



**BALTIMORE  
METROPOLITAN  
COUNCIL**

# **Electric Vehicle Community Charging Hubs for Multi-Unit Dwellings**



**BRTB Technical Committee Meeting  
December 3, 2024**





# Agenda

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Project Overview

**2**

Project Outcomes – Fact Sheets & Guide

**3**

Next Steps

# Study Team



**Project  
Lead**

**Engagement  
Specialist**

**Electrification  
Expert**

# Steering Committee

**Seth Blumen** – Energy and Sustainability Coordinator, Baltimore County

**Tim von Stetten** – Manager of EV Charging Programs, Baltimore City

**Andrew Gray** – Comprehensive Planner, Carroll County

**Jill Manion** – Department of Planning & Zoning, Howard County

**Alex Rawls** – Chief, Long-Range Planning, Harford County

**Amanda Hinh** – NEVI Program Manager, Maryland DOT

**Matthew Fleming** – Director for the Resilience Authority of Annapolis and Anne Arundel County

**Steve Cohoon** – DPW Public Facilities Planner, Queen Anne's County

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**Shanaya Herbert** – Regulatory Compliance Engineer, MDE Mobile Sources Control Program

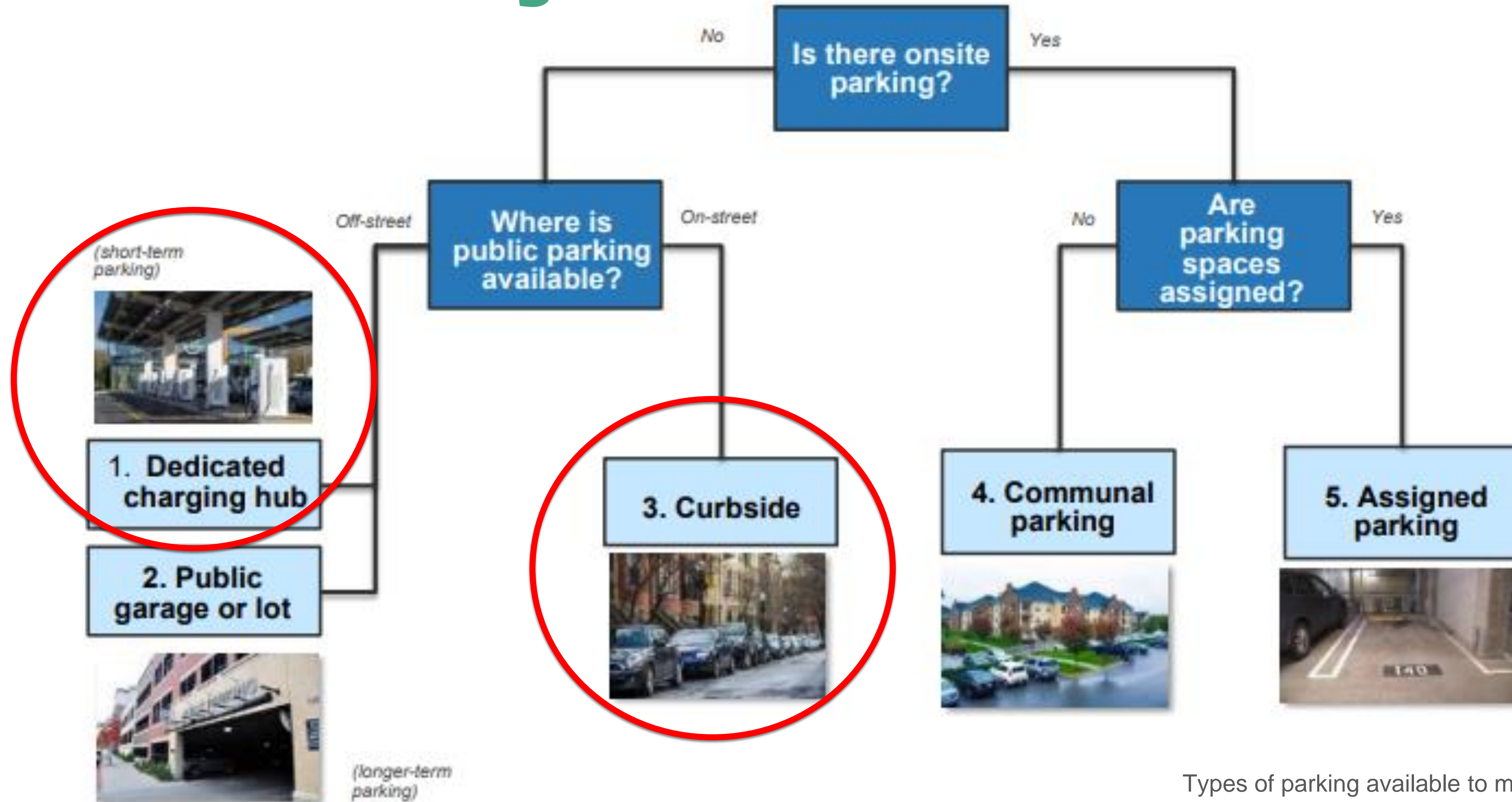
# Project Background

- Electric vehicle (EV) adoption is on the rise in Maryland!
- 100% of new vehicles sold in MD will be zero emission by 2035 [Advanced Clean Cars II Act]
- About 80% of all EV charging takes place at home
- People who live in high-density areas and do not have access to chargers at home or work need public access to chargers





# Types of Parking Available to Multi-Family Residents



# Project Overview

Develop a plan to provide EV charging opportunities for residents in **high-density residential areas** across the Baltimore region

## What will the plan include?

- Recommendations on how to implement EV chargers in high-density residential areas
- Fact sheets to share with elected officials, colleagues, and community members about EV charging
- Potential locations for community charging hubs



# What are community charging hubs?

Designated locations near high-density employment centers or multi-family housing where community members can reliably charge their electric vehicles and access additional transportation options (i.e., rideshare, transit, micromobility) while their vehicles charge





# Key Characteristics

- **Reliable** charging infrastructure (it works; wait times are reasonable)
- **Convenient** location to high-density multi-family housing, employment centers, and/or other destinations such as shopping centers or community centers
- **Connections** to transit or other transportation services
- **Inclusive** public space with integrated wayfinding, travel information, and payment options
- **On-site services** such as restrooms or convenience store are optional amenities
- **Equitably distributed** throughout communities



# Examples



EVGo Charging Station | California



St. Frances EV Charging Station | Baltimore, MD



OUC Charging Station | Orlando, FL

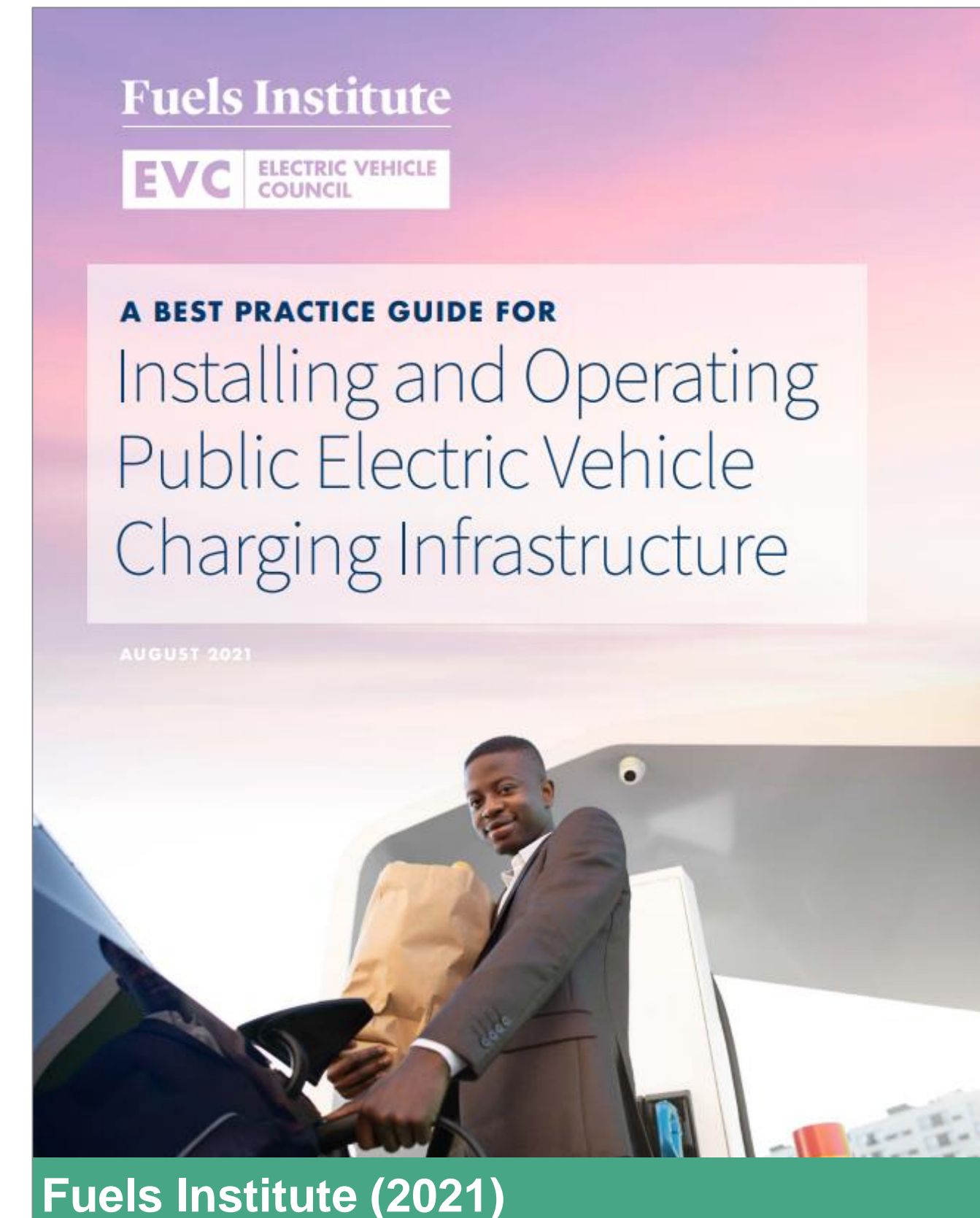
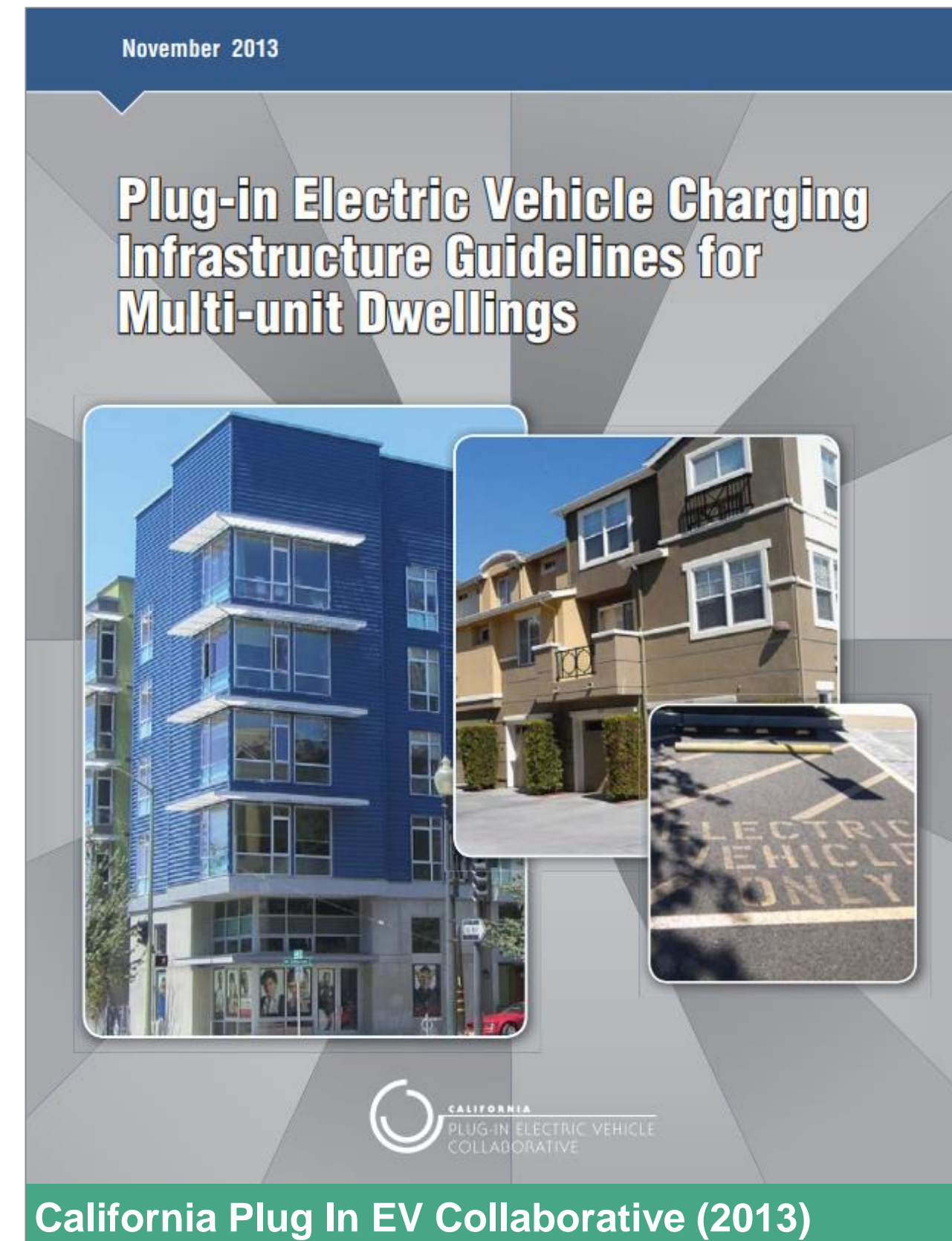
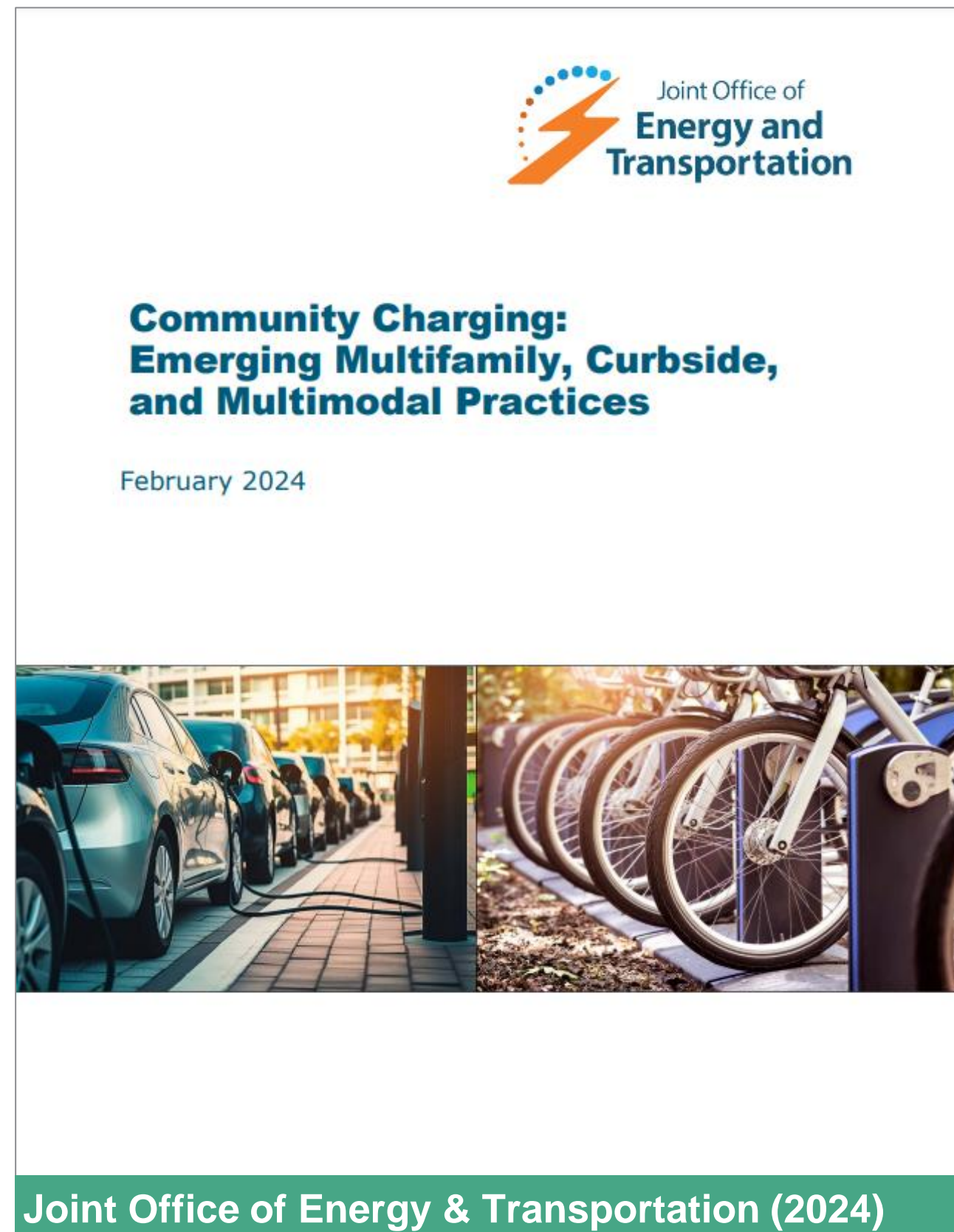


Connecticut Post Mall | Milford, CT



# What guidance is available?

**National publications** provide guidance on how to fund and install EV charging infrastructure.



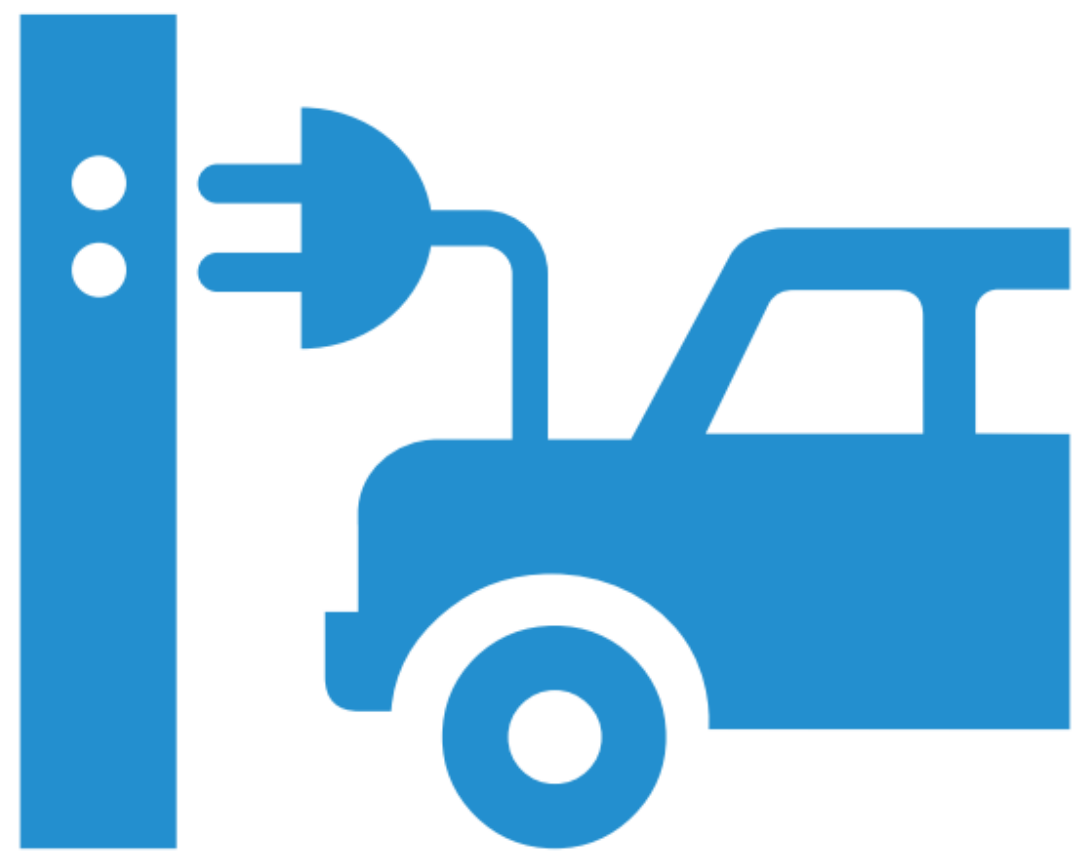


# What guidance is available?

**Planning documents** from other cities, regions, and states provide examples of how to cite and leverage partnerships to implement community charging hubs.

Seattle DOT (2018)

## EVSE ROADMAP FOR SHARED MOBILITY HUBS



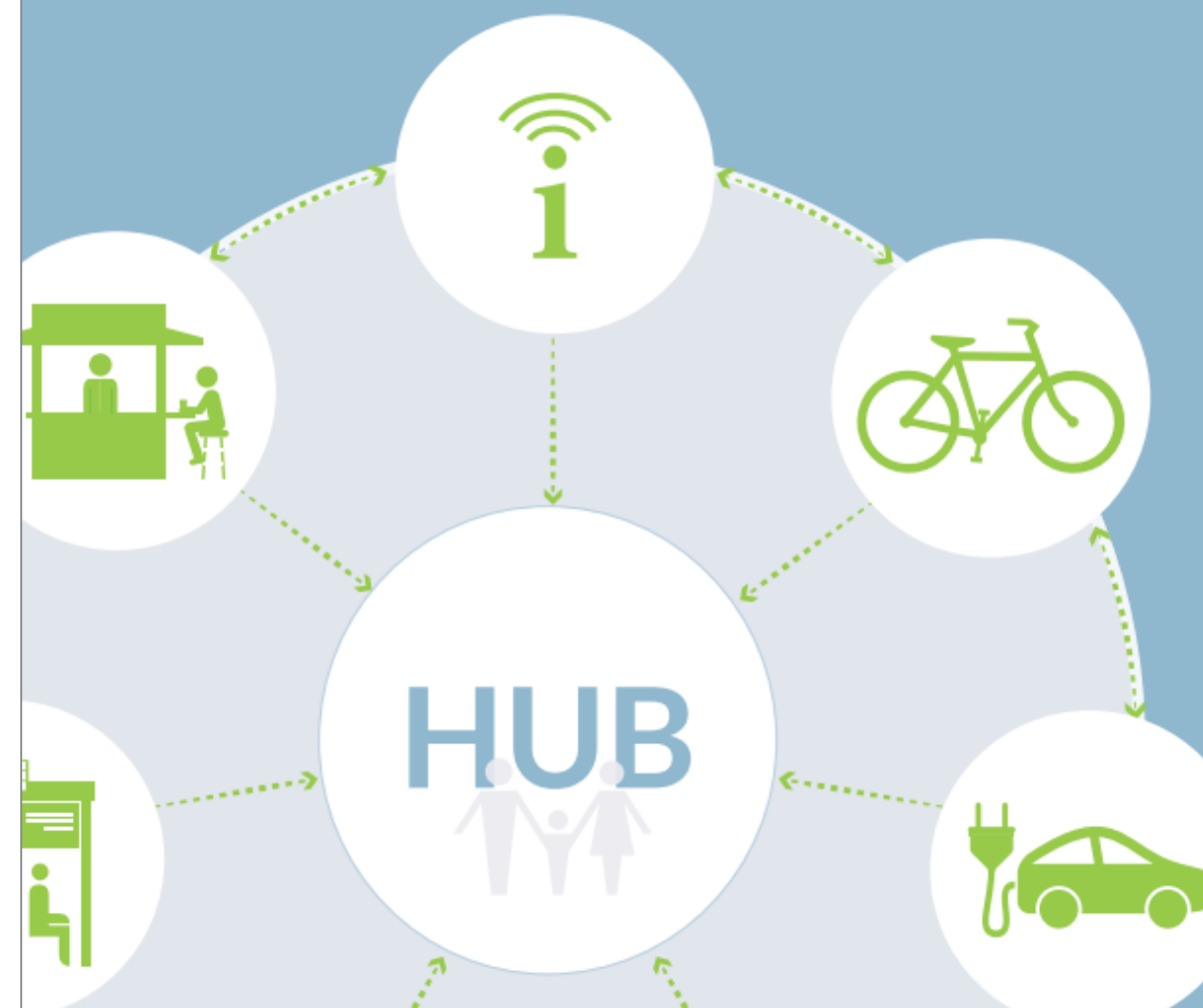
Funded by Department of Energy Grant EE-0008261, "Making the Business Case for Smart, Shared, and Sustainable Mobility Services"

 Seattle Department of Transportation

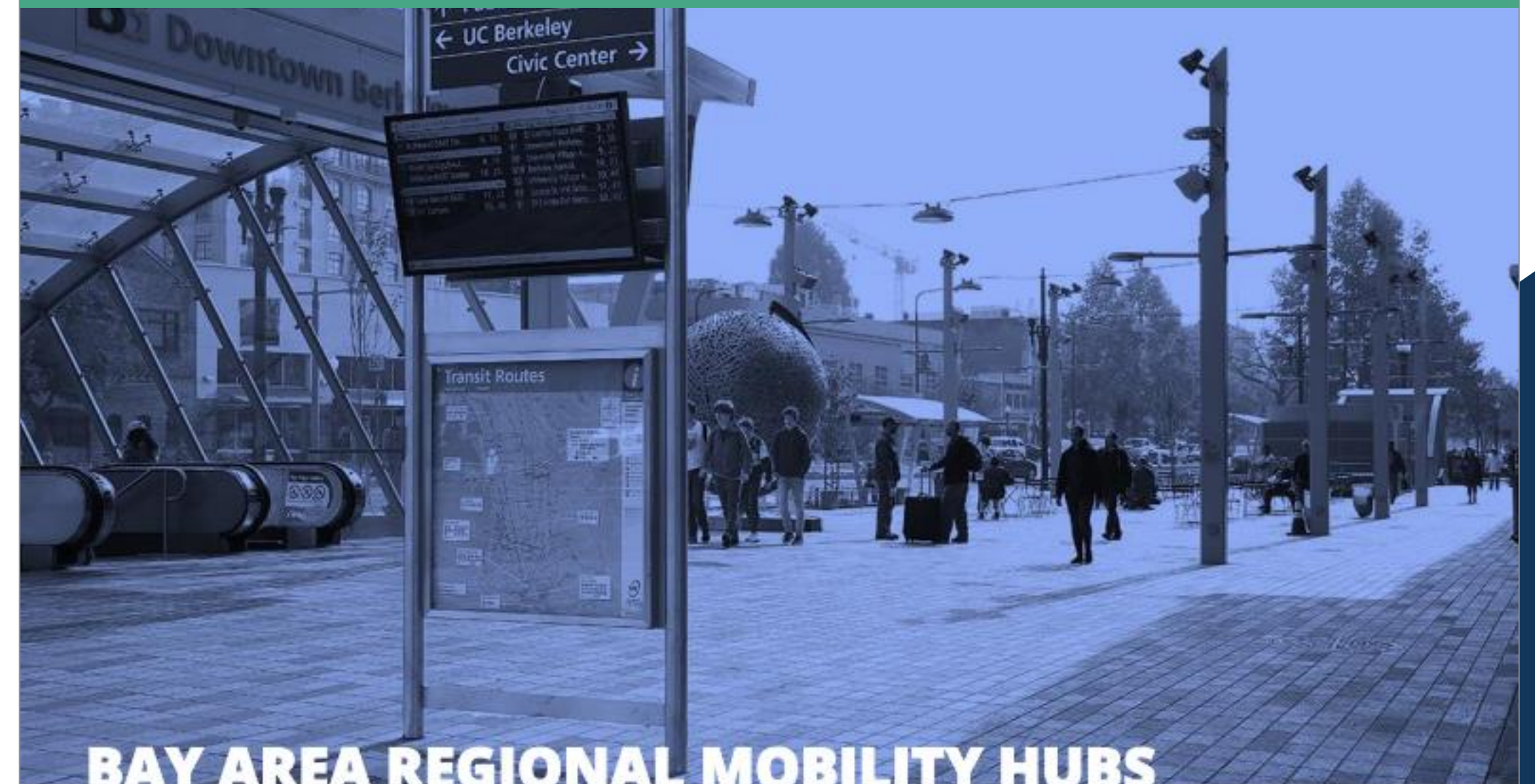
LADOT (2016)

## Mobility Hubs

*A Reader's Guide*



Bay Area Metropolitan Transportation Commission (2021)



## BAY AREA REGIONAL MOBILITY HUBS MOBILITY HUB IMPLEMENTATION PLAYBOOK

April 2021

 METROPOLITAN  
TRANSPORTATION  
COMMISSION



# Project Outcomes

- **Fact sheets** to share with elected officials, colleagues, and community members about EV charging
- **Guide** with recommendations on how to implement EV chargers in high-density residential areas
- **Case studies** that highlight potential locations for community charging hubs



## The Current State of Electric Vehicles (EV) in Maryland

- Zero-emission vehicles (ZEVs) help reduce transportation-related climate impacts.
- Maryland anticipates a rapid increase in Electric Vehicle (EV) registrations. Today, EVs make up about 1% of all registered vehicles in Maryland.
- By 2035, 100% of passenger car and light truck sales in Maryland need to be electric ([Advanced Clean Cars II program](#)). That's a lot of EV growth!

## Benefits of EVs

Individual users and their communities can experience the following benefits of EVs:



## What are community charging hubs?

Community charging hubs are designated locations where community members can reliably charge their Electric Vehicles (EV) near multi-family housing, high-density employment centers, local destinations, or additional transportation options (i.e., rideshare, transit, micromobility) while their vehicles charge.

## Why do communities need charging hubs?

- 80% of current EV owners charge at home overnight, [NREL](#).
- Many single-family homes have parking or garages for charging. However, many residents in the Baltimore region live in multi-family dwellings with shared or no parking.
- These residents will rely on public-access chargers and community charging hubs near homes or workplaces.

## What are the key features of a community charging hub?



## Unprecedented Electric Vehicle Funding

The growth of Electric Vehicles (EV) in the US was sparked by recent legislative initiatives that aimed to address the negative environmental impacts of fossil fuel vehicles and to create clean energy jobs. The legislative initiatives included:

- The [Inflation Reduction Act \(IRA\)](#) accelerated transportation electrification by providing federal money for charging infrastructure and tax credits for consumers and manufacturers of EVs or batteries that upgrade or build new facilities ([Electrification Coalition](#)).
- The [Bipartisan Infrastructure Law \(BIL\)](#), enacted as the [Infrastructure Investment and Jobs Act](#), established a [National EV Infrastructure \(NEVI\) Program](#) "to provide funding to States to strategically deploy EV charging infrastructure and to establish an interconnected network to facilitate data collection, access, and reliability" ([Federal Highway Administration](#)).
- The BIL also created the [Charging and Fueling Infrastructure \(CFI\) Discretionary Grant Program](#). CFI is a competitive grant program to strategically deploy publicly accessible EV charging and alternative fueling infrastructure in the places people live and work – urban and rural areas alike – in addition to along designated Alternative Fuel Corridors ([Federal Highway Administration](#)).

## Identify EV Funding Opportunities

With unprecedented funding available, the process for identifying and applying for the proper funding can seem daunting. For this reason, the Electrification Coalition created the [EV Funding Finder](#) which helps eligible recipients identify available federal funds for transportation.



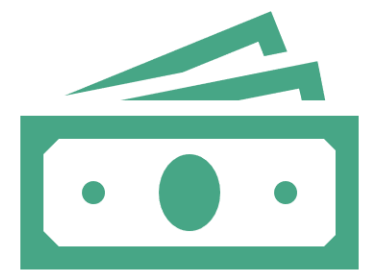
# Fact Sheet Topics



Electric Vehicles 101



Community Charging Hubs



Preparing for the Next Grant Cycle



Workforce Development Opportunities



Statewide Incentives



# Use the fact sheets to...

- Engage with community members, colleagues, and elected officials about the **benefits of EVs**
- Discuss the **types of EV chargers** and **locations** the types can be used most effectively
- Direct colleagues to best practices for **planning, siting, and designing hubs**
- Identify **EV funding opportunities**
- Learn more about **EV-related jobs**
- Share strategies for **equitable workforce development**

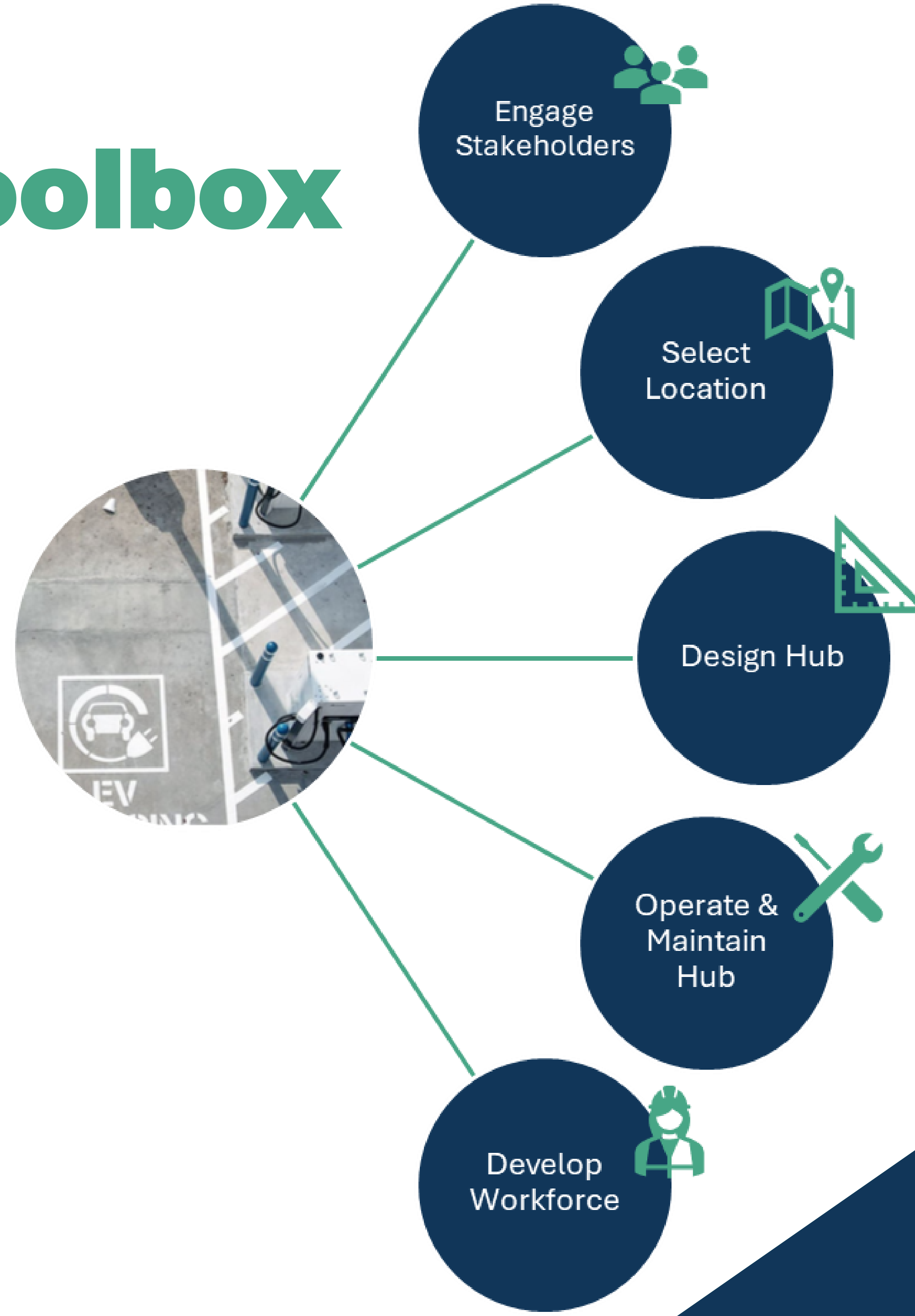


# Guidebook Outline

- Executive Summary
- Community Charging Hubs
- Planning Toolbox
- Next Steps
- Appendix A: Case Studies
- Appendix B: Budgeting & Funding
- Appendix C: Funding and Procurement Options



# Planning Toolbox





# Case Study Examples

## Where have community charging hubs been used?

Community charging hubs have been successfully implemented in Europe and are being piloted in several locations in the United States. In Europe, the following cities have successfully implemented innovative solutions to provide EV charging opportunities in urban areas and for multi-family housing:

- [Hamburg, Germany](#)
- [London, UK](#)
- [Amsterdam, Netherlands](#)
- [Oslo, Norway](#)
- [Cologne, Germany](#)

## Local Examples



### Pennsylvania Ave Market Lot

- Baltimore, Maryland
- City-owned parking lot
- 4 Level 2 chargers, 2 Level 3 fast chargers



### Saint Frances Academy

- Baltimore, Maryland
- Baltimore Gas and Electric (BGE) in collaboration with the Mid-Atlantic Electrification Partnership, Lyft, St. Frances Academy, and the Johnston Square neighborhood planned this charging hub.
- 3 Level 3 fast chargers, 2 dual-port Level 2 chargers



### Michael E. Busch Annapolis Library

- Annapolis, Maryland
- County-owned library in residential area
- 4 Level 2 chargers, 1 Level 3 charger

## Clean Cities Partnership: The GUMBO Initiative

The GUMBO (Guaranteeing Access to Underserved and Marginalized Populations by Building Employment Opportunities) initiative provides EV educational curriculum to regional and national training partners. Initially developed by Louisiana Clean Fuels and Baton Rouge Community College, it received Department of Energy funding. Now, multiple partners, including Greater Washington Region Clean Cities Coalition and Virginia Clean Cities, are involved. Maryland Clean Cities and Communities Coalition may also benefit from exploring this partnership.



Key points of workforce development from the GUMBO initiative include:

- **Practical Training:** Hands-on training in installing, maintaining, and servicing electric vehicle supply equipment (EVSE), directly addressing the growing need for skilled technicians in the EV sector.
- **Career Opportunities:** New career pathways in the EV infrastructure, with technicians specializing in EVSE installation and maintenance potentially earning between \$40,000 and \$65,000 annually.
- **Supporting Underserved Populations:** Access to training and employment opportunities explicitly targeting underserved and marginalized populations.
- **Curriculum Development:** Curriculum for EVSE installation and operations will be made publicly available, enabling broader access to education and skill-building.



# Next Steps

- Download and share the fact sheets
- Look out for the guidebook available at the end of this year
- Contact **Anna Marshall** ([amarshall@baltometro.org](mailto:amarshall@baltometro.org)) for more information



**Fact sheets are available now!**  
**Scan QR code or visit**  
**[baltometro.org](http://baltometro.org).**