

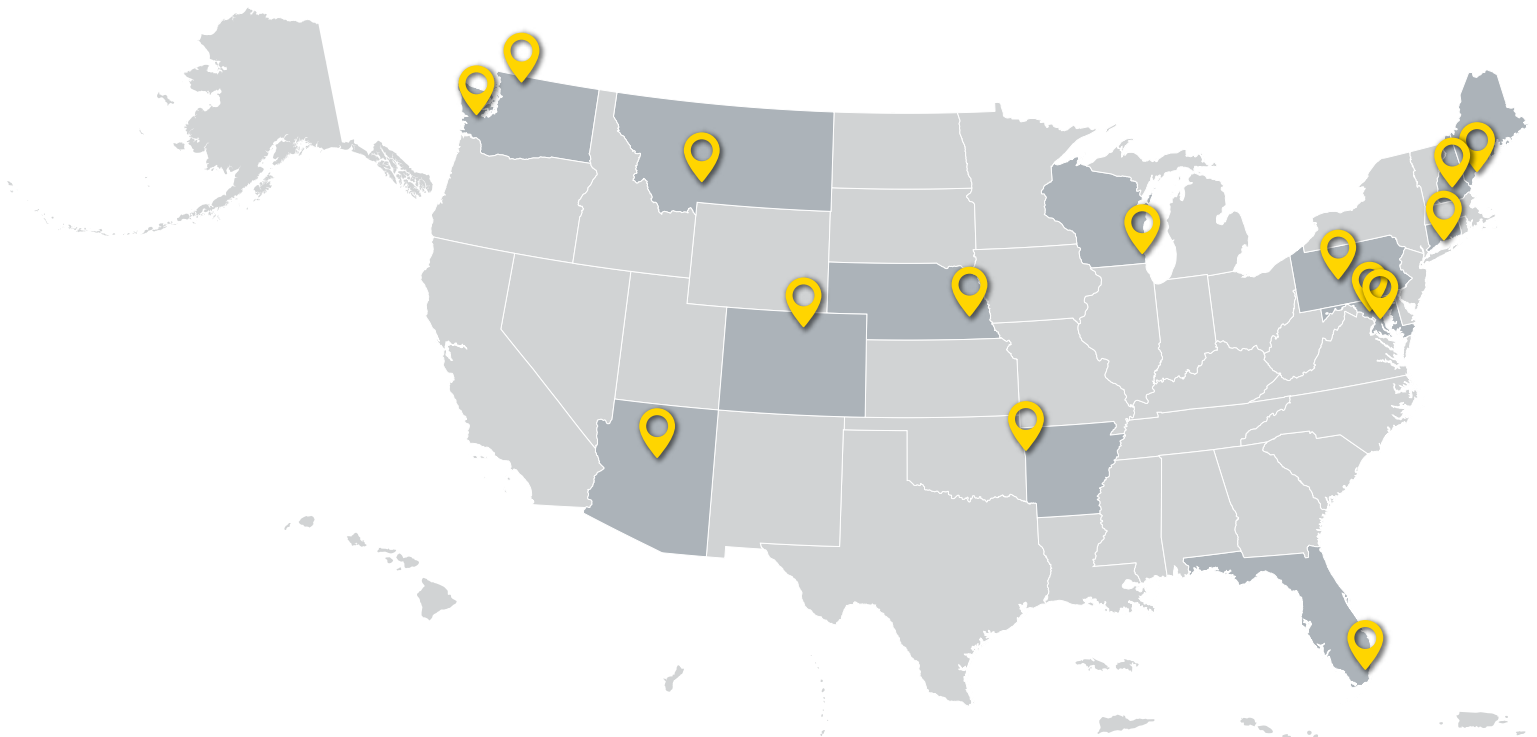


Lessons Learned from the Clean Energy to Communities (C2C) Peer-Learning Cohort on Planning and Funding for Electric Vehicle Charging Infrastructure Deployment

From June to December 2023, the U.S. Department of Energy (DOE) **National Renewable Energy Laboratory (NREL)** partnered with **World Resources Institute (WRI)** to run a peer-learning cohort for local governments on *Planning and Funding for Electric Vehicle Charging Infrastructure Deployment*. This cohort effort, funded by DOE’s **Clean Energy to Communities Program**, paired 15 local and

regional governments with **Clean Cities and Communities** coalitions to translate cohort learnings to local context and conduct activities that brought participants closer to developing their public electric vehicle charging infrastructure plans. This document shares key takeaways, lessons learned, and resources from the six-month cohort.

Participant Locations: Planning and Funding for Electric Vehicle Charging Infrastructure Development Cohort



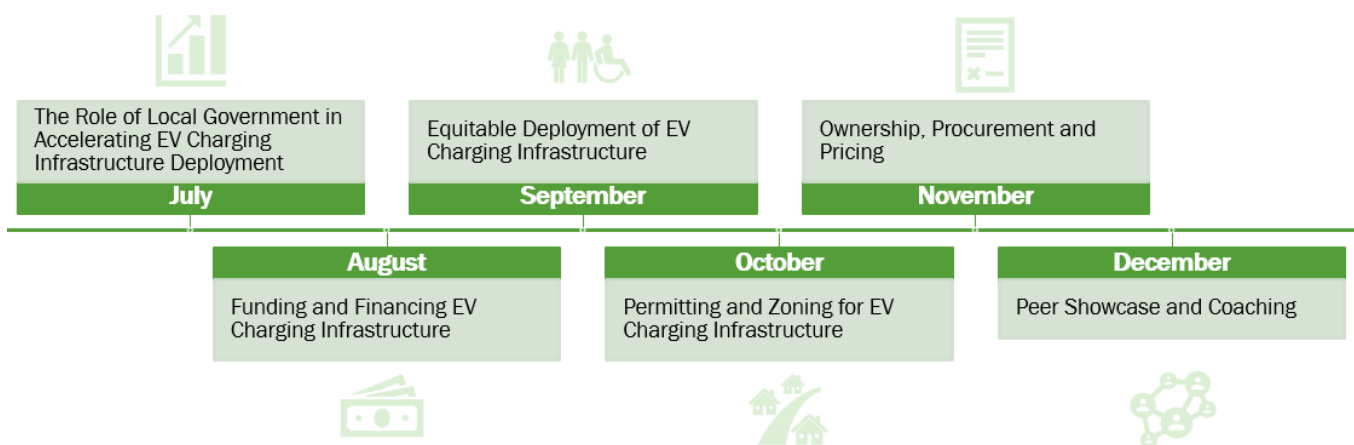


With the passage of the Infrastructure Investment and Jobs Act and Inflation Reduction Act, momentum is building for electric vehicles (EVs). Federal, state, and local government entities are working to prepare for and accelerate the transition to EVs and other forms of zero-emissions transportation.

A crucial part of preparing for EVs is expanding the publicly accessible charging network in the United States. To support a projected 33 million EVs on the road in 2030, NREL estimates that **28 million EV chargers will be needed**: 26.8 million privately accessible Level 1 and Level 2 chargers at homes and businesses, 1 million publicly accessible Level 2 chargers near homes and workplaces, and 182,000

publicly accessible fast chargers along highways and in communities.

While most of these publicly accessible charging stations will not be owned by governmental entities and will instead be supported by the private market, state and local governments can play key roles in accelerating market development and supporting widespread and equitable access to charging infrastructure. The *Planning and Funding for Electric Vehicle Charging Infrastructure Deployment cohort* explored this role over the course of six workshops in the second half of 2023.



Below are six strategies that local governments can undertake for EV readiness, along with case studies and resources provided during the cohort.

1 Encourage private deployment of publicly accessible EV charging stations by providing financial incentives and technical assistance.

In the first cohort workshop, participants discussed the role of local government in accelerating EV charger installation, which included ways to incentivize private investment in EVs and related charging infrastructure. Cohort members discussed utility incentives (as in **Tacoma, Washington**), parking incentives (as in **Cincinnati, Ohio**, and **Salt Lake City, Utah**), and models to provide technical assistance to residents and businesses, such as Fairfax County, Virginia's **Charge Up Fairfax Program**, which provides engineering site assessments to multifamily condo buildings, clusters, or townhome communities that offer common area parking.

2 Explore the full landscape of federal, state, utility, and local funding and financing available to expand EV charging on municipal and privately owned sites.

The second workshop focused on the landscape of federal, state, and utility funding programs for EV charging, such as the **Charging and Fueling Infrastructure** grant program and other effective strategies for **funding and financing** charging stations. Cohort members received tips and **resources for preparing for funding applications** from their cohort peers, including the Yellowstone-Teton Clean Cities Coalition and the Electrification Coalition. For example, they learned about the importance of doing site assessments and establishing partnerships with community and potential site hosts prior to pursuing funding for chargers.



3 Engage with residents and businesses to understand current, near-term, and long-term needs and priorities related to EVs and other forms of zero-emissions mobility.

Participants discussed potential **barriers to EV** and electric mobility adoption experienced by low-income, rural, and underserved communities and explored how community engagement can help municipalities better understand and **overcome these barriers**. Local governments can also leverage engagement to increase public access to incentives for EVs, e-bikes, and charging stations. **Virginia Clean Cities** presented to the cohort about their recent Community Transportation Needs Assessment and shared strategies to help practitioners better understand community priorities and build trust with partners, and **Kansas City Regional Clean Cities Coalition** discussed lessons learned from engagement activities that informed their streetlight EV charger deployment project. After the workshop, participants identified a list of priority stakeholders to engage and potential engagement strategies to support local planning efforts.

4 Update local development codes and streamline permitting processes to remove barriers, reduce soft costs, and expedite charger installation.

Municipalities with jurisdiction over local codes can clarify and standardize **development codes**, develop **EV-ready building codes**, and streamline **permitting processes** to provide clarity of process for developers and residents, which in turn can accelerate safe, effective, and economic installation of charging infrastructure. Cohort participants heard from NREL staff on best practices for building codes and permitting and from **Connecticut Southwestern Area Clean Cities Coalition** on best practices for updating zoning to promote EV readiness, then worked with their Clean Cities and Communities partner to develop a memo on how they might update their own codes and permitting processes to better support EV charging.

5 Install charging stations on municipal property and/or in the public right-of-way to fill gaps in charging access.

To date, private charging providers have largely located charging stations in areas with high

demand, leading to **inequities in access** to charging stations.

Local governments can encourage the uptake of EVs in underserved areas and in dense, urban areas with high numbers of renters by providing charging stations on public property and in the **public right-of-way**. The cohort covered various electric vehicle supply equipment ownership models that local governments can consider and tips and resources for municipal procurement, including request for proposal (RFP) **guidance**, RFP templates for **public/private partnerships** around EV charging, and **model contract provisions** and ways to incorporate **reliability and uptime** into contracts. Participants worked with their **Clean Cities and Communities** partners to talk through a procurement questionnaire and template to support future RFPs.

6 Learn from and collaborate with peers.

A primary goal of C2C's peer-learning cohorts is to connect local practitioners and partners to learn from each other—sharing lessons and examples from their communities to scale best practices and avoid common pitfalls. Cohort participants were regular presenters throughout the cohort and each workshop included breakout sessions to give participants time to build relationships and chat with peers. The final workshop contained a facilitated activity where each participating local government could bring a question or challenge to their peers to crowdsource solutions and ideas. Other entities that are looking for peer-learning opportunities can reach out to regional planning organizations or their nearby **Clean Cities and Communities** coalitions to develop their own peer-learning networks and support regional cohesion on EV readiness efforts.



Looking for resources on these strategies?

Cohort resources have been published as an EV planning playbook on the Joint Office of Energy and Transportation's webpage: <https://driveelectric.gov/ev-infrastructure-playbook>.



Additional Lessons Surfaced During the Cohort

From conversations held during the cohort, we identified four additional takeaways:

Local governments must work with their communities and residents to tailor charging solutions and expand equitable access to electric mobility. Different communities face different challenges when it comes to equitable access to electric mobility. Some residents do not have the ability to charge at their home, some may find EVs out of their price range, and others may lack access to personal vehicles entirely. Access to public transportation and practicality of micromobility, like e-bikes and scooters, also varies. Local governments can conduct research into metrics on transportation access and inequities and engage directly with community members to better understand their local context and co-identify solutions tailored for their community.

Rural communities face a different set of challenges in transitioning to EVs. Rural drivers typically cover longer distances than city dwellers, tend to use heavier-duty vehicles, which are less readily available as EVs, and may have less access to sufficient grid capacity for installation of home charging. Rural local governments and planning organizations may benefit from beginning **planning efforts** with robust education to boost interest in EVs and engagement to identify specific barriers, transportation patterns, and near-term opportunities to introduce EV charging into the region.

EV planning needs to be better integrated into broader transportation and clean energy efforts. Many local governments are still figuring out which department(s) are responsible for EV charging and how charging fits into broader transportation efforts. In many areas of the United States, people use a variety of transportation modalities, including active transportation and public transportation. Planning efforts centered on increasing personal EVs should be complemented by (and potentially coordinated with) planning to improve and expand existing public transportation systems, promote density in land use and development planning, and increase walkability.

A key strategy for local governments is to support multifamily building owners and workplaces to install EV chargers. One current EV charging gap that local governments are well-suited to fill is **multifamily housing** and **workplace charging**, where split incentives can lead to inaction. Cohort participants suggested multiple ways that local governments could support and incentivize these stakeholders, including providing technical assistance through site assessments; vetting vendors through a request for qualified vendors at the regional level; creating stakeholder working groups; creating electric vehicle supply equipment installation process playbooks for developers; and providing education around available federal, state, and utility incentives for charging stations and installation.

Clean Energy to Communities (C2C) is a U.S. Department of Energy-funded program that aims to significantly accelerate the speed and scale of commitments, plans, and actions to increase clean energy, resiliency, and environmental justice by providing direct support to local communities to achieve their own goals. C2C provides three types of technical assistance to communities across the country: in-depth partnerships, expert match, and peer-learning cohorts.

Peer-learning cohorts are multi-community engagements that convene regularly for approximately six months to exchange strategies and best practices, learn in a collaborative environment, and workshop policy or program proposals, action plans, or strategies to overcome challenges around a common clean energy transition topic.

Three new peer-learning cohorts run every six months and are managed by NREL with support from WRI. For more information on upcoming topics and how to apply, please visit <https://www.nrel.gov/state-local-tribal/c2c-peer-learning-cohorts.html>.



**C2C: Clean Energy
to Communities**

U.S. DEPARTMENT OF ENERGY

For more information, visit: [nrel.gov/c2c](https://www.nrel.gov/c2c)

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