



Joint Office of  
**Energy and  
Transportation**

# Plugged In with the Joint Office

## Q4 2024 updates

December 10, 2024

[driveelectric.gov](https://driveelectric.gov)

# Zoom Tips and Disclaimer

- Controls are located at the bottom of your screen. If they aren't appearing, move your cursor to the bottom edge.
- Q&A time will use the questions attendees submitted in advance. If there is time at the end, we'll review any additional questions from during the webinar.
- This webinar is being recorded and may be posted on the Joint Office website or used internally.
- If you speak during the webinar or use video, you are presumed to consent to recording and use of your voice or image.

# Agenda

---

- **Polling question**
- **Welcome remarks from Gabe Klein**
- **Program presentations**
- **Q&A**

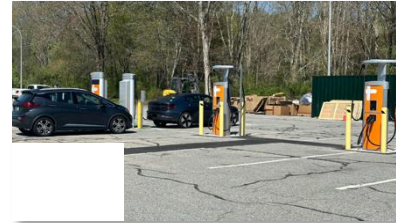




# Polling Question



# Welcome from the Executive Director



MA



TX

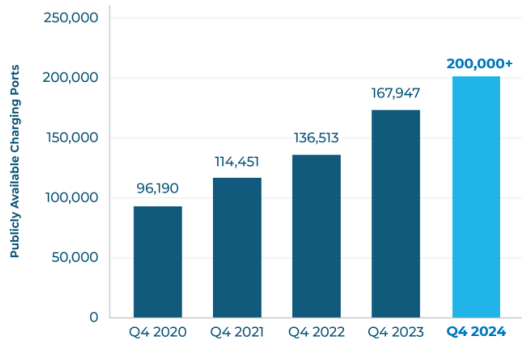


DC

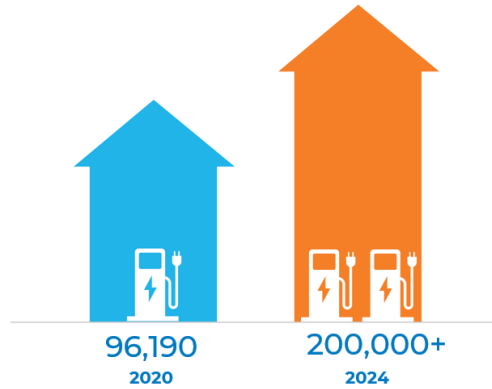


# Our national charging network has doubled since 2020

## Public National Charging Network



**We've doubled.**  
It's kind of a big deal.

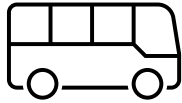


**204K** total publicly available charging ports

**24.8K** federally-funded publicly available charging ports underway

**230+** federally-funded publicly available ports operational in **13** states

# Charging infrastructure goes beyond public charging



## Clean School Bus

**1,343** school districts received awards & rebates

**8,928** Total buses to be replaced



## Low & No Emission Transit Bus

**446** awards since 2021, for over \$5 billion

**4,020** Total buses to be replaced, awarded since 2021

The Joint Office is partnering with the U.S. Environmental Protection Agency (EPA) and the U.S. Federal Transit Administration (FTA) to offer free technical assistance to awardees.



# Removing Friction in the System for You



Joint Office of  
**Energy and  
Transportation**



# Program Updates

# Presenters



**Linda Bailey**  
Technical  
Assistance



**Eric Wood**  
Data &  
Analysis



**Sarah Hipel**  
Standards &  
Reliability



**Debs Schrimmer**  
Community and  
Urban Charging



**Kevin Miller**  
Policy and  
Strategy



# Deploying faster with collaboration and technical assistance

## Supporting State NEVI & CFI Grantee Progress

- States and stakeholders met at event with NASEO & AASHTO in September
- Significant progress on network buildout expected in 2025 – almost 900 stations awarded by 36 states

## Clean Bus Planning Awards

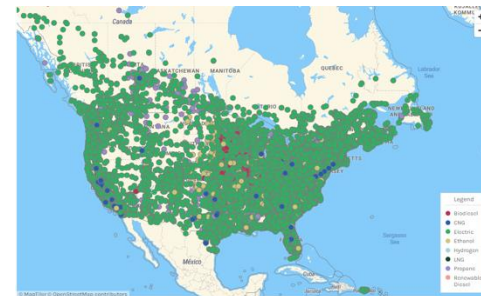
- The Joint Office offers planning assistance through NREL for school bus and transit agencies
- Applications taken on a rolling basis



# Using data and analytics to support industry and mobility choices

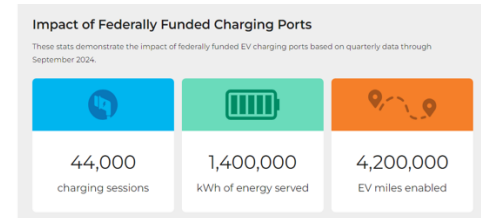
## Alternative Fuels Data Center: Station Locator

- 200k+ public ports (US)
- Third-party mapping



## EV-ChART

- Compliance made easy
- Ongoing accountability



## Ongoing R&D Efforts

- Modeling EV impacts
- Streamlining utility connections and permitting for EVSEs





# Advancing standards to accelerate innovation and user experience

## Advancing “universal Plug & Charge”

- Cross-ecosystem approach creates dual benefits of increased security and more seamless user experience by creating a Public Key Infrastructure or PKI
- Led by SAE ITC and its member consortium

## Leveraging open-sourced approaches to innovation

- Smart charging and “departure time”
- Software: Combining power limits from grid operators and charging network providers into a single Pmax schedule that gets sent to the vehicle upon plugging in
- Hardware: Testing how EVs respond to the message



# Catalyzing community and urban charging

## Curbside Charging

- Over a dozen U.S. cities actively deploying curbside
- New JO Curbside Office Hours to connect, share challenges and ideas, and advance best practices
- More topical office hours to come in 2025!



## Low-Speed Vehicles

- Street-legal, four-wheeled vehicle with a top speed of 25 mph and gross vehicle weight rating <3,000lbs
- Forthcoming publication (early 2025): New resource to help more people ride and drive electric



# Building the foundation for medium- and heavy-duty vehicle innovation

## Enhance Zero-Emission Freight Corridor Strategy

- Strategy sets a vision and approach to accelerate the deployment of a world-class, zero-emission freight network in the U.S.
- Interested parties can download and integrate the [Strategy' GIS data layers](#) to bolster analysis, planning, and deployment efforts.

## Comprehensive Analysis of MHDV RFI

- FHWA and Joint Office published a medium-duty and heavy-duty vehicle RFI that closed on Nov. 12.

## Expanding Ways to Engage on MHDV

- From formal comment to topical webinars
- We want to hear from you!





# Questions and Answers



Sign up for our next events or check out recent resources

### Customer-Focused Key Performance Indicators for Electric Vehicle Charging


Working Group 3: Defining the Charging Experience




June 2024

## Public Electric Vehicle Charging Infrastructure Playbook

Get started



### Recommended ACTIONS TO IMPROVE ADAPTER SAFETY

SEPTEMBER 2023

Electric Vehicle Charging Infrastructure Playbook

MENU



### Cold Weather Impacts on Battery-Electric Transit Buses

TECHNICAL ASSISTANCE HELP SHEET


Transit fleets exploring the adoption of battery-electric buses (BEBs) can start here to learn about the effects of cold weather and how to enhance bus performance in low temperatures. BEBs can be effective in cold weather conditions, despite effects on range and efficiency. Transit fleets can prepare for expected weather conditions by incorporating appropriate safeguards during the deployment planning phase.

**Cold Weather Impacts**

Cold weather mainly impacts BEB range because of the heating, ventilation, and air conditioning (HVAC) system. Whereas an internal combustion engine bus can radiate waste heat from the engine to warm the cabin, BEB heating must use energy from the high-voltage battery. Most BEBs have all-electric heaters for the battery and interior, but they also face the added challenge of additional cooling loads for BEB drivetrain components like battery packs through the battery thermal management system, which heat pump systems are expected to increase in 2024. BEBs are currently limited and the required heat has a high power requirement. This means there is a significant draw to power the system, often requiring more energy than cooling the interior, and possibly more energy than propelling the vehicle.

**Cold Weather Considerations**

- Plan for worst-case scenarios.** When planning for deployment, transit agencies should prepare for the coldest or most demanding day of operation. Operators should monitor equipment operating in climates routinely experiencing temperatures below 32°F. (Should consider the all-ages and fleet buses. Performing a trade analysis based on vehicle temperature will point to adding battery and other sizes to complete niches on the most demanding day.) Contact the Joint Office of Energy and Transportation (JOEAT) at [JOEAT@dot.ny.gov](mailto:JOEAT@dot.ny.gov) for help identifying local climate resources.
- Utilize battery preconditioning.** Some transit agencies do not allow their batteries to provide discharge for propulsion until the battery temperature is at least 60°F or higher on all days. Preconditioning can be used by preheating the battery to a defined target temperature of the performance is optimized before entering service, generally around 60°F-70°F (depending on the manufacturer).

### Electric Vehicle Supply Equipment and Considerations for a Reasonable Rate of Return

Kevin George Miller and Heather Richardson

August 2024

DOC-EI-284

[driveelectric.gov](https://driveelectric.gov)



Joint Office of  
**Energy and  
Transportation**

# Thank You

**Webinar recording and  
slides (forthcoming):**  
[driveelectric.gov/webinars](https://driveelectric.gov/webinars)

**Joint Office news, events, and  
funding opportunities:**  
[driveelectric.gov/subscribe](https://driveelectric.gov/subscribe)

**Didn't get your question  
answered?**  
[driveelectric.gov/contact](https://driveelectric.gov/contact)

[driveelectric.gov](https://driveelectric.gov)