollution and drive the numerous benefits of electrified transportation.

Education, Incentives, Outreach & Policies
Building familiarity and awareness about how EVs operate and their associated benefits is a simple step local governments can take to encourage electrified transportation. There are also policy options that make EVs more approachable for community members, plus a range of related incentives available to organizations and individuals in Utah.

Equitable Access to Electrified Transportation
Electrified transportation benefits such as improved air quality and reduced financial costs can be accessed by more individuals with smart planning and the right partnerships. Equitable access to electrified transportation can be enhanced by lowering financial barriers to ownership, ensuring fair geographic distribution of charging infrastructure and adopting policies that promote access to charging infrastructure by residents of multifamily properties.

More Information
This roadmap is a succinct summary of electrified transportation opportunities. The document is not meant to provide detailed descriptions or technical guidance, but rather to suggest high-level strategies and general areas of opportunity. More details are generally available online, including through hyperlinks in the online version of this roadmap document.

CHARGING INFRASTRUCTURE

1. **Public Charging Stations**: Identify priority locations with access to electricity and install EV charging stations for use by the general public. Stations providing three different levels of EV charging are available, each with their own installation costs, operating costs and vehicle charge times. Numerous Best Practices Guides for charging station site selection, installation and ownership are posted online.
2. **Charging Station Incentives:** Rocky Mountain Power offers incentives to Utah customers for EV charging equipment costs, plus grants for custom projects. Use incentives to support building out your public charging network and encourage organizations in your community to apply as well.
3. **Signage and User Fees**: Decide on reasonable hourly parking restrictions based on location and evaluate whether user fees are appropriate. User fees can help collect revenue to cover operating costs, but can discourage station usage and require certain software and bill collection capabilities.
4. **Workplace Charging**: Install dedicated workplace charging to encourage EV ownership and usage by your employees. Leaders for Clean Air and Utah Clean Cities can offer guidance and support.
5. **Fast Charging Corridors**: Promote awareness of fast charging corridors under development in Utah and consider hosting fast-charge infrastructure, where appropriate.
6. **EV Ready New Construction:** Installing EV charging infrastructure is less costly and time-consuming at sites that are "EV Ready." EV readiness generally means electrical conduit and electrical panel capacity are in place to support charging stations. Local governments can support transportation codes and/or incentives to encourage smart, EV Ready new development.
7. **Clean Electricity Supply**: Electric vehicles operating along the Wasatch Front reduce local air pollutants 57% - 99% according to a 2017 study. Installing renewable energy onsite or participating in a utility program such as Rocky Mountain Power's Subscriber Solar also helps cut carbon emissions.

ELECTRIFIED VEHICLE FLEETS

8. **Government Fleets:** Lead by example with plug-in electric vehicles in your government fleet. Tools such as FuelEconomy.gov can help you compare costs and pollution totals for different vehicle types. Utah Clean Cities is also available to help you make smart decisions for a cleaner fleet.
9. **Private Fleets:** Vehicle fleets of any type can reduce operating costs and promote cleaner air with plug-in electric vehicles. Local governments can promote this transition through education and policy.
10. **Fleet Incentives:** Live Electric lists tax credits and other incentives available to help organizations electrify their fleets. Local governments can support new and existing state and federal incentives.
11. **Medium and Heavy Duty EVs:** Passenger class vehicles and buses are leading the market for EVs as of 2018, but plan for more vehicle types such as trucks and heavy duty options that are on the horizon.

ELECTRIFIED MOBILITY SOLUTIONS

12. **E-Bikes:** Electric-assist bikes allow users to travel farther distances faster, navigate hills and connect to public transit. Integrate e-bikes into your fleet for employee use or community sharing.
13. **Electrified Car Sharing:** Innovative new ownership models offer a shared electric vehicle for use at apartments and condo buildings. Contact Live Electric to learn more about local opportunities.
14. **Electrified Rideshare:** Clean transportation is increasingly both electrified and shared. Encourage ride sharing with EVs through engagement and by maintaining a public charging network.
15. **Electrified Transit:** Local governments that operate their own transit fleet can invest in electric bus options today. Others can engage their transit authority to encourage an electrified fleet.

EDUCATION, INCENTIVES, OUTREACH & POLICY

16. **Public Engagement and Outreach:** Local governments can engage community members on the benefits of EVs and highlight the numerous programs, incentives and opportunities in Utah to own EVs and charging infrastructure. Helping individuals quantify financial savings, understand pollution reductions and overcome range anxiety are examples of positive messaging. Follow Live Electric on social media to track updates and share information.
17. **Ride & Drive Events:** Ride & Drive events provide direct access to EVs and help individuals understand ownership benefits and expectations through education and test drives. Consider attending or hosting a Ride & Drive event in partnership with Live Electric.
18. **Bulk Purchase Programs:** Bulk purchase programs lower the costs and barriers to owning an EV, both for community members and for fleets. Utah Clean Energy has led efforts offering discounts and educational workshops in local communities through their Drive Electric platform.
19. **Parking Incentives:** Local governments can encourage EV ownership by offering priority parking spaces, free metered parking and other incentives for cleaner vehicles.
20. **Grants and Purchase Incentives:** Certain local and federal grants have helped fund EV charging infrastructure and cleaner fleet investments in Utah. Contact Utah Clean Cities to learn more about existing opportunities and what grants and incentives might be on the horizon.
21. **State and Federal Tax Policies:** State and federal tax credits, along with other supporting legislation, enhance market demand for electrified transportation and accelerate growth of this clean air solution. Local governments can engage elected officials to encourage incentives and investments in EVs and charging infrastructure networks.
22. **Share Your Success Stories:** A 2014 Envision Utah Values Study revealed that air quality is a top three priority for Utahns, but there is a perception we are not performing well on this issue. Be sure to celebrate successes and share your electrified transportation "wins" through media and community events to encourage understanding and optimism regarding electrified transportation.

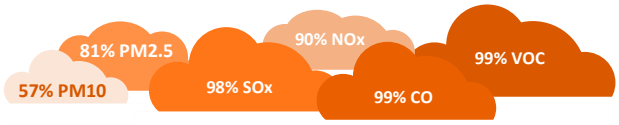
EQUITABLE ACCESS TO ELECTRIFIED TRANSPORTATION

23. **Multifamily EV Opportunities:** Occupants of apartments, condominiums and townhomes sometimes do not have access to at-home EV charging opportunities. Adopting EV Ready requirements for new construction ensures lower EV charging installation costs in the future. Tools such as PEV Collaboration can provide a starting point for HOAs interested in providing EV charging. You can also partner with local organizations such as Leaders for Clean Air to explore infrastructure opportunities.
24. **Dealership Offerings and Programming:** Encourage local car dealerships to maintain new and used EV inventories with financing options and help drive equitable access through bulk-purchase programs and Ride & Drive initiatives.
25. **Equitable EV Charging and Inclusive Messaging:** Include geographic diversity as part of your evaluation criteria when selecting sites for public EV charging stations and/or hosting programming and events. Use inclusive messaging that highlights benefits and accessibility of EVs for community members across socioeconomic and cultural spectrums.

WHY ELECTRIFY: Electric Vehicle Benefits in Utah

Cleaner Vehicles, Cleaner Air

Mobile sources such as vehicles generate roughly half of the air quality pollutants along the Wasatch Front, but a 2017 study shows that plug-in electric vehicles can reduce pollution in our airshed dramatically. The study documented potential reductions of numerous pollutants for an all-electric vehicle compared to gas-powered options, as illustrated by the graphic below.



Percent pollution reduced by an EV along the Wasatch Front

Financial Savings

With low electricity rates in Utah you'll pay around $1.50 to charge an electric vehicle for 50 miles of travel. You'll also be exposed to much less energy price volatility over time with electricity costs compared to petroleum. In addition to never visiting a gas station, EVs don't require oil changes and many other maintenance activities required for gasoline vehicles. Complete a lifecycle financial analysis to see how much you can save by going electric.

Smarter Technology

Electric vehicle ranges now often exceed 100, or even 200, miles per charge. As the average American drives just under 40 miles/day, electric vehicles provide more than enough range for most personal vehicle-days in the U.S. EVs also convert about 60% of electrical energy from the grid to power at the wheels, compared to only a 20% energy conversion rate for gasoline vehicles. Enhanced torque and a quieter ride also make EVs a preferred choice for new car buyers.

Energy Independence

The United States imported an average of 10.1 million barrels of petroleum per day in 2016, consuming oil from roughly 70 different countries. Electric vehicles help break our dependence on foreign energy imports and allow us to power transportation with a variety of local resources, including wind and solar power. The electric grid in Utah is increasingly powered by renewable energy, helping to create a cleaner commute for EV owners and driving domestic economic and security benefits.

TECHNICAL SUPPORT: Electric Vehicle Partners in Utah

Live Electric | liveelectric.org
Live Electric is a community partnership dedicated to accelerating electric vehicle adoption, zero-emission strategies and smart mobility transportation choices to promote clean air, innovation and economic vitality in the Intermountain West. Contact Live Electric for more information and to receive details on upcoming workshops and Ride & Drive events.

Leaders for Clean Air | leadersforcleanair.org
Leaders for Clean Air is a non-profit is committed to improving Utah's air quality by providing electric vehicle charging stations to businesses and multifamily developments, planning large scale charger projects, and promoting the benefits of electric vehicle technology. Leaders for Clean Air believes we can have a positive impact on pollution levels, ensuring clean air and a higher quality of life for Utahns.

Rocky Mountain Power | rockymountainpower.net/ev
As part of its commitment to the environment and its customers, Rocky Mountain Power is working with partners to promote electric transportation choices. Visit their website for details on EV charging station incentives, customer rate options and general EV infrastructure information.

Utah Clean Cities | utahcleancities.org
Utah Clean Cities Coalition supports organizations and fleets in their efforts reduce vehicle emissions and transition to more sustainable fuels. Utah Clean Cities can support local governments and corporate fleets with planning and investment decisions related to EVs and charging infrastructure.

Utah Clean Energy | utahcleanenergy.org
Utah Clean Energy supports the transition to a clean energy economy in Utah, including the electrification of transportation. The organization focuses on smart policy solutions, community education and programming initiatives such as bulk EV purchase efforts.

Electrified Transportation Roadmap

For questions and/or to request strategic support please email info@liveelectric.org.

Roadmap created by Salt Lake City Department of Sustainability and Utah Clean Energy