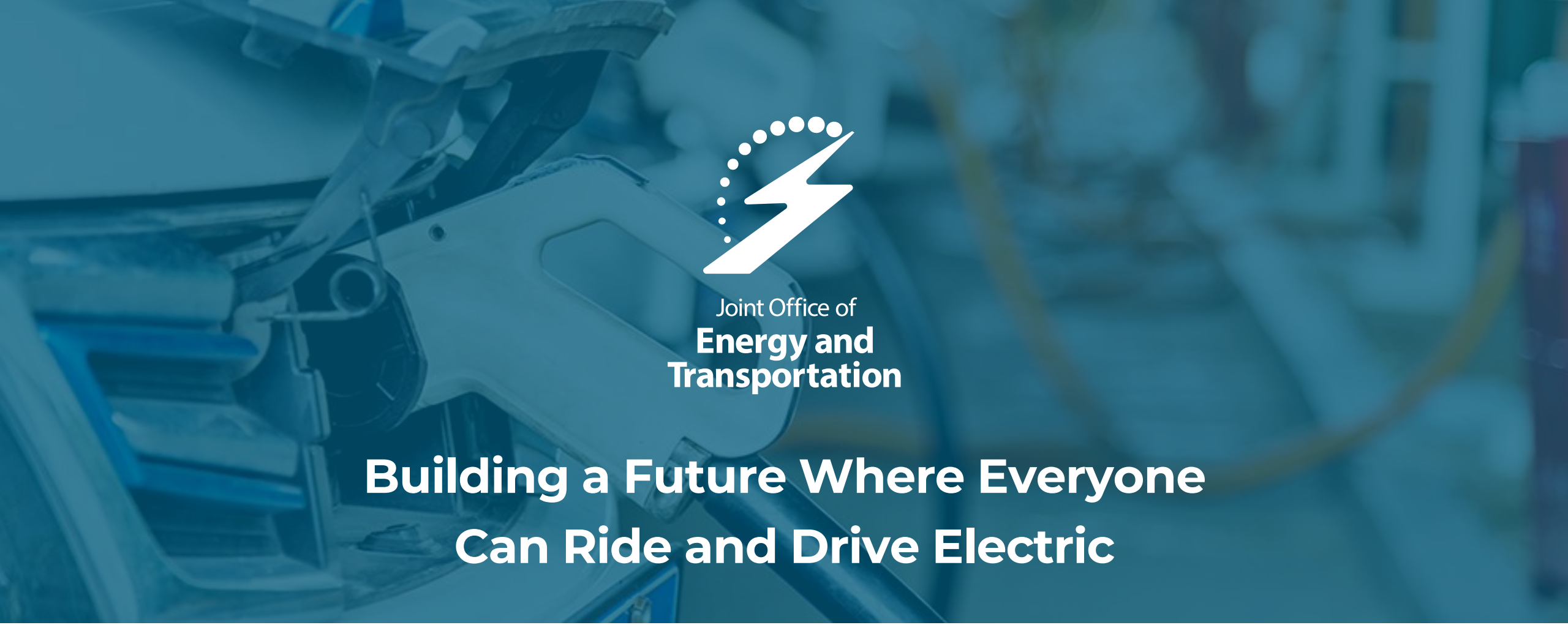

NARUC Winter
Policy Summit

NARUC Winter Policy Summit

Staff Subcommittees on Energy Resources and the Environment (ERE) and Consumers and the Public Interest, and the EV State Working Group

EV Hot Topics

11:15 a.m.



Joint Office of
Energy and
Transportation

Building a Future Where Everyone Can Ride and Drive Electric

Sejal Shah, Senior Advisor, Electric Utility Programs and Policies

February 25, 2024

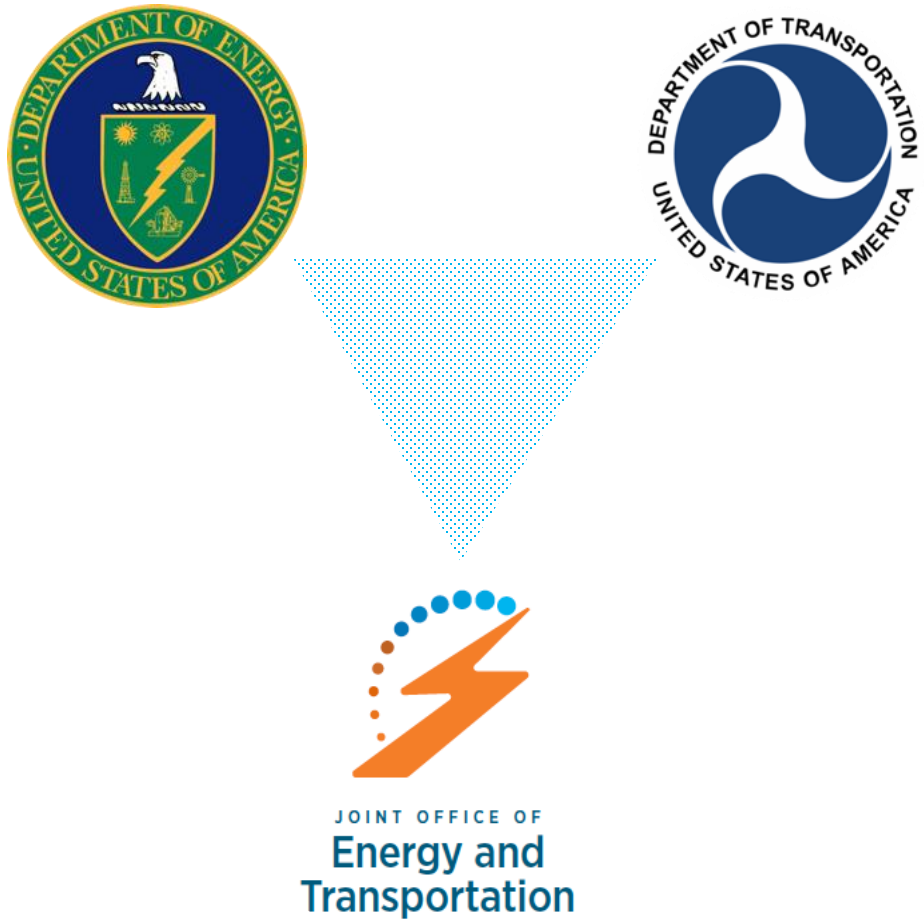
driveelectric.gov

AGENDA

- Joint Office Overview
- NEVI and Utilities

Joint Office Overview

Mission and Vision



Mission

To accelerate an electrified transportation system that is affordable, convenient, equitable, reliable, and safe.

Vision

A future where everyone can ride and drive electric.

Vision for the Joint Office of Energy and Transportation

1. Support **deployment of zero-emission, convenient, accessible, equitable transportation infrastructure**—coordinating and leveraging activities between the U.S. Department of Energy and the U.S. Department of Transportation.

2. Serve as the **front door to the Federal Government for expertise and technical assistance**.

3. Serve as a **convenor of federal agencies, private sector companies, NGO and academia** to bring an all of government and stimulate an all of society approach to zero emissions transportation and mobility services.

4. Focus on **social return on investment and providing pilot funding to test outcomes** vs. simply hardware.

Infrastructure Investment & Jobs Act (IIJA) Programs Supported by the Joint Office

The Joint Office provides unifying **guidance**, **technical assistance**, and **analysis** to support the following programs:

National Electric Vehicle Infrastructure (NEVI) Formula Program (U.S. DOT)
$5 billion for states to build a national electric vehicle (EV) charging network along corridors, including **$148** million awarded to repair and replace non-operational chargers.

Charging & Fueling Infrastructure Discretionary Grant Program (U.S. DOT)
$2.5 billion in community and corridor grants for EV charging, as well as hydrogen, natural gas, and propane fueling infrastructure

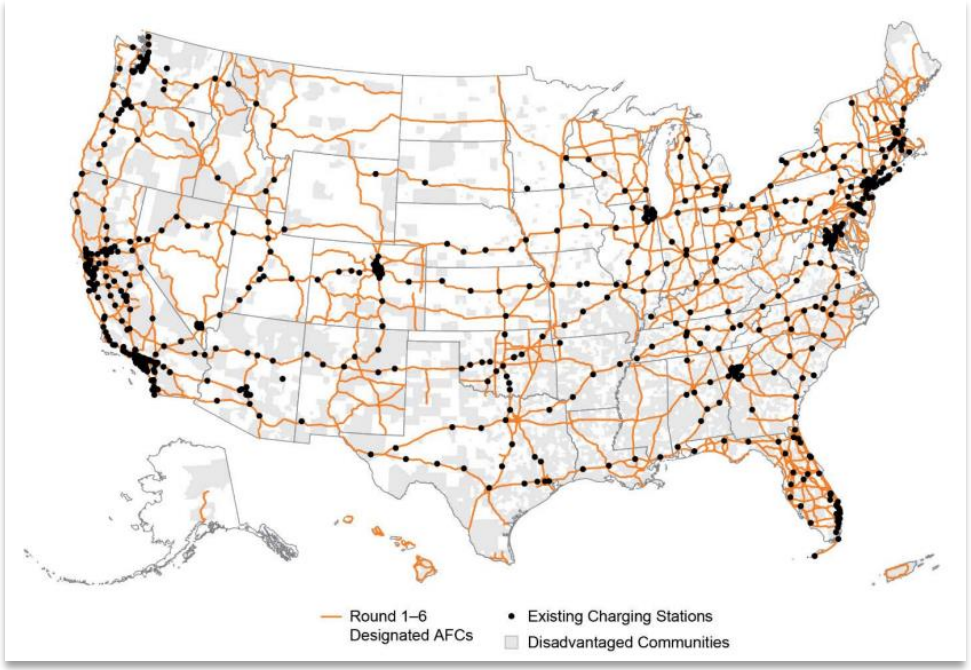
Low-No Emissions Grants Program for Transit (U.S. DOT)
$5.6 billion in support of low- and no-emission transit bus deployments

Clean School Bus Program (U.S. EPA)
$5 billion in support of electric school bus deployments

NEVI and Utilities

What is NEVI?

- **$5 billion in funding to build out fast charging along alternative fuel corridors**
- **Formula funds for every state**
- **All states have released plans**
- **32 states and Puerto Rico have released solicitations**
- **15 states and Puerto Rico have issued contracts**
- **6 stations have broken ground**
- **3 states have stations live**



[State Plans for Electric Vehicle Charging · Joint Office of Energy and Transportation (driveelectric.gov)]

Ohio, New York, and Pennsylvania NEVI stations are open!

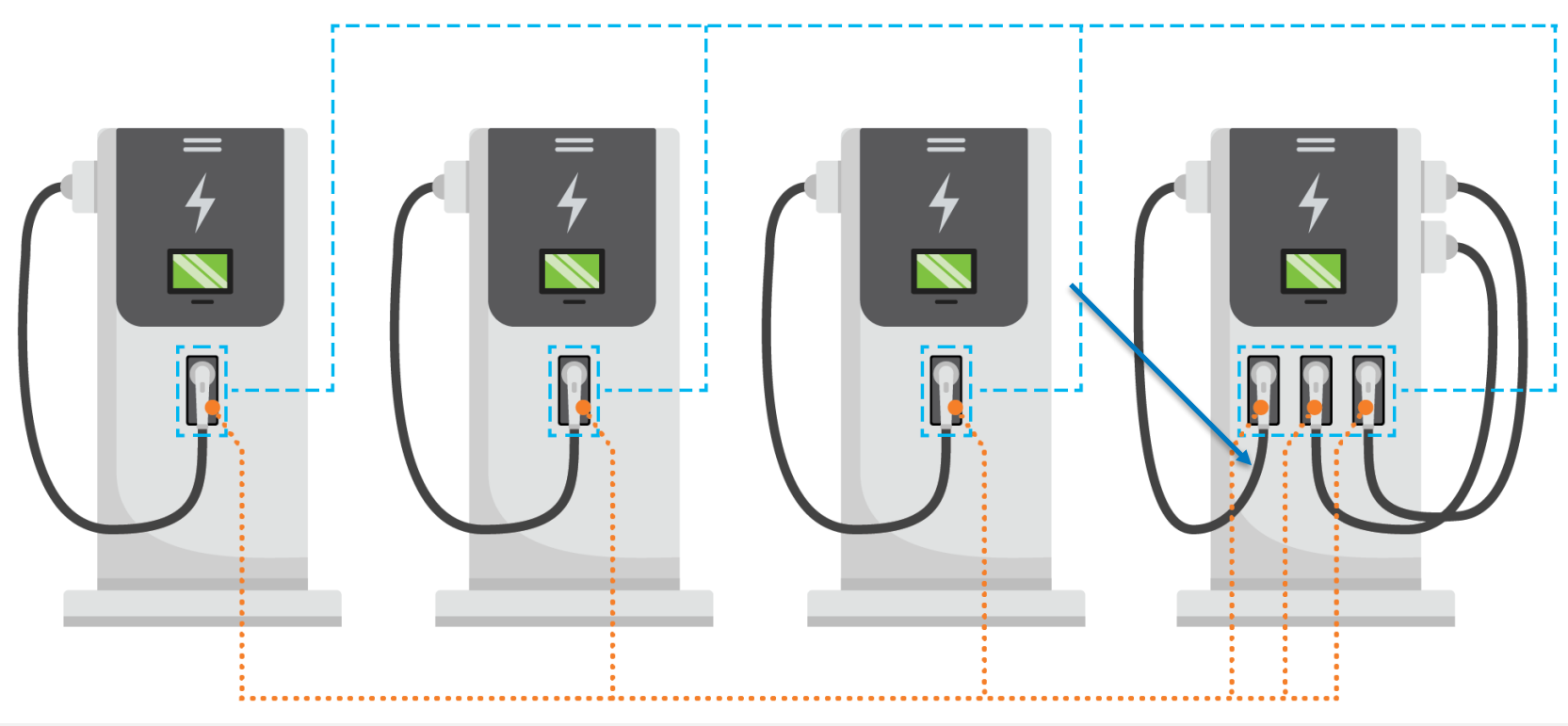
London, OH

Kingston, NY

Pittston, PA

What are the NEVI station requirements?

4 Charging Ports at 150 kW each = 600 kW total



Connectors

- NEVI requires 4 ports capable of delivering at least 150 kW each (600 kW total), with required CCS or allowed NACS/J3400 connectors
- SAE J3400 technical information report released
- Non-Tesla EVSE with J3400 anticipated in **Q2/Q3 2024**
- Certified Non-Tesla Adapters that meet UL2252 anticipated between **Q2 and Q3 in 2024**

National Electric Vehicle Infrastructure Formula Program Guidance (Update) (dot.gov)

What NEVI investments may be relevant for regulatory approval?

Generally, NEVI funds can be used for:

- **Acquisition and installation** of EV charging infrastructure
  - May include on-site **distributed energy resources (battery storage)**
- **Upgrades** to existing public charging stations to meet program requirements
- **Maintenance and operating assistance**
- **Other costs specified in NEVI program guidance**

Regulators may see topics related to:

- **Rate proposals to mitigate demand charges**
- **Utilities using funds to contribute to 20% match**
- **Grid upgrade needs to accommodate NEVI stations**

NEVI Utility Engagement

Utility information form

Pre-screened EV charging station sites

Participation by state DOTs in utility commission working groups

How can you stay engaged?

Connect Directly

- sejal.shah@ee.doe.gov

NARUC EV State Working Group

- Monthly virtual

Leadership Connect Conversation

- Every Other Month virtual

Joint Office of
Energy and Transportation

Thank You

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EV Hot Topics

Electric Vehicle Interoperability

Chris Villarreal
Plugged In Strategies

NARUC Winter Policy Meeting
Staff Subcommittee on Energy Resources and the Environment
February 25, 2024

What is Interoperability?

1.2. The Role of Interoperability

> *These* [interoperability] *protocols and standards shall further align policy, business, and technology approaches in a manner that would enable all electric resources, including demand-side resources, to contribute to an efficient, reliable electricity network.*
>
> Energy Independence and Security Act of 2007

In our work, we define interoperability as the capability of two or more networks, systems, devices, applications, or components to work together, and to exchange and readily use information — securely, effectively, and with little or no inconvenience to the user.[3] The smart grid will be a system of interoperable systems; that is, different systems will be able to exchange meaningful, actionable information in support of the safe, secure, efficient, and reliable operations of the grid [24]. As the number of devices and systems used on the electrical grid continue to multiply [25], the interoperability requirements become more complex and the path to achieving interoperability becomes more challenging.

NIST Smart Grid Interoperability Framework, v. 4
https://nvlpubs.nist.gov/nistpubs/SpecialPublications/NIST.SP.1108r4.pdf

What is the value of interoperability?

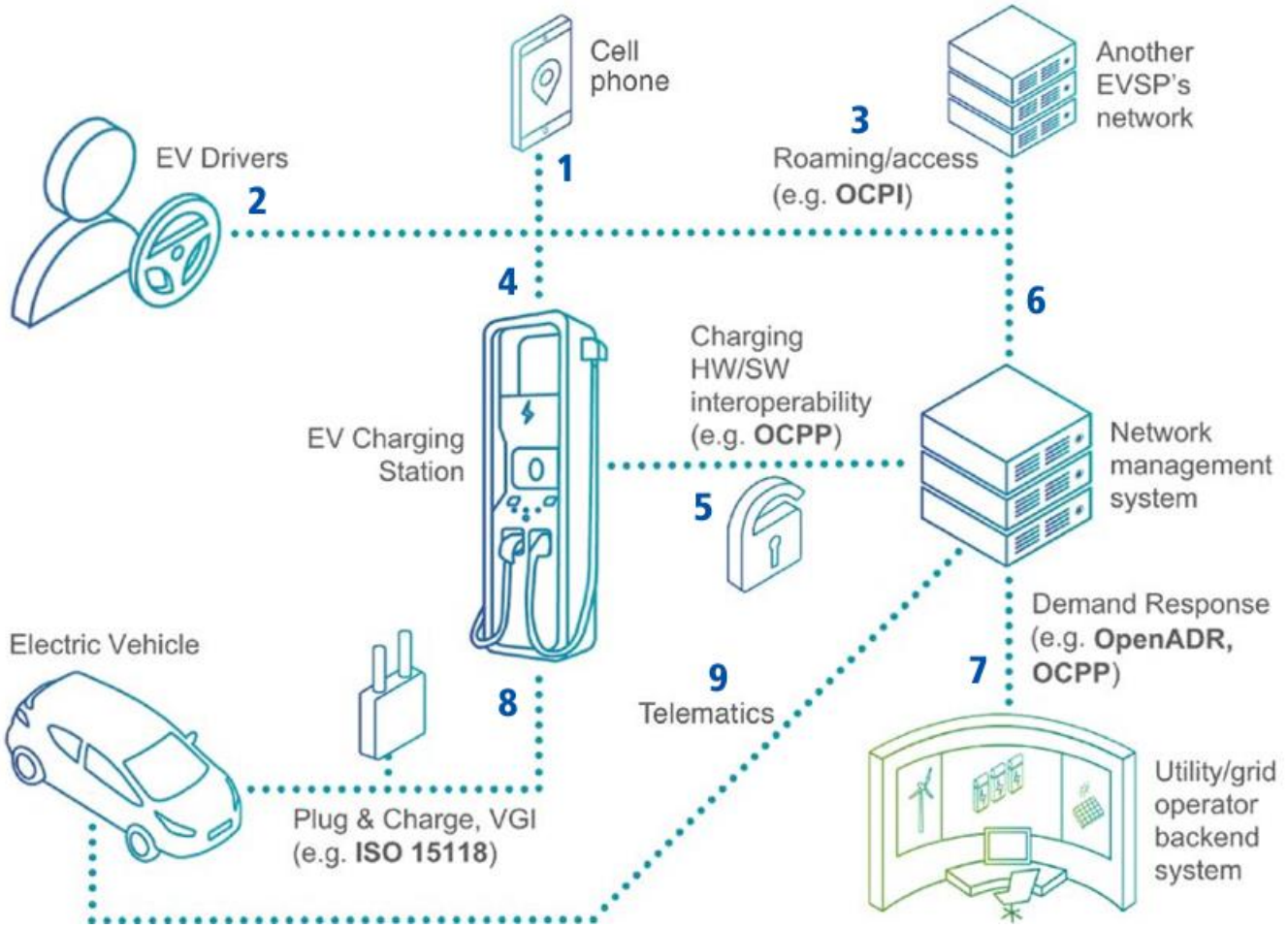
- Breaks design specificity (e.g., vendor lock-in, single-use technology)
- Expands opportunities for applications and services
- Reduces costs
- Avoids costly integration layers and systems
- Open standards vs proprietary standards

- NIST: “Interoperability is a tool to unlocking new value across the power system. The benefits can accrue at any scale, and for assets owned by any stakeholder. …. The value of opportunities brought to the customer through the smart grid is limited only by the extent of system interoperability and the pace of innovation.”

Or, Put Another Way

Application to Electric Vehicles

- Points of interoperability
- Standards enable each point
  - Can be multiple standards
  - Or can be one standard
- Questions:
  - What is under commission review?
  - Should a commission act?



Regulatory Needs and Risks

- Utility investments
  - What level of oversight does a commission provide?
  - How does a commission ensure utilities are investing in interoperable solutions?
- Implementation of rebates
  - Rebates may be structured around interoperability- do you fund proprietary standards or only allow open standards?
- Identification and adoption of standards
  - Let the market decide
  - Government nudge
  - Government getting out too far ahead
  - Letting the utility decide

THANK YOU!

Chris Villarreal
Plugged In Strategies
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EV Hot Topics

Smart Electric Power Alliance

Equitable Access to Charging Infrastructure & Utility Ownership

Accelerating an Equitable Transformation

Resilience | Transportation Electrification | Energy Storage | Emerging Technology | Policy

NARUC Winter Policy Summit
February 2024

About SEPA

Smart Electric Power Alliance

Vision A net-zero carbon energy system that is safe, affordable, reliable, resilient and equitable

Mission To accelerate the transformation to a carbon-free electricity system through actionable solutions

- **A membership organization**
- **Staff of ~70**
- **No Lobbying – 501(c)(3)**
- **Founded in 1992**
- **Unbiased**
- **Research, Education, Collaboration and Standards**
- **Technology Agnostic**
- **Local, State and National Focus**

Why Equity in Transportation Electrification

- Utilities are naturally positioned to play a role in Transportation Electrification (TE). However, the utility's role is less obvious when it comes to assisting customers with the transition and ensuring equity while doing so

- As utilities expand their TE programs, equity is growing in importance. Driven by:
  - local governmental institutions,
  - public utility commissions,
  - the federal government,
  - and by public sentiment and nonprofits advocating for an equitable transition

Starting with equity in mind allows utilities to better design and implement TE programs and better address their regulatory mandates.

Renters' Burden: Time and Cost

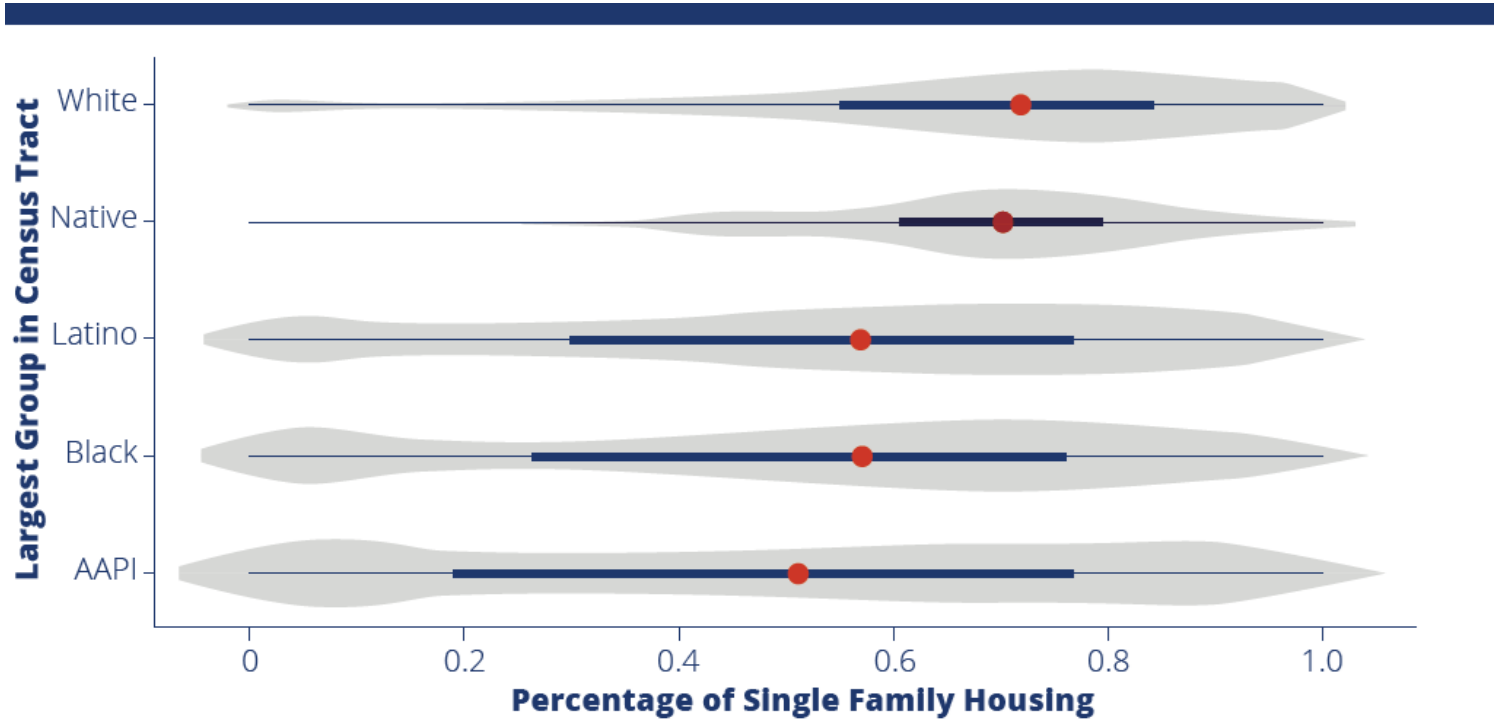
Smart Electric Power Alliance

Cost Burden: non-single family home charging

Cost burden can come in the form of a customer not having the option to charge on EV-specific rate (TOU or otherwise), not being able to participate in active managed charging programs, or simply not being able to charge on residential rates.

Time Burden: non-single family home charging

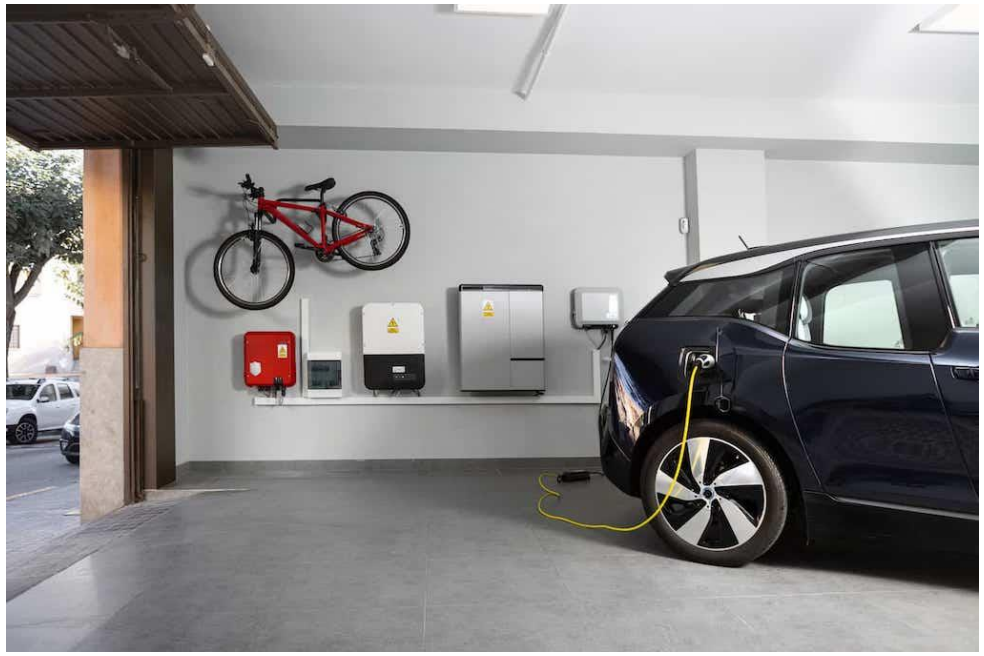
EV owners without access to dedicated parking and charging must charge their vehicle on a public or shared semi-private network that often requires additional time and effort.



Source: Brooking Metro, n.d., Brooking Analysis of 2015-2019 American Community Survey Five-year Estimates. Reformatted by SEPA.

Home vs Public Charging

Off-peak charging: $.08 - $0.12 per kWh



$4 - $6 to fill a 50kWh battery ~ 150 miles

Public DC fast charging: $.30 - $.48 per kWh

$15 - $24 to fill a 50kWh battery ~ 150 miles

Source: Washington Post. (2023). Electric Vehicle Charging Price vs. Gasoline

Ratepayers and EV Infrastructure

Smart Electric Power Alliance

Global trends and local policies suggest a full transition to electric is coming, eventually

- Spreading costs across all ratepayers benefits the community, as a whole, when a longer time horizon is considered.
  - Promotes clean transportation
  - Reduces emissions
  - Ensures infrastructure is in place for all when they eventually transition to EVs
- Non-EV owners may not benefit today but they will soon.
- **Federal and local funding exists now and may not in the future** – we need to make sure todays non-EV owners don't miss out.

Private Sector and Utilities

Smart Electric Power Alliance

- Relying on market forces alone will result in inequitable distribution of chargers.
- It will take a long time to build out a robust network of charging and the private sector will likely build where the demand is today.
- This will exacerbate the issue of charging deserts and result in a significant gap in charging infrastructure that will contribute to systemic inequities around EV charging access.

- Utilities can serve, as one of several pathways, to ensure societal access to EV charging is equitable now and in the future.
- Utilities alone cannot be the sole entity responsible for ensuring equitable distribution of chargers. Government and private sector need to play a central role as well.

Considerations Around ‘Market Failure’

Efficiency and Cost:

- Utilities can sometimes build infrastructure more efficiently and cost-effectively due to their scale and access to capital.
- This can be particularly beneficial in areas where third-party investment might be limited.

Competition and Innovation:

- Additionally, allowing third-party ownership can promote competition and innovation in the market.
- It can also lead to more diverse solutions that might better fit the needs of specific communities.

Regulation and Oversight:

- Regardless of ownership, robust regulation and oversight are crucial to ensure that the interests of all stakeholders, including consumers and the public, are protected.
- This is especially important in areas where there is a risk of monopoly power or lack of competition.

Approaches for Equitable Program Design

Smart Electric Power Alliance

Include Diverse Language Requirements: Disseminate program information in different languages and where available include direct outreach efforts in the community's languages.

Identify Frontline Community Needs: Consider the different residential needs of frontline communities.

Build Relationships: Bring in members of the priority communities during the conceptual and planning phases to more accurately identify the communities' needs and points of concern.

Cultivate a Sense of Community Buy-In: Our research shows that creating a sense of community buy-in in the early stages of equity initiative design is crucial for long-term success.

Work in Coalitions: Ensuring equity throughout a service territory, let alone across the nation, is no small task - a utility alone cannot address all the inequities society has created.

Identify Community Based Organizations (CBOs): CBOs can serve as a valuable resource in developing equity initiatives because they understand the challenges that their respective communities face.

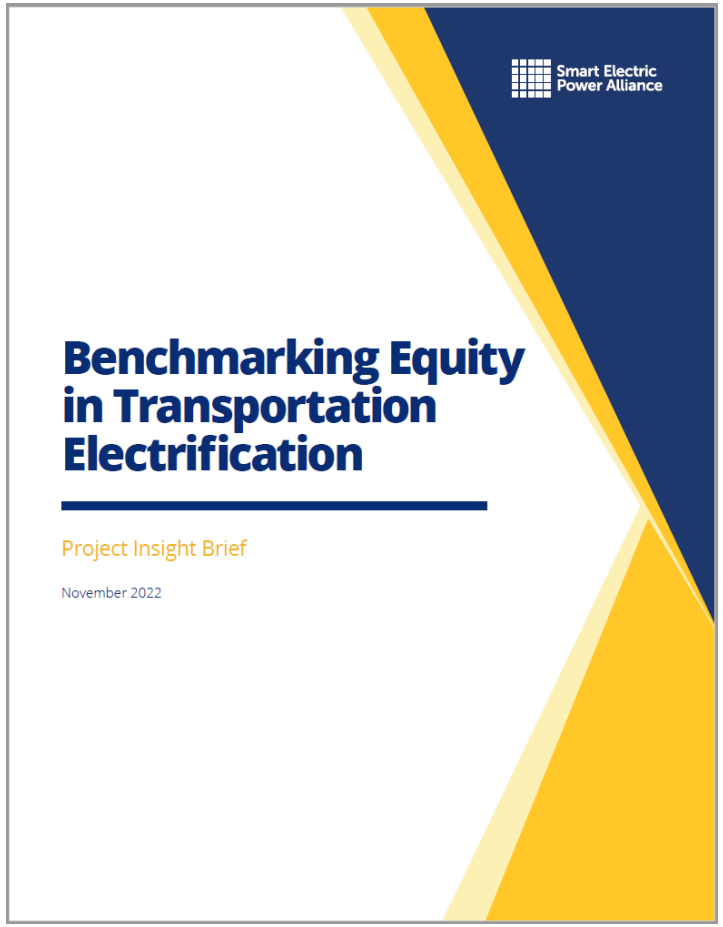
Respect CBOs and Community Leaders' Time & Expertise: CBOs and community leaders are working with limited resources, so it is important that utilities are considerate with requests of CBOs and community leaders to avoid overburdening them.

Provide Adequate Funding: Without adequate funding, the full benefits of a program cannot be realized, nor do they fully address the identified equity needs of their community.

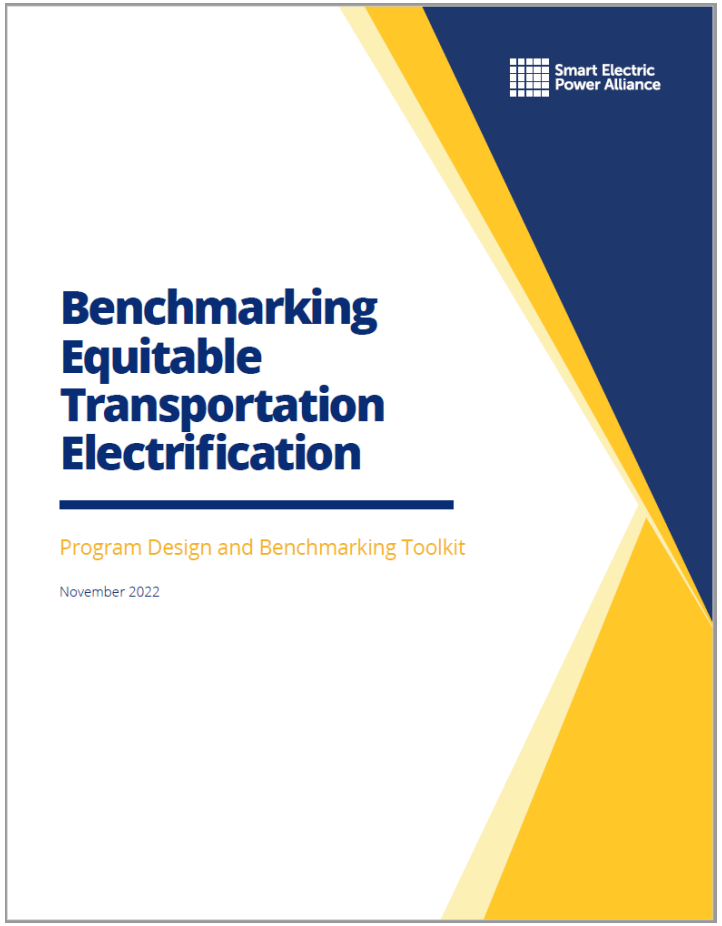
Related Materials

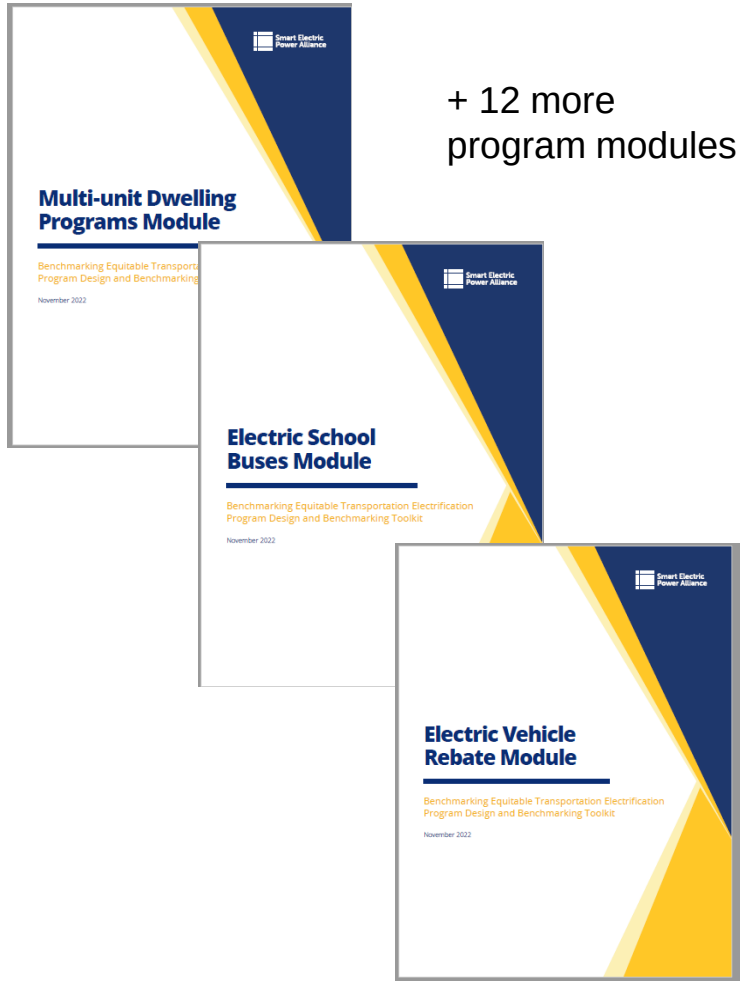
Smart Electric Power Alliance

Insight Brief / Executive Summary



Program Design and Benchmarking Toolkit





+ 12 more program modules

Modular Toolkit

Smart Electric Power Alliance

Equitable TE Program Modules / Toolkit

Managed Charging	Infrastructure	Ride Sharing	Rebates & Subsidies		Program Assistance
Time-of-Use	Multi-Unit Dwelling	Micro e-Mobility	Residential EVSE Rebate	New and Pre-Owned EV Rebates	Education & Outreach Programs
Managed Charging	Electric School Buses	Shared Mobility	Commercial EVSE Rebate		Fleet Advisory Services
	Make-Ready Residential & Commercial	Public Transit	Subsidized Public L2 & DCFC		Funding Matchmaker & Sales Portals

Workforce Development: Equity & Community Training

NARUC EV State Working Group and EV Resources

- All Commissioners and Commission staff are invited to join NARUC's EV State Working Group
  - Monthly webinars + peer exchange discussions
  - Highlights of EV-related news & NARUC events
- NARUC EV Website:
  - www.naruc.org/core-sectors/energy-resources-and-the-environment/energy-customers/electric-vehicles/

Essential Guide to NARUC EV Resources

NARUC NEVI Formula Program Brief for PUCs

NARUC Winter Policy Summit

Staff Subcommittee Meetings will resume at 1:30 p.m.

Check App for sessions and room names