

The background of the image is an aerial photograph of a multi-lane highway interchange surrounded by dense green trees. A large, semi-transparent dark blue diamond shape covers the central portion of the image, containing all the text.

PAVING THE WAY

ENABLING EQUITABLE
ELECTRIC VEHICLE
SHARED MOBILITY PROGRAMS

FEBRUARY 2022

 IREC

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PAVING THE WAY

IREC's **Paving the Way series** covers three topics related to electric vehicles (EVs): vehicle-to-grid (V2G) standards, equitable shared mobility programs, and EV charger interconnection timelines. In this series, IREC provides pathways and considerations for transitioning to electrified transportation in a manner that is equitable, efficient, and beneficial to the grid.

- In **Paving the Way: Vehicle-to-Grid (V2G) Standards for Electric Vehicles**, we review the status of V2G standards and any gaps that need to be addressed to unlock the capabilities of V2G-enabled equipment.
- In **Paving the Way: Enabling Equitable Electric Vehicle Shared Mobility Programs**, we highlight existing programs that are demonstrating the importance of building equity into shared mobility and EV infrastructure programs.
- In **Paving the Way: Emerging Best Practices for EV Charger Interconnection**, we discuss the strategies that states and utilities can use to streamline the interconnection of EV charging infrastructure.

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I. EXECUTIVE SUMMARY

Electrified shared mobility programs that serve low- and moderate-income (LMI) and underserved communities (referred to in this report as “equitable electric vehicle shared mobility programs”) are an essential part of the new transportation planning toolbox. For example, car share programs that operate with electric vehicles (EVs) can serve as transportation resources in transit-constrained areas and can enable LMI and underserved communities to access and benefit from electrified transportation, particularly since individual EV ownership isn’t an option for everyone.

This report aims to support the development of equitable EV shared mobility programs by addressing one of the principal costs of program development: charging infrastructure. Electric utilities across the U.S. are already engaged in providing support for building out EV charging infrastructure, such as through incentives or make-ready programs (i.e., incentive programs that reduce the up-front costs of preparing a site to host charging infrastructure). However, relatively few states and utilities have robust funding for charging infrastructure designated for underserved communities. In addition, transportation planning modes don’t typically address EV shared mobility program development.

The report begins with a brief overview of traditional

transportation planning, new models of planning that integrate shared mobility, and the role of utilities in equitable EV shared mobility programs. It goes on to review case studies of five programs that feature public-private partnerships and utility support. Based on these case studies, the report provides three overarching recommendations to enable the build-out of more equitable EV shared mobility programs, including:

1. Programs should leverage multiple sources of funding, and electric utilities (through ratepayer funds) can support the costs of charging infrastructure;
2. State and local policymakers must build equity and shared mobility programs into statewide transportation electrification standards, and into state, regional, and municipal transportation planning; and
3. Public utility commissions and utilities must build transportation equity and shared mobility into utility EV charging infrastructure programs. Successfully developing equitable EV shared mobility programs that are financially sustainable in the long run requires close coordination between a number of stakeholders, including public-private funding partnerships, and effectively integrating EV charging infrastructure with traditional transit planning.



II. INTRODUCTION

A growing number of states and municipalities across the United States are setting ambitious climate and energy goals that call for large-scale decarbonization across economic sectors. In order to achieve their targets, states will need to aggressively deploy a range of tools, including distributed and large-scale renewables, energy storage, energy efficiency, and building and transportation electrification. Vehicle electrification—encompassing light, medium, and heavy-duty vehicles, as well as public transit, agricultural equipment, and other mobility resources—presents a unique challenge in that it requires not only greater availability of electric vehicles (EVs) at affordable rates for consumers, but also the public and private charging infrastructure to support EV drivers, which will have to grow exponentially to meet expected demand.¹

However, EV policy thus far has focused primarily on encouraging individual EV ownership, which is not an option for all consumers. While the number of federal and state incentives to encourage EV ownership and the market for used EVs is growing, low- and moderate-income communities, as well as individuals who don't have access to home or workplace charging, may face financial or technical barriers to purchasing EVs. State legislatures and public utility commissions (PUCs) increasingly recognize this barrier to electrified transportation and are developing programs to expand access to EVs beyond ownership, with a particular focus on transportation equity and shared mobility programs. Such programs can both serve as transportation resources and enable low- and moderate-income (LMI) and underserved communities to access and benefit from electrified transportation.

Despite the progress, as further described below,

most of the investments are concentrated in a fairly limited number of jurisdictions. A great deal of opportunity and need remains to expand the reach of EV shared mobility programs that serve LMI and underserved communities (hereinafter referred to as “equitable EV shared mobility programs”) across the country.

One of the principal challenges to deploying shared mobility programs that offer membership and usage charges below market rate is the cost, including the vehicles, administration, and charging infrastructure. Public-private partnerships are essential to getting such programs off the ground, and utilities can be important partners by providing incentives or direct funding for charging infrastructure or other program components.

Another challenge is that while charging infrastructure is one of the largest cost components of EV shared mobility programs, state PUCs are sometimes hesitant to support utility ratepayer investments in charging infrastructure.

A great deal of opportunity and need remains to expand the reach of EV shared mobility programs that serve LMI and underserved communities (hereinafter referred to as “equitable EV shared mobility programs”) across the country.

For example, PUCs may see shared mobility programs as outside of their purview and a matter principally for transportation departments, or they may require more quantitative benefit-cost analysis data to approve such programs as being in the public interest.

This paper builds on existing research centered on EV charging infrastructure and shared mobility to develop a set of recommendations on how to incorporate transportation equity into utility regulation and make the case for supporting equitable transportation programs before PUCs.

The focus of this paper is on investor-owned utility (IOU) programs, since the majority of EV shared mobility programs thus far have been implemented by IOUs and the question of PUC approval of ratepayer expenditures is, in most states, not applicable to municipally- and cooperatively-owned utilities. The paper does not address the question of whether utilities should own charging infrastructure, but generally recommends that regulators encourage the growth of the EV charging infrastructure market rather than turning to utility ownership as the starting point.

III. TRADITIONAL TRANSPORTATION PLANNING AND NEW MODELS INTEGRATING SHARED MOBILITY

Historically, transportation planning tended to focus on providing sufficient infrastructure for cars—e.g., expanded roadways and highways to reduce congestion—at the expense of other modes of transportation, such as buses, light rail, and bike lanes.² In addition, better-designed public transit planning was geared toward higher-income neighborhoods and business development districts, leaving underserved communities and suburban and rural areas with a dearth of resources.³

Traditional transit planning has also been deeply interwoven with regressive economic and urban development policies, including policies that have intentionally displaced, and erected mobility barriers for, communities of color.⁴ As such, the traditional model of transportation planning has several drawbacks, including its impacts on underserved communities, the historic racism reflected in transit policy and the availability of transportation resources, and the absence of strategies to increase shared

mobility resources and electrified transportation. In addition, historic transit planning models have not included all of the key players whose participation is essential to enabling the rapid and efficient electrification of transportation, particularly public utility commissions who have a critical role to play in supporting the build-out of charging infrastructure.

As a result of these factors, underserved communities experience a heavy transportation burden, in terms of costs and health impacts. In 2021, the American Council for an Energy-Efficient Economy (ACEEE) found that “[h]ouseholds of color, in particular, shoulder some of the heaviest transportation costs while also bearing the disproportionate impact of transportation emissions,”⁵ and that, “as a percentage of income, lower-income households spend about twice as much on gas as do middle-income households.”⁶

A number of states and municipalities, as well as the federal government, have recognized the

shortfalls of historic models of transportation planning and have begun to address the inequities resulting from those models through new planning paradigms and programs. One prominent example is the Making the Case for Smart, Shared, and Sustainable Mobility Services program, a partnership between the U.S. Department of Energy and four cities—Denver, New York, Portland, and Seattle. The project teams in each city are testing various modes of EV and shared mobility programs, working with a range of project partners, including public-private partnerships and the local electric distribution utilities.⁷

The Seattle Department of Transportation's (DOT) EVSE Roadmap for Shared Mobility Hubs, one of the participating projects, is a partnership between the Seattle DOT, Seattle City Light, the Office of Sustainability & Environment, ReachNow, Eluminocity, and other partners. The program is working to increase public direct current, fast charging (DCFC) stations and integrate EV charging infrastructure with Seattle's Shared Mobility Hubs. The Shared Mobility Hubs are an important part of the transportation planning framework—they represent areas where “transportation connections, travel information, and community amenities are aggregated into a comfortable, seamless, understandable, and on-demand travel experience.” They are intended to provide a number of concurrent benefits, including on climate and transportation equity.⁸ Seattle's innovative mode of transportation planning includes working with a “human-centered design consultant to conduct generative exploratory studies aimed at understanding where and how to site electric vehicle (EV) charging stations, with a focus on equitable deployment in communities of color and low-income communities.”⁹

Electrified shared mobility programs are an important tool in the new transportation planning toolbox, and can feature a variety of technologies, including light-duty passenger

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vehicles in car share and ride share programs; micromobility resources, like electric bicycles and scooters; and microtransit resources, such as shared shuttle services.¹⁰ However, shared mobility programs are not always designed to serve LMI and underserved communities, either because they offer market-rate memberships that are financially inaccessible to these groups or because of limitations in the range of their service territories. Even programs that offer discounted membership and usage rates may not site their vehicles in optimal locations for the target communities or may have usage requirements that not all community members can meet.

As TransForm has noted, “[s]ignificant barriers to accessing new mobility options exist for those who are unbanked, have limited access to credit, have physical disabilities, have language barriers, are low-income, or do not have a smartphone.” TransForm further notes that “[w]hen services like car share and EV charging arrive in neighborhoods, companies tend to locate where there will be ready uptake by more affluent, tech-savvy individuals rather than in low-income neighborhoods.”¹¹ As such, effective planning and community engagement is a critical component of developing shared mobility programs that meaningfully serve LMI and underserved communities. This is especially true for EV programs, in which the number and location of charging stations is a critical planning element.

IV. THE ROLE OF UTILITIES IN EQUITABLE EV SHARED MOBILITY PROGRAMS

Equitable EV shared mobility programs are typically funded through a mixture of sources, including federal grants, state programs, private foundation grants, and electric utility ratepayers.

Charging infrastructure tends to be one of the most costly components of such programs, often requiring innovative funding partnerships to enable program providers to offer membership and usage discounts while maintaining the program's long-term sustainability. When utilities partner on EV shared mobility programs, they often support the charging infrastructure investments. Broader utility EV programs (beyond shared mobility) with transportation equity components provide other incentives, such as for income-qualified customers to purchase or lease pre-owned EVs.¹²

It is important to note that utility funding, whether direct or in-kind (such as through make-ready programs for charging infrastructure), is typically supported by utility ratepayers. As such, the expenditures must be approved by the governing PUC. From 2012 through 2020, PUCs have authorized more than \$2.6 billion in utility investments in transportation electrification.¹³ Thus far, relatively few states and utilities have robust funding programs for charging infrastructure designated for underserved communities.

ACEEE recently found that "of the \$2.1 billion approved by regulators, at least \$646 million has been earmarked for EVSE in underserved communities," or approximately 30%.¹⁴ In addition, the vast majority of utility funding comes from just two states—New York and California, with Massachusetts coming in third, and, as ACEEE found, "[t]he three utilities with the largest approved investments were all in California

(Southern California Edison, Pacific Gas and Electric, and San Diego Gas & Electric), while the next two were in New York (ConEd and National Grid)."¹⁵

However, a growing number of PUCs are approving utility investments in transportation electrification that include transportation equity programs for underserved communities, including, most recently, Xcel Energy programs in Minnesota and Colorado. Several equitable EV shared mobility programs are highlighted below, ranging from one that is funded through a public-private partnership without utility support to those that have utilities as funding partners, as well as urban and rural programs. As demonstrated by the case studies, project partners can include a variety of government, non-profit, and private organizations.

In general, programs that don't receive utility support have other, often significant, sources of funding, such as California Climate Investments, California's cap-and-trade program. Jurisdictions that don't offer programmatic funding at the state level due to limited budgets, political priorities, or other causes, and where other sources of funding (such as federal, foundation, or private market funds) are unavailable, utilities can be a key partner in providing incentives for charging infrastructure.¹⁶

None of the shared mobility programs reviewed for this paper were supported exclusively through private market funds, demonstrating that public support, whether through government, utility ratepayers, or grant programs, can be very helpful in getting EV shared mobility programs off the ground, and may be important to ensuring long-term financial sustainability.

A. Green Raiteros – Huron, California

The Green Raiteros program, launched in 2018, is based in the city of Huron, California, and provides a volunteer-driven rideshare network of EVs commuting between Huron and the city of Fresno, with subsidized rates for riders who aren't able to pay the per-mile usage fee. The program is a partnership between the Latino Environmental Advancement and Policy Institute (LEAP), EVgo, Mobility Development Partners, and the Shared Use Mobility Center. It builds upon an existing, informal ridesharing system, called a "raiteros" system, that has served the local, primarily agrarian and Latino community in Huron for years.¹⁷ The program has received funding support from a Just Transit Challenge grant from the Schmidt Family Foundation;¹⁸ EVgo, which installed the charging stations; a legal settlement between NRG and the California Public Utilities Commission (CPUC), which supported the purchase of two EVs; and volunteers who provide driving services (with reimbursement for mileage). The Greenlining Institute provided assistance to the program in securing the funding support from the CPUC/NRG settlement.¹⁹

Although the local electric distribution utility, Pacific Gas and Electric, is not a funding partner,

the Shared Use Mobility Center notes that interconnecting the EV charging stations was one of the "biggest challenges" prior to program launch, involving a cumbersome process.²⁰ Even if the local utility is not a funding partner, EV shared mobility programs should establish a connection with the utility as early in the program design process as possible in order to understand the relevant charging station interconnection requirements, fees, and timelines. This can help ensure as smooth a process as possible,²¹ and help program developers determine if they can meet the necessary charging demand without costly upgrades in order to right-size investments.

For the first six months of the Green Raiteros program, rides were offered for free. Since then, clients have been asked to contribute \$0.55 per mile, which supports gas for transport in the event a volunteer driver uses their own vehicle for the ride.²² Since its inception, the Green Raiteros program has continued to seek additional funding support, including through donations and state programs, to support operating costs and possibly cover the mileage fee for customers unable to contribute.²³

B. BlueLA – Los Angeles, California

BlueLA, powered by Blink Mobility and serving areas of Los Angeles, California, is the largest EV car share program providing discounted rates for income-qualifying participants in the country. The program is a public-private partnership between BlueLA (acquired by Blink Mobility in 2020), the Shared Use Mobility Center, the Charge Ahead Coalition (including members Coalition for Clean Air, the Greenlining Institute, Environment California, and the Natural Resources Defense Council), and the California Air Resources Board (CARB). A steering committee was "formed to include the

perspective and guidance of [community-based organizations],"²⁴ and station locations were selected using criteria developed by the project partners, as well as community members, the Los Angeles Department of Transportation, and local residents, businesses, and council district offices.²⁵

Funding comes from CARB's Low Carbon Transportation Investments program, which is, in turn funded by California's greenhouse gas cap-and-trade program; Blink Mobility, which has invested in EVs and charging infrastructure; the

Los Angeles Department of Water and Power (the local municipal utility), which provided charging station rebates and customer fee waivers; and other City of Los Angeles agencies.²⁶ BlueLA includes a substantial private investment of \$10 million, as well as combined city and state funding of \$2.85 million.²⁷

In October 2021, Blink Mobility announced that

the BlueLA program would expand with an additional 300 charging stations at 60 locations, plus an additional 200 electric vehicles. The expansion is a result of the high utilization of the program and a supporting vote by the Los Angeles City Council.²⁸ Since its launch, the BlueLA program has supported more than 63,000 trips and low-income residents represent more than half of the program's membership.²⁹

C. Twin Cities Electric Vehicle Mobility Network – St. Paul and Minneapolis, Minnesota

The EV Spot Network (formerly known as the Twin Cities Electric Vehicle Mobility Network Project) is an electrified shared mobility partnership between the cities of Saint Paul and Minneapolis, Xcel Energy, the American Lung Association, and HOURCAR. It includes a plan of providing up to 150 EVs and 70 charging hubs—a mixture of Level 2 (i.e., a 208-240 volt charger³⁰) and DCFC stations—across the Twin Cities, 50% of which “will be located in an Area of Concentrated Poverty where more than 50% of the residents are black, indigenous, or people of color.”³¹ The locations of charging hubs were selected based on a number of factors, including their distance from other charging hubs, and their location in relation to “Minnesota’s larger mobility hub efforts,” which include scooters, public transit, and other mobility resources.³²

Funding comes from multiple sources, including Xcel Energy, which is providing “make ready” infrastructure up to the EVSE or charger; a

Congestion Mitigation and Air Quality federal grant awarded to the City of Saint Paul for leasing EVs; and a U.S. Department of Energy grant to the American Lung Association of Minnesota, which subgrants to the City of Saint Paul.³³ Xcel Energy’s participation in the program is part of its larger transportation electrification efforts, approved by the Minnesota Public Service Commission, to build out public charging infrastructure and support government fleet electrification.^{34 35}

The Cities of Saint Paul and Minneapolis operate the charging stations, branded “EV Spots.” The City of Saint Paul contracts with the local non-profit HOURCAR to operate the carsharing service, called Evie Carshare.

The program soft-launched in February 2022 with an initial set of Evie Carshare EVs and EV Spot chargers. Additional EVs and EV Spots continue to be added. There are no program operational case studies or assessments yet.

D. Good2Go Program – Boston, Massachusetts

Good2Go, a pilot program launched in 2021, is “an equity focused, income-tiered electric car share” program.³⁶ It serves the Roxbury

community in Boston, Massachusetts, a Commonwealth-designated environmental justice community that has borne

disproportionate impacts of climate change.³⁷ The program is a partnership between the City of Boston, the Massachusetts Clean Energy Center (MassCEC), E4TheFuture, Eversource (the local distribution utility), the Metropolitan Area Planning Council, Mobility Development, Nuestra Comunidad, and Shared Mobility, Inc.³⁸ Funding comes from E4TheFuture, MassCEC's Accelerating Clean Transportation Now program,³⁹ and Eversource, which provided funding for the EV charging stations.⁴⁰

The program will have four Nissan Leafs and four Chevy Bolts,⁴¹ with the cars located near transit services and at affordable multifamily buildings,⁴²

and offers a reduced rate for qualifying customers at half the standard hourly membership rate.⁴³ One important program element is that in addition to providing customer access to reservations through an app, Good2Go also provides alternative use options “for those without bank accounts or smart phones,”⁴⁴ such as the option to make reservations by phone or email or pay by check, cash, or money order.⁴⁵ Because it is not a for-profit car-sharing program, its business model may require “a small operational subsidy” going forward.⁴⁶

The program will release an annual assessment in 2022.

E. The Clean Rural Shared Electric Mobility Project – Hood River, Oregon

The Clean Rural Shared Electric Mobility Project (CRuSE) is a Forth Mobility program intended to “demonstrate a financially sustainable model for plug-in electric vehicle (PEV) carsharing in rural communities,” serving the rural community of Hood River, Oregon. One EV will be located at the waterfront in Hood River, two will be located at residential housing in areas underserved by public transit, and two will be located on municipal property for City of Hood River employees.⁴⁷

In partnership with the Pacific Northwest National Laboratory, CRuSE will track program metrics to enable the program team to optimize services and provide best practices to other rural communities. As such, the program has both an implementation and a research element.⁴⁸

The program includes important accessibility elements, including tiered rates, a Spanish translation of the carshare app, and alternatives to credit cards or bank accounts for participants

who don’t have access.⁴⁹

The program is funded by the U.S. Department of Energy’s Office of Energy Efficiency and Renewable Energy (Vehicle Technologies Office); OpConnect, which is providing the EV chargers; Envoy Technologies, which provides the carshare platform; the local distribution utility, Pacific Power, which is contributing technical support and funding through Oregon’s Clean Fuels Program;⁵⁰ and Honda, which is providing the EVs. The program is further supported by a number of local partner organizations, including local governments, Columbia Area Transit, Columbia Cascade Housing Corporation, the Hood River County Energy Council, and staff of the Mid-Columbia Economic Development District.⁵¹

As with the prior two programs described above, because the CRuSE program launched in 2021, there are no program assessments at this stage; program data is anticipated in 2022.

V. RECOMMENDATIONS AND BEST PRACTICES

As the above case studies demonstrate, where alternate sources of funding are not available to cover program costs, utilities can be important partners in supporting equitable EV shared mobility programs, particularly to cover charging infrastructure costs. In addition, it is critical to view such programs not in isolation, but as community-centered transit resources that link as seamlessly as possible to transit hubs and other private and public transportation tools. Because utilities are responsible for interconnecting EV charging stations and for distribution

planning—including managing load hosting capacity to enable beneficial electrification, they are essential partners in EV shared mobility programs, whether through serving as funding partners or solely through the interconnection process. Encouraging regulators and utilities to view equitable EV shared mobility programs as essential components of utility EV charging infrastructure programs can help to further the development of shared mobility programs, particularly in states that don't already have robust funding and priorities in place.

A. Leverage multiple sources of funding.

Utilities are important stakeholders in building out EV charging infrastructure due to their role as distribution system operators and can serve as funding partners in equitable EV shared mobility programs. However, advocates interested in launching equitable EV shared mobility programs should consider every available source of funding. This is particularly important given the multiple expense streams of shared mobility programs, including the vehicle and program administration costs, as well as the need to develop sustainable long-term financing models.

Potential funding sources include state, federal, and private foundation grants and public-private partnerships, in addition to utility funding support. In seeking funding, advocates could approach the local distribution utility as a starting point to determine whether the utility could provide charging infrastructure incentives or a funding match to other sources. Several organizations have extensive experience in assisting stakeholders with developing equitable EV shared mobility programs, including the Shared Use Mobility Center, Mobility Development Partners, and Shared Mobility, Inc.



B. Build equity into shared mobility programs and integrate with local and regional transportation planning.

Support for transportation electrification at the state level—including at the legislature, executive branch, and PUC—can be an important contributing factor in successfully launching equitable EV shared mobility programs. Jurisdictions that have statewide clean energy and climate programs, and especially those with explicit energy and environmental justice targets, are more likely to support and fund such programs, as evidenced by the fact that nearly all existing programs are located in states that have applicable targets. As part of a broader strategy, advocates in states that do not yet have such goals and standards could work toward statewide adoption.

In addition, as described above, traditional transportation planning focuses on building and maintaining infrastructure for automobiles, usually at the expense of alternate modes of transportation and often with significant negative impacts on disadvantaged communities and communities of color. New modes of transit planning are increasingly including shared mobility tools alongside traditional resources.

The Mobility Lab described one such framework as “move the most people, not the most cars”—instead of focusing on building out roads to accommodate more vehicles, “streets should be optimized for high-capacity transit, people walking, and micromobility,” and transportation should be viewed as “a network or ecosystem.”⁵²

Given the role of utilities in supporting EV charging infrastructure interconnection and distribution system management and operations, and the need to optimize the integration of electrified new mobility resources into transit planning, regulators at the state, regional, and local level should ensure a greater degree of interagency planning. For example, utilities could inform transit agencies of their EV charging infrastructure incentives and programs so that transit agencies can incorporate the programs into their planning and serve as outreach and education partners. In turn, if they don’t already do so, transit agencies could reach out to utilities when planning transit hubs and electrified transportation resources to ensure optimal siting and timely charging infrastructure interconnection.

C. Build transportation equity and shared mobility into utility EV charging infrastructure programs.

Utilities across the U.S. are increasingly including charging infrastructure incentive programs in rate case proposals and through PUC proceedings aimed at building out charging infrastructure. Programs thus far have predominantly focused on funding for single-family residential, multifamily, and public charging infrastructure programs generally, without a specific focus on underserved communities. More and more utility

and PUC programs include transportation equity components, but there remains tremendous untapped potential for more and better-designed incentives and investments.

In states without the political will or support for equitable shared mobility programs, stakeholders could build a foundation by pointing to the fact that PUCs typically have broad statutory authority

At the foundational level, utilities and regulators should ensure that utility transportation electrification investments and programs include resources specifically for underserved communities.

to regulate in the public interest, which can and should include programs that provide ratepayers with non-energy benefits, including environmental and societal benefits. A number of PUCs have developed, or are considering, updated models of utility program benefit-cost analysis (BCA) frameworks that are designed to better capture the benefits of distributed energy resources, including beneficial electrification.⁵³ Electric vehicles can provide a range of energy and non-energy benefits, such as vehicle-to-grid (V2G) functionalities that provide grid support, greenhouse gas emissions reductions, and reduced adverse health impacts as a result of transportation electrification. Such frameworks are important for jurisdictions in which PUCs may be less open initially to equitable shared mobility programs and where advocates have to present more quantifiable data in support of such programs.⁵⁴

At the foundational level, utilities and regulators should ensure that utility transportation electrification investments and programs include resources specifically for underserved communities. EV charging infrastructure incentive programs should explicitly state that shared mobility programs are eligible to participate; if they don't explicitly do so, the programs should at the very least not exclude shared mobility programs from eligibility.

Most case studies described in this paper involve

situations in which program developers reached out to their local utility to request a partnership, and this may continue to be the case in most instances in the future. However, utilities should consider including specific incentives or pilot programs for shared mobility in their transportation electrification portfolios. Particularly in states that don't already have strong support for shared mobility, utility demonstration or pilot projects could open the door for such programs.

In states that have existing definitions and mechanisms to identify environmental justice communities, utility funding could align with the larger statewide programs to ensure that resources do, in fact, reach those communities, such as by incorporating the definitions or criteria in the selection of participating communities. In developing equitable transportation electrification programs, utilities should consult with community members and representatives early and often throughout the planning process, and design incentives and funding opportunities to meaningfully serve the communities' transit needs. As a best practice, community-based organizations that provide input and program support should receive compensation for their participation. In addition, states that don't already do so should offer intervenor compensation funding to reduce barriers to underrepresented communities' participation in the regulatory process that leads to program development and approval.

Utility programs must also include effective customer outreach and education programs, to ensure that potentially interested project partners are aware of the funding availability. Robust outreach and education on available charging infrastructure incentives may build interest for shared mobility programs where they aren't already being explored by external stakeholders. In addition, utilities could partner with state and local transit agencies, which could include information on the incentives in local and regional transportation and planning resources in order to reach a broader audience. Other potential partners in outreach and education programs include community-based organizations, local municipal agencies, and EV companies and associations.

VI. CONCLUSION

Developing effective equitable EV shared mobility programs requires coordination between a number of stakeholders, from the local communities and distribution utilities, to program operators and regional transportation planning agencies. In addition, programs may have to rely on several sources of funding, adding layers of complexity for long-term financial sustainability. Public-private partnerships are essential to getting

such programs off the ground, and utilities can be important partners by providing incentives or direct funding for charging infrastructure or other program components. Regulators should prioritize creating stable funding streams and effectively integrating EV charging infrastructure with traditional transit planning, with a focus on optimizing zero-emissions transportation resources for LMI and underserved communities.



ENDNOTES

1. See Conner Smith, *Investment in Public EV Charging in the United States: An overview of current and historical funding from the public and private sector*, Atlas Public Policy (Feb. 2020) at p. 5, <https://atlaspolicy.com/wp-content/uploads/2020/02/Investment-in-Public-EV-Charging-in-the-United-States.pdf>. “[d]espite considerable progress since the early days of the EV charging market, publicly accessible charging infrastructure in the nation’s leading EV markets will need to increase by between four to 16 times by 2025 to meet the expected EV market growth and deployment goals.”
2. See, Natalie Covill, *Three Planning Principles for Better Transportation Projects* (hereinafter “Mobility Lab *Three Planning Principles*”), Mobility Lab (Feb. 14, 2019), <https://mobilitylab.org/2019/02/14/three-planning-principles-for-better-transportation-projects/>, “traditional methods of transportation planning and evaluating transportation projects have left out one key element: people. Wide roadways devoid of sidewalks and bike lanes allow for faster car travel, but signal to pedestrians, bicyclists, and public transit riders that they are not a priority.”
3. See, e.g., Shruti Vaidyanathan, Peter Huether, and Ben Jennings, *Understanding Transportation Energy Burdens* (hereinafter “ACEEE *Transportation Energy Burdens*”), American Council for an Energy-Efficient Economy (May 2021), p. 1, <https://www.aceee.org/white-paper/2021/05/understanding-transportation-energy-burdens>.
4. Mobility Lab *Three Planning Principles*, “Transportation planning has also been influenced by racism and classism. Eminent domain was used by city planners to build highways in low-income communities of color, effectively serving as walls. Nowadays, the suburbanization of low-income people negatively impacts health and well-being as low-income people must spend more time and money commuting.”
5. ACEEE *Transportation Energy Burdens*, p. 1.
6. ACEEE *Transportation Energy Burdens*, p. 2. See also, Stuart Cohen and Clarrissa Cabansagan, *A Framework for Equity in New Mobility* (hereinafter “TransForm, *Equity in New Mobility*”), TransForm (June 2017), p. 2, https://www.transformca.org/sites/default/files/A%20Framework%20for%20Equity%20in%20New%20Mobility_FINAL.pdf, “Very low-income families spend, on average, over 30 percent of their income on transportation.”
7. EV Shared Mobility, *About*, <http://evsharedmobility.org/about/>.
8. SDOT *EVSE Roadmap*, p. 8.
9. Seattle Department of Transportation, *EVSE Roadmap for Shared Mobility Hubs* (hereinafter “SDOT *EVSE Roadmap*”) (Nov. 2018), p. 7, https://www.seattle.gov/Documents/Departments/OSE/ClimateDocs/TE/SDOT_EVSE_Roadmap_for_Shared_Mobility_Hubs.pdf.
10. TransForm, *Equity in New Mobility*, p. 2.
11. TransForm, *Equity in New Mobility*, p. 4.
12. E.g., Colorado Public Utilities Commission, Proceeding No. 20A-0204E, Xcel Energy Transportation Electrification Plan Semi-Annual Report (October 1, 2021), p. 19-20, <https://www.xcelenergy.com/staticfiles/xe-responsive/Company/Rates%20&%20Regulations/Regulatory%20Filings/TEP%20Semi-Annual%20Report%20October%202021.pdf>.
13. See Conner Smith and Nicole Lepre, *Electric utility Filing Bi-Annual Update*, Atlas Public Policy (February 2021), <https://atlaspolicy.com/wp-content/uploads/2021/02/Electric-Utility-Filing-Bi-Annual-Brief-2020b.pdf>. Government funding available and awarded through 2021, including

- funds from the Volkswagen Settlement, includes approximately \$767 million (Atlas EV Hub State Policy Dashboard, <https://www.atlasevhub.com>), while private investments from 2016 to the present includes \$3.5 billion (Atlas EV Hub Global Private Investments, <https://www.atlasevhub.com>).
14. Peter Huether, *Siting Electric Vehicle Supply Equipment (EVSE) with Equity in Mind* (hereinafter “ACEEE *Siting EVSE with Equity in Mind*”), American Council for an Energy-Efficient Economy (April 2021), p. 13, https://www.aceee.org/sites/default/files/pdfs/siting_evse_with_equity_final_3-30-21.pdf. Note, however, that the number may be greater due to several considerations, including that “[t]he 646 million also does not include programs that prioritize underserved communities or that offer greater subsidy in these communities but do not have a fixed amount set aside.” *Id.*
 15. ACEEE *Siting EVSE with Equity in Mind*, p. 14.
 16. See also, ACEEE *Siting EVSE with Equity in Mind*, p. 6, “Utilities can help ensure equitable access to charging infrastructure, especially by filling in gaps left by the private market.”
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 18. Schmidt Family Foundation, *Just Transit Challenge Winners Announced* (March 22, 2017), <https://tsffoundation.org/just-transit-challenge-winners-announced/>
 19. *Id.*, p. 6.
 20. *Id.*, p. 9.
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 23. *Id.*, p. 8.
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 34. *Id.*

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