

EQUITABLE EV ACTION PLAN FRAMEWORK

A roadmap for local leadership

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Policy Report

EV Equity
Initiative



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For more information on the organizations and process that crafted this Framework, see [About this Report](#).

CONTENTS

ACKNOWLEDGMENTS	4
KEY TERMS	6
SUPPLEMENTARY RESOURCES	7

I	EXECUTIVE SUMMARY	<ul style="list-style-type: none"> ➤ What is an Equitable EV Action Plan and why do we need them? ➤ How do local governments and stakeholders get started in creating a plan? 	9
---	-------------------	---	---

The Need for Equity-Focused EV Action Planning	9
The Purpose of a Local Equitable EV Action Plan	10
Using This Framework and Crafting a Plan	11
Defining EV Equity and Frameworks for Mobility Policy	12
Getting Started: Local Governments	15
Getting Started: Stakeholders and Communities	22

II	PLAN DEVELOPMENT, ENGAGEMENT, AND IMPLEMENTATION	<ul style="list-style-type: none"> ➤ Clearly define goals and participants ➤ Align EV Action Plan with community needs and principles of mobility equity ➤ Develop a funding and implementation strategy 	29
----	--	---	----

A. Priorities, Targets, and Mobility Equity in the Local Context	30
B. Community Benefits, Engagement, Participation, and Decision-Making	42
C. Funding and Implementation	55

III	EV AND MOBILITY INFRASTRUCTURE INVESTMENTS	<ul style="list-style-type: none"> ➤ Choose the types of EV and mobility infrastructure that work for your jurisdiction ➤ Select pilot and investment strategies that have worked in peer cities and regions 	65
-----	--	--	----

D. Residential	66
E. Public and Curbside	77
F. Shared and Micromobility	87
G. Medium/Heavy-Duty and Fleets	98
H. Workplace	108
I. Infrastructure Design, Accessibility, and Safety	113
J. Passenger Vehicle Access and Incentives	119

REFERENCES	125
APPENDIX A	128
ABOUT THIS REPORT	135

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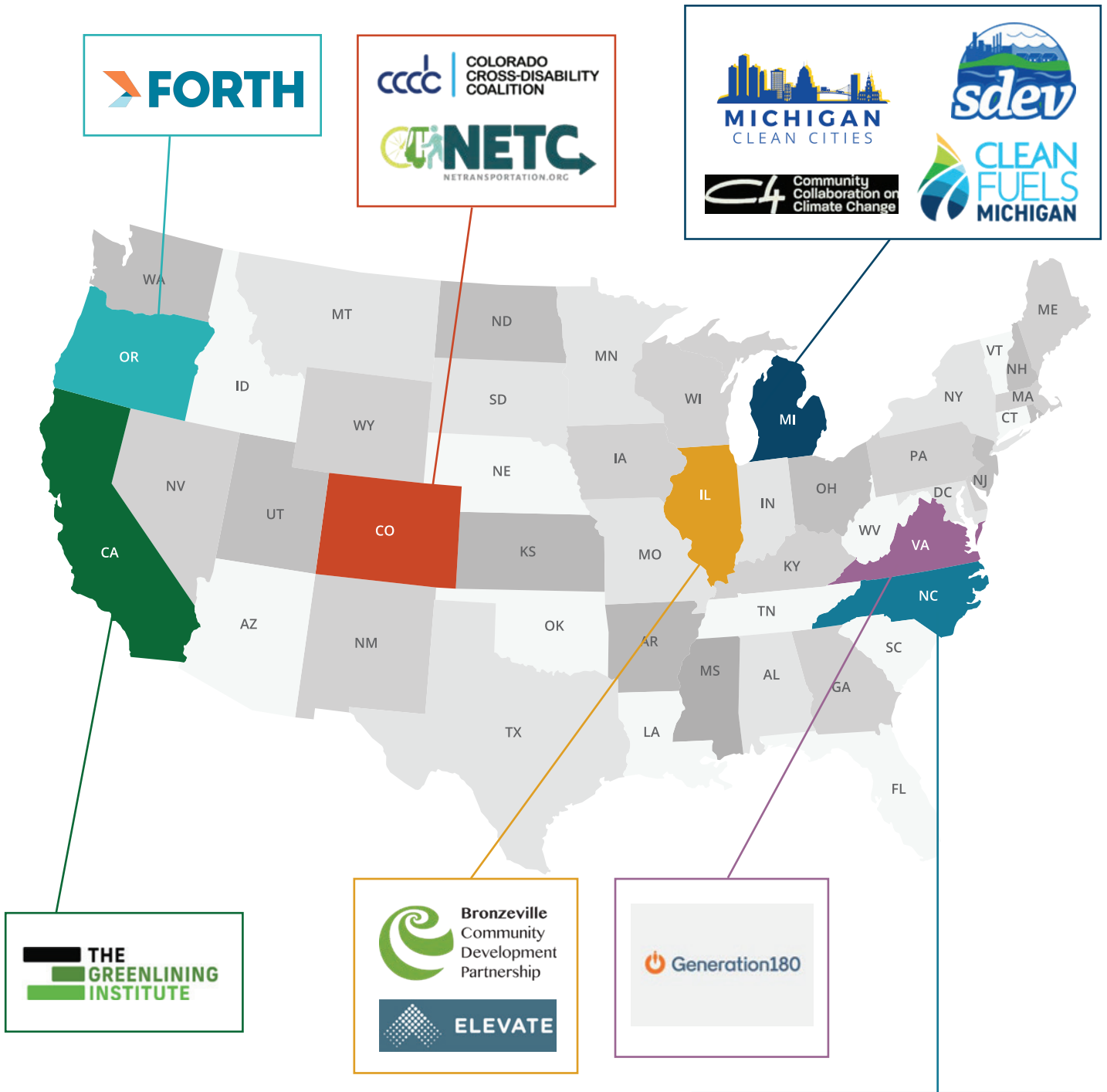
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PARTICIPATING MEMBERS OF THE TEEM COMMUNITY OF PRACTICE

To learn more about the participating TEEM members and their communities, see [Appendix A](#).



KEY TERMS

Bipartisan Infrastructure Law (BIL): A 2022 federal law that provides billions of dollars of transportation project funding including EV infrastructure programs.

CalEnviroScreen: A map-based tool used to identify California communities most impacted by environmental harms.

California Air Resources Board (CARB): A California government agency responsible for actions to combat climate change and air pollution, including vehicle emissions standards and many EV programs.

Charging and Fueling Infrastructure Grant Program (CFI): A U.S. Department of Transportation program that funds public charging and fueling infrastructure for electric vehicles and other alternative transportation.

EJScreen: A US Environmental Protection Agency environmental justice screening tool that combines environmental and socioeconomic indicators in a comprehensive, navigable map.

Electric vehicle (EV): For the purpose of this framework, the term EV encapsulates all vehicles that are powered by an electric motor and can draw electricity from a rechargeable battery.

Electric vehicle supply equipment (EVSE) infrastructure: The structures, machinery, and equipment necessary to support and charge an EV.

Inflation Reduction Act (IRA): A 2022 federal law that provides billions of dollars in incentives for climate-related infrastructure.

Justice40: A commitment set by the Biden administration to direct 40 percent of certain Federal investments to disadvantaged and pollution-burdened communities.

Mobility Hub: A site that integrates multiple mobility options, fueling infrastructure and other amenities at to serve a range of community transportation and access needs.

National Electric Vehicle Infrastructure (NEVI) Program: A US Department of Transportation program that funds EV charging investments with a focus on highway networks.

Priority populations: Communities that are both low-income and disproportionately exposed to environmental pollution (based on California Environmental Protection Agency definitions).

Shared mobility: Transportation services and resources that are shared among users, either concurrently or one after another.

Zero-emission vehicle (ZEV): Any vehicle that does not emit any type of air pollution through tailpipe exhaust.

SUPPLEMENTARY RESOURCES

CLEE has developed a suite of in-depth resources to support local governments and stakeholders using this Framework. Learn more about these policy reports, case studies, and web materials below.

Public and Curbside EV Charging Strategies

Installing EV and e-mobility charging infrastructure at the curbside will be vital to a comprehensive, equitable charging network that meets the needs of drivers who lack dedicated parking. CLEE's [public and curbside charging strategies policy brief](#) highlights pilot programs from streetlight-mounted chargers that reduce the cost and complexity of installation to guidelines for residents to extend charging cables across the sidewalk.

Multifamily Residential EV Charging Strategies

Homes constitute the core of a convenient and reliable EV charging network, and EV charging infrastructure in multifamily housing (MFH) in particular will serve a crucial role in ensuring an equitable clean mobility transition. CLEE's [multifamily housing EV charging policy brief](#) highlights strategies to advance equity in MFH charging investments, including equity-focused allocation methods for incentive programs, MFH-specific electricity rates, and EV ownership accommodations for buildings with low near-term charging demand.

Shared Mobility Strategies

Local governments across the country are planning and implementing shared mobility programs as a core strategy to meet their zero-emission transportation, climate, and equity goals. CLEE's electric shared mobility brief examines six California shared mobility hub and EV carshare programs and identifies six best practices for equity-focused shared mobility program design.

Funding and Financing Strategies

Equitably funding and attracting investment in clean mobility infrastructure will require a mix of traditional and innovative revenue strategies. CLEE's and Prospect SV's [financing and investment strategies policy brief](#) proposes a number of potential approaches for local governments to secure investments in priority communities, including hybrid public-private EV charging sites, fleet charging commitments and "utilization support" as secure revenue streams, and multi-modal mobility hubs anchored by EV charging as a means to stack funding sources.

Equity-Oriented Project Design Strategies

Local governments play a key role in ensuring the development of an equitable mobility transition through designing, permitting, or procuring the public EV charging infrastructure essential for EV adoption among priority populations. CLEE's [project design policy brief](#) presents three strategies for local policymakers and community-based organizations seeking to design equity-oriented EV infrastructure investments: these include community oversight councils, Community Benefits Agreements, and participatory budgeting processes.

Resources for Stakeholders and Decisionmakers

Our [Resources webpage](#) includes the most recent research, key guidance documents, state-level analyses, and other media related to equity in the EV transition, on topics ranging from infrastructure design to environmental benefits and consumer preferences. This resource collection can help local leaders and stakeholders navigate the EV transition's wide-ranging literature, bolster their own action plans, and identify measures to advance equity in planning and development.

EV Equity Roadmap Site Prioritization Tool

Our [EV Equity Roadmap tool](#) provides a data-rich visualization of best-fit locations for public EV charging investments and areas of focus for policy initiatives, overlaying priority zones (based on a range of equity criteria) with feasibility zones (based on funding availability and grid capacity). The tool is designed for use by local agencies and stakeholders in engagement and planning processes, including Action Plan development. *Currently available in California only.*



I. EXECUTIVE SUMMARY

Transportation is central to economic opportunity and quality of life in all communities. It is also the largest direct source of planet-warming emissions in the US.¹ And, as the nation shifts to a decarbonized transportation system, governments at all levels are setting electric vehicle (EV) targets to address air pollution that harms the climate and human health. These targets and the programs that support them are crucial to protect communities, but without sufficient planning to ensure equity in implementation, they risk exacerbating existing inequalities and slowing environmental progress.

Leaders in 13 states and Washington, DC have set concrete plans to transition their states to zero-emission and electric vehicles (EVs). These states have adopted regulations that require a complete phase out of new internal combustion engine vehicle sales for passenger cars over the coming decade, and many of them have adopted similar standards for medium- and heavy-duty vehicles over the same period.² The US Environmental Protection Agency has adopted nationwide standards that will also rapidly accelerate EV adoption.³ While the future of federal vehicle standards and funding programs is in doubt following the 2024 election, the transition is well underway, with most auto manufacturers having adopted EV development and sales targets for the coming decades.

This EV transition will have profound impacts on both the environment and our mobility. Government, industry, and consumers are making the switch to EVs for a host of reasons, including:

- Protecting the climate through reduced greenhouse gas emissions
- Protecting public health through reduced air pollution
- Lowering the long-term cost of vehicle ownership, and
- Capturing the convenience of charging at home.

PURPOSE OF THIS FRAMEWORK

This framework introduces a set of strategies for equity-focused local electric vehicle (EV) action plan development and a framework for stakeholder-informed zero-emissions mobility investment planning and decision-making. The goal of this framework is to initiate a process of policy development, facilitate community and stakeholder engagement, and accelerate local efforts to secure public and private investment in EV and electrified mobility infrastructure that serves all communities with an emphasis on equity.

This framework is intended for use by:

- **Local government leaders** to inform their EV planning efforts
- **Communities and stakeholders** to drive and shape local government action to secure an equitable EV transition

Lower-income and black and brown communities have been least likely to benefit from early EV and charging investment programs in the US.⁴ Members of these communities are typically the least likely to have access to charging at home garages and at workplaces, the most likely to live in multifamily dwellings and buildings with outdated electrical infrastructure, and the most likely to live and work in areas with low near-term demand for vehicles and charging. They are also the most likely to benefit from new investments in a variety of mobility options providing better access to community resources and economic opportunities.

As drivers transition from combustion engine vehicles to EVs and from fueling their vehicles to charging them local governments need to plan strategically for equitable EV adoption and charging deployment. Effective, equity-oriented plans will help localities ensure they take advantage of new opportunities and technologies while mitigating the likely loss of long-term federal leadership and funding on the horizon.

At the same time, this transition should be part of a broader ecosystem of zero-emissions public, shared, and electrified transportation options that meet local priorities and maximize benefits for local residents. This need is particularly acute for priority populations (including environmentally vulnerable communities and low-income communities of color) and underserved communities around the country who have long faced a host of financial, structural, policy, and technical barriers to accessing affordable, convenient, and community-oriented mobility options.

THE PURPOSE OF A LOCAL EQUITABLE EV ACTION PLAN

As the country transitions toward EVs—with an estimated 28 million total charging ports needed by 2030 for more than 40 million vehicles nationwide⁵—local leaders and stakeholders are increasingly recognizing that deliberate, local-led efforts are crucial to ensuring that the transition does not repeat past injustices in transportation policy. Local leaders have a special charge⁶ to bring lower-income residents and communities along in the EV transition and afford these communities opportunities to access the benefits that EVs provide, particularly in the absence of federal leadership.

Local-level action plans focused on equity in the EV transition will be crucial to this effort. While not all cities, towns, or counties will lead in infrastructure site selection or investment, *local governments have a singular ability to craft effective long-range strategies that work across the needs of communities, businesses, public agencies, electric utilities, and charging providers.* Local governments are in a critical position to properly assess the needs of local communities and identify strategies (public, private, or hybrid) to ensure that un-

SCOPE OF THIS FRAMEWORK

This framework includes a range of strategies to inform local planning for an equitable EV transition, from EV and charging-related actions to shared mobility, e-micromobility, and more. The focus of the framework is primarily on passenger EVs, based on the premise that the coming, rapid EV transition—driven by regulatory and market forces—poses a direct question to local governments that should ensure accessible and affordable mobility for the many who rely on automobile travel and whom the market might overlook. However, the framework recognizes that public transit and non-automobile travel are far more environmentally friendly than private vehicles, and that walkable and bikeable communities are the long-term goal for climate and equity advocates alike. As a result, the strategies in this framework incorporate a range of modes relevant to local governments' equity-focused planning processes.

underserved residents have equitable access to mobility options that serve their needs and improve their quality of life. These strategies will include information-gathering and needs assessments, community engagement and outreach, funding and revenue generation, pilot programs, planning and permitting, procurement, and more.

Local governments around the US have begun to develop EV blueprints, readiness plans, and action plans to ensure that they are prepared for the shift to EVs and EV infrastructure. As more jurisdictions begin this process, *it will be crucial to incorporate an explicit focus on mobility equity—and a clear shift from target-setting to implementation*—to ensure that localities are prepared for an EV transition that prioritizes lower-income communities most in need of greater mobility options. This focus will become only more crucial if federal climate justice and clean transportation programs recede.

USING THIS FRAMEWORK AND CRAFTING A PLAN

This Framework provides both an overview of potential Equitable EV Action Plan strategies and a framework to help local leaders select, prioritize, and tailor their strategies to build locally appropriate plans. *Development of an Equitable EV Action Plan will necessarily rely on direct engagement between local leadership and a range of stakeholders and community members.* This collaboration is crucial to inform decision-making regarding needs assessments, selection of investment strategies, infrastructure siting and prioritization, participatory frameworks, and more. This Framework is intended to provide initial context for that process by helping local leaders and stakeholders identify and build effective, equitable approaches.

A local Equitable EV Action Plan will center on a set of strategies designed to:

- Accelerate EV and zero-emissions mobility adoption and access for residents
- Maximize environmental benefits, gasoline reduction, and cost savings
- Create a more cohesive and sustainable local transportation system and
- Facilitate equity and economic development in the electrification transition.

The goals, strategies, and processes included in a local Equitable EV Action Plan should draw on programs and best practices from jurisdictions around the country but will be tailored to each area's demographics, geography, and economy.

The needs of local stakeholders, focus areas and capacities of local agencies, state policy/funding schemes, regional collaborations, and potential revenue streams will determine which strategies of the many described in this Framework are appropriate for development in a planning process.

A local Equitable EV Action Plan should include and build on assessments of current and predicted EV adoption across different local demographics. But it should ultimately promote and operate on the premise that all residents will require reliable access to zero-emissions mobility options over the coming decades. More specifically, it should:

- Detail specific actions, responsible actors, and timelines to achieve stated goals

- Identify principles of mobility equity and priority communities intended to benefit from plan actions
- Establish EV and zero-emissions mobility adoption targets that advance other local and state transportation and climate policies
- Identify needs and strategies to operationalize equity at each step
- Create conditions to set priority actions into motion
- Propose revenue and financing measures (public and private) to fund the plan, and business and governance models that promote community investment in infrastructure
- Create meaningful ways for residents to engage with and provide feedback on the plan
- Be informed and co-developed by members of the communities it is intended to serve, and
- Set metrics to measure success and evaluate progress.

The following sections detail potential strategies in each area of potential relevance for local Equitable EV Action Plan development, drawing on existing EV action plans, climate action plans, and implemented pilots and programs:

- The remainder of Part I outlines the process of defining EV equity in a local context and getting started on plan development for both local government and community leaders.
- **Part II (§A-C)** provides strategies for plan development, community engagement, and implementation.
- **Part III (§D-J)** provides strategies for local planning and investment in core EV and mobility infrastructure categories.

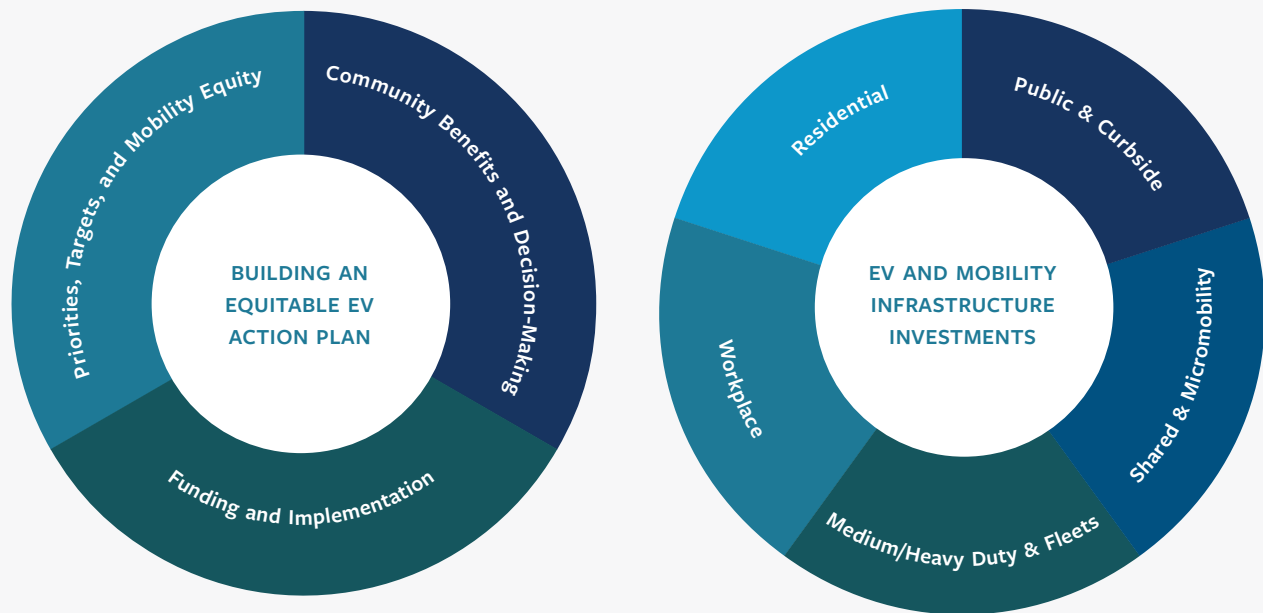
DEFINING EV EQUITY AND FRAMEWORKS FOR MOBILITY POLICY

What EV equity looks like will be different in every community. Defining EV equity is an iterative process that is context-dependent, and part of the broader concept of mobility equity. Mobility equity can be defined as “a transportation system that increases access to high quality mobility options, reduces air pollution, and enhances economic opportunity in low-income communities of color.”⁷ EV equity places this transportation system in the context of the EV transition.

Local definitions of EV equity should draw on existing community needs, demographic and land use patterns, governance structures, and principles of environmental and mobility justice. They should consider systemic barriers and disparities faced by marginalized communities, such as economic, social, and political factors that limit community members’ ability to fully participate in and benefit from mobility solutions.

Developing a local definition of EV equity is a central element of developing an Equitable EV Action Plan. As such, this Framework does not suggest a single definition

Figure 1: Elements of the Framework



KEY CONSIDERATIONS FOR ALL INVESTMENTS:

1. Infrastructure Design, Accessibility, and Safety
2. Passenger Vehicle Access and Incentives

of EV equity, but instead highlights principles and processes to support those local efforts. (See [§A.2](#) for elements that should be included in an EV equity definition.)

At its core, EV equity seeks to address issues in priority population communities such as inadequate transportation options and poor air quality that were created by discriminatory land use and investment policies like redlining. In this Framework, EV equity means that the electric vehicle transition:

- Increases access to community-appropriate mobility options and affordable vehicle charging
- Reduces air pollution and climate impacts, and
- Provides economic opportunities and benefits for priority populations.

As the jurisdiction and stakeholders craft their Equitable EV Action Plan, they will devise and refine a local definition of EV equity across planning, process, and implementation.

The Greenlining Institute has developed multiple frameworks for operationalizing equity in climate and mobility policy that can help local government leaders and stakeholders frame EV equity in the local context. The [Mobility Equity Framework](#) details a process to achieve mobility equity in transportation planning and investments through community-oriented needs assessment:

Figure 2: Mobility Equity Framework for Developing Community-Oriented Projects

PRIORITIES



SOCIAL EQUITY

The fair and just distribution of societal benefits and burdens



COMMUNITY POWER

The ability of marginalized communities to influence decisions in a way that addresses their needs and concerns

STEPS

1

IDENTIFY THE MOBILITY NEEDS of a specific low-income community of color
Needs determination | Education | Brainstorming

2

CONDUCT THE MOBILITY EQUITY ANALYSIS to prioritize transportation modes that best meet those needs while maximizing benefits and minimizing burdens
Equity analysis | Prioritization | Proposals

3

PLACE DECISION-MAKING POWER IN THE HANDS OF THE LOCAL COMMUNITY
Voting

Source: Adapted from The Greenlining Institute, Mobility Equity Framework.

The [Making Equity Real Guidebook](#) then details steps to build equity into climate policies throughout the stages of program development:

Figure 3: Building Social Equity into All Stages of EV Policy

EMBED EQUITY IN THE MISSION, VISION, AND VALUES



Policies and grant programs should explicitly state a commitment to equity and specifically identify the vulnerable populations they seek to benefit. The effort must aim to create comprehensive climate strategies for communities that not only build the resilience of physical environments but address other health and economic injustices that climate impacts exacerbate.

BUILD EQUITY INTO THE PROCESS



Processes should deeply engage community members so as to learn about their priorities, needs and challenges to adapting to climate impacts. The information gathered should inform the development and implementation of the policy or grant program.

ENSURE EQUITY OUTCOMES



The implementation of the policy or grant program must lead to equity outcomes that respond to community needs, reduce climate vulnerabilities, and increase community resilience. Outcomes can include improved public health and safety, workforce and economic development, and more.

MEASURE AND ANALYZE FOR EQUITY



Policies and grant programs should regularly evaluate their equity successes and challenges to improve the effort going forward.

Source: Adapted from *The Greenlining Institute, [Mobility Equity Framework](#).*

GETTING STARTED: LOCAL GOVERNMENTS

Developing an Equitable EV Action Plan is a substantial task. Local government leaders can use this Framework to help organize and initiate that development process. Start by identifying which agencies, departments, and staff are relevant to developing an Action Plan. Those parties can then identify which categories of action are relevant for the jurisdiction and its residents and the degree to which each is a local priority.

Local agencies can use these assessments to guide interactions with community leaders and stakeholder groups through efforts like mobility needs assessments and community engagement (see §A and §B). Early community engagement can inform the initial prioritization of strategies and set an agenda for Action Plan development. Community and stakeholder groups will play an indispensable role in crafting the Action Plan and guiding investment and implementation; it is incumbent on local agencies to build processes and platforms that solicit, elevate, and incorporate community input.

Local leaders can start the Action Plan process by taking the steps described below.

Build agency collaboration and coordination structures

Planning for equitable EV infrastructure will fall within the responsibilities of a number of local government entities, including but not limited to the following (or their equivalents):

- **Planning department** or equivalent responsible for land use and long-range development planning.
- **Transportation department** or equivalent responsible for transportation and transit planning and investment.
- **Public works department** or equivalent responsible for public infrastructure, public rights-of-way, and permitting.
- **Environment/sustainability department** or equivalent responsible for climate action planning and grant-writing.
- **Housing department** or equivalent responsible for public housing, lower-income housing voucher programs, and multifamily housing development.
- **City attorney, county counsel,** or equivalent responsible for legal analysis and policy support.
- **Mayor, county executive, city manager, and/or city administrator** responsible for executive management.
- **City council or county board of supervisors** responsible for policymaking.
- **Municipal electric utility, local public utilities commission, or community choice aggregator** responsible for electricity supply and supporting programs.
- **Public commissions and boards** that include residents and stakeholders in their membership and are focused on mobility, public transportation, equity, and/or environmental issues.

WHY LOCAL GOVERNMENTS?

This framework focuses on local governments as primary drivers of an equity-focused EV transition through their transportation planning, land use permitting, site selection, economic development, and community engagement responsibilities. While federal and state leaders are primarily responsible for setting timelines and providing funding to facilitate the transition, local governments—large and small cities, towns, counties, urban and rural areas—will largely determine where and how the transition takes place, who has a say in shaping it, and who benefits from it. Local governments are most capable of responding to the mobility needs and preferences of their residents and best positioned to develop community-informed plans that prioritize those most in need of proactive policy support. This framework is part of a growing body of policy development, including efforts by Clean Cities and Communities coalitions, that recognizes this local leadership role. It is intended to provide strategies and resources for use by local governments of all sizes, recognizing that smaller cities and rural towns and counties will have different investment needs from those of dense urban centers, but will share many core principles and planning strategies.

As an initial step, local leaders should create a process or body for coordination across these different entities, which will be vital to effective plan development and implementation. Creation of a dedicated coordination body will help ensure that engagement with community groups and stakeholders in plan development is robust, direct, and incorporated into investment decision-making, which will be essential to the creation of a truly equitable plan. This body can also assess areas of policy where the local government has direct and relevant authority to advance electrification—e.g., permitting, zoning, procurement, and transportation planning—as opposed to areas like vehicle standards and rebates where state, federal, and market actors will lead.

Develop partnerships and coalitions

Effective plan development will require coordination with a wide range of entities and stakeholders including, for example:

- **Community-based organizations (CBOs)** that: focus on mobility equity and the EV transition, engage with community members and stakeholders, advocate for local investment and economic development, and support sustainability and mobility investments.
 - CBOs and community members will play a crucial early-stage role in establishing policy/investment goals and locally-defined mobility equity priorities, such as in the [Seattle Transportation Equity Framework](#) and [Oakland Zero Emission Vehicle Action Plan](#).
 - The USDOE/DOT Joint Office of Energy and Transportation offers [valuable resources](#) for local agencies to get started engaging with community groups on EV and mobility planning.
- **Local and national organizations** that advocate for environmental justice, climate action, clean mobility, and air quality. Examples include:
 - [Center for Neighborhood Technology](#), a Chicago-based urban sustainability and equity organization that has developed an [electric vehicle resource library](#).
 - [Clean Cities & Communities coalitions](#), a Department of Energy-supported network of local and regional clean transportation partners representing urban, suburban, and rural communities in 46 states and Washington, DC.
 - [Clean Mobility Equity Alliance](#), a peer-to-peer network of program implementers and communities building innovative, equity-oriented EV solutions through the Clean Mobility Options program.
 - [Drive Electric](#), a campaign to electrify global road transportation.
 - [EVNoire](#), a national leader in diversity and equity e-mobility programs.
 - [EV Charging for All Coalition](#), a coalition focused on EV building codes and charging at multifamily housing.
 - [Moving Forward Network](#), an advocacy and information-sharing group focused on environmental justice and freight transportation systems.

- [Rewiring America](#), an electrification strategy group that includes a coalition of local government leaders in 33 states.
- [Southeast Energy Efficiency Alliance](#), which addresses energy-efficient transportation challenges and opportunities in seven Southeastern states.
- National environmental groups with state chapters, such as [Sierra Club](#).
- **Regional government entities** such as metropolitan planning organizations, councils of governments, and air quality management districts.
- **State government entities** such as air quality regulators, energy and utility authorities, transportation agencies, economic development agencies, infrastructure/green banks, and climate funds.
 - Many states have developed EV transition plans; these will not answer local questions, but where they exist, they are a key starting point for accessing funding, understanding legal and zoning requirements, and aligning with state programs and task forces. Some go back a decade or more; for example, Michigan’s [Plug-in Ready Michigan Plan](#) detailed state-level guidance on permitting, zoning, installation, and more as early as 2012. Since 2022, all states have developed [plans to implement the National Electric Vehicle Infrastructure \(NEVI\) highway corridor program](#).
 - Local agencies can play a central role in ensuring that state transportation agency programs and funding are geared toward equity and accessible to community-based organizations. The Greenlining Institute’s [recommendations for collaboration between state DOTs and community-based organizations](#) include the formation of equity advisory committees, dedicating portions of state funding to priority communities, employing language appropriate to local political contexts, and building cross-sector coalitions. City and county governments, which are often the local interface with state DOTs, should promote these strategies in their DOT engagements and grant proposals.
- **Local business groups and property owners** such as major employers, leading car dealerships, major multifamily dwelling managers, chambers of commerce, and business districts.
- **EV supply equipment (EVSE) and service providers** including large national developers, smaller, local developers, and O+M-dedicated entities like [ChargerHelp](#). Many EVSE providers are proactively engaging in policy development and seeking partnerships with local governments. For example, the charging developer SWTCH developed an [EV Charging Policy Roadmap](#) intended to help states and localities optimize EV deployment.
- **Electricity suppliers** including investor-owned utilities, community choice aggregators, and publicly owned and municipal utilities. These entities are responsible for grid maintenance, upgrades, and interconnections and are crucial players from building-scale installations to city-scale investments.
 - Investor-owned utilities from [Georgia Power](#) to [Entergy](#) are providing vehicle and charging incentives alongside guidance for residents and building owners; municipal utilities such as [Austin Energy](#), [Sacramento MUD](#) and [Seattle City Light](#) are leading on EV and transportation electrification

efforts; and groups like the [California Community Choice Association](#) coordinate clean energy programs across community electricity suppliers. Local leaders should leverage and connect stakeholders to these programs where they exist.

- **Educational institutions** such as community colleges and high schools.

Consult peer jurisdictions' plans

As local leaders consider how to work with these stakeholders and develop a plan, they can also look to other cities for best-fit strategies that meet the particular needs of residents, businesses, and government agencies. A short list of examples:

Table 1: Examples of Local EV Action Plans by Population

POPULATION OVER 1,000,000	POPULATION 500,000-1,000,000	POPULATION 100,000-500,000	POPULATION UNDER 100,000
<p>Chicago, IL: Electric Vehicle and Mobility Infrastructure Framework (2024)</p> <p>Contra Costa County, CA: Electric Vehicle Readiness Blueprint (2019)</p> <p>Fresno County, CA: EV Readiness Plan (2021)</p> <p>Hillsborough County, FL: EV Infrastructure Plan (2023)</p> <p>New York, NY: Electric Vehicle Vision Plan (2021)</p> <p>San Antonio, TX: EV Fleet Conversion and City-Wide EV Infrastructure Study (2019)</p> <p>San Diego County, CA: Electric Vehicle Roadmap (2019)</p> <p>San Jose, CA: Electric Mobility Roadmap (2020)</p> <p>Washington, DC Metro Area: Regional EV Infrastructure Implementation Strategy (2024)</p>	<p>Boston, MA: Zero-Emission Vehicle Roadmap (2020)</p> <p>Denver, CO: Electric Vehicle Action Plan (2020)</p> <p>Kern County, CA: Electric Vehicle Charging Station Blueprint (2019)</p> <p>Portland, OR: Electric Vehicle Strategy (2017)</p> <p>San Francisco, CA: Electric Vehicle Ready Community Blueprint (2019)</p> <p>Seattle, WA: Transportation Electrification Blueprint (2021)</p> <p>Ventura County, CA: Electric Vehicle Ready Blueprint (2019)</p>	<p>Berkeley, CA: Electric Mobility Roadmap (2020)</p> <p>Irvine, CA: Zero Emission Vehicle Transition Plan (2022)</p> <p>Kings County, CA: Electric Vehicle Readiness Plan (2020)</p> <p>Oakland, CA: Zero Emission Vehicle Action Plan (2023)</p> <p>Orlando, FL: 2030 Electric Mobility Roadmap (2022)</p> <p>Raleigh, NC: Transportation Electrification Study (2019)</p> <p>Santa Clara, CA: EV Blueprint (2019)</p> <p>South Bend, IN: Community EV Infrastructure Plan (2023)</p> <p>Sterling Heights, MI: EV Charging Station Master Plan (2022)</p> <p>Tahoe-Truckee, CA/NV: Plug-in Electric Vehicle Readiness Plan (2017)</p>	<p>Burlingame, CA: EV Action Plan (2021)</p> <p>Canton, MI: EV Infrastructure Planning Report (2022)</p> <p>Eagle County, CO: EV Infrastructure Plan (2023)</p> <p>Englewood, CO: Electric Vehicle Action Plan (2023)</p> <p>Ferndale, MI: Funding for EV Infrastructure Storymap (2023)</p> <p>Royal Oak, MI: EV Study (2023)</p>

Consult model laws and ordinances, and EV strategy toolkits

- [AchiEve Model Policies to Accelerate EV Adoption](#): A set of model policies for policymakers and stakeholders at all levels, including local and tribal governments, transit agencies, utilities, and businesses.
- [Charging Smart](#): A local government plan formation toolkit and technical assistance platform operating in states around the country.
- [Clean Energy Tax Navigator](#): A project-specific decision tree tool for accessing IRA tax credits for clean energy projects.
- [Joint Office Community Charging Practices Guide](#): An overview of public, multifamily residential, and multimodal charging investment types for community mobility.
- [Joint Office Public Electric Vehicle Charging Infrastructure Playbook](#): A comprehensive guide to public charging projects, from planning and siting to procurement and revenue management.
- [Lawyers for Good Government Climate and Environmental Justice Program](#): Legal resources for local governments and communities pursuing climate, clean energy, and federal funding goals, including a [clinic](#) providing free legal services for communities in need of legal assistance in accessing federal programs.
- [Model Laws for Deep Decarbonization–Light-Duty Vehicles](#): A compendium of model laws and existing examples of light-duty vehicle electrification, including local matters such as parking benefits and fleet electrification.
- [Model Laws for Deep Decarbonization–Heavy-Duty Vehicles](#): A compendium of model laws and existing examples of heavy-duty vehicle electrification, including local matters such as zero-emission delivery zones and port programs.
- [EV Charging for All Coalition EV Building Codes Toolkit and State Code Compendium](#): A toolkit for development of building codes that require or facilitate EV charger installation.
- [Shared Use Mobility Center Mobility Learning Center](#): A comprehensive set of multimedia tools and resources on shared mobility principles and projects.
- [Southern Alliance for Clean Energy Electric Transportation Toolkit](#): A toolkit for local government EV action with a focus on the Southeast.
- [State NEVI Plans](#): State-by-state strategies for implementation of the federal National Electric Vehicle Infrastructure funding program for highway corridor charging.

Explore federal funding and resources

- [C4o Local Government Leaders' Inflation Reduction Act \(IRA\) Guide](#): Resources to help local governments access funding under the IRA, including detailed descriptions of five clean vehicle and charging infrastructure tax credit programs.

- The [Joint Office Technical Assistance and Resources](#) website for the federal National Electric Vehicle Infrastructure (NEVI) highway charging funding program and the Charging and Fueling Infrastructure (CFI) community charging funding program includes information and strategies relevant to local governments seeking to participate in both.
- [Shared Use Mobility Center Federal Clean Transportation Grant Guidance](#): Analysis of nine federal grant funding programs for clean transportation with case study examples of best practices from a range of Midwestern and Southeastern jurisdictions.
- The [US EPA Greenhouse Gas Reduction Fund](#) includes two programs, totaling approximately \$20 billion, that are providing financing for clean energy projects including EV and clean transportation investments. These programs are operated by existing local lenders, credit unions, and CDFIs nationwide, creating accessible means for local agencies, property owners, and community organizations to obtain infrastructure loans:
 - The [Clean Communities Investment Accelerator \(CCIA\)](#) provides loans of up to \$10 million for projects including clean transportation through nationwide, rural, and tribal lending networks, 100% dedicated to low-income and disadvantaged communities.
 - The [National Clean Investment Fund \(NCIF\)](#) provides a range of large-scale financing programs through state-level green banks and local/regional financial institutions, including \$12 billion in two programs ([Coalition for Green Capital](#) and [Climate United Fund](#)) with funds committed to zero-emissions transportation and minimum 50% dedicated to low-income and disadvantaged communities.
- [US DOT Rural Electric Mobility Infrastructure Planning and Funding Toolkit](#): Comprehensive overview of planning considerations for rural electrification efforts, including an in-depth look at federal funding opportunities for rural communities.
- [White House Inflation Reduction Act Guidebook](#): Comprehensive overview of Inflation Reduction Act climate investment programs, including clean vehicle and infrastructure tax credit programs.

Start Early

Local leaders crafting an Equitable EV Action Plan based on the strategies outlined in this proposal should begin early and iterative discussions with these stakeholders—in particular with community groups and community members in greatest need of policy support to ensure an equitable EV transition. They should also ensure that planned actions and strategies include monitoring, reporting, and feedback elements to track results and create multiple avenues for community input over time.

GETTING STARTED: STAKEHOLDERS AND COMMUNITIES

If local leaders are not yet fully engaged in the EV transition, stakeholders and communities can use this Framework to prompt them to develop a locally appropriate, community-driven Equitable EV Action Plan. While the Action Plan ultimately needs to be developed and implemented by local governments, community and stakeholder groups play a central role in shaping its contents and ensuring policies and investments are implemented equitably.

Many local governments lack the capacity and cross-agency coordination to develop an action plan without dedicated grant funding or direction from elected officials and voters. Community and stakeholder groups can use this Framework and the strategies it highlights to call on local leaders to take action in ways that advance the clean mobility transformation and promote quality of life, well being, and economic development.

Stakeholders and advocates can kick-start the process with the steps outlined below.

Research and identify resources

- **Research parties and decision-makers who could be engaged**
 - Research organizations in your area that are engaged in advancing equitable EV solutions
 - Find out who your local elected leaders are and which municipal representatives have committee responsibility for transportation equity and mobility
 - Research which local representatives and agencies are responsible for transportation, mobility, EVs, and EV charging policy:
 - **Planning department** or equivalent responsible for land use and long-range development planning.
 - **Transportation department** or equivalent responsible for transportation and transit planning and investment.
 - **Public works department** or equivalent responsible for public infrastructure, public rights-of-way, and permitting.
 - **Environment/sustainability department** or equivalent responsible for climate action planning and grant-writing.
 - **Housing department** or equivalent responsible for public housing, lower-income housing voucher programs, and multifamily housing development.
 - **City attorney, county counsel,** or equivalent responsible for legal analysis and policy support.
 - **Mayor, county executive, city manager, and/or city administrator** responsible for executive management.

- **City council or county board of supervisors** responsible for policymaking.
 - **Municipal electric utility, local public utilities commission, or community choice aggregator** responsible for electricity supply and supporting programs.
 - **Public commissions and boards** that include residents and stakeholders in their membership and are focused on mobility, equity, and/or environmental issues.
- **Research tools on strategy formation and site selection**
 - **Consult this Framework**, The Greenlining Institute’s [Mobility Equity Framework](#), the [Towards Equitable Electric Mobility Platform](#), the [Energy Equity Project](#), and other resources to form a local definition of, and principles for, an equitable EV transition.
 - **Provide examples and resources your jurisdiction can** consult to help build the groundwork for initiatives you would like to see in your community:
 - Begin with the actions and strategies included in this Framework and the action plan examples listed in [Table 1](#).
 - Consult the Department of Transportation’s [Site Hosts for Electric Mobility Charging Stations](#) for examples of charging infrastructure initiatives from around the country.
 - Consult the US Department of Energy Alternative Fuels Data Center [case studies and success stories](#) on electric vehicle initiatives to find comprehensive examples of successful initiatives based in cities and regions similar to your own.
 - Check [FHWA’s Innovative Program Delivery Listing of State Legislation](#) to determine which statutory framework can be used for a local project.
 - Consult the Electrification Coalition’s [Electrifying Transportation in Municipalities Policy Toolkit](#) for strategies and examples of city-based initiatives and information on the benefits of electrification, equity considerations, and the importance of community engagement.
 - Consult Atlas Public Policy’s [EV Charging Network Issue Brief](#) for an overview of policy interventions to support the deployment of EV charging infrastructure.
 - Consult the US Department of Transportation’s [Rural Electric Mobility Infrastructure Planning and Funding Toolkit](#) for strategies specific to rural communities.
 - Consult Coltura’s [Gasoline Consumption Map](#) and [Gasoline Data Insights](#) to identify lower-income communities with higher-than-average gasoline burdens who can benefit most from electrification.

- **Consult the national [Justice40 Initiative Mapping Tool](#) and [USEPA EJScreen](#);** state equivalents like [CalEnviroScreen](#), [Colorado EnviroScreen](#), [Connecticut Environmental Justice Communities Map](#), [Illinois EJStart](#), [Maryland EJ Screening Tool](#), [MiEJScreen](#), [New Jersey Overburdened Communities Map](#), [Pennsylvania Environmental Justice Communities Viewer](#), and [Washington Tracking Network](#); and other environmental justice/climate investment platforms to understand where federal- and state-recognized priority communities and funding-eligible areas are located within your jurisdiction. Using these tools can help local governments and communities understand where funds are available to implement infrastructure projects within underserved areas. They will also be necessary to use in consultation with communities to understand their concerns/readiness for additional EVSE infrastructure.⁸

Build or join a coalition

- **Form or join a team of others interested in working on these issues**

- Connect with [members of the Towards Equitable Electric Mobility community of practice](#), which includes over 30 local, regional, and national groups focused on clean mobility, climate justice, racial and social justice, and equity across Colorado, Illinois, Michigan, North Carolina, and Virginia.
- Connect with national EV and mobility equity coalitions that advocate for clean mobility and climate justice. Examples include:
 - [Clean Cities & Communities coalitions](#), a Department of Energy-supported network of local and regional clean transportation partners representing urban, suburban, and rural communities in 46 states and Washington, DC.
 - [Clean Mobility Equity Alliance](#), a peer-to-peer network of program implementers and communities building innovative, equity-oriented EV solutions through the Clean Mobility Options program.
 - [Drive Electric](#), a campaign to electrify global road transportation.
 - [EVNoire](#), a national leader in diversity and equity e-mobility programs.
 - [EV Charging for All Coalition](#), a coalition focused on EV building codes and charging at multifamily housing locations.
 - [Moving Forward Network](#), an advocacy and information-sharing group focused on environmental justice and freight transportation systems.
 - [Rewiring America](#), an electrification strategy group that includes a coalition of local government leaders in 33 states.

- [Southeast Energy Efficiency Alliance](#), which addresses energy-efficient transportation challenges and opportunities in seven Southeastern states.
- National environmental groups with state chapters, such as [Sierra Club](#).
- **Form coalitions that advocate for local officials to develop programs** that connect interested parties to existing resources and educational materials
 - Organizing and toolkit resources include:
 - [ReImagine Our Communities Sustainable Economy Toolkit](#): A toolkit to assist community-based organizations lead stakeholders in a visioning process for their neighborhood, community, and/or region and build a local taskforce to achieve these aims.
 - [Fair Shake Environmental Legal Services' S.M.A.R.T.I.E.S. Strong Benefits Worksheet](#): A worksheet to aid community-based organizations in developing goals that are specific, measurable, actionable, relevant, timebound, intentionally targeted, equitable, and supported by a coalition.
 - [A Guide to Community Benefits in Southwestern Pennsylvania](#): Using examples from Beaver Co., Pennsylvania, the guide outlines processes that can be used for community outreach, visioning, and planning, especially in underserved communities.
 - [The People's Justice 40 Community Benefit Playbook](#): Guidance for BIPOC communities seeking to develop Community Benefits Plans that take advantage of the Justice40 Initiative and the federal bills and state and local investments in climate, the economy, and infrastructure.
 - Topic-specific coalitions could include:
 - A coalition involving housing developers (especially for affordable housing communities), medium to large apartment complex managers, and residents could engage with city officials to ask for support and connection to resources that assist multifamily dwellings with installing and managing EV chargers.
 - See [§D](#) for multifamily residential charging strategies
 - A coalition involving private employers and nonprofit stakeholders could ask for the city to develop resources that assist workplaces in implementing EV infrastructure and programs.
 - See [§H](#) for workplace charging strategies
 - A community coalition could include houses of worship, community centers, and other non-business entities that can host and push for publicly accessible charging.

- See, for example, the [Interfaith Power & Light Cool Congregations](#) program

Contact decision makers

- **Contact the local city council/county board of supervisors, mayor/city manager/county executive, and lead departments** to inquire about the existence of equity-focused EV and mobility plans and efforts to form a local Equitable EV Action Plan. Share this Framework and examples of high-priority strategies that could be appropriate for the jurisdiction.
 - Help your local agencies and elected officials develop actionable community outreach strategies as they think about designing new mobility investments and a comprehensive plan.
 - Suggest the development of a [focus group](#) that is aimed at understanding the community’s current knowledge of EVs, the needs of the community, and the barriers to implementation.
 - Propose high-priority sites for investment in EV and mobility infrastructure. For example, the Indiana Alliance for Equity, Diversity, and Inclusion for Electric Vehicle Infrastructure and Economic Opportunities partnered with Emerald Cities Collaborative and Lawyers for Good Government to produce an [Electric Vehicle Charging Green Book](#) identifying charging locations in Indiana that would benefit underserved communities and businesses and meet federal funding eligibility criteria.
 - Inquire about low-cost, immediate-benefit strategies that local agencies can adopt to get started on mobility electrification like policies to permit running charging cords across the sidewalk (see).
- **Request that your local officials conduct a needs assessment and launch community engagement strategies**
 - See [§A](#) and [§B](#) for specific strategies.
 - Direct officials to resources for implementing community engagement plans during the planning stage or during implementation timelines such as:
 - Clean Mobility Options’ [Community Engagement Guide](#) and [Toolkit](#) which detail types of community engagement events
 - [Greenlining Institute](#) and [Joint Office](#) of Energy and Transportation Guides which cover engagement tips during planning and implementation phases
 - Shared Use Mobility Center [Community Engagement Modules](#)
- **Connect with your jurisdiction’s [Clean Cities and Communities](#) and [C4o Cities](#) officers** or prompt your local leaders to join these and similar coalitions if they are not already members

- **Discuss state and federal funding resources available to local agencies for clean transportation and EV programs.** These include grants, tax credits, and incentives through the Inflation Reduction Act, Bipartisan Infrastructure Law, and the federal Greenhouse Gas Reduction Fund; the EV-charging specific CFI and NEVI programs; and a range of state programs.
 - For example, the Towards Equitable Electric Mobility (TEEM) cohort in North Carolina developed a [two-page summary for local and state policymakers of the federal CFI program](#), including key deadlines, eligibility criteria, project types, and considerations for applicants and stakeholders.
 - See [Getting Started: Local Governments](#) for resources on accessing federal funding that can be shared with local government leaders.

Engage local media to focus on the need for EV and mobility policies

Community members and stakeholders should contact local media outlets to highlight the need for zero-emissions mobility options, including EVs and charging.

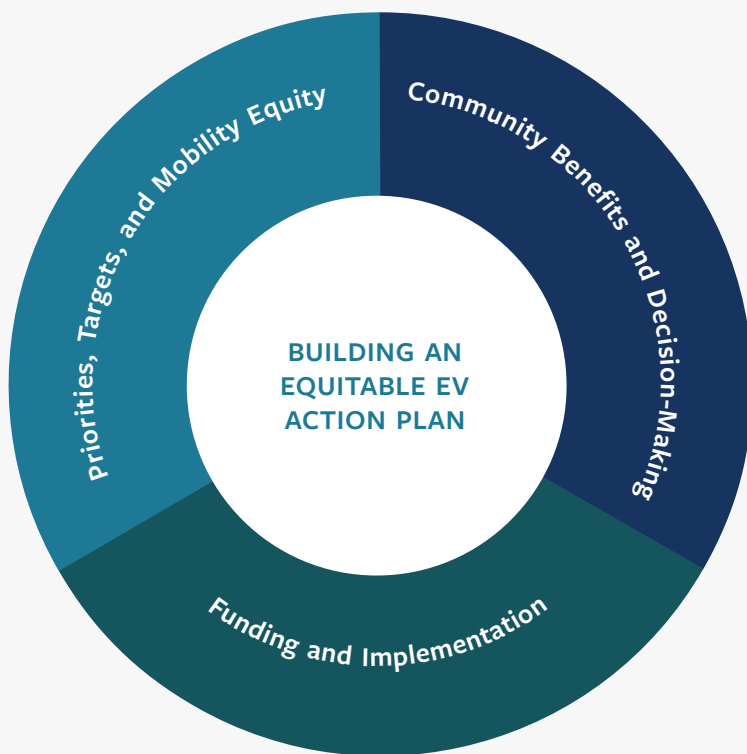
- For example, the nonprofit outlet CalMatters has run a 13-part “[Race to Zero](#)” series detailing state and local challenges facing the EV transition, with a focus on underserved communities in different regions throughout the state.
- The TEEM cohort in Michigan developed a [video series highlighting community members’ perspectives on equitable electric mobility and the EV transition](#).



II. PLAN DEVELOPMENT, ENGAGEMENT, AND IMPLEMENTATION

Part II details strategies crucial to crafting and carrying out an Equitable EV Action Plan: building the teams and targets that will guide the plan; establishing processes for community engagement and participation in planning and investment; and identifying means to fund and implement the work. These strategies will ensure that the infrastructure investments and programs described in Part III are properly aligned with community needs, implemented effectively, and designed equitably.

Figure 4: Building an Equitable EV Action Plan



PRIORITIES, TARGETS, AND MOBILITY EQUITY IN THE LOCAL CONTEXT:

Local policymakers should begin development of an Equitable EV Action Plan by identifying local priorities and targets for an equitable and effective EV transition.

COMMUNITY BENEFITS, ENGAGEMENT, PARTICIPATION, AND DECISION-MAKING:

Engagement with community members, stakeholders, and community-based organizations is crucial to ensure that an Equitable EV Action Plan truly meets the needs of priority populations, promotes mobility equity, and is effectively implemented.

FUNDING AND IMPLEMENTATION:

An effective plan requires a strategy to raise revenue from a range of sources (local, state, federal, private) and a commitment to the staff and agency resources needed to move from plan to investment.

A. PRIORITIES, TARGETS, AND MOBILITY EQUITY IN THE LOCAL CONTEXT

A. PRIORITIES, TARGETS, AND MOBILITY EQUITY IN THE LOCAL CONTEXT	
A.1	Establish goals and targets of the EV transition
A.2	Define and establish goals for mobility/EV equity
A.3	Conduct mapping and outreach exercises to identify priority communities
A.4	Conduct community-informed mobility needs assessment(s)
A.5	Establish metrics to track progress and implementation
A.6	Establish dedicated local government roles to lead Action Plan development
A.7	Catalog existing local plans and resources

Broadly speaking, the zero-emissions vehicle transition is being driven by a combination of state and federal regulatory and incentive programs (including, in many states, a target date for the phaseout of internal combustion engine sales) and market responses to those programs and related technological developments. *The role of local governments, in an Equitable EV Action Plan, is to craft policy, planning, and investment strategies that ensure equitable access as the transition occurs.*

To provide scope and context for the strategies that will constitute the majority of an Equitable EV Action Plan, local leaders should first identify local priorities and targets for an equitable and just EV transition; conduct jurisdiction-wide technical and community assessments of vehicle and infrastructure needs; and establish the institutional framework to develop and carry out a plan. Many of these elements will build on and link to existing local plans such as climate action plans, transit and transportation plans, community and economic development plans, and transportation- and climate-related components of general, comprehensive, or master plans.

Local governments face budget constraints and competing demands, from housing to education to public safety, that limit their ability to take on ambitious electrification programs. But a subset of non-infrastructure strategies that are fully within local government authority and purview will be key building blocks for a comprehensive approach to local EV and mobility policy, including building departmental functions to manage and coordinate EV and zero-emissions mobility policy and addressing permitting and procurement barriers to EV infrastructure deployment.

DEFINING EV EQUITY

There is no single model for an Equitable EV Action Plan; this framework aims to facilitate creation of local plans appropriate to their communities. In this context, defining equity for the EV transition is crucial; it is also highly specific to local geographies, demographics, and needs. Building on [The Greenlining Institute's definition](#) of mobility equity, **this overview defines EV equity as an electric vehicle transition that increases access to community-appropriate mobility options and affordable vehicle charging, reduces air pollution, and enhances economic opportunity for priority populations (including but not limited to underserved communities and low-income communities of color).** This definition should also embrace principles of mobility justice that consider the history of transportation disinvestment in priority communities and local governments' potential to promote economic development and wealth-building through mobility investments.

Operationalizing equity in the EV transition will require embedding equity throughout the goals, processes, investments, outcomes, and metrics that constitute an action plan. Developing a local definition of EV equity will be a key first step in building an Equitable EV Action Plan, and the definition will expand and take shape over time through the steps outlined in this framework.

The initial stage of plan development is also when program leaders can craft a definition of and metrics for evaluating EV equity that will shape the local transition. This should include direct engagement with communities and stakeholders to:

- Identify guiding mobility equity principles
- Locate highest-priority people, communities, and sites for proactive mobility investment and policy support
- Conduct mobility needs assessments (considering, for example, where mobility access gaps currently persist, or the balance between fewer fast chargers and more ubiquitous Level 1 and 2 chargers)
- Catalog local initiatives and processes that can or should incorporate EV equity strategies (reducing the need to create new initiatives and processes) and recognize local histories, including injustices in past mobility investments
- As local leaders begin to craft the Action Plan, they should deliberately plan community-involved elements that deliver the appropriate level of public participation, as detailed in Figure 4 on the next page.

WHO IS “PRIORITY”?

EV Equity focuses on priority populations including undeserved communities, lower-income communities of color, and communities that have suffered from historical disinvestment in transportation. This definition is mobility needs-driven and context-specific, and it will include a range of people in different areas. Groups that merit particular focus in program design may include, for example


People with disabilities: EV charging and new mobility infrastructure should be designed to meet the needs of riders with disabilities, including in vehicle choice, charging access, and parking/curb access. The [US Access Board’s Design Guidelines](#) are a helpful starting point. See [§1](#) for strategies.

Rural residents and farmworkers: These communities have diverse vehicle needs and may face substantial barriers to electrifying. [Green Raiteros](#) is an example of EV carshare serving rural communities. [CalVans](#), a public vanpool service primarily for agriculture workers and communities, is electrifying its fleet.

Seniors: Seniors often rely on paratransit and other mobility services which may be slow to electrify. [St. Louis Vehicle Electrification Rides for Seniors](#) is one example of how local senior ride services are making it happen.

Students: Sacramento’s [Green Tech Mobility Hub](#) was designed to serve local students’ mobility needs through ride-share, connections to campus, and more.

Figure 4: Ensuring Public Participation through Equitable EV Action Plan Strategies

INCREASING IMPACT ON THE DECISION 					
	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
PUBLIC PARTICIPATION GOAL	To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
EQUITABLE EVSE INVESTMENT LINKAGES	Education and community outreach. See §B.5, §B.8.	Community mobility needs assessments. See §A.4.	Community engagement and feedback processes. See §B.3, §B.4.	Community oversight council structures. See §E.6.	Participatory budgeting processes. See §B.2.

Source: Adapted from the *International Association for Public Participation (IAP2) spectrum of public participation*.

While each local context presents unique needs and opportunities, an Equitable EV Action Plan should identify appropriate strategies to center community voices and decision-making power throughout the process.⁹ It is important to note that strategies focused on government coordination and goal-setting are only a first step toward concrete, equity-focused investment. An Equitable EV Action Plan will hinge on the strategies that secure zero-emission mobility access for all.

A.1 ESTABLISH GOALS AND TARGETS OF EV TRANSITION	
<i>Goals may include:</i>	
i.	Mobility, air quality, economic development, quality-of-life, and climate benefits
ii.	Mode shift transitions (automobiles to transit/shared/active transportation), VMT reduction targets, gasoline reduction targets, and congestion/safety/curb management alongside vehicle electrification (target date for full shift to EVs)
iii.	Emphasis on people-centered elements of the transition (e.g., workforce shifts or occupational security and capacities)
iv.	Links to established state electrification targets and programs (e.g., Colorado Executive Order B 2019 002 , which sets state targets of increasing market share of light duty electric vehicles to nearly 100% by 2050 and expanding access to the transition among all Coloradans and businesses)
v.	Links to existing transit-oriented development policies and vehicle trip reduction strategies where possible (e.g., San Diego’s Complete Communities/Mobility Choices program, which incentivizes transit-oriented housing development and directs funds to transit and mobility equity programs)
vi.	Consultation with a dedicated advisory committee or with focus groups composed of directly impacted stakeholders (see SB)
Examples	<p><i>Local plans</i></p> <ul style="list-style-type: none"> • Ann Arbor Climate Action Plan, MI Goals for vehicle electrification: “By 2030, 50% of all vehicle miles traveled are in electric vehicles.” “10% of all public and private parking spaces are equipped with Level 2 EV chargers and 2% with Direct Current Fast Chargers (DCFCs).” • Austin Climate Equity Plan, TX Transportation Goal 1: “By 2030, 40% of total vehicle miles traveled in Austin are electrified, and electric vehicle ownership is culturally, geographically, and economically diverse. This translates to approximately 460,000 electric vehicles on the road.” • Menlo Park Climate Action Plan, CA Includes action with sub-descriptions to set and promote goals for increasing EV use and decreasing gasoline sales. • Michigan Future Mobility Plan, MI Defines mobility and sets state targets for mobility investment, workforce development, and economic development. • Oakland Equitable Climate Action Plan, CA Transportation & Land Use Goals: “To reduce the carbon and pollution impacts of vehicles, the City must help as many Oaklanders as possible to move around Oakland without cars. Active transportation (walking and biking) and public transportation are the top priorities. For those who must use vehicles (including cars, trucks, buses, and delivery vehicles), electrification is the key.”)

A.1 ESTABLISH GOALS AND TARGETS OF EV TRANSITION

Examples (Continued)	<ul style="list-style-type: none"> San Francisco Climate Action Plan, CA Transportation & Land Use Goals: “By 2030, 80% of trips taken by low-carbon modes such as walking, biking, transit, and shared EVs. By 2030, increase vehicle electrification to at least 25% of all registered private vehicles, and to 100% of all vehicles by 2040.” <p><i>Examples: State plans</i></p> <ul style="list-style-type: none"> Michigan Future Mobility Plan, MI Defines mobility and sets state targets for mobility investment, workforce development, and economic development. Washington State Transportation Electrification Strategy, WA Identifies anticipated barriers and priority policies to electrify statewide transportation.
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A.2 DEFINE AND ESTABLISH GOALS FOR MOBILITY/EV EQUITY

Definition and goals should include/involve:

i.	Definition of mobility equity in the local context , identification of priority populations/underserved communities, and assessment of local barriers to vehicle, mobility, and infrastructure access
ii.	Identification of equity goals and outcomes (participation/process and investment, including top-priority strategies among action plan options, or a target percentage of EV infrastructure to be deployed in low-income/high-pollution neighborhoods)
iii.	Identification of local residents and communities in need of proactive policy support for the EV transition (e.g., lower-income communities, low-transit-access communities, residents with disabilities, families spending the biggest share of household income on gasoline)
iv.	Conducting or establishing a racial equity impact assessment program for major infrastructure investments
v.	Archiving community mobility and disinvestment histories
vi.	Providing technical assistance and creative communication tools for community self-assessment
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> Detroit EV Charging Public Engagement Platform, MI City EV program website inviting community members to pinpoint preferred locations for charging investment via interactive map tool, accessible online and used in community engagement sessions. Seattle Racial Equity Toolkit, WA Framework for assessment of equity impacts of policies and programs including community engagement elements. Washington, DC Racial Equity Impact Assessments, DC City Council Office of Racial Equity conducts Racial Equity Impact Assessments (REIAs) for most proposed legislation, which assess how a bill would operate in practice, examine the inclusion of different groups in the bill's development, and determine whether the bill would impact particular groups or racial equity.

A.2 DEFINE AND ESTABLISH GOALS FOR MOBILITY/EV EQUITY

Examples (Continued)

Local plans

- [Oakland ZEV Action Plan, CA](#)
Introduction: “ZEVs can be a powerful tool for social equity. They reduce the pollution associated with private automobile use that disproportionately impacts frontline communities, and lower lifetime driving expenses thanks to reduced fueling and maintenance costs.”
- [San Francisco Climate Action Plan, CA](#)
CAP “Lenses”: “San Francisco views climate action through four complementary focus areas, or ‘lenses,’ which have identified critical issues and shaped proposed strategies for future implementation. These considerations must be advanced to the extent possible to maximize benefits for the entire community, and with a special eye toward reducing burdens on marginalized communities.” These lenses are: Racial and Social Equity, Economic Recovery and Just Transition, Protecting Public Health, and Resilience.
- [Seattle Transportation Equity Framework, CA](#)
City mobility policy document formed through collaboration between transportation department and community-based working group, including eight equity-focused strategies based on community engagement and decision-making, transparency, and accountability.

Expert and advocate goals and plans

- [Coalition Helping America Rebuild and Go Electric \(CHARGE\), USA](#)
Coalition of “transportation, industry, environmental, health, equity, and civic organizations” that collectively support a set of [principles](#) for zero-emission transportation policies and investments.
- [Energy Equity Project Framework, USA](#)
“Guide to measuring and advancing energy equity.” States that “energy equity centers the voices of frontline communities in energy planning and decision-making and ensures the fair distribution of clean energy benefits and ownership”
- [Greenlining Institute Mobility Equity Framework, USA](#)
“Mobility Equity: a transportation system that increases access to high quality mobility options, reduces air pollution, and enhances economic opportunity in low-income communities of color.”
- [Los Angeles Our Skid Row, CA](#)
Community visioning project designed to communicate mobility and resource investment needs and priorities to city leadership.
- [Philadelphia Community Futures Lab, PA](#)
Philadelphia-based project examining community impact of redevelopment and displacement and examining future infrastructure planning.
- [Resources for the Future Equity in Electric Vehicle Infrastructure Report, USA](#)
Creates a framework for equitable EV charging expansion, and identifies measures to reduce—and avoid exacerbating—existing inequities in charging station investment through four principles of justice.

A.3 CONDUCT MAPPING AND OUTREACH EXERCISES TO IDENTIFY PRIORITY COMMUNITIES

most in need of proactive planning, policy and financial support, and publicly accessible infrastructure

Exercises should:

i.	Begin with identification of areas of greatest need based on local environmental/air quality and demographic criteria (e.g., expanding and modifying mapping tools such as EJScreen , the Climate and Economic Justice Screening Tool , the EV Charging Justice40 Map , and the National Equity Atlas)
ii.	Where available, use local and state-specific mapping tools , such as those cataloged by US EPA and in the Environmental Justice Tool Inventory
iii.	Include iterative review and feedback from city stakeholders and communities to refine assessment of needs, opportunities, and community-preferred site
iv.	Include evaluation of competing and preferred mobility uses of public property, curbside, and public right-of-way (e.g., where bike/pedestrian/transit space is preferred to charging infrastructure)
v.	Include identification of neighborhoods that face grid capacity limitations, host high density of multifamily housing, and need improvements to telecom networks such as fiber, Ethernet, cellular, and Wi-Fi that support mobility infrastructure
vi.	Emphasize replacing the oldest vehicles first , which offers the greatest cost and air quality benefits for priority communities
vii.	Focus on gasoline “superusers” who use (and spend the most on) gasoline, often because they have long commutes or live in rural areas, and stand to benefit the most from more efficient, lower-cost fueling technology while delivering the greatest emissions reductions
Examples	<p><i>Local EJ and climate maps</i></p> <ul style="list-style-type: none"> • Oakland EJ Communities Map/General Plan Element, CA Map building on CalEnviroScreen identifying “low-income areas disproportionately impacted by pollution, socioeconomic vulnerability, and adverse health impacts” that are “eligible for special considerations and investments, and are recognized and uplifted in order to equitably allocate resources.” • San Diego Climate Equity Index, CA City map tool that scores census tracts across 41 environmental risk, demographic, and transportation/energy-related criteria, built on community input. • San Francisco EJ Communities Map/Framework, CA City-specific map tool based on CalEnviroScreen but incorporating more local pollution and demographic data and reflecting public comments to identify city areas with higher pollution and that are predominantly low-income. <p><i>State EV and equity data tools</i></p> <ul style="list-style-type: none"> • Colorado EV Equity Dashboard, CO CO map showing EV registration trends and locations of electrification program investments. Links to different views that provide statewide maps of key data points including equity-based socioeconomic characteristics and utility rates, among others. Users can filter data and find location-specific information using navigation features.

A.3 CONDUCT MAPPING AND OUTREACH EXERCISES TO IDENTIFY PRIORITY COMMUNITIES

most in need of proactive planning, policy and financial support, and publicly accessible infrastructure

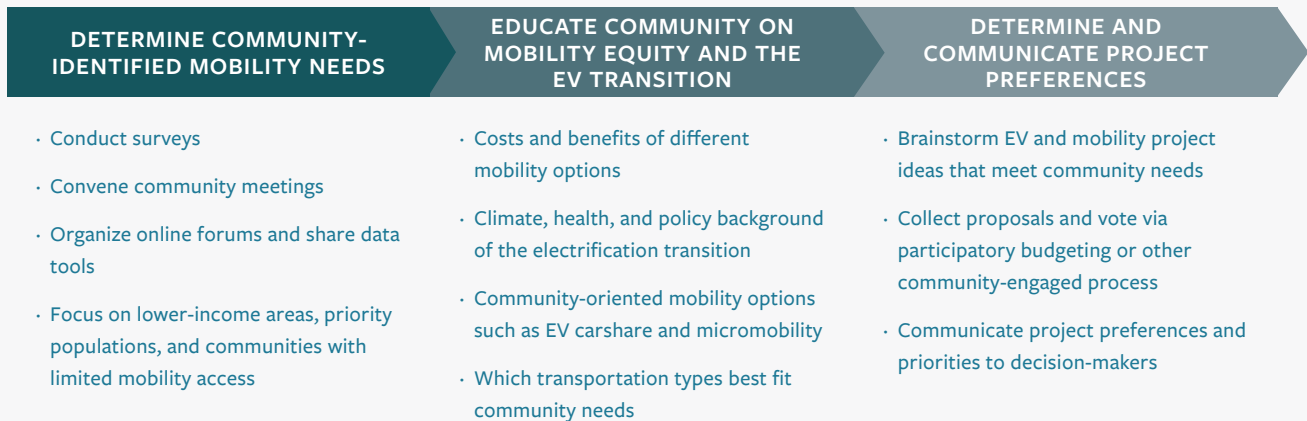
Examples (Continued)	<ul style="list-style-type: none"> • Colorado EV Prioritization Tool, CO Includes the data in the CO EV Equity Dashboard and allows that data to be used to prioritize spending for specific programs. • Indiana EV Charging Green Book, CO Collaboration among local and state racial justice groups, faith leaders, and national nonprofits identifying NEVI- and CFI-eligible charging sites that would benefit underserved communities and businesses. <p><i>Other tools</i></p> <ul style="list-style-type: none"> • Coltura’s Gasoline Consumption Map and Gasoline Data Insights provide census block group-level data on concentrations of lower-income, high-gasoline-consumption drivers and prospective fuel savings. USA
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A.4 CONDUCT COMMUNITY-INFORMED MOBILITY NEEDS ASSESSMENT(S)

Assessments should:

i.	Solicit and center community input and ideas on mobility investment priorities
ii.	<p>Include public education to inform public input, such as information on:</p> <ul style="list-style-type: none"> • EV basics and benefits (including public health benefits of the transition away from fossil fuels and the public health costs of burning them) • Charging and battery types • Vehicle costs, rebates/incentives, and charging/maintenance costs • Shared and micromobility options • The context of state and local electrification regulations/targets, if any
iii.	Evaluate mobility-adjacent needs (e.g., medical conditions, recreational activities, physical disabilities, etc.) to identify communities’ optimal vehicle types, travel routes/frequencies, and other mobility considerations
Examples	<p><i>Local plans</i></p> <ul style="list-style-type: none"> • Austin Climate Action Plan, TX Transportation Electrification Strategy 1: “Complete an Electric Vehicle Community Needs Assessment to identify the intersections of mobility challenges, transportation electrification, and racial and economic justice.” • Oakland ZEV Action Plan, CA Community workshops co-hosted with CBOs included mobility needs assessments that informed plan contents. <p><i>Other resources</i></p> <ul style="list-style-type: none"> • Clean Mobility Options Needs Assessment Implementation Toolkit, USA Resources for zero-emissions mobility grant program awardees to carry out a meaningful, community-led needs assessment to identify residents’ transportation gaps and preferred solutions. • Greenlining Institute Best Practices for Mobility Needs Assessments, USA Case study-informed recommendations, including building deep relationships with CBOs, taking multi-sector approaches, compensating community members, and collecting feedback on results.

Figure 5: Crafting a Community Mobility Needs Assessment



Source: Adapted from The Greenlining Institute, [Mobility Equity Framework](#).

A.5 ESTABLISH METRICS TO TRACK PROGRESS AND IMPLEMENTATION	
<i>Metrics should:</i>	
i.	Support and build on targets for public, active, and shared mobility adoption , recognizing the primacy of these modes in a long-term sustainable transportation plan
ii.	Involve collaboration with equity/EJ organizations and reference to established state and federal metrics
iii.	<p>Include data on:</p> <ul style="list-style-type: none"> • EV ownership, public charging infrastructure availability, home charging locations and types, medium- and heavy-duty/fleet needs, grid capacity, and individual mobility—citywide and in priority communities • Location of priority communities (see mapping exercises discussed in §A.3) • Vehicle acquisition and charger installation targets • Analysis of charging rates per kilowatt-hour provided by load-serving entities at homes and by private EVSE developers in public
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • San Francisco Climate Action Plan implementation dashboard, CA Tracks progress in implementing the actions and strategies outlined in the city climate action plan. <p><i>Local plans</i></p> <ul style="list-style-type: none"> • City/county EV roadmaps and readiness blueprints, USA Many of the local EV action plan documents highlighted in Table 1 include examples of EV and mobility metric-setting and data-tracking strategies.

A.5 ESTABLISH METRICS TO TRACK PROGRESS AND IMPLEMENTATION

Examples (Continued)	<p><i>State examples</i></p> <p>Many states with EV rebate programs publish application and award data, including:</p> <ul style="list-style-type: none"> • California Clean Vehicle Rebate Project rebate data, CA • Colorado EV Equity Dashboard, CO • Illinois EPA Electric Vehicle Rebate Program rebate data, IL
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A.6 ESTABLISH DEDICATED LOCAL GOVERNMENT ROLES TO LEAD ACTION PLAN DEVELOPMENT and dedicated entities to lead implementation

Roles and responsibilities should include:

i.	New or newly assigned staff at transportation and planning departments and/or interagency working group to oversee planning, permitting, implementation, and monitoring
ii.	Dedicated grant-writing capacity , engagement with county/regional/state entities (i.e., MPOs) that provide grant funding, and community engagement/relationship management (instead of one-off consultant engagements)
iii.	Working groups with community and/or stakeholder representatives or reporting to community oversight councils
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Ann Arbor Resolution R-17-237, MI City Council Resolution “to update and revive the City’s Green Fleets Policy” among other functions designated a Green Fleets Team – comprised of representatives from various administrative units – to develop a plan for electrifying the City Fleet by 2025. • San Francisco EV Ombudsperson, CA The city established the role of EV ombudsperson from existing transportation and sustainability staff to serve as a central point of contact for EV charging service providers, boost public awareness, and remove institutional barriers. <p><i>Other resources</i></p> <ul style="list-style-type: none"> • C4o Climate Action and Inflation Reduction Act Guide for Local Government Leaders, USA Outlines strategic roles that municipal leaders can play in maximizing local benefits associated with federal climate legislation, while minimizing the real and potential harms posed to frontline communities exposed to fossil fuel infrastructure and development.

A.7 CATALOG EXISTING LOCAL PLANS AND RESOURCES

that overlap with or advance EV and mobility equity efforts

This exercise should include:

i.	Assessment of climate action plans , general plan (i.e., comprehensive plan or master plan) elements, permit streamlining programs, pilots, and local transportation programs and their promotion or inhibition of e-mobility investment
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A.7 CATALOG EXISTING LOCAL PLANS AND RESOURCES that overlap with or advance EV and mobility equity efforts	
ii.	Review of all potentially relevant local public departments (e.g., transportation, public works, planning, city manager, city council/board of supervisors, mayor’s office etc.) and any interagency teams to identify all staff/teams working on topics related to EVs and charging infrastructure and to identify gaps
iii.	Identification of any local incentive programs (e.g., Fresno Drives Electric , Equiticity’s Mobility Opportunities Fund), pilots (e.g., Forth’s Affordable Mobility Platform in 8 states), grants obtained, and state programs relevant to local efforts (e.g., Clean Cars for All , Michigan DOT’s Equitable Mobility Challenge , and Southeast Michigan COG Planning Assistance Program)
iv.	Outreach to neighboring/peer cities with advanced EV and mobility policy frameworks and trainings for local officials and staff on key concepts (see Getting Started: Local Governments)
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Contra Costa Co. Transportation Electrification Coordination, CA Countywide group of staff from cities, towns, county departments, energy and transportation agencies that meet monthly to coordinate on new electrification programs and document existing plans/efforts. <p><i>Local plans</i></p> <ul style="list-style-type: none"> • City/county EV roadmaps and readiness blueprints, USA Many of the local EV action plan documents highlighted in Table 1 include catalogs of existing plans and policies relevant to new EV work. • Oakland ZEV Action Plan, CA City policy timeline: Catalogs all city climate and transportation programs/policies over the past two decades.
Examples (Continued)	<p><i>State examples</i></p> <ul style="list-style-type: none"> • Rhode Island Department of Transportation Carbon Reduction Strategy, RI Includes a section summarizing current state policies and plans supporting greenhouse gas (GHG) emissions reduction.

Advancing Equity through Plan Initiation

Defining equity in the context of EV and mobility infrastructure is a crucial first step toward developing a locally appropriate, effective action plan that supports communities across transportation, public health, and economic development needs.

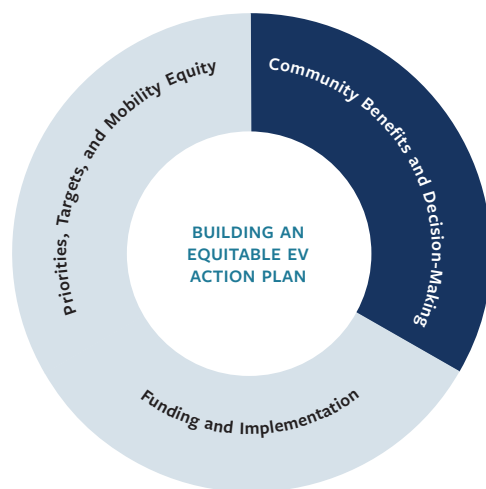
- The federal [EJScreen](#) and [Climate and Economic Justice Screening Tool](#) and state equivalents such as [CalEnviroScreen](#), [Colorado EnviroScreen](#), [Illinois EJStart](#), and [MiEJScreen](#) provide key baseline information on communities most vulnerable to environmental harms and most in need of proactive climate policy support and investment—but most cities and counties should refine and build on these resources with local knowledge and criteria. Many cities such as [San Francisco](#) and [Oakland](#) are developing EJ maps and indices

tailored to local environmental risks and community demographics. See the [EJ Tool Inventory](#) and [US EPA's map tool page](#) for a list of state and local EJ maps, datasets, and tools across the country.

- Engaging directly with community-based organizations and residents to identify mobility needs is a key part of establishing a shared vision of EV Equity and embedding it throughout the process and implementation of an Action Plan.
- The Greenlining Institute's [Mobility Equity Framework](#) details a process of community needs assessments, mobility analysis, and decision-making that may guide these steps. See §B for more actions related to this process.

B. COMMUNITY BENEFITS, ENGAGEMENT, PARTICIPATION, AND DECISION-MAKING

B. COMMUNITY BENEFITS, ENGAGEMENT, PARTICIPATION, AND DECISION-MAKING	
B.1	Create a community and equity oversight committee or advisory board
B.2	Conduct participatory budgeting processes
B.3	Promote inclusive community engagement practices and compensate participation
B.4	Conduct regular community engagement sessions
B.5	Host promotional events and share EV information at existing community events
B.6	Consider community benefits mechanisms or policies
B.7	Host a workforce marketplace and conduct events sharing EV-related economic opportunities
B.8	Develop a local website that details the EV plan and serves as a portal to programs
B.9	Include local business procurement and hiring preferences in public charging investments
B.10	Integrate mobility initiatives with training programs
B.11	Emphasize locally appropriate mobility equity best practices



Zero-emissions mobility and EV programs can not only improve air quality and increase access to mobility, but also grow capacity, catalyze economic opportunity, and promote wealth-building in underserved communities—if they are designed and executed with equitable principles in mind.

Engagement with community members, stakeholders, and community-based organizations is crucial to ensure that an Equitable EV Action Plan truly meets the needs of priority populations, promotes mobility equity, and is effectively implemented. The San Francisco Climate Action Plan, for example, notes that “[a]ddressing climate change will require ongoing engagement with the entire community”¹⁰ and that “[o]utreach and engagement will be imperative to success.”¹¹ To truly promote equity in planning and implementation, engagement should be accompanied by a community role in decision-making, from site selection to project design.

Local governments building an Equitable EV Action Plan must begin by identifying community needs (across areas such as mobility, EV deployment, and community/economic development) and should include strategies to center community input and goals throughout plan development and implementation.

In *Clean Mobility Equity: A Playbook*, experts at The Greenlining Institute explain the pitfalls of past approaches and the ways in which meaningful engagement goes beyond typical consultation with communities: “traditional transportation planning and

decision-making generally occur behind closed doors, with only superficial community engagement, which leads to a prescriptive approach that does not meet community-identified needs.”¹² Local government leaders should engage community members and prioritize community input at each stage of an Action Plan project, starting with the project selection and planning process, in ways that prioritize co-creation and shared decision-making, instead of “check the box” engagement.

In addition, providing technical assistance and education to communities before asking for community input on projects is also a critical foundation for seeking community feedback. Meaningful engagement includes early consultation and needs assessments, input on project selection and design, involvement in investment decision-making and participatory budgeting processes, and development of strategies to address gentrification and displacement. Where community organizations are already overburdened, local governments should partner with existing networks and committees.

In general, The Greenlining Institute recommends operationalizing an equity approach for any mobility program as follows:

Figure 6: Operationalizing Equity in Mobility Programs



EMBED EQUITY

in the mission, vision, values, and design of a project, such as through multi-sector approaches



ENGAGE COMMUNITY MEMBERS

as planners, implementers, and project evaluators



SECURE EQUITABLE OUTCOMES

by ensuring that project goals align with community mobility and access needs, deliver climate resiliency, and support community economic development and wealth-building



CAPTURE EQUITY METRICS

and evaluate them to assess the equity success of a project

Source: Adapted from The Greenlining Institute, Clean Mobility Equity: A Playbook.

Such an approach will promote local governments’ ability to deliver useful and equitable investments and support community autonomy in mobility developments, promoting not just access to zero-emissions transportation but also community benefits more broadly. Local workforce development and outreach efforts at the outset of the Action Plan process are also crucial to inform the community that they can participate in the economic opportunity of the transition.

B.1 CREATE A COMMUNITY AND EQUITY OVERSIGHT COMMITTEE OR ADVISORY BOARD whose members have roles in both action plan development and implementation, or tap into existing groups and committees if individuals are already overburdened	
<i>Committee/board membership and activities should include:</i>	
i.	Community-based organizations and local residents from diverse backgrounds and lived experiences, local businesses, and environmental/EJ advocates, among others
ii.	Appropriate compensation for community experts’ time, knowledge, and participation
iii.	Regular meetings throughout the planning, implementation, and monitoring stages , including playing a formal role in the action plan development process, siting, and investment prioritization
iv.	Engagement in democratic decision-making processes within council leadership and beyond through the facilitation of equity-oriented engagement with the wider community, including avenues for ongoing community monitoring and feedback
v.	Participatory budgeting exercises (see §B.2)
vi.	Ongoing reporting from local government staff on outreach and engagement efforts and evaluation of local government’s outreach & engagement actions, policies, and transportation plans
vii.	Organizing, facilitating, and/or negotiating a Community Benefits Agreement (CBA) with a coalition of community-based organizations if applicable and aligned with community leadership priorities
viii.	A well defined scope and a substantial degree of voting and/or governing authority over action plan development and priorities
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • BlueLA CBO Steering Committee, CA Steering Committee composed of six local CBOs that lead community engagement and outreach efforts for the program. Organizations include the Koreatown Immigrant Workers Alliance, the Salvadoran American Leadership and Education Fund, TRUST South LA, People for Mobility Justice, the Thai Community Development Center and Ciclavia. • Advisory Groups for the City of Portland’s Clean Energy Community Benefits Fund, OR Advisory Groups include bodies such as the Equitable Tree Canopy Workgroup, which is comprised of agency staff, community stakeholders, and others. • Transform Fresno Steering Committee and Outreach and Oversight Committee, CA The City of Fresno established a community-driven Steering Committee to engage the community in developing proposal areas for the implementation of its TCC grant. The Steering Committee was succeeded by the Outreach and Oversight Committee, a council of community members overseeing plan implementation.

B.1 CREATE A COMMUNITY AND EQUITY OVERSIGHT COMMITTEE OR ADVISORY BOARD

whose members have roles in both action plan development and implementation, or tap into existing groups and committees if individuals are already overburdened

Examples (Continued)	<p><i>Other resources</i></p> <ul style="list-style-type: none">• CLEE Funding San Francisco Climate Action report, CA Equity oversight board recommendation: “Create an independent community council to provide equity oversight of CAP investment, implementation, and revenue generation mechanisms with representatives from City government and community, climate, environmental justice, labor, and small business groups” including decision-making authority and participation compensation.• Seattle Transportation Equity Framework, WA The Seattle Department of Transportation created a Transportation Equity Workgroup, composed of ten compensated community members who had personal and professional affiliations with BIPOC and underserved communities. The workgroup contributed equity recommendations to the city’s Transportation Equity Framework.
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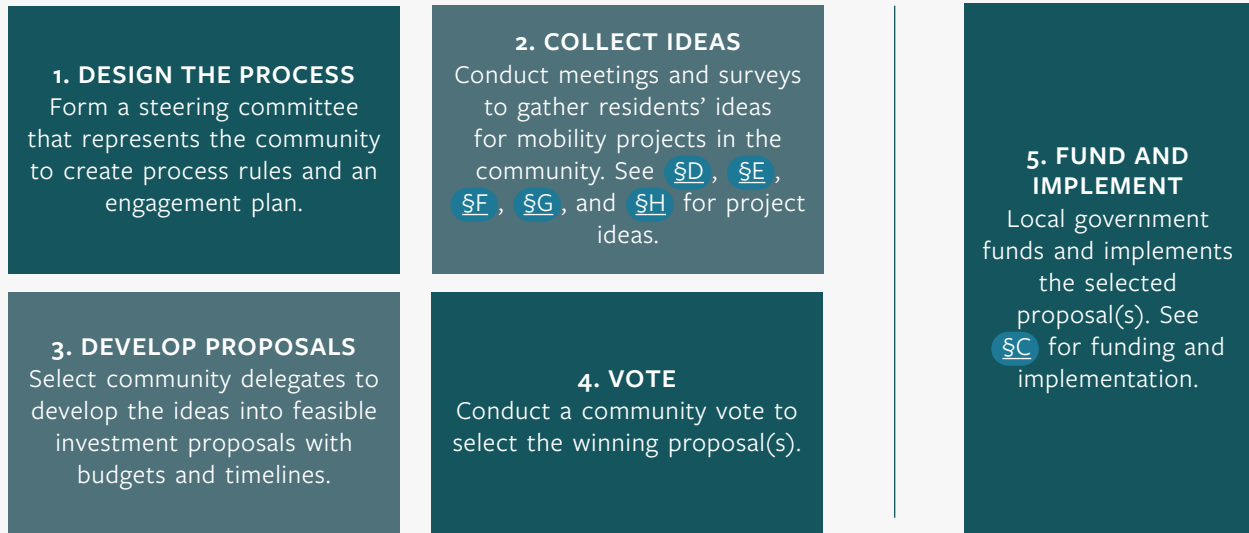
B.2 CONDUCT PARTICIPATORY BUDGETING PROCESSES

to select community priorities for portions of infrastructure investment throughout the plan’s implementation

Considerations:

i.	<p>Participatory budgeting is a democratic budgetary mechanism that allocates a portion of public spending to community-wide voting processes, often facilitated by a community oversight committee. It may be utilized in the project initiation stage to select investment areas and locations, as well as throughout project implementation to consult community members on project direction, development, and implementation.</p>
Examples	<p><i>City-led participatory budgeting</i></p> <ul style="list-style-type: none">• Cambridge Participatory Budgeting, MA City dedicates a portion of budget to participatory process for infrastructure/capital projects that benefit the public through one-time expenditures that cost \$1 million or less.• New York City Participatory Budgeting, NY Annual process dedicating millions of dollars to physical infrastructure projects through participatory processes at the city council district level.• Transform Fresno Participatory Budgeting Process, CA Fresno used a participatory budgeting process to develop proposals for its \$66.5 million grant submission to the state Transformative Climate Communities (TCC) program. The process was open to all residents, employees or property owners in the eligible neighborhoods and formed the largest participatory budgeting process ever conducted in the U.S. <p><i>Nonprofit-led participatory budgeting</i></p> <ul style="list-style-type: none">• InvestDetroit Strategic Neighborhood Fund, MI Nonprofit-led participatory process for infrastructure investments in community projects improving a local park and surroundings, with process and engagement recommendations.• San Diego Southeastern Community Mobility Roadmap, CA Community-driven roadmap developed with advocacy organizations and CBOs through participatory workshops and budgeting process, resulting in a \$1.5 million proposal in city budget for two community-preferred projects and \$100,000 to invest in participatory budgeting-selected project.

Figure 7: Implementing a Participatory Budgeting Process



Source: Adapted from City of Cambridge and City of Seattle.

B.3 PROMOTE INCLUSIVE COMMUNITY ENGAGEMENT PRACTICES AND COMPENSATE PARTICIPATION

in meetings, plan development, feedback, and oversight processes

Inclusive practices should include:

i.	Attending and presenting at existing community meetings and events , or convening new meetings in trusted places and at times when working residents can participate, providing significant advance notice for meetings, and ensuring that food and childcare are available for participants
ii.	Creating accessible, translated meeting materials , and providing interpretation services or conducting sessions in multiple languages in communities where English is not the primary language
iii.	Establishing shared principles/community agreements to promote inclusive, equitable communication and participation
iv.	Providing compensation for participation that may encompass the following provisions: <ul style="list-style-type: none"> • Stipends for participating in meetings, completing surveys, and reviewing proposals • Meal and transportation subsidies and childcare services for residents to participate in community sessions • Direct compensation by local agencies or partnerships with existing community groups

B.3 PROMOTE INCLUSIVE COMMUNITY ENGAGEMENT PRACTICES AND COMPENSATE PARTICIPATION

in meetings, plan development, feedback, and oversight processes

Examples	<p><i>Inclusive practice guides</i></p> <ul style="list-style-type: none"> CEJA and Placeworks Senate Bill 1000 Implementation Toolkit, CA Strategy 4.1: “The...planning process can promote inclusive and meaningful participation by all groups by ensuring that meetings are accessible in terms of language, time and location. . . and by using facilitation methods that support and encourage all participants’ contributions, especially those coming from impacted community groups.” “Maintaining an adequate budget for meaningful community engagement is important for promoting equitable access and achieving high-quality public participation. Activities to be included in a budget include resources such as city/county staff time, contractor fees, outreach workers, meeting materials, food, audio-visual equipment, translation and interpretation services, translation equipment, transportation costs, child care, and building maintenance services.” Greenlining Clean Mobility Equity Playbook, USA Best practice 4.iii: “Partner with and pay community groups to design a targeted, grassroots approach to outreach and marketing and coordinate with existing community events and services.” Seattle Transportation Equity Framework, WA The city’s framework “strongly recommends” financial compensation for community expertise, extending “to any advisory role requested” and “negotiated in consultation and collaboration with the Office of Equity and Economic Inclusion.”
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B.4 CONDUCT REGULAR COMMUNITY ENGAGEMENT SESSIONS

during plan preparation and implementation to inform residents and gather input and feedback

<i>Engagement should include:</i>	
i.	Dedicated, funded work with relevant CBOs to inform strategy selection/prioritization, build public support, and promote program accountability
ii.	Needs assessments to match EV/mobility investments with residents’ travel needs (see SA.4)
iii.	Opportunities to discuss concerns around gentrification and displacement associated with zero-emissions mobility investment
iv.	Report back on project equity metrics and tracking
v.	Inclusive engagement principles , e.g. those outlined in C40 Knowledge Hub’s Inclusive Community Engagement Toolkit
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> Chicago EV and Mobility Infrastructure Framework, IL Framework development included surveys for general public and commercial fleet owners and multiple public meetings. Clean Cities and Communities Energy and Environmental Justice Initiative, USA Community-first transportation planning effort across clean cities coalitions nationwide. Oakland ZEV Action Plan, CA Appendix A: Details outreach and workshop process led by 3 CBOs to identify barriers and strategies that informed plan contents.

B.4 CONDUCT REGULAR COMMUNITY ENGAGEMENT SESSIONS

during plan preparation and implementation to inform residents and gather input and feedback

Examples (Continued)	<ul style="list-style-type: none"> • San Diego Southeastern Community Mobility Roadmap, CA Included workshops with four participating CBOs and community pop-ups, listening sessions, and feedback workshops.
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B.5 HOST PROMOTIONAL EVENTS AND SHARE EV INFORMATION AT EXISTING COMMUNITY EVENTS

Possible venues/events include:

i.	City websites
ii.	Library and community center information sessions and portals
iii.	Community events at high-traffic sites —e.g., grocery stores and food banks, flea/farmers markets, shopping centers, schools, houses of worship
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Oak Grove Presbyterian Church EV Expo, MN Annual event showcasing electric vehicles, rideshare options, lawn equipment, buses, micro-transit, and more. • Sac EV, CA Community-based organization in Sacramento that educates local residents about EVs and their supporting infrastructure via workshops, exhibits, and other program efforts. • Smart Columbus Ride and Drive Roadshow, OH City-sponsored EV test drive event series. <p><i>Local plans</i></p> <ul style="list-style-type: none"> • Oakland ZEV Action Plan, CA Action CL-6: “Increase City resources devoted to ZEV outreach and education in frontline communities and geographies with lower-than-average ZEV ownership and use...By the end of 2023, develop clear digital resources on the City’s website and at key community touch points, such as libraries and community centers, for residents to learn more about sustainable mobility technology and incentives including ZEV mobility.” <p><i>National examples</i></p> <ul style="list-style-type: none"> • Ride and drive and promotional programs include National Drive Electric Week, Drive Electric, Electric Nation Tribal network, and Drive Electric Earth Month, USA

B.6 CONSIDER COMMUNITY BENEFITS MECHANISMS

as a requirement for community- or jurisdiction-scale infrastructure projects or programmatic investment/procurement strategies, or implement local policies that benefit communities

Considerations:

i.	<p>Community benefits mechanisms are appropriate for consideration at all scales of investment, but formal and binding Community Benefits Agreements (CBAs) likely require a minimum level of developer investment (e.g., major jurisdiction- or neighborhood-wide procurement contracts or franchise agreements, permitting programs, MHD charging depots, and ports) to prove feasible. Non-CBA mechanisms include:</p>
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B.6 CONSIDER COMMUNITY BENEFITS MECHANISMS

as a requirement for community- or jurisdiction-scale infrastructure projects or programmatic investment/ procurement strategies, or implement local policies that benefit communities

<p>i. (Continued)</p>	<ul style="list-style-type: none"> • Community Benefits Policies: Policies that set baseline standards on such community benefits as jobs and housing. Can include local hire, first source, and minimum wage policies, among others. Example: East Palo Alto First Source Hiring Ordinance • Public Community Benefits Agreements: The Los Angeles International Airport Community Benefits Agreement and Cooperation Agreement were negotiated between the Los Angeles World Airports, a government entity, and a coalition of community, environmental, and labor organizations. • Private Community Benefits Agreements: Public entities can also support private CBAs such as the New Flyer CBA between New Flyer of America, an electric bus manufacturer, and two nonprofit organizations: Greater Birmingham Ministries and Jobs to Move America. • Public Community Benefits Agreements: Public entities can participate in public CBAs, such as the Oakland Army Base CBA, which was a public CBA between the City of Oakland and a developer, which included jobs policies that set out requirements for local hire, disadvantaged hire, living wages, limitations on the hiring of temp workers, and community oversight and enforcement.
<p><i>Community benefits mechanisms should include:</i></p>	
<p>ii.</p>	<p>Consideration of capacity funding for engaged CBOs, regardless of whether the project is appropriate for a public or private CBA</p>
<p>iii.</p>	<p>Consideration of community benefits policies as appropriate to policy/project type</p>
<p>Examples</p>	<p><i>Local community benefits programs</i></p> <ul style="list-style-type: none"> • Asheville Hotel Development Public Benefit Standards, NC City planning ordinance requiring all hotel projects to include public benefits such as donation to a City affordable housing or reparations fund, provision of living wages or contracting with women- or minority-owned businesses, using a points-based system. • Charlotte Comprehensive Plan, NC City's long-term planning document includes strategies to form a Community Benefits Coalition, include CBAs in planning policies, and develop a CBA playbook for use in project development. • Detroit Community Benefits Ordinance, MI City regulation requiring project developers to work with Planning Dept. and a Neighborhood Advisory Council to craft a community benefits plan for development projects over \$75 million in value or receiving \$1 million in tax support. City-level policies requiring formal CBAs may not be appropriate for many project contexts, given the complex community engagement and enforcement mechanism requirements for an effective CBA. • Newark Tax Abatement-Community Benefits Ordinance, NJ City program providing tax abatements for qualifying real estate developments with requirements for developers to offer job fairs, commit funds to local housing and economic development programs, hire locally, and more. • San Diego Co. CBA Program, CA County-level initiative to programmatically incorporate community benefits agreements (CBAs) and similar strategies in renewable energy development proposals.

B.6 CONSIDER COMMUNITY BENEFITS MECHANISMS

as a requirement for community- or jurisdiction-scale infrastructure projects or programmatic investment/ procurement strategies, or implement local policies that benefit communities

Examples (Continued)	<p><i>Other resources</i></p> <ul style="list-style-type: none"> • Community Benefits Resources provides information on CBAs and community benefits programs in place around the country, USA • CLEE’s analysis of CBAs in the context of offshore wind offers insight on how these instruments can align with clean energy project development, CA
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B.7 HOST A WORKFORCE MARKETPLACE AND CONDUCT EVENTS SHARING EV-RELATED ECONOMIC OPPORTUNITIES

Activities/venues can include:

i.	Partnerships with school districts and community colleges as well as career expos
ii.	Partnerships with labor unions working in the EV space such as the United Auto Workers and International Brotherhood of Electrical Workers, including information on apprenticeship opportunities
iii.	Direct engagement with local private sector employers relevant to EVs and mobility , from charging site hosts to maintenance companies
iv.	Websites, events, and portals connecting EVSE developers with local business owners offering masonry, electrical, project management, and soft skills required for installation projects
Examples	<p><i>Local plans</i></p> <ul style="list-style-type: none"> • Oakland ZEV Action Plan, CA Action CL-6: “By 2023, launch or expand partnerships with [Oakland Unified School District] and others to expand awareness of ZEV-related career pathways.” Action ZE-2: “By 2023, work with partners to launch an annual Expo highlighting business, career, and training opportunities in ZEV technologies and services as well as other fields related to equitable decarbonization.” <p><i>State examples</i></p> <ul style="list-style-type: none"> • Michigan Vehicle Technology Transition Impact Project, MI University- and Clean Cities Coalition-led project conducting listening sessions to gather information to help local workers and economies adapt to the EV transition and to develop strategies for inclusive economic growth.

B.8 DEVELOP A LOCAL WEBSITE THAT DETAILS THE EV PLAN AND SERVES AS A PORTAL

to EV programs including incentives, permitting, pilots, and staff; and a communications and marketing plan to accompany the web materials

Website development should include:

i.	Media selection, branding, user interface, and social strategies tailored to local community cultures and languages
ii.	Local staff and CBO partners who can serve as navigators for complex materials

B.8 DEVELOP A LOCAL WEBSITE THAT DETAILS THE EV PLAN AND SERVES AS A PORTAL to EV programs including incentives, permitting, pilots, and staff; and a communications and marketing plan to accompany the web materials

iii.	Connection to cost savings calculators and other information detailing financial benefits of electrification
iv.	Connection to national materials like Drive Electric USA and USDOE/DOT driveelectric.gov
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> Bloomington-Normal EVTown, IL City has initiated a broad-based effort to establish itself as “a model electric vehicle community” including a city website with information on EVs, charging, safety, insurance, public infrastructure, and more. <p><i>Local plans</i></p> <ul style="list-style-type: none"> Oakland ZEV Action Plan, CA Action CL-6: “By the end of 2023, develop clear digital resources on the City’s website and at key community touch points, such as libraries and community centers, for residents to learn more about sustainable mobility technology and incentives including ZEV mobility.” <p><i>State examples</i></p> <ul style="list-style-type: none"> CA GO-Biz ZEV Funding Resources website, CA State agency website with ZEV funding resources for stakeholders, including vehicle incentives, infrastructure incentives, fleet resources, financing programs, the California budget and funding plans, and additional search tools.

B.9 INCLUDE LOCAL BUSINESS PROCUREMENT AND HIRING PREFERENCES IN PUBLIC CHARGING INVESTMENTS

Local economic development efforts can involve:

i.	Procurement preference in city projects/investments and tax or other financial incentives for private projects
ii.	Deliberate consideration of strategies to promote local wealth-building and training/apprenticeship programs to ensure local workers have appropriate access to opportunities
iii.	Engagement with state-certified Historically Underutilized Businesses
iv.	Other equity-oriented public procurement best practices outlined by Local Progress and In The Public Interest
v.	RFPs and other hiring practices outlined in Jobs to Move America’s US Employment Plan
vi.	A range of requirements employed by many federal and state grant programs, such as US EPA grant requirements regarding good faith efforts to hire disadvantaged businesses
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> Ann Arbor City Code §1:324.5, MI Best value procurement requirement for contracts over \$50,000 including workforce development and social equity measures such as consideration of local hire percentages.

B.9 INCLUDE LOCAL BUSINESS PROCUREMENT AND HIRING PREFERENCES IN PUBLIC CHARGING INVESTMENTS

Examples (Continued)	<p><i>Local plans</i></p> <ul style="list-style-type: none"> Oakland ZEV Action Plan, CA Action ZE-5: “The City will explore ways of strengthening local hiring standards and incentivizing successful applications for City contracts from firms led by frontline community members. New or strengthened standards will be applied first to projects supporting building and transportation decarbonization.” Action ZE-6: “Working with unions, labor leaders, and training partners, identify ways to best serve the communities that need resources the most. Workforce efforts must prioritize historically disadvantaged, impacted, and underinvested communities.”
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B.10 INTEGRATE MOBILITY INITIATIVES WITH TRAINING PROGRAMS

at local colleges, high schools, and community/job centers

Considerations

i.	<p>This can include both job training and mobility resources for students to promote access to career paths with high-quality jobs. Local efforts should link with the Electric Vehicle Infrastructure Training Program (EVITP), an auto-electrical industry collaboration to train and certify workers for EVSE installation and maintenance.</p>
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Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> Cerritos Community College ZEV High School Pilot, CA State partnership with community colleges to establish ZEV training programs at over 50 high schools, including EV construction and maintenance curricula and training for faculty, with career opportunity and general student engagement benefits. Los Angeles Cleantech Incubator (LACI) Green Jobs Workforce Development Programs and EVSE Technician Fellowship, CA LACI partners with local government agencies and other workforce development stakeholders to connect its trainees and certified technicians with internships, fellowships and full time employment opportunities related to EV infrastructure and other clean energy technologies. Sacramento AQMD mobility hub, CA Hub includes ride-hail program for students to access local GreenTech job training program, which will eventually take operational control of the hub. <p><i>Local plans</i></p> <ul style="list-style-type: none"> Oakland ZEV Action Plan, CA Action ZE-3: “Partner With Local Community Colleges And Workforce Training Partners to Create ZEV-Specific Training Programs and Pathways.” <p><i>State examples</i></p> <ul style="list-style-type: none"> California Energy Commission ZEV Workforce Training and Development Strategy, CA Outlines the state’s ZEV workforce development goals and activities, identifies the state role in building a ZEV workforce, and identifies partnership opportunities with schools and other vocational programs, including the Adult Education & Vocational School Zero-Emission Vehicle Technology Training Project. Michigan Central training program, MI Partnership between mobility/tech hub and ChargerHelp EVSE O+M group to provide 4-6 week training course in EVSE installation and maintenance for working adults.
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B.11 EMPHASIZE LOCALLY APPROPRIATE MOBILITY EQUITY BEST PRACTICES
throughout project planning and implementation

<i>Local mobility equity practices can involve:</i>	
i.	A focus on general best practices within the context of local mobility needs —e.g., right-sizing zero-emissions and EV mobility solutions to the travel patterns of residents
ii.	Identification of key mechanisms (i.e., MOU, CBA, oversight council, participatory budgeting, equity audit) that meet community goals and advance project objectives
iii.	Procurement, contracting and rebate strategies to ensure that new infrastructure is affordable
iv.	Designing programs to include clear metrics that measure and track progress towards achieving mobility equity goals
v.	Co-design, comanagement, and/or co-regulation in partnership with community
vi.	Establishing clear reporting mechanisms and grievance processes to ensure that community engagement efforts are meaningful and that feedback is being incorporated into decision-making processes
vii.	Community-informed needs assessments (see §A.4) and site selection (see §A.3)
Examples	<p><i>Greenlining Institute resources</i></p> <ul style="list-style-type: none"> Clean Mobility Equity Playbook, USA Best practices include: <ul style="list-style-type: none"> Emphasizing anti-racist solutions by prioritizing investment in highest-need communities Prioritizing multi-sector approaches that incorporate land use, active transportation, and community vehicle use Delivering intentional benefits through broad stakeholder engagement and anti-displacement strategies (e.g., policy tools identified by the Urban Displacement Project) Building community capacity through bottom-up technical assistance Exhibiting community-driven practices at every stage through needs assessments and building on existing community programs Establishing paths toward wealth-building through workforce development and training and contracting with community enterprises <p><i>Other resources</i></p> <ul style="list-style-type: none"> Crafting Meaningful MOUs for Collaborative Governance, USA Interactive materials designed to guide development of an MOU to advance a community vision.

Advancing Equity through Community Engagement

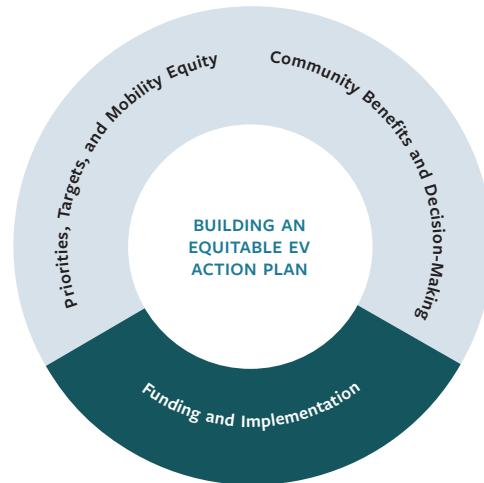
Community engagement and participation are at the core of each element and phase of an Equitable EV Action Plan. Local government leaders should secure a formal role for community stakeholders in a significant portion of site selection and investment decision-making, both for locally conceived programs and for state- and federal-funded projects. Consequently, the strategies in this section should be developed and imple-

mented concurrently with the infrastructure and investment strategies in the rest of the plan, not after.

To operationalize equity, the Towards Equitable Electric Mobility ([TEEM](#)) Community of Practice has developed a [platform](#) that synthesizes three years of collective learnings and recommendations from over 30 community based organizations across seven states for federal, state, and local programs to integrate equity and sustainability into transportation systems across the country. The platform offers principles, implementation recommendations, and examples that local departments of transportation, transit agencies, auto industry partners, and other key municipal decision-makers can use as guidance to submit strong and equitable applications for federal and state funding for their municipal electrification projects and programs. The platform's principles focus on equity and justice; emissions reductions; affordable clean mobility access for all; health and safety; and wealth building.

C. FUNDING AND IMPLEMENTATION

C. FUNDING AND IMPLEMENTATION	
C.1	Estimate costs and develop a funding plan
C.2	Establish EV working groups
C.3	Identify staff leads
C.4	Craft a master franchise and permit agreement approach
C.5	Implement a general obligation or revenue bond
C.6	Investigate equitable congestion pricing strategies
C.7	Consider sales surcharges on large business operations
C.8	Use federal and state community-oriented climate grants
C.9	Use special district financing
C.10	Support development of community land and investment trusts
C.11	Consider community energy cooperative and community choice aggregator programs



An Equitable EV Action Plan will not achieve its investment or equity goals without both a strategy to raise substantial revenue from a range of sources and a plan to ensure that revenue generation and expenditure are equitable.

Local staff or external teams responsible for implementing the selected actions will need to coordinate regularly to achieve success, and leaders from across the city will need to identify revenue strategies (public and private) to meet investment targets. The jurisdiction should state its approach to implementation and revenue for the plan, even if that approach is based entirely on private investment, and discuss how revenue strategies can prioritize the needs of underserved communities.


Various funding and ownership models can be designed to center community-based approaches, embedding place-based governance in the implementation of EV infrastructure and clean mobility programs. Where possible, local leaders should promote ownership and governance models that support community investment in infrastructure and direct revenue streams to local businesses and residents, especially in underserved communities. Traditional public procurement, public-private partnership, and bond finance strategies will also play a key role in funding infrastructure, provided they embed equity in their design (e.g., targeted use of bond revenues for priority communities, public procurement preferences for local and minority-owned businesses).

Local governments and residents will not be directly responsible for generating a majority of infrastructure capital, but they will be responsible for developing coherent and comprehensive revenue and implementation strategies—and for helping to ensure that these strategies are equitable.

C.1 ESTIMATE COSTS AND DEVELOP A FUNDING PLAN

covering each action and a strategy to pay for it

Planning should include:

i.	<p>Cost estimates for:</p> <ul style="list-style-type: none"> Local plan implementation needs (programmatic and staff) Any anticipated direct public investments in infrastructure Anticipated private investments in infrastructure
ii.	<p>Revenue plan elements:</p> <ul style="list-style-type: none"> Proposals for revenue generation options (e.g., bonds, taxes, fees) as necessary to cover local costs for top-priority programs and investments Identification of known or anticipated local, state, utility, and federal funding sources for other costs Strategies to ensure revenue generation is equitable Monitoring of cost impacts to consumers
iii.	<p>Regular revisions/updates to account for cost shifts and changes to state/federal programs and budgets</p>
Examples	<p>Other resources</p> <ul style="list-style-type: none">  CLEE Funding San Francisco Climate Action report, CA Analysis of estimated costs of city's Climate Action Plan and proposal of revenue and financing strategies to fund and implement it equitably, based on research and city/public stakeholder engagement process.

C.2 ESTABLISH EV WORKING GROUPS:

- a local interagency working group to assess Action Plan progress and updates as necessary
- a county-level or regional working group to coordinate local-level actions with state-, county-, and MPO-level actions and funds

Working groups should involve:

i.	<p>All local public agencies with involvement in implementing or securing grants/revenue to fund implementation of Action Plan</p>
ii.	<p>Dedicated planning, transportation, or public works staff time to liaise between e-mobility infrastructure project developers (public and private) and utility or community choice energy provider</p>
iii.	<p>Participation of or engagement with stakeholders in working group processes</p>
iv.	<p>Resources to connect developers and building owners with <u>utility capacity maps, planning resources, and interconnection processes and staff</u></p>
v.	<p>Discussions of grid capacity, forecasting, upgrade prioritization, and emerging technological solutions like managed charging</p>
Examples	<p>Local examples</p> <ul style="list-style-type: none"> Bay Area Air Quality Management District EV Funding Navigator Tool, CA The Bay Area EV Council created a working group “to develop a tool that streamlines information sharing about EV, EV infrastructure, and E-Mobility funding.”

C.2 ESTABLISH EV WORKING GROUPS:

1. a local interagency working group to assess Action Plan progress and updates as necessary
2. a county-level or regional working group to coordinate local-level actions with state-, county-, and MPO-level actions and funds

Examples (Continued)

- [ClimateSF, CA](#)
Standing city agency coalition focused on decarbonization and resilience planning including Mayor’s Office, Office of Resilience and Capital Planning, Planning Department, Department of the Environment, Port, Public Utilities Commission, Municipal Transportation Authority, Department of Public Health, and Public Works.
 - [Contra Costa Co. Transportation Electrification Coordination, CA](#)
Countywide group of staff from cities, towns, county departments, energy and transportation agencies that meet monthly to share information on electrification programs and coordinate on funding applications.
- Local plans*
- [City/County EV roadmaps and readiness blueprints, USA](#)
Many of the local EV action plan documents highlighted in [Table 1](#) include examples of cross-agency coordination and working group development.
 - [San Diego Co. EV Roadmap, CA](#)
County-level roadmap for EV adoption and infrastructure based on Planning and Development Services, Department of General Services, Air Pollution Control District, and Department of Human Resources collaboration.
- State examples*
- [Michigan Plug-in Vehicle Preparedness Taskforce, MI](#)
Assembles various parties (including automotive manufacturers, clean cities coalition, and environmental groups, among others) to support Michigan’s preparation for plug-in electric vehicle deployment.

C.3 IDENTIFY STAFF LEADS

responsible for implementing each action in the Action Plan and focus on building local staff capacity wherever possible

This process should:

- | | |
|-----|---|
| i. | <p>Include staff focused on or dedicated to:</p> <ul style="list-style-type: none"> • Planning, permitting, procurement, legal, and grant-writing operations for new EV and mobility investments • Community engagement, outreach, and equity practices built into the Action Plan (see SB) |
| ii. | <p>Be right-sized to the capacity of the jurisdiction and should inform the scale of the Action Plan. Many cities and counties do not have staff dedicated to EV efforts. Where appropriate, local governments should include non-profit and private partners who can support local staff.</p> <p>Where local leadership is unclear, the Action Plan should acknowledge it and identify technical assistance resources such as the Michigan Community EV Toolkit, the Southern Alliance for Clean Energy Electric Transportation Toolkit, and the California GO-Biz ZEV Resource Page.</p> |

C.3 IDENTIFY STAFF LEADS

responsible for implementing each action in the Action Plan and focus on building local staff capacity wherever possible

Examples	<p><i>Local plans</i></p> <ul style="list-style-type: none"> • Ann Arbor Climate Action Plan, MI Identifies a party responsible for implementation and “collaborators/project co-designers” for each strategy in the plan. • Oakland ZEV Action Plan, CA Action CL-1: “Create and fund a staff position within the Department of Transportation or Oakland Public Works to oversee implementation of this Plan and related public EV infrastructure projects. Provide resources for City engineers to support those and other ZEV-related projects.” <p><i>Other resources</i></p> <ul style="list-style-type: none"> • CLEE Funding San Francisco Climate Action report, CA Staffing recommendation: “Fund or reallocate City staff to accelerate CAP implementation including one full-time senior staff member and supporting staff at the lead implementation department for each CAP sector dedicated to 1) CAP-specific budget development, investment planning, and grant-seeking and 2) CAP implementation coordination.”
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C.4 CRAFT A MASTER FRANCHISE AGREEMENT AND PERMIT APPROACH

for private EVSE development in public spaces


This approach should include:

i.	Core technical, accessibility, financial, and equity-centered location selection terms for large-scale private investment in public charging
ii.	Terms that enable developers to select individual deployment sites based on pre-agreed zones/principles —including equitable and equity-focused geographic distribution—and obtain ministerial review of individual site permits assuming core terms are met
iii.	Permit/agreement term of at least 10 years to promote investment case and permanence
iv.	Firm commitments to uptime and maintenance (potentially including separate procurement of stand-alone maintenance services through providers such as ChargerHelp) and affordability
v.	Terms ensuring that local, small, and minority-owned businesses are eligible and actively encouraged to participate

Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Oakland Informational Kiosk Program, CA City used master agreement/permit approach to identify private provider for kiosks installed in the PROW. • Portland EV Charging in the Public Right of Way Code Update, OR City code update to facilitate PROW charging permitting will accompany a streamlined process for private EVSE contracting through a master lease agreement. • San Diego Informational Kiosk Program, CA City used master agreement/permit approach to identify private provider for kiosks installed in the PROW. • San Francisco curbside charging pilot, CA City program soliciting private charging providers to install and operate curbside charging in select locations via streamlined permitting pathway.
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C.5 IMPLEMENT A GENERAL OBLIGATION OR REVENUE BOND

dedicated to public EV charging and mobility infrastructure investments

Bonds may:	
i.	Fund: <ul style="list-style-type: none">Publicly owned mobility infrastructureInfrastructure that is owned/operated by private entities as long as it is publicly accessibleInfrastructure at publicly owned facilities and housing
ii.	Be solely dedicated to EV and mobility investments or may include those investments alongside traditional public transit investments, and can take advantage of green bond certification benefits
iii.	Include firm commitments to uptime, maintenance, and affordability for any service providers involved
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none">Grossmont School Bus Electrification Bond, CA The Grossmont Union High School District obtained a lease revenue bond from the California School Finance Authority to finance improvements to its transportation facilities, including school bus electrification and EV charging stations for buses.Miami Forever Bond, FL Leading example of a city-scale general obligation bond focused on climate investments. <p><i>Other resources</i></p> <ul style="list-style-type: none"> CLEE Funding San Francisco Climate Action report, CA Recommends city pass a \$300-\$500m transportation GO bond including investments in public EV charging.

C.6 INVESTIGATE EQUITABLE CONGESTION PRICING STRATEGIES

to promote shared mobility and fund public EV charging and mobility infrastructure investments (as appropriate in large, dense cities)

Considerations:	
i.	<p>Congestion pricing can raise tens to hundreds of millions dollars for zero-carbon transportation investment while encouraging more efficient modes of travel/transit use and improving air quality.</p> <p>For programs to be equitable, they should include exemptions, stipends, or discounts according to income to remove cost burden for lower-income residents, as well as those with accessibility needs and other priority residents. However, the strategy faces significant practical and political barriers in the US:</p> <ul style="list-style-type: none">May not be appropriate in areas that lack transit alternatives and requires significant community engagement to ensure appropriate structureMay require state law amendments and federal permission to implement
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none">London Congestion Pricing, UK City has implemented a congestion charge for years (together with low- and zero-emission zone programs) with documented success in reducing congestion, improving air quality, and raising substantial revenue for transit investment.

C.6 INVESTIGATE EQUITABLE CONGESTION PRICING STRATEGIES

to promote shared mobility and fund public EV charging and mobility infrastructure investments (as appropriate in large, dense cities)

<p>Examples (Continued)</p>	<p><i>Local plans</i></p> <ul style="list-style-type: none"> • New York Congestion Pricing, NY The city developed a plan for the first congestion pricing program in the US, which was paused prior to implementation in 2024. • San Francisco Congestion Pricing Study, CA City analysis of plan benefits and structure, zone designations, discount and exemption options, and policy design. <p><i>Other resources</i></p> <ul style="list-style-type: none"> • CLEE Funding San Francisco Climate Action report, CA Recommends city adopt congestion pricing to fund electrified transportation and public transit programs.
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C.7 CONSIDER SALES SURCHARGES ON LARGE BUSINESS OPERATIONS TO

generate revenue for EV and local climate action investment

<p>Considerations:</p>	
<p>i.</p>	<p>Local sales tax increases are a traditional source of funding for transit and transportation investments and can be used for EV infrastructure, though they may be regressive and should consider exclusions for vital services such as health-related enterprises.</p>
<p>Examples</p>	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Denver Climate Protection Fund, CO City fund raising \$40 million per year for climate investments through 0.25% local sales tax, approved via ballot initiative.
<p>Examples (Continued)</p>	<ul style="list-style-type: none"> • Portland Clean Energy Surcharge, OR Large retailers reporting over \$1 billion in gross revenue or Portland gross income of \$500,000 or more must register for a 1% surcharge on retail sales funding local climate action. • Portland Clean Energy Community Benefits Fund: Collaborating for Climate Action funding, OR Grant Program that will provide over \$150 million over 5 years for equity-oriented multi-stakeholder climate projects.

C.8 USE FEDERAL AND STATE COMMUNITY-ORIENTED CLIMATE GRANTS

to fund EV and mobility investments

<p>Considerations:</p>	
<p>i.</p>	<p>State and federal programs are increasingly gearing grant funding and financing opportunities toward equity-oriented climate investments, which can facilitate community leadership and ownership in clean mobility planning. These include funding made available through the Bipartisan Infrastructure Law and Inflation Reduction Act as well as new state-level initiatives around the country. Local leaders developing an Equitable EV Action Plan should focus attention on these programs as a centerpoint of community-oriented mobility investment.</p>

C.8 USE FEDERAL AND STATE COMMUNITY-ORIENTED CLIMATE GRANTS

to fund EV and mobility investments

Examples	<p><i>State and federal examples</i></p> <ul style="list-style-type: none">• California Transformative Climate Communities: Green Together, CA Grantee of the TCC grant program invested in community-led development and infrastructure projects, including the implementation of EV charging stations.• EPA Community Change Grants, USA Federal grant program allocating \$2 billion in Inflation Reduction Act funding to community-driven climate investments.• Washington Air Quality in Overburdened Communities Grants, WA Funds from Washington State’s Climate Commitment Act are being allocated to community-driven grants supporting climate projects addressing air pollution in environmental justice communities.
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C.9 USE SPECIAL DISTRICT FINANCING IN

applicable states to generate revenue for equitable, community-specific EV infrastructure programs

Considerations:	
i.	<p>Special district financing can generate revenue for specific infrastructure project types in designated districts, including measures such as:</p> <ul style="list-style-type: none">• Tax-exempt bonds financing public infrastructure improvements• Enhanced Infrastructure Facilities Districts (EIFDs), Assessment Districts (ADs), or others in different legal contexts• Community Facilities Districts (CFDs) in California
ii.	<p>District-based approaches may be particularly appropriate for jurisdictions with areas of focused high demand for public EV charging and mobility infrastructure, such as downtown cores, dense multifamily residential neighborhoods, and commercial corridors.</p>
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none">• Delta Shores CFD No. 2019-01, CA This affordable housing-oriented CFD in Sacramento built equity considerations into its assessment methodology through assigning incremental tax thresholds based on residential type.• Sacramento Streetcar CFD No. 2017-01, CA The City Council of Sacramento passed a CFD to finance and maintain a new streetcar line. While ultimately unsuccessful, this provides a useful example of a transportation-oriented CFD with flexibly drawn geographical boundaries.

C.10 SUPPORT DEVELOPMENT OF COMMUNITY LAND AND INVESTMENT TRUSTS

to promote community ownership of land and infrastructure assets associated with mobility investments

Considerations:

i.	<p>Community land trusts (CLTs) and community investment trusts (CITs) are traditionally housing- and real estate-focused but may incorporate aspects of public governance in mobility infrastructure funding and implementation.</p> <p>CLTs employ a nonprofit structure to own a parcel of land, governed by a board comprised of CLT residents, non-resident representatives of the priority community, and public officials or other representatives of the public interest. CLT funding is typically sourced from local government or private donations.</p> <p>CITs involve the collective purchase of shares in a real estate property (including small businesses and embedded infrastructure) by community residents through an investment trust. CIT shares are only available to residents in a defined, local geographic area, protecting neighborhoods against displacement and facilitating wealth building in low-income communities.</p>
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • City of Irvine CLT, CA Established in response to the city’s affordable housing crisis, this CLT subsidizes development costs for affordable multifamily and single-family housing. • East Portland CIT, OR Residents in zip codes surrounding a commercial retail mall invest in a community trust building local ownership of the retail center, including numerous small business tenants. • T.R.U.S.T. South LA, CA This CLT acts as an anti-displacement land steward in neighborhoods south of Downtown LA, while facilitating community leadership in transportation, housing, and economic development.

C.11 CONSIDER COMMUNITY ENERGY COOPERATIVE AND COMMUNITY CHOICE AGGREGATOR PROGRAMS

for EV and mobility infrastructure development

Considerations:

i.	<p>Local leaders can incorporate learnings from community energy cooperatives facilitating clean energy development under a community-owned nonprofit model.</p>
ii.	<p>Community choice aggregators (CCAs), local government entities that procure clean energy, may include grant opportunities for local-led EV infrastructure investments in states where CCAs are authorized (California, Illinois, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Ohio, Rhode Island, and Virginia).</p>
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Ava Community Energy Community Investment Grant, CA Grant seeking proposals for community-based development and operation of EV infrastructure in California’s Alameda and San Joaquin Counties. • CCA Incentive and Technical Programs, CA California CCAs such as SVCE and 3CE offer a range of charging installation incentives and technical assistance. • New York City Community Energy Co-op, NY Cooperative working across universities and nonprofit organizations to develop affordable and community-led solar solutions in New York City.

Advancing Equity through Implementation and Funding

Establishing roles within city government dedicated to EV policy is key not only to traditional permitting and planning roles for this new form of infrastructure but also to ensuring community input and equitable allocation of resources. This can involve the following actions:

- An interagency working group should include transportation, public works, planning, and other infrastructure teams as well as leaders from local agencies responsible for economic development, labor/workforce, community services, racial equity, and other relevant policy areas.
- Dedicating staff members/capacity to EV and mobility grant writing can generate significant financial benefits given the considerable federal and state funds available, especially those that are largely designed to prioritize underserved and lower-income communities (e.g., federal [Joint Office of Energy and Transportation](#) funding programs).
- Actively seeking community feedback on first actions and investments related to local EV infrastructure development, whatever form they take, is a key step in establishing equity-focused leadership.
- Early engagement with local small businesses and startups in the zero-emissions mobility space—from charging developers, to e-bike and carshare companies, to providers of other services and amenities—can both identify near-term actionable investments and promote equitable economic development.

Direct investment of local funds will likely form only a small portion of total investment in EV infrastructure, but the jurisdiction will need to raise revenue for staff, new programs, and key investments. To the maximum extent possible, this revenue should be drawn from sources that are equitable in impact. Income taxes have the greatest potential for progressive and equitable assessment across society, but are largely the reserve of federal and state governments. Local government revenue generation capability is typically limited to measures like property and sales taxation, use fees (e.g., tolls and transit ride charges), and bonds backed by those revenue streams. Among these options, strategies such as property tax increments based on property values, parcel taxes based on lot size, or income-adjusted congestion charges may be more equitable than sales taxes on consumer goods or other fees that disproportionately impact lower-income residents. Numerous options have been identified by [CLEE](#), [The Greenlining Institute](#), [The Urban Institute](#), and many others. To the extent local governments raise revenue from residents to fund charging and mobility investments, they should focus on the most equitable revenue sources. In addition, with the passage of the Inflation Reduction Act (IRA) and the Bipartisan Infrastructure Law (BIL), local governments have an unprecedented opportunity to remedy past and present inequities by accessing hundreds of billions of dollars of equitable investments in transportation electrification.



SAN FRANCISCO UNIVERSITY

WELCOME TO CHINATOWN

WELCOME TO CHINATOWN

GRANT

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NO RIGHT TURN

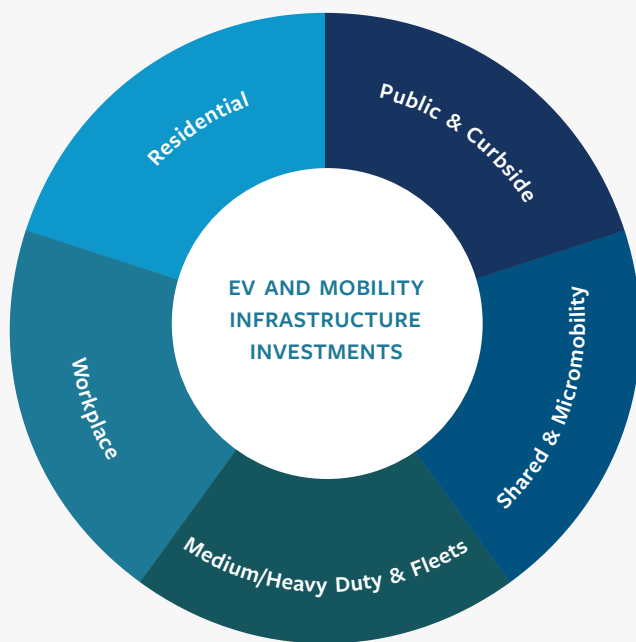
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III. EV AND MOBILITY INFRASTRUCTURE INVESTMENTS

Part III details equity-oriented EV and mobility infrastructure investment strategies that have been piloted or planned across the country. These strategies include EV charging at homes, at workplaces, and in public; electric shared and micromobility options and mobility hubs; medium- and heavy-duty vehicle electrification; infrastructure design; and vehicle access and incentives. Not all of these strategies will be relevant to each community, but each jurisdiction will find some applicable models and precedent in each category. These strategies will form the core content of the Equitable EV Action Plan, to be implemented via the strategies described in Part II.

Figure 8: Infrastructure Investments



KEY CONSIDERATIONS FOR ALL INVESTMENTS:

- 1. Infrastructure Design, Accessibility, and Safety
- 2. Passenger Vehicle Access and Incentives

RESIDENTIAL:

Over eighty percent of EV charging occurs at home; local governments will play a crucial role in ensuring that all residents have access to charging at or near their homes.

PUBLIC AND CURBSIDE:

Lack of adequate public charging is a top barrier to EV adoption for many drivers, and policymakers have identified curbside and neighborhood charging as a core solution.

SHARED AND MICROMOBILITY:

Alternatives to traditional private vehicles such as carshare, rideshare, and e-bikes and scooters will play an important role in the overall transition to zero-emission transportation and enhanced community mobility.

MEDIUM AND HEAVY-DUTY FLEETS:

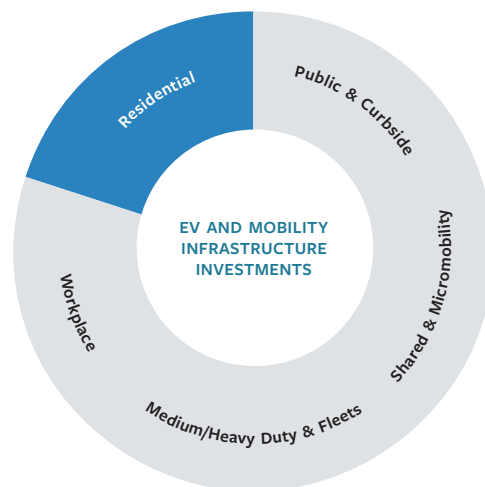
Medium- and heavy-duty (MHD) vehicles, such as delivery trucks, buses, and freight vehicles are particularly significant sources of harmful air pollution nationwide and a focal point of electrification efforts in many areas.

WORKPLACE:

As EV adoption increases, workplace charging will be in high demand and will play a vital role in the charging network in all regions of the country—serving employees, customers, and community members.

D. RESIDENTIAL

D. RESIDENTIAL	
D.1	Develop an EV building ordinance/code
D.2	Develop streamlined process for multifamily building charger installations
D.3	Conduct outreach to multifamily property owners and tenants
D.4	Develop guidelines/ordinance for charging cords in the public right-of-way
D.5	Develop guidance to facilitate charger installations in multifamily dwellings
D.6	Develop a rebate or zero-cost program
D.7	Pair multifamily charging projects with EV carshare
D.8	Institute Right to Charge laws
D.9	Develop a subsidy or issue rebates for feasibility studies
D.10	Develop a city green bank or stand-alone financing program for multifamily charging



Over eighty percent of EV charging currently occurs at home, while thirty percent of US households live in multifamily buildings.¹³ As EV adoption spreads beyond early adopters who are more likely to have dedicated charging access in their garages and driveways, residential charging strategies that can be tailored to the characteristics of each community’s housing stock and commuter needs will be a core component of local policy.

Local governments will play a crucial role in ensuring that all residents have access to charging at or near their homes, with particular policy emphasis needed to promote installation for multifamily building residents—especially those who are lower-income—and those who rent their homes, or spend a large share of household income on gasoline.

Homeowners are currently more than three times as likely to own EVs than renters, a trend which is apparent even across income categories.¹⁴ This reflects both the nature of early technology adoption and the importance of access to convenient home charging. Equity considerations place focus on multifamily buildings whose residents are most likely to lack the ability and capital to install personal chargers in shared parking areas, given the realities of shared parking area management and landlord-tenant relationships. Multifamily strategies will be central to many localities’ plans given the preferability of charging at home, the financial and technical complexity of upgrading multifamily buildings (especially older buildings), and the need for policy to support lower-income renters.

Additionally, many building managers do not have the resources or expertise regarding the benefits of EV charging to pursue charging installations.¹⁵ At many multifamily buildings with charging equipment, provider fees and management markups can subject residents to higher charging rates compared to the standard rates paid by single-family

households, compounding the challenge of ensuring equity in charging. To address these barriers, policy analysts have suggested a range of strategies such as:

- Structuring local and utility incentive programs around equity-focused targeting and allocation methods.
- Encouraging Level 2 chargers for their grid integration features and speed, or Level 1 for lower cost and greater scale—particularly in instances of limited electrical and financial capacity.
- Requiring or encouraging load-balancing equipment that minimizes electrical upgrades and administers user fees for EV customers.
- Instituting multifamily building-specific charging rates or dedicated EV meters to access the low-cost charging rates available in single-family households.
- Providing incentives for third-party equipment management services that reduce building managers’ planning and administrative burdens.¹⁶

Many of these strategies are not directly within local governments’ capacity or control; rather, local leaders will need to set policy targets, develop incentives, and promote information-sharing and outreach to help meet the needs of residents and building managers. Successful charging investments at multifamily residences will require dedicated project “champions” (whether property managers or individual residents) who navigate incentive programs and technical and financial logistics—these individuals will be crucial touchpoints for local leaders promoting residential programs.

Many existing buildings will also require electrical upgrades to enable EV charging, so actions in this area should also focus on building readiness for residents and owners who cannot afford those upgrades. In addition, local leaders can place particular emphasis on the [green economy workforce benefits](#) of linking home construction and retrofits with electrification and EV charger installation. By linking these project types, local leaders can highlight EV infrastructure’s ability to serve as an engine of economic development. Evaluating each proposed strategy through an equity lens will help building managers and local leaders filter out or compensate for solutions that could potentially perpetuate mobility disadvantages among multifamily residents (such as the relative inconvenience of relying on communal charging, as compared to the dedicated charging enjoyed by single-family residents).

Local leaders and multifamily building managers can also reference the following resources for more information on everything from policy design to accessing funding and starting projects:

For a thorough overview of these strategies and case studies from successful programs around the US, see [CLEE’s issue brief on multifamily charging strategies](#).

- [Atlas Public Policy EV Charging at Multifamily Dwellings](#): Overview of barriers to multifamily charging access and design recommendations for incentive programs.
- [Energy Innovation State of Electric Vehicle Charging for Multifamily Housing](#): Analysis of EV charging for multifamily housing residents across 69 cities and policy recommendations to increase accessibility.
- [Forth Mobility Best Practices for Model Multifamily Charging Programs](#): Overview of key considerations for multifamily installations.
- [VCI-MUD](#): Comprehensive set of resources for residents and building managers to design and begin projects.

D.1 DEVELOP AN EV BUILDING ORDINANCE/CODE that requires adequate charging or EV readiness for new construction and for existing buildings at time of major retrofits or sale	
Building codes should apply to and include:	
i.	All new construction
ii.	Existing buildings —triggered at point of major renovation (including major electric upgrade permits or with home improvement grants) or potentially at point of sale
iii.	Requirements for EV charging equipment or readiness (i.e., supporting electrical upgrades and capacity)
iv.	Requirements for 100% coverage of all dedicated parking spaces as plug-and-play EV ready and direct connection of dedicated chargers to unit electrical meters to access low-cost EV charging rates
v.	Requirements for multifamily building owners to maintain a minimum number of operational chargers at a residence
vi.	Exemptions or flexibility (e.g., alternative requirements limited to assessment and disclosure) for financially burdened owners and smaller buildings
vii.	Consideration of EV-ready building codes language in the 2024 International Energy Conservation Code. A local government’s ability to adopt building energy code requirements may depend on the state’s home rule/local control/reach code standard
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Atlanta EV Readiness Ordinance, GA Requires 20 percent of the spaces in all new commercial and multifamily parking structures be EV ready, with supporting infrastructure installed. • Auburn Hills EV Infrastructure Ordinance, MI Comprehensive early-stage local ordinance includes residential charging readiness requirements and public charging provisions. • Boston EV Readiness Policy, MA Requires minimum number of EV-installed spaces in new developments and includes an equivalence calculator that allows fewer installations of high-capacity chargers and carshare spaces. • CA City Green Building Codes (e.g., San Jose, San Francisco), CA State green building code requires EV readiness and minimum EV charging spaces for new construction. Individual cities have adopted reach codes that expand on these requirements. • Middletown EV Parking Requirements, CT Requires a minimum percentage of parking spots to be EV charger-installed for new construction with 25 or more spaces.

D.1 DEVELOP AN EV BUILDING ORDINANCE/CODE

that requires adequate charging or EV readiness for new construction and for existing buildings at time of major retrofits or sale

Examples (Continued)

- [Portland EV Ready Code](#), **OR**
“The Electric Vehicle (EV) Ready Code Project amended Portland Zoning Code (Title 33) to require all new multi-dwelling and mixed-use development with five or more units – that include onsite parking – to provide EV-ready charging infrastructure.”
- [Seattle Muni. Code §23.54.030](#), **WA**
Requires EV readiness for newly constructed housing.
- [St. Louis EV Readiness Ordinance](#), **MO**
Requires EV-ready spaces in new and significantly renovated residential and commercial construction.
- [Tucson Unified Development Code §7.4.11](#), **AZ**
Outlines the percentage of total mandated passenger vehicle parking spaces that must also have access to at least Level 2 EV charging stations by group, class and type, along with exceptions.

Local plans

- [Detroit Climate Strategy](#), **MI**
Action 2.3: “Adopt ordinance requiring EV infrastructure for new developments.”
- [LA Sustainable City pLAN](#), **CA**
ZEV chapter: “Update building code to expand EV charging requirements to meet anticipated need.”
- [Oakland ZEV Action Plan](#), **CA**
Action EMB-1: “Develop and adopt an Ordinance requiring installation of certain EVSE and/or targeted electrical system upgrades when buildings undergo major retrofits and at time of sale.”
- [San Diego Climate Action Plan](#), **CA**
Action 2.3 SA-3: “Amend the building code to expand EV charging stations requirements for multi-family and non-residential properties.”
- [San Francisco Climate Action Plan](#), **CA**
Actions BO.2, BO.10: Proposals for residential time-of-sale policies to require building electrification plans and fossil fuel equipment replacement.

Other resources

- [EV Charging for All Coalition EV Building Codes Toolkit](#), **USA**
Best practices and examples for state and local code development.
- [Southwest Energy Efficiency Project EV Codes Guide](#), **USA**
Guide to EV infrastructure code development including list of local EV building code provisions in Southwestern states.

D.2 DEVELOP A STREAMLINED PROCESS FOR MULTIFAMILY BUILDING EV CHARGER INSTALLATIONS

Building codes should apply to and include:

i.	Guidance documents
ii.	City point-of-contact

D.2 DEVELOP A STREAMLINED PROCESS FOR MULTIFAMILY BUILDING EV CHARGER INSTALLATIONS

iii.	Fee waivers/discounts or accelerated/streamlined approval for city permit applications (e.g., trenching, interconnection) for EV charging upgrades in lower-income multifamily buildings
iv.	Strategies to align timelines of building energy conservation and electrification retrofits (e.g., heat pumps etc.) and assessments to include consideration of appropriate charging types based on capacity and need
v.	Consideration of all multifamily properties
vi.	Strategies to focus on largest buildings, affordable buildings, rental households, buildings located in lower-income communities, and properties in areas with the highest concentration or number of lower-income high-mileage drivers using the most gasoline
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> San Jose Building Code §17.88.400, CA Details expedited permit review and approval for EV charging installations at multifamily buildings. <p><i>Local plans</i></p> <ul style="list-style-type: none"> LA Sustainable City pLAN, CA ZEV chapter: “Streamline permitting and interconnection processes for EV charger installations.” <p><i>State examples and other resources</i></p> <ul style="list-style-type: none"> AB 1236/AB 970 Permit Streamlining Program, CA State law requiring local governments to develop ordinances and checklists for EV charging permit streamlining, currently adopted by over 300 local governments. New Buildings Institute Permitting Guidelines, USA Provides multifamily building permitting process guidance for the 2020 National Electrical Code, 2021 International Building Code, and the 2021 International Fire Code as they apply to EVSE installations.

D.3 CONDUCT OUTREACH TO MULTIFAMILY PROPERTY OWNERS AND TENANTS

to foster understanding of building needs, charging options, and community priorities

Outreach efforts should involve:

i.	Education and outreach to owners, tenant outreach plans, and venues for tenant-owner engagement
ii.	Agency staff/portal (on city, county, or regional level as appropriate) dedicated to connecting multifamily building tenants and owners with rebates and incentives
iii.	Working with electric utilities and buildings department to create list of multifamily buildings undergoing or most in need of electrical service upgrades to ensure charger installation at point of project
iv.	Coordination with program administrators who provide vehicle and charging infrastructure incentives to help improve access and affordability
v.	Building owner and local government partnerships with community organizations/events to conduct outreach and educational campaigns in building common areas and other places where community members spend their time
vi.	Information—and resource-sharing that helps building owners minimize the costs of installation and ongoing operation—such as the use of load-balancing charging equipment

D.3 CONDUCT OUTREACH TO MULTIFAMILY PROPERTY OWNERS AND TENANTS

to foster understanding of building needs, charging options, and community priorities

vii.	<p>Opportunities for property owners and tenants to conduct demonstrations for prospective adopters and to continue learning about operation and maintenance procedures and possibilities to optimize charger utilization—such as making MFH chargers publicly accessible</p>
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Seattle EV readiness ordinance process, WA “The city completed a full year of stakeholder outreach prior to passing the ordinance, focusing on the developer community and property managers. This process clarified concerns, answered questions, and got stakeholder approval.” <p><i>Local plans</i></p> <ul style="list-style-type: none"> • Oakland ZEV Action Plan, CA Action EMB-2: “Engage with property managers and community partners to develop model tenant outreach plans, including a script and survey to perform a needs assessment. Work with community partners to create outreach materials for homeowners and property owners, including EV and EVSE fact sheets, details about funding sources, average costs, approved contractors, and an online portal to help building owners understand and identify relevant building characteristics and EVSE needs.” <p><i>State examples and other resources</i></p> <ul style="list-style-type: none"> • San Francisco Climate Action Plan, CA Action TLU.7-1: “By 2023, launch a public awareness campaign, including messaging tailored to specific communities, with the goal of educating residents about the health, economic, and environmental benefits of transit, active transportation, and electric vehicles.”

D.4 DEVELOP GUIDELINES/ORDINANCE TO ALLOW CHARGING CORDS IN THE PUBLIC RIGHT-OF-WAY IN RESIDENTIAL AREAS

Guidelines should:

i.	<p>Authorize and set design, safety, accessibility, and use requirements (including cord cover specifications) for private charging cords across sidewalks from homes lacking off-street parking (includes Americans with Disabilities Act and other legal accessibility requirements)</p>
ii.	<p>Not require permit issuance if requirements/guidelines are followed</p>
iii.	<p>Interact with/be a component of public and curbside strategy and ordinance (above)</p>
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Portland residential cord administrative rules, OR Rule outlines allowable uses of electric vehicle cord covers in the public right-of-way without need for encroachment permits. • Washington guidelines, DC Guidance addresses electric vehicle charging cords that cross the public right-of-way. • See CLEE’s overview of city programs for more examples and details. <p><i>Local plans</i></p> <ul style="list-style-type: none"> • Oakland ZEV Action Plan, CA Action PC-2: “[A]dopt an Ordinance to facilitate PROW charging in residential neighborhoods, including clear protocol for addressing ADA and pedestrian safety, permitting, and station use.”

D.5 DEVELOP GUIDANCE TO FACILITATE CHARGING INSTALLATIONS IN MULTIFAMILY DWELLINGS

Guidelines should include:

i.	Information to help property owners/managers plan, finance, install, and maintain charging stations, connections to relevant city departments, and information on private companies that can manage projects
ii.	City-specific guidance from transportation, planning, permitting, and building departments and incorporate or link to state and utility guidance where applicable
iii.	Dedicated staff at local building departments to field permitting and design inquiries
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Detroit 2030 District, MI Membership-based nonprofit organization that provides members (property owners/managers, industry stakeholders, community organizations) a supportive network to help “reduc[e] the environmental impacts of building construction... and [support] environmental justice.” Supported activities include Level 2 charging installation. • Detroit BizGrid, MI Offers business owners a highly organized and navigable database of supportive organizations that can serve a defined set of business needs (not directly related to charging infrastructure but offers a replicable model). • New York Siting and Design Guidelines, NY State-developed informational guides on location types and factors that make good EV charger locations; guidelines for installation and optimization of charging stations at long dwell parking lots; and strategies for reducing the installation and operating costs of equipment at a range of site types.

D.6 DEVELOP A REBATE OR ZERO-COST PROGRAM

or partner with existing utility programs for EV charger installation at residential buildings

Program may involve:

i.	Access to funds for charging hardware and electrical upgrades (may be optimized through point-of-sale rebates that deliver funds to the installer, thus eliminating a compensation lag for the building owner)
ii.	Funding stacks that include grant and concessionary capital from housing and urban development programs
iii.	Technical assistance for property owners
iv.	Connecting residents and building owners to state and utility rebate programs , like PG&E Multifamily and Small Business Program and Charge Ready NY 2.0 (which offers incentives for Level 2 EV charging stations including \$2,000 per charging port installed at workplaces or multifamily housing sites).
v.	Funding for both Level 1 and Level 2 charging options ; either type may be more suitable, depending on a residence’s needs and financial constraints. (Level 2 provides greater convenience and serves charging needs more fully, while Level 1 has been found to serve most EV charging needs while enabling a greater number of installations.)
Equity-oriented funding allocation may involve:	
vi.	Prioritized or exclusive funding for affordable properties, properties located in priority communities, and properties in areas with high concentrations of lower-income, high-mileage drivers using the most gasoline, with targeted incentives or qualifying tiers for low-income and rental households

D.6 DEVELOP A REBATE OR ZERO-COST PROGRAM

or partner with existing utility programs for EV charger installation at residential buildings

vii.	Tiered funding levels that offer higher incentives for homeowners or building owners who are early adopters or whose operation and maintenance plans meet certain equity goals/conditions for residents or employees (e.g., low charging rates, locally-sourced labor, etc.)
viii.	Omission of strict EV ownership requirements among residents, support for EV companies that use utilization-dependent EVSE fees, and/or support for EV ownership incentives for MFH residents
ix.	Incorporating group purchase practices or incentives (in buildings where charging demand is sufficient) to further reduce the cost per resident
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none">• Denver EV Home Wiring Rebate, CO Single- or multifamily building owners in Denver can receive rebates of up to \$500 to assist with installing select Level 2 chargers in partnership with registered contractors. A qualified set of “Equity Priority Buildings” are eligible for “additional funding and facilitation services.”• EV Charge SF, CA San Francisco Public Utilities Commission offers up to \$120,000 for EV charger installations at commercial or residential sites.• LA Residential EV Charger Rebate Program, CA Provides rebates for purchase and installation of qualified Level 2 chargers (up to \$1000) and dedicated EV meters (\$250). Income-qualified participants of LADWP’s Senior Citizen/Disability Lifeline or EZ-Save programs can receive an additional \$500 rebate.• Muir Commons, CA Residential co-op leveraged a substantial utility grant in its installation of 26 Level 2 chargers and shared costs among tenants to distribute costs among a receptive residential group.• PG&E Multifamily Housing and Small Business EV Charger Program, CA Electric utility program that installs chargers free of charge for multifamily housing and small businesses located in priority communities. Sets and maintains a funding ratio of 75% priority population recipients and 25% non-priority population recipients, and application does not require any level of tenant EV ownership.• Peninsula Clean Energy EV Ready Program, CA Provides rebates up to full project costs for installation of Level 1 or Level 2 charging in both existing buildings and new construction. Reserves dedicated funding for affordable housing communities and MFHs, with higher rebate options available for these housing types.• Silicon Valley Clean Energy Direct Installation Program, CA SVCE funded the nonprofit Ecology Action to pilot an EV charging ‘direct installation’ program for multifamily properties. Proposes a model that secures funding from the state, large utility, or other outside source “to install EV chargers at multifamily properties at no/little cost to the site.”• Smart Columbus Program, OH City-led program that funded initial round of 48 charging ports at 11 multifamily MUD project sites, based on partnership with local electric utility and nonprofit Clean Fuels Ohio which contracted with each site, conducted inspections, gathered data and provided the rebate over a three-year period. More rounds have since followed based on the success of round one.

D.7 PAIR MULTIFAMILY CHARGING PROJECTS WITH EV CARSHARE or nearby mobility service areas

Project-service pairing may involve:

i.	Required coordination/partnership between building owners and state agencies with ownership of nearby parking facilities
ii.	Partnerships between EV Carshare service companies and building owners or affordable housing organizations
iii.	Local policies that require a certain number of public charging stations/facilities in each older neighborhood or high-density area of multifamily dwellings
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Affordable Mobility Platform, USA US DOE-funded EV carshare and Level 2 charging program at affordable housing locations in eight states including Idaho, Illinois, Michigan, Missouri, Nevada, New Mexico, North Carolina, Oregon, and Washington; several sites are MFH properties. • East Bay Community Energy Fast Charging Hubs, CA Approved plans to deliver 40-50 fast charging hubs to serve nearby MFH residents. Leverages city-owned real estate and parking assets. Site selection criteria include: 1) close proximity to multifamily households, 2) walkability to driver amenities, and 3) limited proximity to existing fast charging stations. • Stockton Miocar Pilot, CA 100% EV carshare network program with three locations at multifamily properties and a county agency office. “Stations will be in historically underserved neighborhoods where mobility challenges are well documented and where there’s the greatest need.” Funded by CA cap-and-trade program. • Takoma Park Charging Hub, MD Community center hosts a charging hub for nearby residents, primarily serving residents of 10+ nearby MFHs. Center is co-occupied by local police department, city office, and city library and park; charging facility serves public/city vehicles during the day and is accessible for nearby residential use during late afternoon through early morning. • Twin Cities HOURCAR Multifamily EV Carshare Pilot Project, MN Program places EV charger hubs at multifamily complexes near affordable housing sites and adds 50 all-electric carshare vehicles to its fleet.

D.8 INSTITUTE RIGHT-TO-CHARGE LAWS

and/or advocate for state legislation that provide residents and building owners conditional rights to install residential charging equipment

Laws should include:

i.	<u>General prohibition of restrictions against residential EVSE installations</u>
ii.	Exceptions to/qualifications for the general prohibition (e.g., equipment dimensions, compliance with safety standards, etc.)
iii.	Broad application to both owners and renters across a wide range of building types
iv.	Pairing with grant programs to help cover costs associated with installation

D.8 INSTITUTE RIGHT-TO-CHARGE LAWS

and/or advocate for state legislation that provide residents and building owners conditional rights to install residential charging equipment

Examples (Continued)	<p><i>State examples</i></p> <ul style="list-style-type: none"> • Colorado Right-to-Charge Policies, CO Includes measures to secure charger accessibility, encourages adoption, and directs building owners and common interest communities to use an EV charging grant fund. • Connecticut Right-to-Charge Policies, CT Grants unit owners the right to install a charger in common space for use of all unit owners. In instances of no available parking spaces, grants an association of unit owners the ability to create a dedicated space for EV charging. • California Right-to-Charge Laws (2019 and 2020), CA Offer right-to-charge protections for building owners and require access to common parking spaces with EV charging capacity if individual designated spots are not available.
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D.9 DEVELOP A SUBSIDY OR ISSUE REBATES FOR FEASIBILITY STUDIES

that precede EVSE installations in residential buildings

Considerations:	
i.	Can help cover costs (typically ranging from \$100 - \$200) for electricians to assess a property's readiness for EV charging and electrical upgrades
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • LADWP Comprehensive Affordable Multifamily Retrofits Program, CA LADWP conducts “free property assessments to identify efficiency opportunities to help owners and their residents to save energy and reduce costs.” Also provides property owners “assistance with work scope development and the contractor procurement process.”

D.10 DEVELOP A CITY GREEN BANK OR STAND-ALONE LOW-COST FINANCING PROGRAM FOR MULTIFAMILY CHARGING

A city green bank could:

i.	Provide financing for a range of green projects including EV charging investment associated with residential and commercial building decarbonization
ii.	Consider offering conditional loan forgiveness for building owners who are early adopters or whose operation and maintenance plans meet a set of equity goals for residents and employees (e.g., low charging rates, locally-sourced labor, etc.)
iii.	Leverage funding from the federal Greenhouse Gas Reduction Fund for clean transportation financing
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Washington Green Bank, DC Offers financing solutions that work with city initiatives to help make the green economy accessible to all DC residents, organizations, and businesses.

D.10 DEVELOP A CITY GREEN BANK OR STAND-ALONE LOW-COST FINANCING PROGRAM FOR MULTIFAMILY CHARGING

Examples (Continued)

Local plans

- [San Francisco proposed green bank, CA](#)

A city green bank has been proposed to help advance initiatives proposed in SF's Climate Action Plan, such as electrifying existing housing stock and augmenting the transit system.

State examples

- [Michigan Saves, MI](#)

Finances energy efficiency and clean energy projects (including Level 2 charger installation and heat pump installation) with authorized contractors for homeowners and building owners.

Advancing Equity through Residential Charging

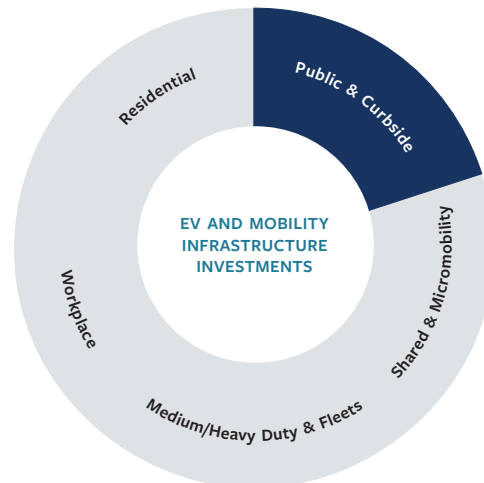
The ability to charge at home provides much of the convenience and cost savings of EV ownership, and it is least accessible for residents who rent their homes and/or live in multi-unit/multifamily housing sites (MFHs), which often lack dedicated parking spaces and resident control over electrical infrastructure. These individuals are disproportionately likely to be lower-income people of color and to lack the financial capacity and incentives, technical knowledge, or authority to install private chargers. Many barriers inhibit charging access at existing MFHs, including outdated building infrastructure, lack of landlord incentive, complex financing and capital limitations, and the logistical challenges of retrofitting older buildings. As a result, local leaders should prioritize a robust strategy to streamline affordable charger installation at MFHs at any feasible point in the building life-cycle.

However, local leaders should also provide support for lower-income occupants of single-family homes (owners and renters) who, even if they have access to dedicated off-street parking, may lack the capital for charger installation or necessary electrical panel upgrades. Charging programs can connect these residents to existing home energy efficiency programs (grant programs like the federal Low-Income Home Energy Assistance Program and financing programs such as [Michigan Saves](#)) that may support panel upgrade and/or charger installation projects, as well as providing information and resources on the adequacy of low-powered charging for most home charging needs.

All residential charging programs for MFHs and lower-income residents should focus on ensuring equity in charging pricing. This may involve, where possible, partnerships with utilities to impose limits on price markups above the standard residential electricity rate, requirements for direct metering to the tenant's electricity meter rather than a MFH's common meter, or disclosure requirements to inform residents about the charging markup margin over the standard residential rate.

E. PUBLIC AND CURBSIDE

E. PUBLIC AND CURBSIDE	
E.1	Conduct mapping and outreach exercises
E.2	Develop public charging pilots
E.3	Develop a public and curbside charging strategy/policy
E.4	Develop a public and curbside charging ordinance
E.5	Inventory undeveloped and publicly owned properties
E.6	Develop a pilot program for charging and mobility hubs
E.7	Develop a strategy or requirement for charging at vehicle fuel/service stations
E.8	Develop a public charging subsidy program for low-income drivers
E.9	Evaluate wireless and inductive charging strategies



Public charging will play a crucial role in robust, accessible local charging networks as EV adoption expands. Expert analyses anticipate that millions of publicly accessible chargers will be required to support tens of millions of EVs over the coming decades; for example, the California Energy Commission estimates that the state will need 2.1 million public and shared private chargers to serve an expected 15 million EVs in 2035. Nationwide, the number will be many millions more—with public options particularly needed in denser, high-multifamily-housing areas.¹⁷

Lack of adequate public charging is a top barrier to EV adoption for many drivers,¹⁸ and policymakers have identified curbside and neighborhood charging as a core solution.¹⁹ While many federal programs and private providers are focused on a public charging network that serves long-range highway travel, an equitable EV transition will also require investment in public charging that serves as a community mobility resource.

These chargers—including curbside and public right-of-way (PROW) chargers—will be particularly valuable for city governments seeking to advance equitable access to EV charging for priority populations and underserved communities. They can bring convenient charging to residents who lack access to charging in private driveways or garages, in multifamily dwelling parking lots, or at workplaces; they can also promote mobility and economic development in high-priority commercial corridors and community facilities.

EV carshare programs with curbside and public charging locations, such as [BlueLA](#), are emerging as a key solution to serve zero-emission mobility needs in a range of communities (see [§F](#) for shared mobility strategies). At the same time, installing chargers in the PROW can present some of the most complex infrastructure and financing challenges for developers and policymakers. There may also be a role for in-road wireless charging, an emerging technology that can avoid PROW cords and infrastructure altogether.

For many cities, a robust strategy for equitably distributed public and curbside charging will be crucial to facilitate EV use for lower-income and disadvantaged residents, in conjunction with robust incentive programs and outreach. Cities around the US are piloting approaches ranging from cable-across-the-sidewalk residential charging²⁰ to city-managed, streetlight-mounted chargers²¹ to comprehensive code updates.²²

Access in-depth case studies of these programs in [CLEE’s public and curbside charging strategies policy brief](#).

While appropriate public and curbside charging strategies will vary widely by city and community, an effective Equitable EV Action Plan will ensure coverage and access in key locations informed by community and stakeholder input. In addition, it will promote investments that minimize accessibility concerns and build on existing infrastructure where feasible (e.g., streetlight-mounted chargers) and promote affordable pricing for those who cannot charge at home.

E.1 CONDUCT MAPPING AND OUTREACH EXERCISES to identify zones and corridors most appropriate for public and curbside charging investment	
Exercises should:	
i.	Build on initial priority community mapping exercises (see SA.3)
ii.	<p>Include local spatial data on key siting indicators such as:</p> <ul style="list-style-type: none"> • Multifamily dwellings • Electric grid capacity • Travel dynamics and access (including mobility deserts) • Existing and planned curb uses • Community hubs and resources • Commercial hotspots • Environmental justice hotspots • Priority areas for investment based on community input and local knowledge
iii.	Include iterative review and feedback from city stakeholders, community-based organizations, and community members through surveys, focus groups, town hall meetings, and participatory mapping exercises to ground-truth assessments
iv.	Engage property owners and businesses in the areas neighboring target public charging zones and prioritize benefits for locally owned properties
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Ava Energy MUD Hotspot Map, CA Map showing Multi Unit Dwelling (MUD) “hotspots” within energy provider’s jurisdiction. Half of DCFC incentives will be reserved for projects in these hotspots. • Detroit Highly Visible Electric Vehicle Corridor Development Program, MI Identified corridors suitable for improved charging and retail access based on indicators such as “traffic data, job centers, community planning initiatives, tourist attractions and residential density.”

E.1 CONDUCT MAPPING AND OUTREACH EXERCISES

to identify zones and corridors most appropriate for public and curbside charging investment

Examples (Continued)	<ul style="list-style-type: none"> • Irvine Community EVI Siting Analysis, CA City EV transition plan includes priority scoring for schools, community centers, and high-multifamily areas based on community input and existing EV/charging presence. • Lansing EV Charging Station Location Map, MI City is developing a map of existing, in progress, and future charging sites across the city layered with Justice40 data. <p><i>Other resources</i></p> <ul style="list-style-type: none"> • CLEE EV Equity Roadmap prioritization tool, CA A free, publicly accessible tool to inform EV charger site prioritization and selection based on local equity and feasibility criteria. Currently available for California only. • Mapping Redlining project, USA Analysis of historically redlined districts and current neighborhood classifications to accurately assess geographics of contemporary equity metrics.
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E.2 DEVELOP PUBLIC CHARGING PILOTS

including curbside, public right-of-way, streetlight, or utility pole charging

Pilots should include:

i.	One or more applications at priority locations based on mapping exercise (above), most viable application for city (e.g., ownership of streetlights), and access to funds (e.g., direct installation vs. permitting pilot)
ii.	Priority location in priority communities
iii.	Coordination with local electric utilities, businesses, and residents as well as transportation, planning, building, and public works departments
iv.	EVSE vendors with flexible payment models (e.g., offer both pay-as-you go or prepaid flat-rate options)
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Bloomington-Normal public charging, IL The cities provide a combined 48 free public Level 2 chargers, funded by federal grants. • Boston curbside charging pilot, MA Plans to install new charging ports throughout the city using both publicly- and privately-owned installation/operation models. Included an equity component in site selection. • Los Angeles streetlight charging pilot program, CA Pilot program with over 700 Level 2 chargers installed on existing streetlight poles managed by city streetlight bureau and municipal electric utility. • Melrose streetlight/pole-mounted charging pilot program, MA Pilot program with over 30 Level 2 chargers installed on streetlights and utility poles, managed by city and local electric utility.

E.2 DEVELOP PUBLIC CHARGING PILOTS

including curbside, public right-of-way, streetlight, or utility pole charging

Examples (Continued)	<ul style="list-style-type: none"> • New York City curbside charging pilot, NY A partnership between the city, the local electric utility, and charging provider FLO which placed 100 hundred Level 2 chargers across New York’s five boroughs, with a focus on low-income communities. • Sacramento curbside pilot, CA A partnership between the city and charging provider EVgo, which owns and operates the chargers, for three publicly accessible curbside charging sites. • San Francisco curbside charging pilot, CA City program soliciting private charging providers to install and operate curbside charging in select locations. Includes equity component in site selection criteria. • Seattle curbside Level 2 charging program, WA Service provided by Seattle City Light, which will install, own, operate, and maintain public Level 2 EV charging next to the curb in residential neighborhoods in Seattle, with a focus on areas in need of public charging.
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E.3 DEVELOP A PUBLIC AND CURBSIDE CHARGING STRATEGY/POLICY

Strategy/policy should include:

i.	Local agency leadership/management structure for siting and permitting (transportation, planning, public works, city attorney, etc.); process for site evaluation and community input; and pilot programs
ii.	Direct city investments and/or contracting/franchise arrangements and RFPs for private developers (see §C.4)
iii.	Prioritization of areas near public spaces (e.g., parks, recreational centers) and secure spaces (e.g., banks, public offices) with high resident traffic and utilization, identified in consultation with community members
iv.	Stand-alone, comprehensive ordinance (see §E.4) if appropriate
v.	Numerical targets for: <ul style="list-style-type: none"> • Dedicated spaces at lots/garages and in the PROW to host charging stations and electric mobility infrastructure • Public chargers in priority communities and dense areas of multifamily housing
vi.	Dedicated maintenance programs and uptime requirements: local leaders should consider procuring maintenance separately from installation, in contracts with committed service response times, and recognition that certified electricians are not required to complete most maintenance
vii.	Strategies to manage public charging pricing relative to residential rates that are available to single-family property owners
viii.	Anti-displacement strategies such as community-based ownership structures or the development of community land trusts (see §C)
ix.	Coordination with electric utility to secure adequate grid capacity in key areas and accommodate light- and utility-pole mounted chargers
x.	Input and needs of community-based organizations and priority community members based on an agreed model of participation (see §B)

E.3 DEVELOP A PUBLIC AND CURBSIDE CHARGING STRATEGY/POLICY

Examples	<p><i>Local plans</i></p> <ul style="list-style-type: none"> • Ann Arbor Climate Action Plan, MI Action 2.6: Sets goal that “10% of all public and private parking spaces are equipped with Level 2 EV chargers and 2% with Direct Current Fast Chargers.” • Austin Climate Equity Plan, TX Transportation Strategy 2: “By 2030, Austin has a compelling and equitably distributed mix of level 1, 2, and DC fast charging infrastructure to accommodate 40% of total vehicle miles traveled in the city. This translates to 226 megawatts of electrical load and could mean more than 37,000 charging ports.” • Detroit Climate Strategy, MI Action 2.1: “Install 200+ public EV chargers at City facilities, garages, on-street and surface parking lots, covering every District.” • New York City PlaNYC, NY Action 23: “Ensure every New Yorker is no more than 2.5 miles from an electric vehicle fast charging hub by 2035.” • Oakland ZEV Action Plan, CA Action PC-2: “By 2023, adopt an Ordinance to facilitate PROW charging in residential neighborhoods, including clear protocol for addressing ADA and pedestrian safety, permitting, and station use.” Action PC-3: “Identify highest-priority locations for public charging. Develop and include measures of where new infrastructure would maximally reduce barriers to EV ownership and use, as well as where charging is technically and logistically feasible. In identifying locations, use best practices in inclusive community engagement to maximize input from residents and business owners who could be impacted by new infrastructure, and who stand to benefit most from EV access and use.” • San Diego Climate Action Plan, CA Action 2.3 SA-1: “Set a goal for installation of public EV charging stations on city property to support EV adoption in Communities of Concern. Initiate process with publication of a Request for Information (RFI) to solicit public charging solutions.” • San Francisco Climate Action Plan, CA Action TLU.7-2: “Expand publicly available EV charging across the city that is financially and geographically accessible to low-income households and renters.” Includes curbside, parking lot, and charging hub strategies.
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E.4 DEVELOP A PUBLIC AND CURBSIDE CHARGING ORDINANCE

(if appropriate, for jurisdictions with significant public charging needs)

Ordinance should include:

i.	Streamlined encroachment and utility permitting, traffic/curb management, parking enforcement, ADA and accessibility (see §I), and building codes (see §D.1) to facilitate efficient, safe installations
ii.	Dedicated contracting/procurement pathway (see §C.4)
iii.	Fee waivers and/or accelerated permitting for applications in priority communities

E.4 DEVELOP A PUBLIC AND CURBSIDE CHARGING ORDINANCE

(if appropriate, for jurisdictions with significant public charging needs)

iv.	Strategy for charger installation in parking lots and garages
v.	Some level of economic development opportunity for priority communities (e.g., priority for local/minority-owned installation and maintenance; engagement with Historically Underutilized Businesses; Community Benefits Agreement for large heavy-duty charging depots) and corresponding measures to track and report compliance
vi.	Requirements for new publicly accessible parking lots/spaces or existing areas to have a minimum number/percentage of spaces that are EV-ready (may be particularly beneficial in states without strong building codes)
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Portland EV Charging in the Public Right of Way Code Update, OR The Portland Bureau of Transportation was charged with updating the Portland City Code and Administrative Rules “to set location and siting requirements for the installation of Level 2 EV chargers in the ROW in select areas of Portland. These changes are accompanied by a clear permit process for companies interested in providing public charging services.” • San Francisco Environment Code §3102, CA Ordinance requires commercial parking facilities with 100+ spaces to install Level 2 charging stations at 10% of all spaces or a minimum number of DCFC chargers. <p><i>Local plans</i></p> <ul style="list-style-type: none"> • New York City PlaNYC, NY Action 23: “Mandate private parking garages and lots to make electric vehicle charging available by 2030.” • Oakland ZEV Action Plan, CA Action PC-1: “By 2023, adopt an Ordinance governing the goals, specific areas of responsibility, and workflow requirements for installing EV chargers in the PROW.”

E.5 INVENTORY UNDEVELOPED AND PUBLICLY OWNED PROPERTIES

that could be developed as sites for EV charging and mobility hubs

Site identification and development should include:

i.	Surplus public land that is not slated for use as housing or housing related uses (and assessment of charging/mobility investment options at housing sites)
ii.	Assessment of accessibility, location, and other criteria for site potential as a charging host, plus engagement with electric utility regarding grid capacity
iii.	Opportunities for community residents to own, operate, and receive revenue from charging on public properties and platforms/websites for local businesses and EVSE developers to connect with property owners to arrange low-cost leases and land access agreements
iv.	Linkages to (and avoiding conflicts with) networked greenways and bikeways to facilitate commute connections and mini-hubs
v.	Partnerships with city and state land banks to identify and secure available properties
vi.	Links to jurisdiction-wide mapping of priority communities (see §A.3) and best-fit charging locations (see §E.1)

E.5 INVENTORY UNDEVELOPED AND PUBLICLY OWNED PROPERTIES

that could be developed as sites for EV charging and mobility hubs

Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Contra Costa Co. EV 4 All Library Charging Program, CA County program to install public EV chargers at 15 public library sites (many city-owned) and promote EV awareness and workforce pathways, using federal CFI program funds. • Detroit Highly Visible Electric Vehicle Corridor Development Program, CA Identified corridors suitable for improved charging and retail access based on indicators such as “traffic data, job centers, community planning initiatives, tourist attractions and residential density.” • Michigan State Land Bank Authority, MI State program facilitating productive reuse of land by connecting developers and local governments with vacant properties. <p><i>Local plans</i></p> <ul style="list-style-type: none"> • Oakland ZEV Action Plan, CA Action CL-2: “Make a full accounting of City assets to catalogue the feasibility of siting public electric vehicle charging infrastructure. Develop a set of criteria for prioritizing candidate sites. Criteria may include technical feasibility, equity...lack of nearby public EV charging, number of rental and/or apartment buildings in the immediate area, and cost.” • San Diego Climate Action Plan, CA Action 2.3 SA-5: “Explore the development of a citywide policy for surplus land that cannot be used for housing to be considered for EV charging prior to review for sale or other dispensation.”
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E.6 DEVELOP A PILOT PROGRAM FOR INTEGRATED EV CHARGING AND MOBILITY HUBS

Program should include:

i.	Mobility hubs that integrate EV parking/charging with transit and micromobility access and/or DC fast charging hubs dedicated to EVs (in the gas service station model) (see §F.5 for more detail)
ii.	Priority selection of hub locations in priority communities
iii.	Collaboration with transit agencies to host charging at transit hubs that can both attract riders to transit services and provide community charging for station-neighboring communities
iv.	Inventorying publicly owned parking assets with ready utility access
v.	Supporting adoption of transit agency <u>charging policies/strategies</u> to accompany the Action Plan
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Bay Area Rapid Transit EV Charging Pilot, CA Commuter rail agency offers EV charging at two station parking lots and has offered an RFP to solicit bids for full-scale investment at more properties. • Chicago Equiticity Go Hub, IL Membership-based hub featuring a fleet of e-bikes, e-scooters, and shared eclectic vehicles, as well as transportation information, travel training, and incentives located at a commercial storefront in Chicago’s North Lawndale neighborhood.

E.6 DEVELOP A PILOT PROGRAM FOR INTEGRATED EV CHARGING AND MOBILITY HUBS

Examples (Continued)

- [Detroit Bagley Mobility Hub, MI](#)
Six-story parking structure with EV charging, e-bike and e-scooter spaces, and community resources serving Michigan Central rail redevelopment project and neighboring communities.
- [East Bay Community Energy charging hubs program, CA](#)
Approved plans to deliver 40-50 public fast charging hubs to serve nearby MFH residents. Leverage city-owned real estate and parking assets. Site selection criteria include: 1) close proximity to MFHs, 2) walkability to driver amenities, and 3) limited proximity to existing fast charging stations.
- [Fresno Biz-Werx mobility hub, CA](#)
Downtown mobility hub offering membership-based carshare services. E-bikes will be added.
- [Sacramento AQMD mobility hub pilot program, CA](#)
The Mobility Hub is a city-state-regional partnership encompassing four programs, including a community carshare with 2 EVs, 4 EV charging stations, micro transit provided through a Lyft Concierge, and an electric shuttle to provide free rides to training centers for qualified students, located at a previously undeveloped city-owned lot in an underserved community. The second phase will include Wifi, a digital kiosk, and a solar canopy.
- [Takoma Park Charging Hub, MD](#)
Community center hosts a charging hub for nearby residents, primarily serving residents of 10+ nearby MFHs. Center is co-occupied by local policy department, city office, and city library and park; charging facility serves public/city vehicles during the day and is accessible for nearby residential use during late afternoon through early morning.

Local plans

- [Contra Costa Co. EV Blueprint, CA](#)
Strategy 16: County transportation agency “could lead efforts to develop policies and improvements to support the development of mobility hubs that include electric options. Other stakeholders such as [utility and air district] could also have a role developing EV infrastructure that could be paired with mobility hubs.”
- [Oakland ZEV Action Plan, CA](#)
Action CL-3: “The City will develop a ‘Smart and Equitable Mobility Hub’ program, identifying goals, amenities, minimum services, fee structures, employment opportunities and responsible parties. Smart and Equitable Mobility Hubs will be placed in convenient locations to support the City’s transportation priorities, including active and public transportation, shared and micromobility, and zero-emission vehicles.” When creating the ZEV Plan, the City of Oakland engaged with Bay Area Rapid Transit to leverage the transit agency’s plans to add EV charging to their parking facilities as a way to expand ZEV infrastructure on non-City-owned public property.
- [San Francisco Climate Action Plan, CA](#)
Action TLU.7-2(d): “By 2023, create three ‘fast-charging hubs’ with one serving a disadvantaged community within San Francisco.”

E.7 DEVELOP A STRATEGY OR REQUIREMENT FOR CHARGING AT VEHICLE FUEL/SERVICE STATIONS

Considerations:

- | | |
|----|---|
| i. | This may include a requirement for charging installation upon new construction of a service station or sale/major renovation of an existing fuel/service station |
|----|---|

E.7 DEVELOP A STRATEGY OR REQUIREMENT FOR CHARGING AT VEHICLE FUEL/SERVICE STATIONS

ii.	Some local governments like Denver, CO and Santa Rosa, CA have implemented or considered plans to cap or manage the growth/placement of fuel/service stations in the jurisdiction—these strategies can also integrate charging installation requirements
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> Louisville Code §17.16.340, CA City ordinance capping the total number of gas stations within jurisdiction includes a requirement for new stations to add EV chargers. <p><i>Local plans</i></p> <ul style="list-style-type: none"> LA Sustainable City pLAn, CA ZEV chapter: “Initiate a design competition for the gas station of the future to meet the needs of both passenger and heavy duty vehicles.” Oakland ZEV Action Plan, CA Action PC-5: “[D]evelop an ordinance requiring new service stations and those service stations proposed for renovation to install a minimum number of EV fast-charging stations as a condition of approval.”

E.8 DEVELOP A PUBLIC CHARGING SUBSIDY PROGRAM FOR LOWER-INCOME DRIVERS

Program could include/link to:

i.	Analysis of and financial measures (point-of-sale rebates, prepaid or discounted payment cards) to address gap between cost of at-home charging and public/curbside charging
ii.	Requests for information/surveys of income-qualified neighborhoods with limited garage/private charging capabilities
iii.	Funds from state, regional, air district, energy provider, philanthropic, and private EVSE developer sources
iv.	Universal basic mobility programs (see §F.4)
Examples	<p><i>Local plans</i></p> <ul style="list-style-type: none"> Oakland ZEV Action Plan, CA Action PC-4: “Study the possibility of subsidizing charging for low-income users, first by subsidizing electric vehicle parking and charging infrastructure in City-owned facilities.” Also contemplates partnerships with other agencies like Bay Area Rapid Transit to reduce charging costs for low-income residents.

E.9 EVALUATE WIRELESS AND INDUCTIVE CHARGING STRATEGIES

Considerations:

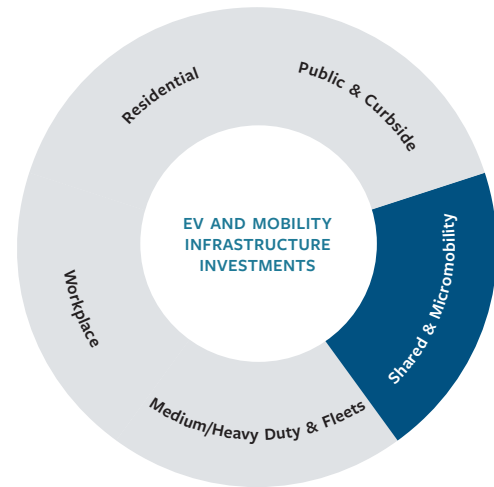
i.	Wireless and inductive charging systems are novel but offer the potential to place charging in public roadways and parking spaces without cords or curb disruption and minimal access concerns
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> Detroit Wireless Charging pilot, MI Pilot partnership between Michigan DOT and wireless charging provider to install one-mile segment in Detroit.

Advancing Equity through Public Charging

While robust publicly accessible charging will be a cornerstone of many equitable mobility strategies, the scale and use cases for this infrastructure will vary widely by local geography and demographics. Needs will likely be greatest in areas with a large quantity of multifamily housing and high proportion of renters, but local leaders will need to closely engage with stakeholders to identify appropriate, high-utility locations and charger designs for all residents who lack access to private off-street parking and/or sufficient capital. To sustain new charging infrastructure's utility and ongoing operation in priority areas, local leaders must pair installations with considerations of and accommodations for local residents' economic power to purchase or lease EVs. They should also proactively counter housing affordability and displacement threats that could emerge in public charging infrastructure's surrounding communities.

F. SHARED AND MICROMOBILITY

F. SHARED AND MICROMOBILITY	
F.1	Develop an outreach and education program
F.2	Create an EV carshare program based in priority communities
F.3	Create an e-bike or e-scooter lending library or purchase incentive program
F.4	Implement EV rideshare and shuttle services for priority populations
F.5	Develop a universal basic mobility program
F.6	Develop local guidance for micro and shared mobility at mobility hubs
F.7	Develop secure public parking and charging for e-bikes and e-scooters
F.8	Develop and/or expand protected bike lane and slow street networks
F.9	Conduct bikeshare-based air quality monitoring exercises



Alternatives to traditional private vehicles such as carshare and ride-share, and micromobility options like e-bikes and scooters, will play an important role in the overall transition to zero-emission transportation. Shared mobility programs and mobility hubs, which include equitable access to various transportation options and can be integrated with public transit, can meet the travel needs of a diverse range of residents, enhance community connectivity through short-distance travel, assist with public transportation planning by providing convenient last-mile options, increase access to EVs, and reduce pollution. They are also central to most plans for eliminating transportation GHG emissions and reducing vehicle miles traveled (VMT)—for example, the California Air Resources Board’s 2022 Scoping Plan to Achieve Carbon Neutrality calls for local investments in electric shuttles, carshare, bikeshare, and microtransit to enhance low-carbon mobility and reduce VMT.²³

While most residents who rely on private vehicles (due to a variety of land use and lifestyle factors) will likely continue to do so in the near term, shared and micromobility options offer a viable alternative that can reduce reliance on automobiles. Crucially, they can deliver on key mobility equity criteria—such as affordability and accessibility, pollution reduction, and neighborhood connectivity—while supplementing other modes.²⁴

Shared mobility can increase access to EVs and zero-emission mobility for those who may be unable to purchase or lease an electric vehicle, or are unfamiliar with zero-emission transportation, and can accelerate economic activity and wealth building in communities that need it

For in-depth case studies and program design best practices, see [CLEE’s Electric Shared Mobility report](#).

most. As The Greenlining Institute has noted, shared mobility “can improve mobility for residents of underserved communities, reduce traffic and dependence on cars, and be engines of economic empowerment that help reduce the racial wealth gap.”²⁵

Several analyses have confirmed the ways in which shared and micromobility programs can advance multiple goals of the transportation decarbonization transition. For example:

- E-bike programs have been found to replace some car commutes,²⁶ and carshare program users have self-reported that these programs help them to travel more frequently and to connect to places they otherwise would not be able to access.²⁷
- Car-sharing programs have also been found to significantly reduce the need for private vehicle ownership (with round-trip programs having a greater impact than one-way programs)²⁸ and, as in the example of California’s Míocar and BlueLA programs, they can be particularly effective in introducing EV technology to lower-income populations while meeting the mobility needs of communities that have historically lacked transportation access.
- Micromobility programs can provide more cost effective transportation modes as compared to car ownership—although leaders must prioritize equitable pricing in program design—and provide increased mobility and more energy efficient modes of transport.²⁹

Although these programs have the potential to be impactful in promoting equitable access to EVs and transportation options, programs must be carried out in locally and culturally appropriate ways and must respond to input from the community to address community needs and concerns.³⁰ Transportation experts have noted that widespread knowledge about the availability of these services, separate application processes, confusing websites, non-culturally specific marketing, historic trends in which demographics use these services, and location of the services can all be barriers to effective implementation.³¹

Additionally, conducting needs assessments is a key strategy to inform agency leaders and elected officials of local variations in transportation perception, knowledge, and need. For example, a Philadelphia focus group indicated low-income residents saw bikesharing mainly as a recreational activity, while an Oakland Spanish-speaking focus group was unaware of carsharing but were interested once informed.³²

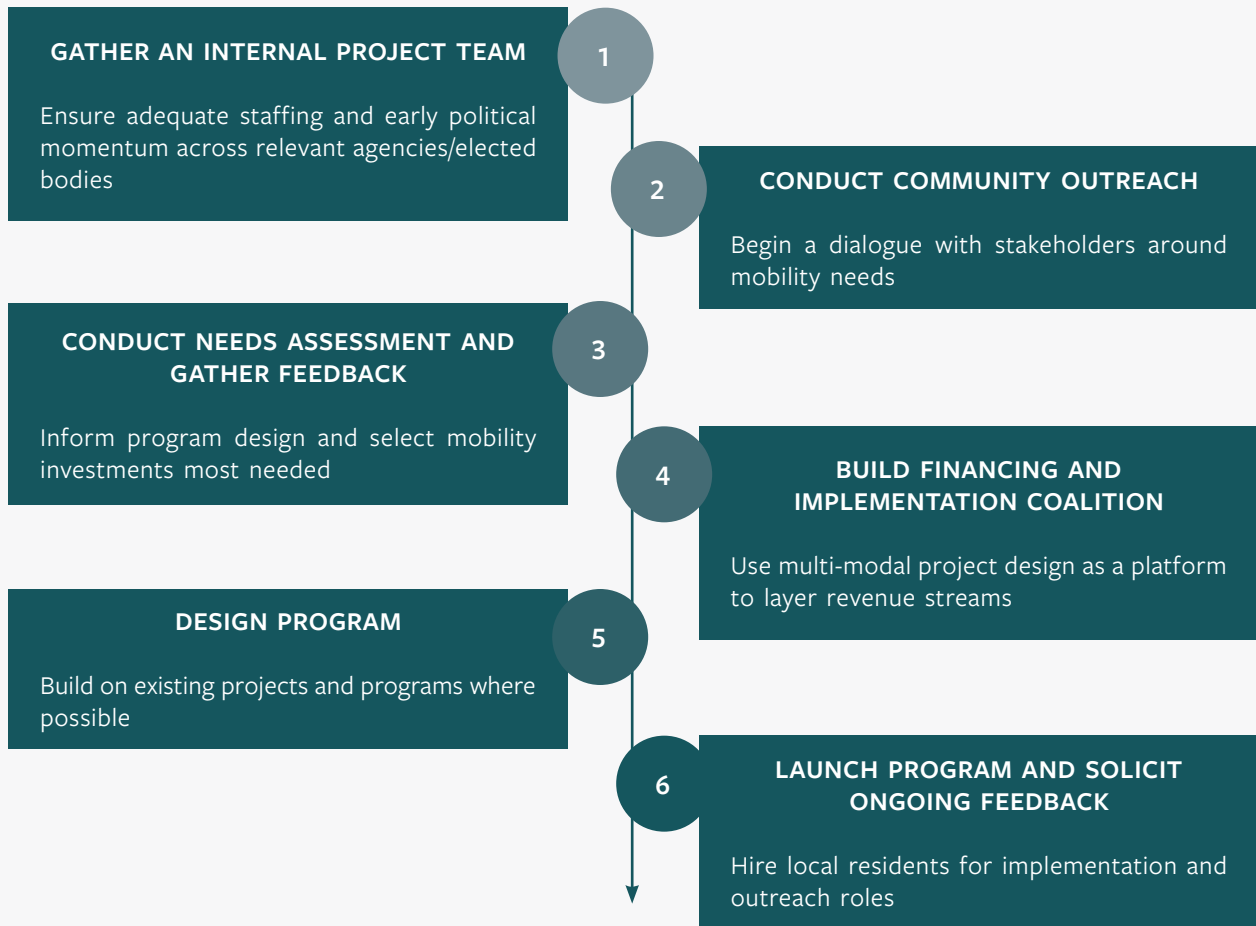
Electric shared mobility programs are a vital component of EV transition planning, but they must be implemented to meet the needs of the communities they serve. Local leaders should help identify and build community interest in and acceptance of shared and micromobility prior to making commitments, in accordance with the mobility equity engagement and inclusion strategies outlined in [§B](#). In addition, to ensure that electric shared mobility programs are effective and responsive to underserved communities, planners should:

- Pursue public investment and public-private coalitions to enhance program sustainability

- Prioritize underserved communities through accurate site selection and community engagement
- Ensure adequate staffing and early political momentum for programs
- Hire local residents to train and educate others when introducing new programs, and
- Build on existing community efforts and projects where possible to enhance program utility and increase program durability.

Figure 9 depicts steps in designing a successful shared mobility program.

Figure 9: Designing Equity-Focused Mobility Hub and Shared Mobility Programs



Source: Adapted from *Electric Shared Mobility: California Lessons Learned for Equity in Program Design and MTC Mobility Hub Implementation Playbook*.

F.1 DEVELOP AN OUTREACH AND EDUCATION PROGRAM

to inform residents about shared and micromobility options

Outreach and education should include:

i.	Information-sharing on shared and micromobility options and benefits
ii.	Robust solicitation of community input (see §B) on carshare, shared mobility, and micromobility options that can increase mobility within the jurisdiction, acknowledging that many land use patterns and commutes remain car-reliant and are not conducive to travel on bikes and scooters
iii.	Solicitation of feedback from community based organizations and local and regional stakeholder committees , with strategies to target communities that have historically had gaps in access to mobility and the unbanked, who may not be able to use standard forms of payment
iv.	Creation of community-driven advisory committees (see §B)
v.	Integration with city bike/active transportation plan development and community input processes
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> BlueLA Car Share Program, CA Program developed a Steering Committee comprising six local community organizations, which hosts community forums and conducts neighborhood outreach about the program. Boston E-Bike Request for Information, MA Boston put out a formal request to the local community for input on how to incorporate e-cargo bikes into the last-mile delivery ecosystem. <p><i>Local plans</i></p> <ul style="list-style-type: none"> Oakland ZEV Action Plan, CA Action MM-7: “In future updates to Oakland’s Bike Plan, address how the growing use of e-bikes is affecting bike travel patterns. Consider including Actions to promote E-bike usage, particularly in neighborhoods with high VMT, high pollution burdens, and poorer transit access.” San Francisco Climate Action Plan, CA Action TLU.2-6: “Update San Francisco’s Bike Plan by 2023 to improve and expand the active transportation network with robust community input.” <p><i>National examples</i></p> <ul style="list-style-type: none"> USDOE Project Lessons: EV Car Share, USA Federal website collecting descriptions of carshare program models and links to implemented examples from cities around the country.

F.2 CREATE AN EV CARSHARE PROGRAM BASED IN PRIORITY COMMUNITIES

Scope of services may include:

i.	Provision of charging infrastructure and shared EVs at affordable/low-income housing sites, public/curbside locations, or other high-priority sites in need of enhanced mobility
ii.	Additional e-mobility vehicles and charging
iii.	Expanding existing community mobility and shuttle program projects to include EVs and include equity strategies to expand programs to lower-income, low-mobility communities

F.2 CREATE AN EV CARSHARE PROGRAM BASED IN PRIORITY COMMUNITIES

Development and operation should include:

iv.	Partnerships with <u>local nonprofits and CBOs</u>
v.	Sliding scale pricing systems and/or subsidized rates for lower-income drivers
vi.	Prioritization of underserved communities through accurate site selection and community engagement , rather than relying solely on databases or census tracts (see §A.3 and §E.1)
vii.	Hiring of local residents to train and educate others when introducing new programs
viii.	Building on existing community efforts and projects where possible to enhance program utility and increase program durability
Examples	<p><i>Local urban examples</i></p> <ul style="list-style-type: none"> • Affordable Mobility Platform (AMP), USA USDOE-funded EV carshare and Level 2 charging program at affordable housing locations in eight states including Idaho, Illinois, Michigan, Missouri, Nevada, New Mexico, North Carolina, Oregon, and Washington. • Boston Metropolitan Area Planning Council Good2Go Pilot, MA Nonprofit EV carshare with 6 locations and scaled membership/reduced rates for qualifying participants. • Charlotte EV car share pilot, NC EV carshare program with 10 vehicles at 5 affordable housing sites representing over 500 units. • Los Angeles BlueLA EV carshare, CA EV carshare pilot with 40 locations focused in underserved communities, including steering committee and engagement led by 6 CBOs. Funded by CA cap-and-trade program. • Sacramento Our Community CarShare, CA Air quality district program offering EVs at subsidized rates for eligible residents at 10 residential communities. • Stockton, CA Miocar Pilot (and Transformative Climate Communities Grant Sustainable Communities Plan CP 5.5), CA EV carshare network program with three locations at multifamily properties and a county agency office. “Stations will be in historically underserved neighborhoods where mobility challenges are well documented and where there’s the greatest need.” Funded by CA cap-and-trade program. • TransForm/MTC Oakland, Richmond, San Jose car share and mobility hub pilot program, CA Pilot mobility program for mobility hubs at three Bay Area multifamily housing properties including EV carshare components. • Twin Cities Evie Program, MN EV carshare program with 170 vehicles available for use in Minneapolis/St. Paul region, with monthly membership fee and student discount option. • Twin Cities HOURCAR Multifamily EV Carshare Pilot Project, MN Program places EV charger hubs at multifamily complexes near affordable housing sites and adds 50 all-electric carshare vehicles to its fleet.

F.2 CREATE AN EV CARSHARE PROGRAM BASED IN PRIORITY COMMUNITIES

Examples (Continued)	<ul style="list-style-type: none"> • Wilson RIDE Program, NC On-demand rideshare program intended to serve lower-income, transit-dependent residents in lieu of fixed routes. <p><i>Local rural examples</i></p> <ul style="list-style-type: none"> • Clean Rural Shared Electric Mobility Project, OR Rural EV carshare program based at housing, city center, and tourist sites in Hood River. • Green Raiteros, CA Rural rideshare program in Huron which emerged from a pre-existing informal, community-centered effort. Has both paid drivers and volunteer drivers from the community. <p><i>Local plans</i></p> <ul style="list-style-type: none"> • Boston ZEV Roadmap, MA Action 1.3: Plan to issue an EV carshare RFP prioritizing locations in environmental justice communities and near mobility hubs. • Detroit Climate Strategy, MI Action 2.2: “Pilot EV carshare services in neighborhoods underserved by transit.” • Oakland ZEV Action Plan, CA Action CL-3: “The City will develop a “Smart and Equitable Mobility Hub” program, identifying goals, amenities, minimum services, fee structures, employment opportunities and responsible parties” including carshare and EV charging components.
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F.3 CREATE AN E-BIKE OR E-SCOOTER LENDING LIBRARY OR PURCHASE INCENTIVE PROGRAM

Programs may involve:

i.	Engagement with community members to identify priority locations, use cases, and bike/scooter types
ii.	Engagement with local bike shops and nonprofit partners to provide e-bike rentals at low daily or monthly cost and/or discounted purchases. While many e-bike rental and lending programs are operated by third parties, cities could consider direct ownership and management of assets to reduce overhead and offer lower rates.
iii.	Assessment of safety and completeness of existing bike lanes/roads to identify prerequisite planning needs (e.g., bike and scooter investments will not prove useful if the road network does not support them)
iv.	Expanding existing bike and micro mobility projects to include e-bikes and include equity strategies to expand programs to lower-income, low-mobility communities
v.	Income-qualified reduced rate structure, free access for lower-income riders, zero-fee/charge for no return policy, or purchase subsidy
vi.	Provision of cargo e-bikes alongside traditional e-bikes and scooters

F.3 CREATE AN E-BIKE OR E-SCOOTER LENDING LIBRARY OR PURCHASE INCENTIVE PROGRAM

Examples

Local programs

- [Austin Energy E-Ride Rebate, TX](#)
Municipal utility e-bike and e-scooter rebate program with vouchers up to \$1300 for income-qualified customers.
- [Berkeley E-Bike Lottery, CA](#)
The City will choose 50 qualifying low-income households by lottery to receive an electric bike. Each household will pay a \$100 refundable deposit and receive bike equipment, such as a bike lock, and safety training.
- [Chicago E-Scooter Pilot, CA](#)
Among other equity measures, [the 2020 pilot guidelines](#) mandated that vendors deploy at least 50% of their fleet in an “Equity Priority Area,” which encompassed about half of the city.
- [Colorado Community Access to Electric Bicycles Rebate Program, CO](#)
The Colorado Energy Office instituted an income-based tiered rebate program that provided participants funding (\$500 - \$1350) for several types of e-bikes available through partnered retailers.
- [Denver E-Bike Voucher Program, CO](#)
Denver distributes tiered e-bike vouchers (\$300 - \$1400) on a first-come, first-serve basis to income-qualified participants in partnership with local bike shops.
- [Oakland E-Bike Lending Pilot Program, CA](#)
A state grant-funded program to provide vouchers for e-bike purchases/rentals in underserved communities, in partnership with local bike shops. Includes a [community engagement program](#).
- [Oakland E-Scooter Program, CA](#)
E-scooter program in which vendors must offer discounted rates to low-income populations and adaptive vehicles are available to differently abled residents.
- [Portland E-Bike Incentive Program RFP, OR](#)
The City is issuing a request for proposals for a program to provide e-bike and cargo e-bike purchase subsidies for income-qualified households, redeemable at local retailers with sales and repair services. Program will also fund e-bike mechanic job training. Funding is provided by the city’s Clean Energy Community Benefits Fund.

Local plans

- [Boston ZEV Roadmap, MA](#)
Action 1.4: Plan to increase the accessibility of e-bikes and associated infrastructure including through an e-bike purchase subsidy.
- [Oakland ZEV Action Plan, CA](#)
Action MM-1: “Create an electric bike library to allow Oaklanders to check-out an electric bike for a long periods of time at low cost, like checking out a library book.”
- [San Francisco Climate Action Plan, CA](#)
Action TLU.2-2: “Expand community programs and partnerships to make biking more accessible, via safety and maintenance classes, community parking, and subsidies for electric bikes for low-income residents.”

F.4 IMPLEMENT EV RIDESHARE AND SHUTTLE SERVICES FOR PRIORITY POPULATIONS

Programs may include:

i.	Linkages to and electrification of existing senior and social service/health care transportation programs
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • St. Louis Vehicle Electrification Rides for Seniors (SiLVERS), MO Social service agency-administered community EV rideshare service for senior citizens to access appointments, shopping, and other critical needs.

F.5 IMPLEMENT A UNIVERSAL BASIC MOBILITY PROGRAM OR PILOT

Program could include:

i.	Provision of prepaid cards or other financial support to lower-income residents for use on transit, shared, and micromobility services
ii.	Direct investment in new mobility services like EV carshare and charging, shuttles, and micromobility or vehicle electrification support for existing nonprofit transportation assistance services
iii.	Community education and public information sessions
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Los Angeles Universal Basic Mobility Program, CA City pilot program for South LA including monthly mobility wallet stipend, e-bike lending library, community shuttle, public EV charging, and more, funded by CA cap-and-trade program and city funds. • Oakland Universal Basic Mobility Pilot Program, CA City program providing prepaid \$300 transit cards to low- and moderate-income residents of East and West Oakland plus discounted access to public and microtransit services, funded by county transit agency grants. • Portland Transportation Wallet Access for All, OR City Bureau of Transportation program providing prepaid transit cards, free bikeshare access, and preloaded credit cards for use on transportation services for income qualified households, administered by local CBOs. An expansion is planned through the city's Clean Energy Community Benefits Fund. • ValleyCAN/Cal-ITP ZEV Equity Charging Card, CA A preloaded and reloadable contactless debit card designed to make it easier for priority communities to access and use mobility subsidies to be spent specifically on sustainable transportation, including ZEV charging, transit, and bike/scooter sharing, among others. Participants were largely low-income candidates identified from ZEV incentive programs and CBO partnerships.

F.6 DEVELOP LOCAL GUIDANCE FOR MICRO AND SHARED MOBILITY AT CHARGING AND MOBILITY HUBS

Guidance should cover:

i.	Shared mobility and micromobility hub components, amenities, safety, and design considerations for the jurisdiction
ii.	Locally specific site selection priorities (see §A.3 and §E.1) and development considerations
iii.	Strategies for coalition formation (jurisdiction-jurisdiction, jurisdiction-community-business, etc.) to combine sites and funding streams that cover shared and micromobility options
Examples	<p><i>Local guidance</i></p> <ul style="list-style-type: none"> • Bay Area MTC Mobility Hubs Implementation Playbook, CA Regional guide for local mobility hub development from component and amenity selection to governance models, funding sources, assessment, and equity. • Boston Neighborhood Mobility Hubs Guidebook, MA City guidebook describing mobility hub component parts and identifying top candidate locations for development. • Chicago Mobility Hub Network Framework, IL Strategic plan for regional mobility hub project planning under development by Regional Transportation Authority, county DOT, and Shared-Use Mobility Center. <p><i>Other resources</i></p> <ul style="list-style-type: none"> • The nonprofit Shared Use Mobility Center offers shared mobility action plans and strategies for a range of jurisdictions nationwide. USA • For detailed examples of mobility hub pilots, see §E.6.

F.7 DEVELOP SECURE PUBLIC PARKING AND CHARGING FOR E-BIKES AND E-SCOOTERS

Amenities and scope should include:

i.	Charging-enabled bike lockers at transit hubs and commercial destinations
ii.	Weather protection, particularly for e-bike storage and charging
iii.	Building code requirements for onsite e-bike and scooter charging stations (plus safety requirements)
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • BART Bikehub, CA Regional commuter rail network offers free secure bike parking at all stops, with select stations offering staff services, bike repairs, and parts/gear sales. • Chicago Divvy E-bikeshare Program, IL Chicago DOT/Lyft partnership to pilot five locations hosting city bikeshare docks with integrated e-bike charging stations. • Bikeshare Pittsburg (POGOH Program), PA POGOH seeks to increase e-bike use in the city through various strategies, including station density and ridership expansion, bikesharing education, and others. The organization works with BIPOC and low-income communities “to better connect residents to the bikeshare system through inclusive pricing models, station locations, partnerships, and public engagement.”

F.7 DEVELOP SECURE PUBLIC PARKING AND CHARGING FOR E-BIKES AND E-SCOOTERS

Examples (Continued)	<p><i>Local plans</i></p> <ul style="list-style-type: none"> • New York City PlaNYC, NY Action 22: “Create thousands of secure public bike parking spots...Providing curbside access to secure bike storage for residents who lack access to bike storage, including for oversized models and e-bikes, will promote more frequent use.” • Oakland ZEV Action Plan, CA Action MM-6: “Identify strategies and seek funding to provide secure public bike storage and low-stress bikeways throughout the City and especially expanding to frontline communities.” • San Diego Climate Action Plan, CA Action 2.3 SA-4: “Amend the building code to require charging stations for electric bicycles.” • San Francisco Climate Action Plan, CA Action TLU.2-2: “Expand community programs and partnerships to make biking more accessible, via safety and maintenance classes, community parking, and subsidies for electric bikes for low-income residents.”
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F.8 DEVELOP AND/OR EXPAND PROTECTED BIKE LANE AND SLOW STREET NETWORKS (E.G., COMPLETE STREETS POLICIES) THAT SUPPORT E-BIKES AND E-MICROMOBILITY

Plans and programs should:

i.	Ensure that plans for bike- and scooter-dedicated lanes, design measures, and policies that enable safe road use for all travelers (cyclists, pedestrians, motorists, transit riders) encompass electrified options
ii.	Prioritize safety while promoting locally appropriate efficient, low-emitting travel modes. Smart Growth America’s national guidance on Complete Streets policy development includes best practices and links to jurisdictions that have adopted them
iii.	Consider tradeoff between bike lane expansion and reduction of parking spaces and paired charging stations for prospective EV drivers who are deterred by limited charging options
iv.	Consider anti-displacement measures and community demand for active transportation investments

Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Smart Growth America Complete Streets Case Studies, USA Examples of Complete Streets policies adopted by diverse jurisdictions around the country, including Best of 2023 examples from jurisdictions such as El Paso, New Orleans, Tucson, and Howard County, MD. <p><i>Local plans</i></p> <ul style="list-style-type: none"> • Detroit Climate Strategy, MI Action 2.8: “Make equitable investments in pedestrian and cyclist infrastructure.” • San Francisco Climate Action Plan, CA Action TLU.2-1: “Continue to expand programs that provide corridors that are attractive to all demographics for walking, biking, and using scooters, wheelchairs, and other small mobility devices.” Action TLU.2-4: “Expand the protected bikeway network by at least 20 miles by 2025.” Action TLU.2-6: “Update San Francisco’s Bike Plan by 2023 to improve and expand the active transportation network with robust community input.”
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F.9 CONDUCT BIKESHARE-BASED AIR QUALITY MONITORING EXERCISES

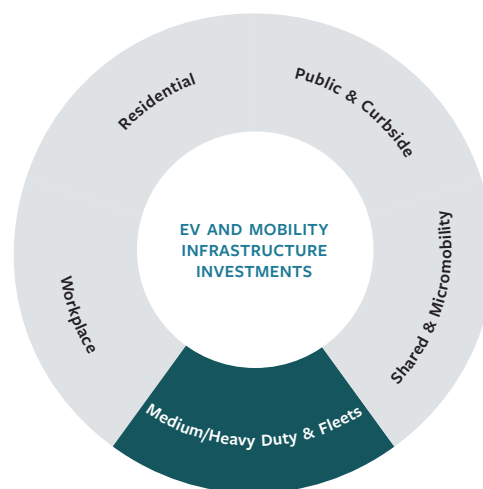
Considerations:	
i.	This may include collaboration between local bikeshare programs, air quality/public health departments, and researchers
ii.	Programs should connect riders to a publicly accessible website/map depicting the air quality data in real time
Examples	<p><i>Bike air quality monitoring pilots</i></p> <ul style="list-style-type: none">Programs in Boston, Houston, and elsewhere have piloted the approach to collect air quality data via bike in neighborhoods not reached by current citywide monitoring efforts. MA, TX <p><i>Other examples</i></p> <ul style="list-style-type: none">New York City Community Air Survey, NY University-public health department collaboration to track local air quality seasonally at over 100 locations.

Advancing Equity through Shared Mobility

The Greenlining Institute’s [Mobility Equity Framework](#) emphasizes the importance of investing in sustainable transportation modes that meet the needs of specific communities. In many communities this will include private EV use, but in many areas it will also include e-mobility, shared mobility, and transit access that enhance mobility and connectivity, particularly for lower-income residents who are most likely to lack private automobiles. Increasing non-automobile travel is also a priority for state agencies. For example, the California Air Resources Board’s [Scoping Plan to Achieve Carbon Neutrality](#) calls for significant reductions in vehicle miles traveled, spearheaded by local governments. A robust and effective strategy for equitable EV charging should incorporate alternative modes that are appropriate for priority populations and that often entail reduced capital and operational costs. Shared and micromobility strategies should also contain cost-control mechanisms to ensure that these programs maintain affordability for priority populations.

G. MEDIUM/HEAVY-DUTY AND FLEETS

G. MEDIUM/HEAVY-DUTY AND FLEETS	
G.1	Develop a plan and secure funding to transition all public fleet vehicles to zero-emissions
G.2	Create an interagency team to identify sites, facilitate permitting, and conduct outreach
G.3	Conduct a combined assessment of electrification needs and benefits
G.4	Adopt a zero-emissions transition roadmap for ports and/or zero-emissions delivery zone plans
G.5	Identify MHD charging hub locations and develop a zoning update to permit them
G.6	Require MHD fleet vehicle host sites to upgrade for charging readiness
G.7	Develop a community engagement and community benefits approach
G.8	Establish local programs to support and incentivize private fleet electrification
G.9	Identify and map local freight corridor for investment prioritization
G.10	Develop a workforce development plan and hiring requirements



Medium- and heavy-duty (MHD) vehicles, such as delivery trucks, buses, and freight vehicles are particularly significant sources of harmful air pollution in all cities. Those that are home to major ports, distribution centers, industrial operations, and high-traffic highway corridors have a particular interest in electrifying MHD vehicles, and electrifying these vehicles is a matter of particular urgency for neighboring priority communities.

While MHD vehicles represent a small portion of all vehicles on the road, they account for disproportionate levels of nitrogen oxide and particulate matter emissions, which are shown to have harmful health effects on surrounding communities. The communities that bear the brunt of this pollution are most often lower-income communities of color.

Cities and communities that are home to major ports, distribution centers, industrial operations, and high-traffic highway corridors need to prioritize electrifying MHD vehicles to decrease the harmful emissions associated with these operations. In that sense, transitioning to zero-emission MHD vehicles serves a twofold purpose, both easing the pollution burden on vulnerable communities near port and in-

HYDROGEN AND MHD VEHICLES

Hydrogen fuel-cell technology has the potential to provide a pathway to zero-emissions medium- and heavy-duty vehicles that may compete with or complement battery electric technology, although it raises many questions regarding life-cycle emissions, energy sources, and equity. This Framework does not directly discuss hydrogen technologies for the MHD segment, but acknowledges that with strong climate and environmental justice protections, they could provide an alternative and are the subject of many public and private plans and investment strategies.

dustrial operations and contributing to the overall goal of transitioning to a greener transportation system.

Additionally, the economic ecosystem associated with MHD is a major employment source (in port communities in particular) and the electrification of this sector, with proper planning, could provide a foundation for the development of new, well-paying jobs for cities. The US EPA offers a [toolkit](#) for local governments and ports seeking to engage port communities in environmental policy development.

In parallel to electrifying freight hubs and ports, many local governments will prioritize public fleet electrification, including both light-duty departmental vehicles and medium- and heavy-duty service and transit vehicles, as an opportunity to use existing procurement processes and staff capabilities to advance zero-emissions goals. Local leaders should ensure that the first fleets to electrify are those that serve primarily priority communities facing the greatest air pollution burdens and lowest visibility of EV technology.

At the same time, local governments face a host of challenges with respect to rapid fleet electrification, from the limited availability of EVs across all vehicle classes to inadequate electric grid capacity for charging. Developing solutions to these challenges can help inform approaches for broader public adoption. A [comprehensive approach](#) to MHD electrification could cover vehicles, charging, financing, workforce, and community benefits elements—many, but not all, within the purview of local governments.

In addition, ten states and Washington, DC have adopted the Advanced Clean Trucks standard which will steadily increase the use of zero-emission MHD vehicles over the coming decades.³³ While local governments are not responsible for private fleet turnover, they often operate and maintain significant public fleets and, more broadly, they have an interest in ensuring the transition is smooth, delivers immediate air quality benefits to environmentally vulnerable communities, and minimizes business disruption for local businesses.

G.1 DEVELOP A PLAN AND SECURE FUNDING TO TRANSITION ALL PUBLIC FLEET VEHICLES (MHD AND LIGHT-DUTY) TO ZERO-EMISSIONS	
Plan should include/involve:	
i.	<p>Consideration of the following public fleet vehicles:</p> <ul style="list-style-type: none"> • City-owned buses and school buses • Transit vans • Truck fleets • Light-duty (e.g., staff, traffic, police, parks) automobiles
ii.	<p>Prioritization of fleets operating in priority communities and with highest-impact routes, and fleet vehicles that travel the most miles and use the most gasoline</p>
iii.	<p>Both vehicle transition and supporting charging/fueling infrastructure availability at fleet parking lots and/or privately operated charging facilities</p>
iv.	<p>Fleet operator EV and charging training</p>

G.1 DEVELOP A PLAN AND SECURE FUNDING TO TRANSITION ALL PUBLIC FLEET VEHICLES (MHD AND LIGHT-DUTY) TO ZERO-EMISSIONS

v.	Provision of informational resources for school districts and transportation departments/transit agencies, such as State of Michigan Community EV Toolkit - Fleet Electrification
vi.	Local procurement preferences for charging installation and local hiring preferences for vehicle and charging maintenance (to the extent permitted by overarching procurement standards) to promote workforce development
vii.	Strategy to allow crossover charging use for public fleet, private fleet, and community vehicles
viii.	Measures to connect city departments and third-party service providers (where applicable) to resources available through Bipartisan Infrastructure Law and Inflation Reduction Act and state funding sources such as California’s Hybrid and Zero-Emission Truck and Bus Incentive Project and Virginia’s Dominion Energy Electric School Bus Program and federal Clean Heavy Duty Vehicle Program , Low or No Emission Grant Program , and Clean School Bus Program .
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Madison Fleet Electrification, WI City has invested in over 100 fleet EVs and plans for 100 percent electrification by 2030. • Montgomery County School District, MD Largest electric school bus fleet in the US with a target of 100% zero-emission buses by 2035. • Oakland Unified School District, CA In partnership with Zum mobility and electrification platform, the district is converting to a 100% electric fleet for its 74 school buses, including dedicated bidirectional charging. • San Francisco Environment Code §404, CA Requires all new light-duty fleet vehicles to be zero-emission vehicles. <p><i>Local plans</i></p> <ul style="list-style-type: none"> • Ann Arbor Climate Action Plan, MI Action 2.4: Sets target to electrify 90% of the city’s fleet by 2025. • Chicago Transit Authority Bus Electrification Plan, IL Comprehensive bus fleet electrification strategy including investment timeline and equity-based community prioritization. • Detroit Climate Strategy, MI Actions 2.4-2.6: “Transition City light-duty vehicle fleet to 100% zero-emission by 2034...Transition City heavy-duty vehicles to zero-emission and clean fuel options...Transition City bus fleet to electric or clean fuel buses.” • Kalamazoo Community Sustainability Plan, MI Establishes a city fleet electrification strategy including piloting via leased vehicles and a long-term fleet transition plan. • New York City PlaNYC, NY Action 23: “Electrify school buses by 2035.” • New York City Clean Fleet Plan, NY Strategic plan to reduce public fleet emissions 80% by 2035.

G.1 DEVELOP A PLAN AND SECURE FUNDING TO TRANSITION ALL PUBLIC FLEET VEHICLES (MHD AND LIGHT-DUTY) TO ZERO-EMISSIONS

Examples (Continued)	<ul style="list-style-type: none"> • Oakland ZEV Action Plan, CA Action CL-8: “By 2030, ensure that over 50% of the City’s fleet uses alternative fuels, with 100% of all non-emergency response sedan purchases being zero-emission vehicles. By 2030, triple the number of electric vehicle chargers dedicated to fleet vehicles. By 2025, develop a feasibility study to identify zero-emission and alternative fuel solutions for all City heavy-duty and emergency response vehicles and equipment.” • San Francisco Climate Action Plan, CA Action TLU.7-3: “By 2024, develop a plan to help the City’s nonrevenue fleet and small and locally owned businesses build infrastructure that allows for zero-emission delivery, drayage, and longer haul trucks.” • Twin Rivers Unified School District Electric Vehicle Blueprint, CA Plan to transition district’s entire school bus fleet to electric including a needs assessment, community consultation, and workforce development recommendations. District fleet includes over 70 electric buses and 35 compressed gas buses. <p><i>Additional resources</i></p> <ul style="list-style-type: none"> • The Multi-State ZEV Task Force convened by 17 member states of NESCAUM has developed a Medium- and Heavy-Duty ZEV Action Plan with recommendations across vehicles, infrastructure, financing, workforce, and more. USA
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G.2 CREATE AN INTERAGENCY TEAM TO IDENTIFY SITES, FACILITATE PERMITTING, AND CONDUCT OUTREACH TO FLEET-OPERATING BUSINESSES

Team members and activities should include:	
i.	Relevant city departments and external stakeholders such as utilities, ports, and major warehouse/distribution operators in the jurisdiction
ii.	Mechanisms to incorporate feedback from affected communities and report regularly to them
iii.	Connecting with CBOs that lead outreach efforts in port and highway-adjacent communities and among workers in freight-related industries
Examples	<p><i>Local plans</i></p> <ul style="list-style-type: none"> • Oakland ZEV Action Plan, CA Action MHD-3: “Within one year of plan adoption, finalize a Partnership Agreement among the Port of Oakland, EBCE, PG&E, and relevant City departments (including Planning and Building, Sustainability, Economic & Workforce Development, and Transportation) identifying roles and expectations, and establishing a quarterly Working Group among these parties to address issues of permitting, electric service upgrades, land use and transportation impacts, and related issues for planning and constructing MHD charging and fueling infrastructure.”

G.3 CONDUCT A COMBINED ASSESSMENT OF ELECTRIFICATION NEEDS AND BENEFITS
including charging/grid needs, air quality benefits, and equity implications of MHD and port electrification

Considerations

i.	Conducting a combined assessment can help address the particularly complex infrastructural needs, resilience implications, air quality impacts, and high costs of MHD and port charging projects
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Chicago Transit Authority Bus Electrification Plan, IL Includes evaluation of facility and capacity upgrade needs, plus air quality benefits assessment. • Interstate 710 Corridor Heavy-Duty Charging Investment Blueprint, CA Assessment of business model for truck charging needs along highway corridor serving Port of Long Beach, including grid and traffic analyses and specific site selections. • Seattle MHD Needs Assessment, WA Evaluation of citywide MHD electrification vehicle, charging, and grid/capacity needs including multiple fleet and charging types and anticipated charger counts by location, plus recommendations on equity in process. • Port of Providence Truck Count and Assessment Study, RI Two-part study that evaluates truck behavior and characteristics in and around the Port of Providence then identifies a series of strategies to reduce truck emissions in port area—including vehicle booking systems, truck queuing/staging areas and anti-idling measures.

G.4 ADOPT A ZERO-EMISSIONS TRANSITION ROADMAP FOR PORTS AND/OR ZERO-EMISSION DELIVERY ZONE PLANS

Roadmaps and zero-emission delivery zone programs should include:

i.	Truck (road and drayage) electrification and charging commitments alongside other port emissions reduction strategies , including zero-emissions hydrogen vehicles and infrastructure where appropriate
ii.	Linkages to state port decarbonization programs, such as Washington Port Electrification Grant program
iii.	Parking priority for ZEV delivery vehicles
iv.	Access charges for non-ZEV delivery vehicles
v.	Eventual transition to restriction on zone access by non-ZEV delivery vehicles
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Port of Detroit Decarbonization Plan, MI Plan to achieve net zero port emissions by 2040 includes significant focus on community engagement and community benefits. • Portland Zero Emission Delivery Zone Pilot, OR USDOT-funded project to test regulated zero-emission delivery zone strategies like parking preference for ZEV delivery vehicles and monitoring of vehicles accessing the zone.

G.4 ADOPT A ZERO-EMISSIONS TRANSITION ROADMAP FOR PORTS AND/OR ZERO-EMISSION DELIVERY ZONE PLANS

Examples (Continued)	<ul style="list-style-type: none"> San Pedro Bay Ports Clean Air Action Plan, CA The ports of Long Beach and Los Angeles have adopted a joint clean air plan for ships, port equipment, and vehicles, including a technology advancement program and multiple truck electrification pilots.
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G.5 IDENTIFY MHD CHARGING HUB LOCATIONS AND DEVELOP A ZONING UPDATE TO PERMIT THEM

Location identification should include:

i.	Site selection process based on industrial and commercial sites, MHD travel corridors, community needs/impacts, and physical and grid capacity limitations given significant power and infrastructure demands of MHD infrastructure
ii.	Identification of high-MHD-pollution routes and communities for priority investment as well as high-capacity areas of the electrical grid , such as through EPRI eRoadMAP
iii.	Engagement with utility and business leaders, community groups, ports and US military where applicable, and community groups
iv.	Zoning ordinance amendment to facilitate MHD charging as an allowable land use

Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> Oakland ZEV Action Plan, CA Action MHD-1: “By 2025, assess and identify sites where zero-emission MHD charging (for BEVs) or fueling (for green hydrogen) may be an appropriate allowable land use, either as a stand-alone use or in coordination with additional co-locatable land uses. The designation shall account for impacts to the surrounding community, including noise, traffic congestion, and potential air pollution or ground contamination. Site identification shall include a public process to help inform which sites would be optimal candidates to include.” Oakland Zoning and Air Pollution Mapping Tool, CA Online map tool combining data on air quality, commercial/industrial zoning, and major truck routes and hubs to identify high-priority MHD transition zones. San Diego Climate Action Plan, CA Action 2.3 SA-8: “Continue to work with [MPO, air district], U.S. Navy, the Port of San Diego and other partners on medium and heavy duty (MD/HD) ZEV infrastructure planning. Consider future policies to advance MD/HD ZEV adoption and utilization in the Portside Communities, Border Communities, and other major logistics hubs.”
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G.6 REQUIRE MHD FLEET VEHICLE HOST SITES TO UPGRADE FOR CHARGING READINESS and push electric utilities to support upgrades with capacity

Efforts should include:

i.	Requirement for industrial and commercial properties that host MHD fleet vehicles to invest in infrastructure and grid capacity upgrades for EV charging readiness, or to prepare a site plan for such investments
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G.6 REQUIRE MHD FLEET VEHICLE HOST SITES TO UPGRADE FOR CHARGING READINESS
and push electric utilities to support upgrades with capacity

ii.	Proactively engaging electric utilities to upgrade distribution service where needed for charger interconnection, acknowledging that upgrade backlogs can delay projects by months if not years
iii.	Local government acknowledgment that capacity and service upgrades can serve both MHD fleet sites and surrounding communities' light-duty charging needs
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> Chicago 95th Street Bus Terminal, IL USDOT-funded \$25 million project includes six EV bus chargers and capacity upgrades plus infrastructure for e-bike charging. <p><i>Local plans</i></p> <ul style="list-style-type: none"> Oakland ZEV Action Plan, CA Action MHD-2: "By 2025, develop a plan to require existing business that own or host MHD fleet vehicles to invest in site upgrades for zero-emission charging/fueling infrastructure, or to provide a business and investment plan for those upgrades."

G.7 DEVELOP A COMMUNITY ENGAGEMENT AND COMMUNITY BENEFITS APPROACH
for MHD charging depot and port electrification developments

Considerations:	
i.	This includes establishing a set of community benefits and process considerations to be included in any city agreement for the development of large-scale MHD charging sites. See community benefits resources in SB for more information and tools.
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> San Diego Co. CBA Program, CA County-level initiative to programmatically incorporate community benefits agreements (CBAs) and similar strategies in renewable energy development proposals. San Pedro Bay Ports Clean Air Action Plan Stakeholder Advisory Group, CA Community/public group convenes regularly to review and provide input for port staff responsible for implementing clean air plan. West Oakland Community Action Plan, CA Air district-CBO collaboration to plan port community zero-emission transition.

G.8 ESTABLISH LOCAL PROGRAMS TO SUPPORT AND INCENTIVIZE PRIVATE FLEET ELECTRIFICATION

including a small business engagement officer role to assist with accessing MHD clean vehicle incentives and technical assistance from public fleet managers who have led fleet electrification efforts

Support and incentive creation includes/involves:	
i.	Connecting small businesses/fleets and individual truck owners to electrification incentives and resources
ii.	Engagement with port/MHD/clean air-focused CBOs such as Southwest Detroit Environmental Vision and West Oakland Environmental Indicators Project

G.8 ESTABLISH LOCAL PROGRAMS TO SUPPORT AND INCENTIVIZE PRIVATE FLEET ELECTRIFICATION

including a small business engagement officer role to assist with accessing MHD clean vehicle incentives and technical assistance from public fleet managers who have led fleet electrification efforts

iii.	Informational resources and hands-on technical assistance with electrification/charging basics, applications, and infrastructure needs
iv.	Federal Inflation Reduction Act and Bipartisan Infrastructure Law opportunities as well as state programs like New Jersey Zero-Emission Incentive Program and New York Truck Voucher Incentive Program
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Seattle City Light Fleet Electrification Program, WA Municipal utility program offering free guidance to local businesses seeking to electrify their vehicle fleets. • Smart Columbus Electrified Dealer Program, OH City program that certifies dealers who commit to stocking and promoting EVs and participating in city trainings and information-sharing. <p><i>Local plans</i></p> <ul style="list-style-type: none"> • Ann Arbor Climate Action Plan, MI Action 2.5: Sets target to electrify 50% of the private fleet by 2030. • New York City PlaNYC, NY Action 20: Strategy to reduce truck pollution includes supporting actions such as implementing a low-emissions freight zone, ending truck idling, and promoting use of cargo bikes. <p><i>State examples</i></p> <ul style="list-style-type: none"> • New York Clean Trucks Program, NY City program providing financial incentives for EV truck replacements in key economic development zones. • State of Michigan Community EV Toolkit - Fleet Electrification, MI Guide to local fleet electrification including MHD information, funding opportunities, workforce development resources, and consulting services. • Washington State Transportation Electrification Strategy, WA Includes a proposal to create “a scrap-and-replace incentive program for high-emissions MHDVs with viable battery electric alternatives.” <p><i>Other resources</i></p> <ul style="list-style-type: none"> • Electrification Coalition Freight Funding Guidance, USA Summarizes opportunities in the Inflation Reduction Act, Bipartisan Infrastructure Law, and other federal programs for MHD fleets.

G.9 IDENTIFY AND MAP LOCAL FREIGHT CORRIDORS FOR INVESTMENT PRIORITIZATION

Considerations:

i.	Assessment should identify any areas that are part of state or federal MHD corridor funding for infrastructure that supports electrification
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Clean Cities and Communities freight efforts, USA • Interstate 710 Corridor Heavy-Duty Charging Investment Blueprint, CA Assessment of business model for truck charging needs along highway corridor serving Port of Long Beach, including grid and traffic analyses and specific site selections. • SE Michigan Council of Governments Freight Planning Efforts, MI Regional effort to plan freight corridor development and investment projects. • West Oakland Community Action Plan, CA Community air quality plan includes mapping comparisons of ports and freight corridors, air quality distribution, community resources, and redlining. <p><i>State example</i></p> <ul style="list-style-type: none"> • California Public Utilities Commission Zero-Emissions Freight Planning, CA State process includes utility-led case study analysis of HD electrification needs at three high-priority freight corridors.

G.10 DEVELOP A WORKFORCE DEVELOPMENT PLAN AND HIRING REQUIREMENTS FOR PORT AND MHD FLEET ELECTRIFICATION EFFORTS

Considerations:

i.	Planing can allow local agencies to access funding available through EPA's Clean Port Program and other state programs to ensure workforce opportunities for underserved communities
Examples	<p><i>State examples</i></p> <ul style="list-style-type: none"> • California Energy Commission ZEV Workforce Training and Development Strategy, CA Outlines the state's ZEV workforce development goals and activities and identifies the Energy Commission's role in building a ZEV workforce. Includes workforce considerations for fleet conversions. • California Public Utilities Code §740.20, CA Requires utility-funded charging infrastructure projects to include at least one electrician on each crew to hold an Electric Vehicle Infrastructure Training Program (EVITP) certification. <p><i>Federal example</i></p> <ul style="list-style-type: none"> • US EPA Clean Port Program, USA Local agencies with jurisdiction over a port or port authority may apply to two types of grant opportunities: 1) a planning competition; or 2) ZE technology including: ZE mobile equipment serving a port, ZE infrastructure serving mobile equipment, ZE technology deployment support.

Advancing Equity through MHD and Fleet Electrification

In 2019, the Bay Area Air Quality Management District partnered with the West Oakland Environmental Indicators Project, an environmental justice community-based organization headquartered in the city's most heavily port- and freight-impacted community, to develop a community-scale air quality improvement plan largely dedicated to MHD strategies. The [West Oakland Community Action Plan](#) identifies targets for criteria pollutant reductions, highlights specific emitting facilities and companies, and outlines actions across policy areas such as land use, mobile source regulation, and more. This plan can serve as a model of MHD zero-emissions planning centered in priority communities.

Charging for medium- and heavy-duty vehicles is particularly energy- and infrastructure-intensive, and truck traffic often brings noise pollution and road congestion along with its heavy air quality impacts (which electrification will mitigate). Local leaders should take particular care to ensure that MHD charging depots are located at existing industrial and commercial sites or other locations appropriate for commercial activity. Leaders should focus on the needs of historically redlined communities that suffer disproportionately from freight traffic and avoid drawing additional truck traffic to already-impacted communities without adequate community benefits.

For a case study on community-driven MHD charging development in a freight-burdened community, see [The Greenlining Institute's analysis of a project on the I-710 corridor](#).

H. WORKPLACE

H. WORKPLACE	
H.1	Work with private employers to survey employees and promote workplace charging
H.2	Partner with employers whose charging installations could serve employees and residents
H.3	Facilitate network for information-sharing among employers
H.4	Require large employers to adopt commuter benefits programs

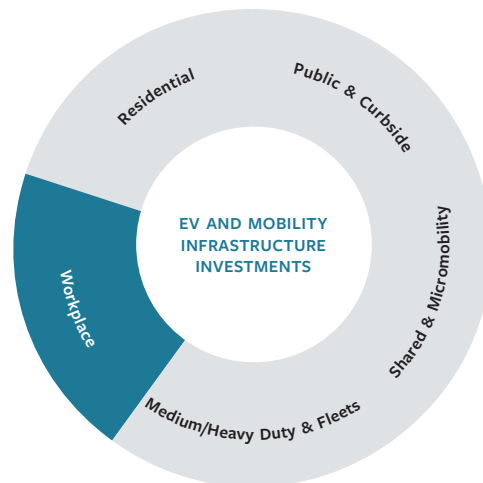
While reliable public transit is the lowest-emissions, lowest-cost option for commutes and should be prioritized in local climate action and transportation plans, people throughout the country rely on automobiles to get to work. As EV adoption increases, workplace charging will be in high demand and will play a vital role in the charging network in regions and cities where auto commutes prevail.

Currently, about 80 percent of employers provide some form of parking access, and charging an EV during work hours affords the second-best window for long, low-cost charging (behind residential charging).³⁴ Convenient workplace charging facilitates EV adoption for drivers who lack access to reliable home charging options and helps complete the charging network for all drivers. Additionally, workplace charging tends to occur during the day when peak energy demand is lower and renewable energy production, like solar, is higher.³⁵

Charging at workplaces can also serve multiple purposes, namely employee charging during the workday, and community charging overnight.³⁶ These “shared private” chargers may play a vital role in many localities’ efforts to ensure reliable, convenient charging in a range of communities—for example, the National Renewable Energy Laboratory estimates that nine of the top 10 most populous metropolitan areas in the US will have ten thousand or more workplace ports by 2030.³⁷

However, workplace charging to date has typically centered in upper-income office employment, and employers and local government leaders will need to expand charging to more diverse employment locations to serve all employees and residents who need it.³⁸ Across a range of workplace types and locations, workplace charging can serve as a valuable employee amenity and retention strategy, promoting local economic development through employee satisfaction.

As part of a comprehensive and equitable approach, local leaders should craft a set of strategies to promote safe and convenient vehicle charging during working hours for employees and after hours for community neighbors. These strategies can reflect the needs and



locations of the specific employers and industries most relevant in the city and the unique ability of large institutions—as employers of large numbers of residents and in many cases owners of large parking facilities—to meet employee, customer, and community needs.³⁹

Public efforts should focus on:

- Employers located in priority communities with the potential to serve both employees and members of the community
- Employers throughout the jurisdiction whose employees commute from priority communities
- Strategies that ensure charging access for employees least likely to have it at home, and
- Programs that link EV charging with shared mobility and transit options tailored to the commuting context.

H.1 WORK WITH PRIVATE EMPLOYERS TO:	
<ol style="list-style-type: none"> 1. Survey employees and local residents on charging needs and preferences at the workplace 2. Promote workplace charging programs 	
Efforts should:	
i.	Focus on employers with dedicated parking facilities in priority communities that can serve residents in those communities; and employers jurisdiction-wide that can serve employees who commute from priority communities
ii.	Work through local business and economic development coalitions that support businesses and building owners seeking to manage environmental impacts
iii.	To maximize impact, focus on large employers that have financial/operational capacity to serve as charging hosts and on industry groups (e.g., restaurants, retail) to connect with smaller employers
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Denver ZEV Roadmap, CO “Develop an education and outreach campaign, in conjunction with existing fleet and workplace electrification initiatives, to reach out to large fleet owners and large workplaces to educate them about the benefits of EVs and EV charging.” <p><i>National examples</i></p> <ul style="list-style-type: none"> • 2030 Districts Network, USA Nationwide coalition of city business districts and local buildings/businesses focused on environmental performance and emissions reduction, including transportation, with city members such as Cincinnati, Detroit, Pittsburgh, and Tucson. • Electric Vehicle Adoption Leadership (EVAL), USA National workplace EV charging certification network.

H.2 PARTNER WITH EMPLOYERS WHOSE CHARGING INSTALLATIONS COULD SERVE EMPLOYEES AND RESIDENTS

and connect them with state- and utility-sponsored incentive programs

Prospective sites for installations include:

i.	Schools
ii.	Houses of worship
iii.	Healthcare centers
iv.	Shopping/service destinations
v.	Other community facilities (in particular those that serve as trusted resources for non-English speakers)

Partnership development should involve:

vi.	Surveying employers on their willingness/barriers to provide infrastructure that serves employees, customers, and the neighboring public
vii.	Identifying workplaces with significant electrical capacity/infrastructure available to add charging and connecting workplaces with electric utilities and resources to identify grid upgrade needs, such as EPRI eRoadMAP
viii.	Consideration of transit park-and-ride facilities where commuters park vehicles for the workday (see mobility hubs in §E.6) and alternative charging options for workers whose employment is not based at a single location

Examples	<p><i>Electric utility programs</i></p> <ul style="list-style-type: none"> Puget Sound Energy Up & Go Electric for Workplace, WA Utility program that covers up to 100% of workplace charging installation costs for businesses that demonstrate employee interest in EV adoption and willingness to promote EVs to employees. San Diego Gas & Electric Power Your Drive for Workplaces, CA Utility program offering rebates and technical assistance for workplace charging installations. <p><i>Site-specific programs</i></p> <ul style="list-style-type: none"> CalTech EV charging, CA A CalTech research group has installed publicly accessible EV charging stations in campus garages. GE Workplace Charging Pilot, NY Pilot in which GE tested its Level 2 charging equipment at the workplace and studied demand and usage of chargers from employees. Interfaith Power & Light + Communities in Charge, CA Collaboration to enroll houses of worship in state-funded Level 2 community charging program and overview of key considerations.
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H.3 FACILITATE NETWORK FOR INFORMATION-SHARING AMONG EMPLOYERS

to provide charging and employee incentives to use EVs (and transit)

Information-sharing should include:

i.	Links to programs that offer technical assistance for businesses seeking to install charging
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H.3 FACILITATE NETWORK FOR INFORMATION-SHARING AMONG EMPLOYERS

to provide charging and employee incentives to use EVs (and transit)

ii.	Resources on use case for lower-powered charging for long-term employee use and to minimize high-cost installations
iii.	Discussion of charging formats and business models (i.e., shared public-private, public fleet charging commitments) to mitigate risk of underutilization and stranded assets
Examples	<p><i>Peer networks</i></p> <ul style="list-style-type: none"> • Clean Mobility Equity Alliance, CA A peer network for members carrying out mobility projects to share successes and challenges. • Detroit BizGrid, MI A citywide network of organizations that offer support services to local businesses, such as permitting, real estate acquisition, and hiring. • Electric Vehicle Adoption Leadership (EVAL), USA National workplace EV charging certification network designed to assist workplaces with charging installation and promote their efforts, with local government and private members around the country. • EMPOWER Project, USA USDOE-funded service partnering with over 30 cities' Clean Energy Coalitions which provide resources and support for employers to guide them to effective installations. <p><i>Project tools</i></p> <ul style="list-style-type: none"> • Charge@Work, USA USDOE-funded program providing an incentives database, project builder tool, community engagement support, and other resources for workplace charging installations. • Charge@Work Project Builder, USA Tool providing charging cost estimates, project planning, and incentive connections for workplace installations.

H.4 REQUIRE LARGE EMPLOYERS TO ADOPT COMMUTER BENEFITS PROGRAMS

Programs should include:

i.	Pre-tax and subsidized costs for transit, shuttle, vanpools, and other incentives to commute via alternatives to single-occupancy vehicles
ii.	Incentives for EV carshare/shuttle services or charging EVs used in carshare/carpools
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Bay Area Commuter Benefits Program, CA Regional air quality agency/MPO program requiring businesses with 50+ employees to offer commuter benefits such as pre-tax transit cards. • District of Columbia Parking Cashout Law, DC Employers in the District employing 20 or more covered employees that offer parking benefits to their employees must offer either a Clean Air Fringe Benefit to employees offered a parking benefit, develop a transportation demand management plan, or pay a Clean Air Compliance fee.

Advancing Equity through Workplace Charging

To ensure equitable charging access, local leaders should focus on anchor employers that are centrally located in communities and able to serve both employees and residents. Workplaces with large parking lots have the potential to serve as key partners in installing large charging facilities at relatively low cost, since these lots can accommodate construction and new electrical infrastructure with limited disruption and delay, and site hosts can engage in upfront cost-sharing in exchange for a portion of revenues. Public schools with parking facilities may be particularly well suited to this task, since they are often located in or adjacent to residential neighborhoods, are often vacant overnight and on weekends, and employ a diverse range of local and regional community members. Workplace charging programs should also link to community benefits mechanisms, including Community Benefits Agreements (CBAs) if applicable, and other community benefits arrangements developed together with EV charging investments—for example, new development projects could include workplace-community EV charging installation as a benefit.

I. INFRASTRUCTURE DESIGN, ACCESSIBILITY, AND SAFETY

I. INFRASTRUCTURE DESIGN, ACCESSIBILITY, AND SAFETY	
I.1	Develop design requirements for publicly accessible and curbside charging stations
I.2	Incentivize co-location of amenities and support services
I.3	Promote fast charging at existing fuel service stations
I.4	Use safe, secure, and low-footprint installation strategies
I.5	Require signage, wayfinding, and accessibility

The physical design of public EV charging and mobility infrastructure should be accessible, visible, and safe for both users and pedestrians. This includes not only compliance with the Americans With Disabilities Act and local and state requirements to ensure all users can access infrastructure, but also design standards to minimize disruption of pedestrian, transit, and non-motorized travel; maximize enhancement of public spaces; and incorporate [universal design principles](#) to promote usability for all.

Importantly, physical design should also ensure that publicly accessible infrastructure is secure against vandalism and tampering, a challenge that has faced some early-stage charging installations across the country and has the potential to hamper confidence (and slow progress) in the zero-emissions transition.⁴⁰ Some jurisdictions have responded by installing physical security measures such as custom metal cabinets to protect hardware,⁴¹ while other approaches such as utility pole-mounted chargers with retractable cables and bring-your-own-cable chargers can address the risk via design.

It is crucial that these measures protect public investments and ensure reliability while recognizing the impact of locating infrastructure in communities with low current EV use (e.g., displacement risk and the importance of community amenities) and the need for strategies that promote community interest and acceptance, rather than implying surveillance and policing.

To advance these goals, infrastructure design should incorporate community-centered amenities that meet local needs, improve urban streetscapes, facilitate upkeep and maintenance, and provide beneficial services where appropriate (including but not limited to those associated with gas stations, such as window and tire service, restrooms, food, and staffing). Placement of EV chargers near retail establishments has been found to boost sales, demonstrating the value of amenity co-location for both drivers and site hosts.⁴²

RELIABILITY STANDARDS

Local requirements related to charger reliability and uptime should be included in comprehensive public charging strategies, ordinances, and/or permitting (see [§E.4](#) and [§C.4](#)). The federal government and some state governments have passed legislation to establish their own charger reliability and upkeep standards (See the federal NEVI program requirements and California's [AB 2061](#) and [AB 126](#)), and local governments should consider their respective state's requirements in their EV infrastructure maintenance planning.

Infrastructure design should also account for site-appropriate power needs, avoiding overbuilding where fast-charging is not necessary and accommodating future local renewable energy investments (e.g., distributed/community solar) where possible.

I.1 DEVELOP REQUIREMENTS/GUIDANCE FOR PUBLICLY ACCESSIBLE AND CURBSIDE CHARGING STATIONS REGARDING:	
1. Location, siting, and placement 2. Accessibility, safety, and design	
Siting and placement terms should include:	
i.	Limitations on placement around conflicting curb uses and alternate transit modes, street signage and city/utility infrastructure, trees, etc.
ii.	Requirements or guidance regarding charging unit and property/liability insurance for site hosts
iii.	Connection to sites/zones identified in jurisdiction-wide mapping efforts (see §A.3 and §E.1)
Accessibility and design terms should include:	
iv.	Americans with Disabilities Act (ADA) and state/local building code compliance , including the US Access Board Design Recommendations for ADA and other federal law compliance for publicly accessible EV chargers and associated parking spaces
v.	Requirements/standards for lighting, security cameras, and emergency phone/alert systems
vi.	Equity-oriented design strategies such as the US Joint Office of Energy & Transportation Strategies for Incorporating Equity Into EV Charging Station Site Design
vii.	Consideration of J3400 connector rather than CCS1 connector to facilitate ease of use by differently abled individuals
Considerations:	
viii.	Local governments should consult with state building standards and codes commissions and Vocational Rehabilitation Agencies to ensure design standards align with state requirements. They can also consult with local accessibility and disability inclusion organizations such as Spark Access that are increasingly focused on the new accessibility questions posed by the e-mobility transition.
ix.	Terms should apply to all publicly accessible charging in the jurisdiction and can be incorporated in residential and public/curbside charging ordinances (see §E.3)
Examples	Local examples <ul style="list-style-type: none"> • London EV charging infrastructure location guidance, UK City guidance on public charging installations based on local need, location-specific design, geographic spread throughout the city, and more. • London EV charge point installation guidance, UK Design and location guidance including principles of safety, comfort, inclusivity, attractiveness, and more.

I.1 DEVELOP REQUIREMENTS/GUIDANCE FOR PUBLICLY ACCESSIBLE AND CURBSIDE CHARGING STATIONS REGARDING:

1. Location, siting, and placement
2. Accessibility, safety, and design

Examples (Continued)

- [Los Angeles Municipal Code §99.04.106.4.2.2.1.3, CA](#)
City code provisions requiring all EVSE and associated parking spaces to comply with relevant provisions of state building code.
- [North Carolina Plug-in Electric Vehicle Task Force accessibility guidelines, NC](#)
ADA, building code, and design guidance for accessibility at charging stations including clear diagrams and photographs of compliant spaces.
- [Portland right-of-way permit placement and clearance rules, OR](#)
EVSE-specific public right-of-way utility permit with standards for design, placement, physical clearance, ADA/accessibility, and potential exceptions.
- [San Francisco curbside EV charging pilot program guidelines, CA](#)
Guidelines include placement and accessibility requirements for pilot program participants.

Local plans

- [Oakland ZEV Action Plan, CA](#)
Action PC-2: “Oakland’s residential curbside EV charging policy should include strategies to address ADA accessibility, minimize damage from stormwater and irrigation, avoid conflict with other utilities in or traversing the curb, and minimize costs.”

I.2 INCENTIVIZE CO-LOCATION OF AMENITIES AND SUPPORT SERVICES AT CHARGING SITES

Amenities and services can include:

i.	Restrooms
ii.	Electrical outlets and WiFi
iii.	Convenience stores and vending
iv.	Basic vehicle care services
v.	Service attendants and/or security
vi.	Park and rest areas
vii.	Night-time lighting, security cameras, and emergency phones

Incentives and development support can include:

viii.	Subsidized or accelerated permitting for qualifying projects
ix.	Coordination with local chambers of commerce to ensure businesses are consulted and informed about site selection

I.2 INCENTIVIZE CO-LOCATION OF AMENITIES AND SUPPORT SERVICES AT CHARGING SITES

Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Electrify America San Francisco Flagship, CA Dedicated indoor EV charging hub with lighting, waiting area, restrooms, vending machines, and wifi. • Sacramento AQMD mobility hub, CA Includes community green space, wifi, and a solar canopy alongside transportation infrastructure.
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I.3 PROMOTE ADDITION OF FAST CHARGING AT EXISTING FUEL SERVICE STATIONS AND

plans to convert stations to fast charging hubs

Programs could include:

i.	Supporting installation at <u>existing commercial sites that drivers are familiar with and that host vehicle- and travel-associated services</u> (this also supports preservation of businesses that are often locally run franchises)
ii.	Requirement to add chargers as a permit condition to sale or major renovation of facilities
iii.	Design competition for EV charging stations/hubs for light-duty and heavy-duty vehicles
Examples	<p><i>Local plans</i></p> <ul style="list-style-type: none"> • LA Sustainable City pLAn, CA ZEV chapter: “Initiate a design competition for the gas station of the future to meet the needs of both passenger and heavy duty vehicles.” • Oakland ZEV Action Plan, CA Action PC-5: “By 2024, develop an ordinance requiring new service stations and those service stations proposed for renovation to install a minimum number of EV fast-charging stations as a condition of approval. In developing the ordinance, include consideration of additional opportunities to require and encourage installation of ZEV charging and fueling infrastructure, including permit review and approval, business license application, economic development goals and incentives.” <p><i>State examples</i></p> <ul style="list-style-type: none"> • California AB 1529, CA State bill that would have directed an assessment of the suitability of converting gas stations to charging stations and potential financial incentives for conversion.

I.4 USE SAFE, SECURE, AND LOW-FOOTPRINT INSTALLATION STRATEGIES

Strategies include:

i.	Streetlight and utility pole-mounted chargers that use elevated hardware and retractable charging cords
ii.	Bring-your-own-cable systems
iii.	Siting publicly accessible chargers at or adjacent to businesses that are able to share security responsibilities

I.4 USE SAFE, SECURE, AND LOW-FOOTPRINT INSTALLATION STRATEGIES

Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Los Angeles streetlight charging pilot program, CA Pilot program with over 700 Level 2 chargers installed on existing streetlight poles managed by city streetlight bureau and municipal electric utility. • Melrose, MA streetlight/pole-mounted charging pilot program, MA Pilot program with over 30 Level 2 chargers installed on streetlights and utility poles, managed by city and local electric utility. • Takoma Park, MD Charging Hub, MD Community center hosts a charging hub for nearby residents, primarily serving residents of 10+ nearby MFHs. Center is co-occupied by local police department, city office, and city library and park. <p><i>Infrastructure design examples</i></p> <ul style="list-style-type: none"> • It's Electric curbside charging, USA Curbside installation model that includes minimal on-street pedestal infrastructure and bring-your-own-cable connection. • GoPowerEV multifamily residential charging, CA Chargers use bring-your-own cable design and enable payment via mobile app to minimize service failures via broken cables and credit card readers.
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I.5 REQUIRE SIGNAGE, WAYFINDING, AND ACCESSIBILITY

for charging hardware, technology, and payment systems

Considerations:

i.	Where chargers and bike/carshare rental access points require payment or login, they should include options to pay by app and by credit card to maximize access
ii.	Signage and instructions should include multiple languages where locally appropriate
iii.	Local agencies should direct EVSE suppliers to existing federal and state standards , where applicable, to avoid patchworks. For example, state law and federal/state funding sources may require particular payment options.
Examples	<p><i>State example</i></p> <ul style="list-style-type: none"> • California EVSE Standards Regulation, CA State rule requiring multiple payment methods, connectivity options, and disclosures for public EV chargers.

Advancing Equity through Infrastructure Design

Community-appropriate and community-centered design are crucial to ensuring that new EV charging and mobility infrastructure serve the areas that host them. This is a particularly locality-specific area of strategy and one that should reflect local mobility and streetscape preferences. Local governments will play a key role by establishing and communicating clear guidelines regarding accessibility and safety and procuring

or permitting thoughtfully designed infrastructure. They should work with community groups and stakeholders early in the planning process to identify features, amenities, and accessibility needs that can drive the local design process.

Streetlight and utility pole charging—installing Level 2 chargers directly on streetlights and utility poles, using the existing electrical distribution grid to power the charger and using the existing pole to hold the equipment—is one leading design strategy to meet the needs of public charging communities. Streetlight and utility pole chargers typically do not require any street or pavement cuts or new power capacity, significantly reducing installation cost, complexity, and timelines for public and curbside installations. In addition, using elevated equipment with retracting charge cables reduces risk of damage and maintenance costs. Los Angeles, Seattle, and Melrose, MA have all successfully piloted this approach. However, in most cases it relies on close partnership with the electric utility that owns the power supply and utility poles—either a municipal utility or a private utility willing to invest. You can find [case studies on these programs here](#).

J. PASSENGER VEHICLE ACCESS AND INCENTIVES

J. PASSENGER VEHICLE ACCESS AND INCENTIVES	
J.1	Create a public staff liaison
J.2	Provide auto loans to low-income households
J.3	Sell used public fleet EVs or lease vehicles directly
J.4	Implement an EV bulk-buy program
J.5	Urge state lawmakers to provide EV sales tax exemptions or tax credits

State and federal programs (such as California’s Clean Cars for All and federal EV tax rebates) are the primary source of financial incentives to make buying or leasing an EV more affordable for lower-income drivers. However, while these EV incentive programs are increasingly being designed for lower- and middle-income households, the majority of available funding to date has gone to wealthier, early adopter communities.⁴³ Local governments should play a key role in helping lower-income residents access and combine available financial support—and doing so will be crucial to ensure that equity-oriented charging programs actually benefit the communities that host them.

While the overall goal of transportation decarbonization will require greater investment in public transit and reducing VMT, the reality of ensuring equity in this transition requires contending with the necessity of personal vehicle access in many communities. Nearly 92% of American households own at least one car,⁴⁴ and the vast majority of American workers rely on single-occupancy or pooled vehicle travel for their commute, with the greatest disparities in transit access among lower- and moderate-income commuters.⁴⁵ Several recent studies have highlighted the value car ownership has, particularly for impoverished Americans.

One study found that the wealth gap between households that own a car and those that do not is about as wide as the wealth gap between homeowners and renters.⁴⁶ Among low-income families receiving federal housing assistance, those with cars were twice as likely to find a job and four times as likely to remain employed.⁴⁷ Post-pandemic data shows that a greater share of commuters in poverty are using personal vehicles to get to work than non-impoverished commuters.⁴⁸ Therefore, wealthier households actually have less need for personal vehicles than the working poor. Lower-income households with access to personal vehicles tend to live in communities with higher quality of life factors including fewer health risks, lower poverty rates, and better educational outcomes,⁴⁹ further highlighting the importance of automobile access for many Americans.

In many American communities, car ownership is necessary to access resources and is quite literally a vehicle to better opportunities. Though lower-income families are already prioritizing personal vehicles, ownership can tend to come with higher costs including the price of the car itself, higher insurance rates, and more expensive upkeep costs.⁵⁰ To ensure these families benefit from, and are not burdened by, the transition to EVs, cities should be proactive in promoting access to affordable vehicles—including shared, leased, and used options—in parallel with efforts to ensure equitable access to affordable charging infrastructure.

J.1 CREATE A PUBLIC STAFF LIAISON

and/or partner with agency staff and community organizations to connect residents with state, federal, and nonprofit programs that provide rebates, incentives, and assistance to low-income households in purchasing and leasing EVs

Connection assistance can include:

i.	Direct government outreach and efforts conducted by trusted CBOs and neighborhood groups , in multiple languages, with information and approaches tailored to the local context
ii.	Links and access assistance for state programs like Clean Vehicle Assistance Program , Driving Clean Assistance Program , Clean Cars for All , state EV tax credit/rebate programs (e.g., CO , MD , NY) and federal tax credits for new and used EVs, including leases in some cases
iii.	Links to programs like Vehicles for Change , Working Cars for Working Families , Hand Up Cars

Considerations:

iv.	Where public agencies lack resources and capacity (existing or through grants) to commit dedicated staff to this role, county and city social services staff who have experience in benefits access and outreach can be effective partners
v.	Liaisons can connect residents to federal (e.g., IRS clean vehicle tax credits); state (e.g., Pennsylvania Alternative Fuel Rebate Program, Oregon Clean Vehicle Rebate Program); and utility-provided (e.g., New Hampshire Electric Co-Op, Orlando Utilities Commission) incentive programs , with support for combining/stacking multiple programs
vi.	Consider focusing on gasoline “superusers” who have the longest commutes and stand to benefit the most from more efficient, lower-cost fueling technology while delivering the greatest emissions reductions

Examples	<p><i>Local programs</i></p> <ul style="list-style-type: none"> • Contra Costa KEYS Auto Loan Program, CA Low-income auto loan support program conducted through existing social services case managers. • ReCharge Colorado Coaches, CO Regional officers who connect residents, businesses, etc. with information on monetary savings, grant opportunities, and more to advance the adoption of EVs and charging infrastructure. • Seattle Dept. of Neighborhoods community liaisons partnerships, WA City program working with “embedded community leaders from a variety of immigrant and refugee communities, communities of color, and communities of seniors, youth, and people with disabilities” to conduct community outreach on planning and transportation efforts. A similar model could be employed for EV rebates and incentives, or existing municipal transportation staff could be devoted part-time to connecting residents with rebates and incentives. <p><i>Guides and toolkits</i></p> <ul style="list-style-type: none"> • Austin Energy EV Buyers Guide, TX Public utility webpage with information on EVs and purchase incentives and directory to local purchasing opportunities. • Bay Area Air Quality Management District EV Funding Navigator Tool, CA The Bay Area EV Council created a working group “to develop a tool that streamlines information sharing about EV, EV infrastructure, and E-Mobility funding.” • Electric For All, USA Nonprofit-sponsored toolkit directing users to federal, state, and local incentives available by zip code nationwide.
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J.1 CREATE A PUBLIC STAFF LIAISON

and/or partner with agency staff and community organizations to connect residents with state, federal, and nonprofit programs that provide rebates, incentives, and assistance to low-income households in purchasing and leasing EVs

Examples (Continued)	<ul style="list-style-type: none"> • GRID Alternatives EV One-Stop Shop, CA Pilot collaboration with state air regulator and Greenlining Institute to streamline access to clean transportation-related incentives available to income-qualified consumers; increase low-income residents’ awareness of clean transportation options; and provide opportunities for consumers to access state incentives. • PlugStar, USA Provides a directory to available vehicles, dealers, and incentives. • Southern Alliance for Clean Energy Electric Transportation Toolkit , USA Includes vehicle and charging funding pathways. • USDOE state law and incentive directory , USA Includes links to EV rebate and grant programs in all 50 states.
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J.2 PROVIDE AUTO LOANS TO LOW-INCOME HOUSEHOLDS

that have difficulty in obtaining EV financing and connect residents to EV and used EV dealers and financing companies

Loan programs could involve:

i.	Direct lending through social services agencies or through city/county/state green bank programs that provide low-cost capital for clean energy investments
ii.	Sharing of information and contacts to verified dealers and financing companies serving the EV market
Examples	<p><i>Local examples</i></p> <ul style="list-style-type: none"> • Contra Costa KEYS Auto Loan Program, CA County low-interest auto loan program for eligible state benefits program recipients who have difficulty obtaining an auto loan from other sources. • Smart Columbus Electrified Dealer Program, OH City program that certifies dealers who commit to stocking and promoting EVs and participating in city trainings and information-sharing. • Dealers and financing companies focused on EVs and used EVs Examples Include financing providers Tenet and EV Life, used vehicle marketplaces EV Auto and KeySavvy, and used EV market information hub Recurrent. USA

J.3 SELL USED PUBLIC FLEET EVS OR LEASE VEHICLES DIRECTLY

at low cost for qualifying residents

Considerations:

i.	Should include at-cost sale of used EVs to residents of priority communities, lower-income residents, and public sector workers who can serve as EV ambassadors
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J.3 SELL USED PUBLIC FLEET EVS OR LEASE VEHICLES DIRECTLY

at low cost for qualifying residents

ii.	Can allow local agencies to compound public value of investments in fleet electrification as technology evolves
Examples	<i>State plans</i> <ul style="list-style-type: none">• Washington Transportation Electrification Strategy, WA Action I.3.2: “To provide additional support for LMI communities... [state Department of] Commerce is considering a social leasing program, wherein individuals below an income threshold can lease EVs at an affordable monthly rate.”

J.4 IMPLEMENT AN EV BULK-BUY PROGRAM

Considerations:

i.	Such a program would leverage jurisdiction-wide capacity to procure vehicles at discounted bulk rates and pass on savings to residents. Local leaders can connect with broader bulk-buy programs such as Climate Mayors’ EV Purchasing Collaborative .
Examples	<i>Local plans</i> <ul style="list-style-type: none">• Ann Arbor Climate Action Plan, MI Action 2.3: Proposal to support bulk purchases of new and used EVs to achieve 10-15% discount – potentially including e-scooter and e-bike options.

J.5 URGE STATE LAWMAKERS TO PROVIDE EV SALES TAX EXEMPTIONS OR TAX CREDITS

to incentivize the donation or discounted sale of used EVs to low-income households

Considerations:

i.	Where local sales taxes for vehicles are in effect, local leaders should consider adopting exemptions as well
ii.	Exemptions are meant to incentivize EV adoption and accelerate the market and should be phased down or phased out as EV sales displace gas vehicle sales. For example, New Jersey’s EV sales tax exemption was phased out in 2024-25 .
Examples	<i>State tax exemptions</i> <ul style="list-style-type: none">• New Jersey S.A. 54:32B-8.55 Sales Tax Exemption, NJ Institutes an exemption from sales tax for zero-emission vehicles.• Washington Excise Tax Code §82.08.809, WA Retail excise tax exemption for sale of new EVs. <i>Other state examples</i> <ul style="list-style-type: none">• Vermont Bill S.137, VT Includes measures “to incentivize high-consumption fuel users, especially individuals using more than 1000 gallons of gasoline or diesel annually and those with low and moderate income, to transition to the use of battery electric vehicles.”

J.5 URGE STATE LAWMAKERS TO PROVIDE EV SALES TAX EXEMPTIONS OR TAX CREDITS to incentivize the donation or discounted sale of used EVs to low-income households

Examples (Continued)	<ul style="list-style-type: none">• Washington State Transportation Electrification Strategy, WA Action C.5: Proposal to “focus on high-consumption gasoline and diesel users” through several possible strategies, including the identification of low- or moderate-income residents with long work commutes for incentive program prioritization.• West Virginia HB 4547 (2020), WV Proposed program to provide tax credits for sale of donation of used vehicles to qualified organizations that provide low-cost vehicles and financing to low-income residents.
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Advancing Equity through Vehicle Access

States across the country are beginning to offer EV purchase and lease incentives tailored to those most in need of support in transitioning to an EV. The California Air Resources Board’s [Clean Cars for All](#) programs, for example, and the [federal income tax credit](#) for EV purchases and leases are all limited to lower- and middle-income drivers and can lower the cost of acquiring a vehicle by up to \$20,000 when combined in some cases. Federal rebates are now available for used vehicles as well.

Many electric utilities, community choice aggregators, and regional agencies also offer additional rebates. EV affordability for many priority populations will rely on stacking all available incentives and rebates. A small-scale local investment in staff time and web materials (or partnership with a trusted community-based organization) to assist residents in accessing state and federal funds will generate significant return on investment for eligible drivers and for the local economy. Consult The Greenlining Institute’s [Making EVs Affordable Toolkit](#) for more policy strategies.



REFERENCES

All URLs last accessed November 12, 2024. Some may be subscription- or paywall-restricted.

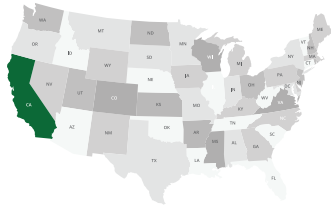
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APPENDIX A: TEEM MEMBERS REFLECT ON THE EV TRANSITION

CALIFORNIA



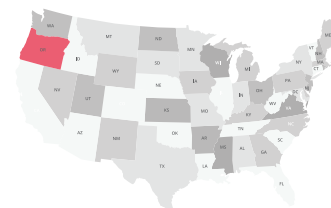
The Greenlining Institute
Mars Wu | Oakland, CA

Focus: Climate and economic justice

EV transition barrier: “If a charger isn’t working when you show up, that’s a mobility problem, and it creates a really negative perception of EVs.”

Solution: Local governments can institute basic design, accessibility, safety, and reliability standards for chargers procured by public agencies and/or installed in public spaces.

OREGON



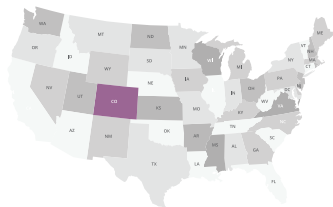
Forth
Ed de la Fuente | Portland, OR

Focus: Equitable electric transportation

EV transition barrier: “Many Oregonians are unaware of electric cars, the wide variety of options available, or the state rebate and federal tax credit for the lease and purchase of an electric car - that ensure price parity with gas-powered cars.”

Solution: Providing education, outreach and hands-on experiences like the ride and drive events, will increase Oregonian’s knowledge about EVs. This will also help them save money with lower maintenance costs and reduced spending on gasoline.

COLORADO



Northeast Transportation Connections
Karly Malpiede Andrus | Denver, CO

Focus: Equitable Mobility

EV transition barrier: “Our local transit agency is facing budget gaps across the board—it’s impossible to talk about new electric buses when we can’t hire enough drivers for current routes or afford maintenance of our current system.”

Solution: Stakeholders can identify and work with champions within public agencies and lawmaking bodies who can advocate for clean mobility investments that can ensure services to populations depending on transit are not faced with decreased service at the expense of transitioning to EVs.



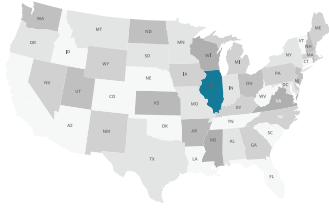
Colorado Cross Disability Coalition
Jaime Lewis | Denver, CO

Focus: Disability rights and social justice

EV transition barrier: “Transit agencies want to electrify their fleets, but they need to invest in heavy-duty charging infrastructure first. They need funding and they need to understand the complex design requirements.”

Solution: Crafting local plans specific to the medium- and heavy-duty fleet transition, including identifying potential properties/facilities along transit corridors and conducting grid needs assessments, can ensure adequate charging infrastructure is available to support EV fleets.

ILLINOIS



Bronzeville Community Development Partnership
William P. Davis | Chicago, IL

Focus: Community Economic Development

EV transition barrier: “The biggest obstacles to EV adoption in our community are a lack of awareness and resistance to change. We need to respond to the emotional triggers with informed solutions.”

Solution: Local governments can center public health and quality of life improvements in their EV work, such as by conducting local air quality monitoring exercises as part of mobility and freight electrification plans.



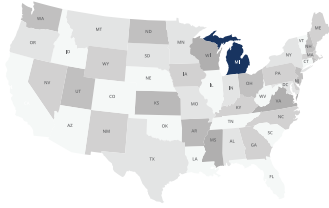
Elevate
Lucas Kappel | Chicago, IL

Focus: Energy Equity

EV transition barrier: “In Chicago, communities located near ports and highways do not have many opportunities to influence where freight hubs are located. It’s a huge air quality and health issue and it needs community-led solutions.”

Solution: Local governments can conduct combined assessments of heavy-duty EV charging needs and local air quality improvement needs to target high-priority freight electrification investments, starting with asking residents what solutions they want to see in their communities.

MICHIGAN



Southwest Detroit Environmental Vision
Raquel Garcia | Detroit, MI

Focus: Climate and economic justice

EV transition barrier: “In my community, many people live in dense, side-by-side homes without driveways or garages. Those who have cars park on the street and can’t install their own chargers.”

Solution: Public, curbside, and community-owned charging programs can provide access for those who lack off-street parking or live in multifamily buildings.



Michigan Clean Cities
Maggie Striz-Calnin | Detroit, MI

Focus: Clean mobility

EV transition barrier: “Public fleets tend to be slow to electrify their fleet vehicles. It can be hard for them to justify new technology, given their budgets being public funds.”

Solution: Municipal, state, and federal fleets should access the programs available now to help them plan. For example, US DOE Clean Cities and Communities partnership coalitions can be an extension of the fleet’s staff, relieving the burden of planning for new technologies on top of day-to-day responsibilities of running the fleet.



Clean Fuels Michigan
Jane McCurry | Lansing, MI

Focus: Clean mobility

EV transition barrier: “In a lot of Michigan communities, we’re hearing about the need for overnight EV charging for renters, condo residents, and people without driveways.”

Solution: City-led public and curbside charging programs can ensure access for those who use an EV but lack dedicated parking spaces, particularly in denser urban environments.



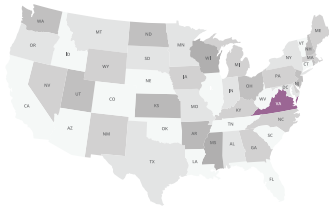
Community Collaboration on Climate Change
Kareem Scales | Grand Rapids, MI

Focus: Climate and economic justice

EV transition barrier: “Most middle-class people see electric vehicles (EVs) as luxury toys for the wealthy, but it’s crucial for underserved, redlined, and BIPOC communities—who endure the worst impacts of climate change and environmental injustice—to see and experience EVs driven and owned by their neighbors, becoming beneficiaries of the positive environmental and economic impacts.”

Solution: Implementing EV carshare programs, promoting electric vehicle use by ride-share drivers, and organizing ride-and-drive events can raise awareness of EVs in local neighborhoods.

VIRGINIA



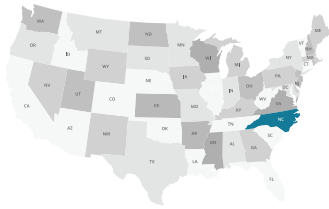
Generation 180
Stuart Gardener | Charlottesville, VA

Focus: Clean Energy

EV transition barrier: “Communities that stand to benefit the most from EVs are underrepresented in EV adoption, particularly rural communities. Rural residents are often less familiar with EVs and therefore have a lower consideration rate.”

Solution: Local governments can partner with trusted community groups to help educate rural residents on the benefits of the EV transition, from cost savings to improved air quality.

NORTH CAROLINA



Sierra Club
Rebekah Whilden | Charlotte, NC

Focus: Clean mobility

EV transition barrier: “In North Carolina, most local governments view their public fleets as the limit of EV policy. They aren’t leading on education and access.”

Solution: Local leaders can develop city EV buyers guides, ride-and-drive events, dealer certification programs, and auto loan assistance to promote adoption through the market.



Sol Nation
Tanisha Fant | Charlotte, NC

Focus: Climate justice

EV transition barrier: “I wasn’t aware that gas stations are so harmful for air quality in nearby communities. We need to educate more residents on how EVs can improve public health.”

Solution: Local governments can partner with trusted community groups to educate residents on the environmental benefits of the EV transition and consider policies to transition fuel stations to charging hubs.



North Carolina Justice Center
Dani Moore | Raleigh, NC

Focus: Economic justice

EV transition barrier: “The local market for used EVs is almost non-existent; very few dealers are offering them. It’s a huge affordability challenge”

Solution: EV carshare and other clean shared mobility programs can address mobility gaps for those who cannot afford, or do not want, to own a private vehicle.

ABOUT THIS REPORT

The Center for Law, Energy & the Environment (CLEE) developed this Action Plan Framework in collaboration with the Greenlining Institute and Forth Mobility. The framework is intended to assist local governments and stakeholders in crafting EV and electrified mobility action plans to achieve transportation decarbonization through locally tailored, equity-focused strategies. To develop the framework, the authors compiled original research, led multiple rounds of engagement and feedback with mobility experts and program officials, and conducted a multi-round input process with Toward Equitable Electric Mobility (TEEM), a stakeholder coalition that convenes local electric mobility advocates in Colorado, Illinois, Michigan, North Carolina, and Virginia. The framework is designed to promote equity-oriented EV planning by local governments throughout the country.

CLEE developed this framework as part of its EV Equity Initiative, which aims to build locally tailored, community driven, and replicable approaches to the development of electric vehicle and mobility infrastructure in underserved communities in California and U.S. cities.

ABOUT THE CENTER FOR LAW, ENERGY & THE ENVIRONMENT

CLEE channels the expertise and creativity of the Berkeley Law community into pragmatic policy solutions to environmental and energy challenges. CLEE works with government, business, and the nonprofit sector to help solve urgent problems requiring innovative, often interdisciplinary approaches. Drawing on the combined expertise of faculty, staff, and students across the University of California, Berkeley, CLEE strives to translate empirical findings into smart public policy solutions to better environmental and energy governance systems.

ABOUT THE GREENLINING INSTITUTE

The Greenlining Institute works towards a future where communities of color can build wealth, live in healthy places filled with economic opportunity, and are ready to meet the challenges posed by climate change. Since 1993, Greenlining has successfully advocated and negotiated initiatives directing more than \$800 billion in corporate and public investments into communities of color in California and across the nation, through work focused on Economic Equity, Climate Equity, Transformative Communities, and a Leadership Academy.

ABOUT FORTH MOBILITY

Forth is a non-profit organization dedicated to the equitable advancement of clean transportation. Forth builds program and policy models that significantly expand equitable access to electric transportation in the U.S. and beyond. Forth's mission is to electrify transportation by bringing people together to create solutions that reduce pollution and barriers to access.

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