



EQUITY AND ECONOMIC DEVELOPMENT

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EQUITY

Strategies in this topic area work to ensure that EVs are accessible to underserved communities including low-income residents, communities of color, residents with disabilities, residents that speak a language other than English, and communities most impacted by poor air quality.

Basic Information

Although the perception is that EVs are not available to low-income consumers due to significantly higher base prices and historically low availability in the used car market, new and used EVs are becoming more affordable and more common, and, therefore, more accessible. The [Greenlining Institute](#) suggests that promoting EVs in underserved communities should include aspects that are (The Greenlining Institute, 2019):

- **Relatable:** Outreach materials and tactics must target the community in question. It is good practice to partner with community-based nonprofits or other community navigators who have already earned the trust of the community.
- **Accessible:** Accessibility starts with outreach materials. Ensure that they are provided in the appropriate languages and that the level of technical content and references are appropriate for the community. Next, ensure that the cost to purchase, lease, or rent the vehicle is appropriate based on the income level of the community. Finally, ensure that several options are available for providing payment or completing the proper paperwork, in order to avoid technology or banking access barriers.
- **Practical:** Make sure the EV options presented to the community are appropriate for their mobility needs and abilities, as well as presented in a safe and convenient location.

As each community is unique, there is no one solution for increasing EV transportation accessibility in underserved communities. Be sure to identify the unique barriers of the target communities before developing strategies.

First Steps and Quick Wins

Initial strategies for incorporating equity into EV integration discussed in this section can be quickly implemented with limited financial or time investment. These strategies will help ensure that all community members are being considered throughout the planning process.



Equitable Electrification:

Providing equitable access to public charging stations continues to challenge communities across the nation. The Greenlining Institute developed [Electric Vehicles for All: An Equity Toolkit](#) to provide clear guidance for making an equitable transition toward transportation electrification. The toolkit includes a section on “Making EVs Practical and Accessible,” which covers addressing specific mobility needs and equitable charging infrastructure.

Define EV Equity in Your Community

Work with local stakeholders to define what equity means in your community as it relates to EV access. Start by identifying neighborhoods or populations that face substantial barriers to driving an EV (such as cost for low-income communities) or that have been excluded from previous outreach efforts (such as communities that speak English as a second language). A community may also choose to reach out to populations that have carried a disproportionate burden of air quality impacts from ICE vehicles. You can use the [U.S. Environmental Protection Agency's EJScreen](#) mapping tool to help you identify these populations.

Once you have identified the target population, engage representatives from these communities to help you define EV equity. It is important to also include these community representatives in the development of plans, messaging, and outreach. It may make sense to incorporate these outreach efforts into other broader programs and efforts. It often takes concerted efforts at the municipal and stakeholder level to counteract institutional barriers, implicit biases, and language or knowledge barriers that prevent many of these underserved communities from considering or using EVs. Messaging platforms, communication strategies, key locations, and important leverage points are all different in underserved populations and usually must be addressed with different strategies than traditional outreach and education. The key messaging will also vary between underserved communities, so it is important to work with each identified community representative to understand how to best reach a specific community.

Examples:

- [Colorado's EV Equity Study](#) identifies barriers to EV access and addresses opportunities for a more equity-centered approach to transportation electrification and stakeholder engagement in Colorado through the development of a few [tools](#).
- The [Puget Sound Clean Air Agency](#) conducted a [feasibility study](#) to evaluate options for encouraging EV use among low-income residents.

Establish an Equity Checklist

Work with representatives from underserved populations in your community to create a checklist of criteria to consider, as strategies are developed, to ensure equity in projects. The checklist could be for initiatives specific to EVs or as a more general checklist for broader sustainability initiatives. The checklist should be designed to help ensure that strategies to promote EVs do not exclude underserved populations. Some considerations include:

- **Language:** Ensure that the language used to communicate the strategies is easily understood by all. This may include translating for populations where English is not the primary language and/or using common words and phrases.
- **Accountability:** What data or metrics will be used to identify disparities among populations and to track progress of removing those disparities?
- **Inclusive Engagement:** How have community members participated in the development of strategies or implementation plans in the past? Are there opportunities to expand this engagement to underserved populations such as low-income residents or communities of color?
- **Economic Opportunity:** If economic opportunity is available through the implementation of the strategies, are there opportunities to support low-income populations or communities of color through workforce development? Are there rebates available through the local utility or local government programs?

- **Disproportionate Impacts:** What populations will benefit from the identified strategy? Does this promote equity within the community?

These criteria are adapted from the [racial equity tool](#) developed by the [City of Cleveland](#) in conjunction with their climate action plan to evaluate identified strategies. The [Adaptation Clearinghouse](#) also provides an [equity checklist](#) for all projects.

Adopt an EV Driver Bill of Rights

Establish an EV driver bill of rights outlining the rights of drivers as it relates to EV purchasing, charging, and ownership - to help ensure a positive experience for all residents choosing to transition to EVs. This document can be drafted by community staff with specific local consideration, or more general versions can be provided by groups promoting EV adoption.

Examples:

- The [Sierra Club](#) includes a [sample bill of rights](#) as part of their [policy toolkit](#).
- [California House Resolution No. 117](#) is an example of an EV driver bill of rights that has been adopted.

Encourage or Establish an EV Car-Share Program

Communities can collaborate with ride-hailing companies, such as Uber and Lyft, and carsharing companies, such as Zipcar, to provide exposure of EVs to residents who might not be able to afford an EV. Car-sharing programs are growing in popularity as a way for more people to be comfortably car-free by allowing people to rent a vehicle for a short period of time to run errands or other intermediate needs. Often, these cars are parked on a campus or at a community center where residents can check them out using a cell phone app or other method. EVs are a good fit for this use since such vehicles have designated parking spots and could be charged in those spots. Selected EVs should have the appropriate battery range for typical use. Additionally, renters should be provided appropriate information about how to operate the vehicle and how to find charging stations as needed. Plug-in hybrid electric vehicles (PHEVs) may be a better fit for these services in order to prevent range anxiety.

Examples:

- The [Greenlining Institute](#) compiled [considerations for EV car sharing](#) in underserved Communities, with recommendations for incorporating EVs into ridesharing programs in low-income communities.
- [Forth Mobility](#) published a [report](#) describing their pilot for affordable EV car sharing in a neighborhood in northeast Portland.
- [HourCar](#), a car sharing service based in Saint Paul, MN, operates [Evie](#), an all-electric, free-floating carshare for trips around Minneapolis and Saint Paul, MN. Evie Community Carshare aims to [address environmental, social, and racial inequities in the transportation system](#). It will achieve this by aiming to have 50% of total use by Black, Indigenous, and people of color members (BIPOC), providing 40% of total trips by very low-income members, and 20% of total use by very low-income BIPOC members.

- [BlueLA powered by Blink Mobility](#): The all-electric car-sharing service, operated by Blink Charging, began in 2018 when the City of Los Angeles received a grant to pilot EV car-sharing in low-income communities. Project implementation and outreach efforts are supported by the LA Mayor’s Office of Sustainability, Shared Use Mobility Center, and a committee of community-based organizations. Income-qualified members can receive discounts.

Incorporate ADA Compliance into Siting Requirements

Establish Americans with Disabilities Act ([ADA](#)) requirements for charging station installation. The [U.S. Access Board](#), provides a [technical assistance document](#) to assist in the design and construction of EV charging stations that are accessible to and usable by people with disabilities. The ADA and Architectural Barriers Act (ABA) Accessibility Standards include many requirements applicable to EV charging stations, to ensure accessible and operable EV charging stations and associated buildings. The community should also consider whether to require EV charging stations to be installed in parking spaces with appropriate clearance and near entrances.

Examples:

- The U.S. Department of Energy developed [guidance in complying with ADA requirements](#) for workplace charging installation.
- The [City of Atlanta](#) outlines accessibility requirements for EV charging on page 18 of its [EV Readiness Workbook](#).
- Clean Fuels Ohio and Virginia Clean Cities released a report, [EV Charging for Persons with Disabilities](#), with resources on proper ways to install charging stations with access for all users, including those with disabilities.
- The [California Building Officials non-profit corporation](#) supported a compilation of [recommendations](#) regarding accessibility to EVs and appropriate signage for charging infrastructure.

Larger Efforts and In-Depth Studies

Including equity in EV planning may involve additional planning, budget, and in-depth research. These larger efforts will promote long-term success and involvement throughout the community.

Conduct a Community Mobility Needs Assessment

Conduct a mobility needs assessment to evaluate the daily travel needs and transportation modes of target populations, to identify opportunities to incorporate EVs. This evaluation can be conducted through focus groups, interviews with community navigators, or community surveys. Be sure to understand the residents' mode(s) of transportation, typical trip lengths and timing, as well as any barriers to EV use, such as lack of driver's licenses. This assessment could be included in a larger community needs assessment, which would save time and money.

Examples:

- [Community Tool Box](#) provides [a guide](#) for developing a local needs assessment that could be applied to mobility needs.
- [Boulder County, CO](#) developed [a comprehensive mobility needs assessment and action plan](#). One EV strategy identified in the assessment is [Colorado CarShare](#).

Enact Low-Income Financing Mechanisms

Create a grant or special financing for EV purchases to help spur EV adoption in low-income neighborhoods. Since cost is often the most substantial barrier to EV adoption, especially in low-income communities, this is an important strategy and can often be stacked with existing utility or state funding for income-qualified individuals. Low-income neighborhoods are likely to be most greatly impacted by air pollution and stand to benefit significantly from cleaner vehicles. Additionally, public charging infrastructure should be implemented in parallel to support those low-income neighborhoods.

Examples:

- The [California Air Resources Board](#) has established a rebate for income-qualified residents who lease or buy EVs through the [Clean Vehicle Rebate Project](#).
- The [State of Oregon](#) offers a [clean vehicle rebate program](#) with an additional incentive for income-qualified individuals.

ECONOMIC DEVELOPMENT

A community's transition to EVs has the potential to spur significant economic development. Strategies in this topic area focus on capitalizing on the benefits of the transition.

Basic Information

The potential macroeconomic benefits from the transition to EVs include:

- **Alleviation of Transportation Burden:** An average American household spends about 20% of its income on transportation, while low-income households spend up to 30% (Vaidyanathan, 2016). By reducing operations and maintenance costs through transition to EVs, funds are freed up for households to spend on food and medical expenses, improving the health and well-being of those in the household.
- **Reinvestment of Fuel Savings:** Studies have found that EV drivers save “hundreds to thousands of dollars per vehicle annually”, compared to ICE vehicles, through fuel savings (Energy and Environmental Research Associates, LLC, 2017). This allows residents to reinvest in the local economy and improve their quality of life.
- **Vehicle and Battery Manufacturing Jobs:** EVs offer an increased opportunity for more vehicle manufacturing in the United States. A nationwide study found that the transition to EVs between 2015 and 2040 could increase economic output by \$20 billion and generate a net 147,000 jobs (Energy and Environmental Research Associates, LLC, 2017). With more EV production coming to the U.S., [battery cell production](#) is also coming to the country.
- **Mitigating Oil Price Shock Effects:** If the transportation sector can largely transition to electricity, it is less likely that there will be significant swings in the impact of fuel prices, as electricity prices are much more stable than those of petroleum. The economic impacts of transitioning to EVs are likely to vary by community, but understanding the opportunities early, a community can plan to take advantage of them by pursuing key strategies.

First Steps and Quick Wins

Create an EV Industry Cluster Map

New businesses may capitalize on the significant opportunities presented by the emerging EV market. To help your community benefit from these emerging businesses, you can build an industry cluster map showing the relationship of businesses to increased EV use. A sample of this kind of mapping is shown in Figure 3 (ICF International, 2014). This map can be used by the community's economic development department to attract businesses or industry that support the EV transition as well as to promote general community economic development.

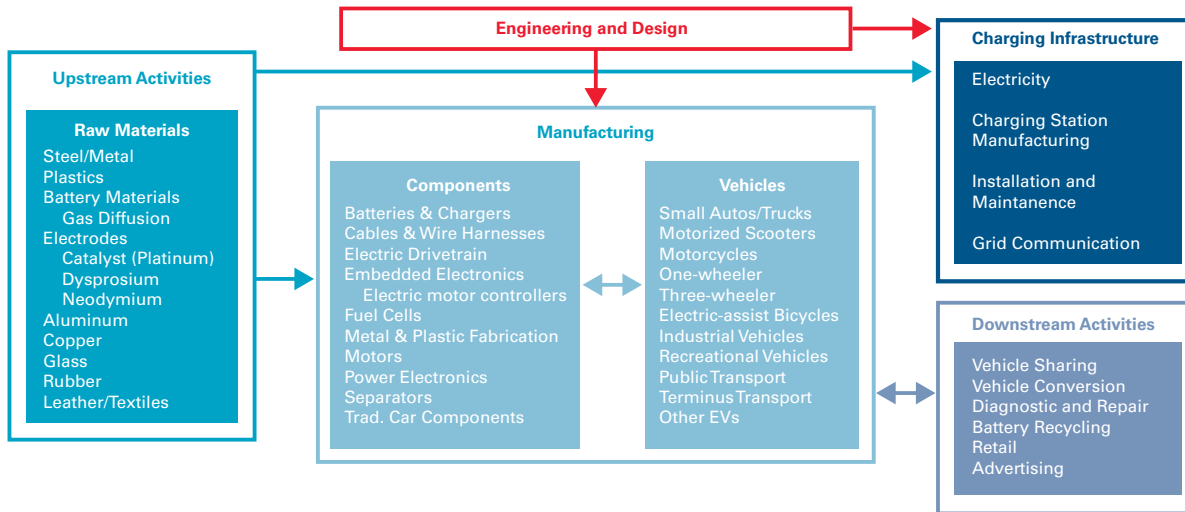


Figure 3: EV Industry Cluster Map

Source Adopted from NERC2013

Larger Efforts and In-Depth Studies

Larger efforts in economic development will include in-depth studies and a unified understanding of EVs in the community's workforce. The following strategies could result in long-term success of EVs within the community's economic development and may require additional planning, budget, and resources.

Conduct a Local Economic Development Impact Assessment

Evaluate the anticipated local economic impact of EVs. This assessment will allow the community to make a more informed decision around financial investments to promote EV transitions. Transitioning to EVs will mean that less household income will be spent on gasoline and could be spent instead at local businesses. Money spent on household expenses rather than fossil fuels has been found to create 16 times more jobs in the local economy (Salisbury, 2014). Significant local economic opportunities are also created through the design, manufacturing, and maintenance of EVs.

Examples:

- The [Southwest Energy Efficiency Project](#) completed a study of the [economic and air quality benefits of EVs in Nevada in 2014](#).



Equitable Workforce

Development: As new EV-related jobs become available in your community, ensure that these high-quality jobs are accessible to underserved community members. The [Greenlining Institute](#) recommends targeted and local hiring policies, developing career pathway jobs, and removing barriers to employment (e.g., employer discrimination).

Develop Goals and Incentives for New and Existing EV Businesses

Based on an EV industry cluster map, set goals and create a plan to attract and retain new businesses to allow the community to benefit from the EV market growth. This can be a collaboration between the community's economic development department and local businesses. Once goals are identified, community staff members can work together to identify strategies. The strategies might link economic development zone activities to tax credits or incentives, focus on retention in addition to recruitment, or emphasize subsets of industry clusters to target for expansion and relocation.

Examples:

- [Coachella Valley Association of Governments](#) outlined strategies for economic development on pages 45–48 of their [EV readiness plan](#).
- The [State of California Office of Planning and Research](#) published a [guidebook](#), for communities to become EV-ready, that includes details about economic development strategies and goals.

Establish and Promote EV Workforce Pipeline and Training

Develop a plan to promote green-collar jobs that support EVs and the associated infrastructure. These jobs may include mechanics and electricians who specialize in EVs and charging infrastructure. This strategy can be used to help provide job training to underserved communities or workers displaced by the shift away from fossil fuels. The U.S. Department of Transportation developed a checklist that includes three components for a [strong transportation workforce and labor program](#). A full list of all green-collar jobs associated with EVs can be found at the [Bureau of Labor Statistics](#).

Examples:

- The [Twin Cities EV Spot Network](#) is a project focused on developing a network of charging hubs throughout the Twin Cities (Saint Paul and Minneapolis, MN). Additionally, this project will launch an EV car-sharing service to improve EV access to community members in the Twin Cities. The project is a collaboration between the City of Saint Paul, MN the City of Minneapolis, MN, HOURCAR, and Xcel Energy.
- The [Ella Baker Center for Human Rights](#) developed a [report](#) that recommends steps for developing green-collar job training.
- [Xcel Energy Partners in Energy](#) provides a [workforce development toolkit](#) outlining simple steps to help your community provide underserved and disadvantaged groups with job training and resources.