Centering Equity in Charging Investments to Accelerate Electrification

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The Imperative to Expand Charging

Public investment is absolutely essential to jump-start the charging network, particularly until there is a critical mass of EVs using this infrastructure.

The U.S. Infrastructure Investment and Jobs Act includes $7.5 billion over five years for EV charging infrastructure.

Over $87 billion in charging infrastructure investment will be needed in the U.S. over the next decade, including $39 billion for publicly accessible charging [1].

Up to 25% of EV drivers are estimated to rely completely on public charging infrastructure [2].

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Who Needs Equity and Why

Equitable access to charging:
Universal access to the necessary infrastructure to support the use of an EV

Drivers currently excluded from easy access to charging are the groups whose needs must be centered:

- Drivers in apartment complexes
- Low income drivers
- BIPOC communities

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Defining Equity

Equality ≠ **Equity**

Treating people similarly

Treating people in a way that recognizes their differences

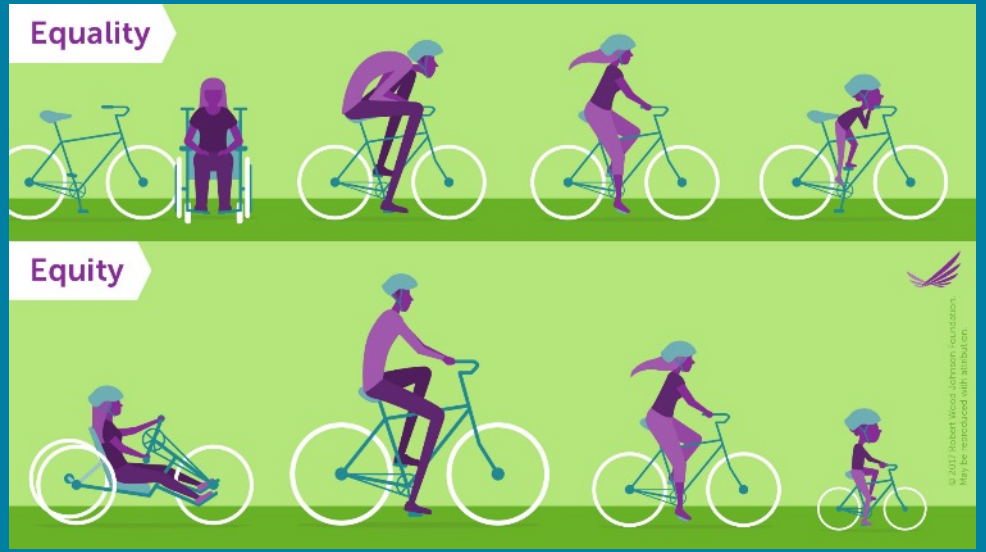

Figure 1: Visualizing equality and equity (Source: Robert Wood Johnson Foundation)

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Process Equity

Any path to equity must begin with process equity

Process Equity:
Ensuring that members of historically underserved communities have a leading role in determining equitable outcomes.

1. Conduct a community-based needs assessment led by local, trusted organizations representing historically underserved community members in conjunction with technical EV experts.

1. Community should then be included in the ideation and implementation of any solutions.

Requires communicating in ways designed to reach, connect with, and involve historically underserved groups

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Targeted Universalism

Universalism approach:

- Used to reach a universal goal or solve a broad public need

Targeted approach:

- Intent to address specific groups' needs

Targeted Universalism is a different, hybrid approach:

- Setting universal goals pursued by targeted processes to achieve those goals
- Identifies individualized solutions that meet the needs of historically underserved communities.
- Ensures that the universal goal is met by all groups, including the largest and most dominant ones, but not only the largest and most dominant ones.

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Applying Targeted Universalism to Charging Investments

Market forces allowed to lead at large, spurred with public incentives.

If the groups with the most barriers reach the goal, everyone will likely be able to.

The largest public investment is focused on meeting the goal for populations with the most barriers.

- Who also tend to be less profitable communities not attractive for private investors.

Requires more than just charging infrastructure:

- Public transportation solutions
- Micromobility options
- Ride sharing services

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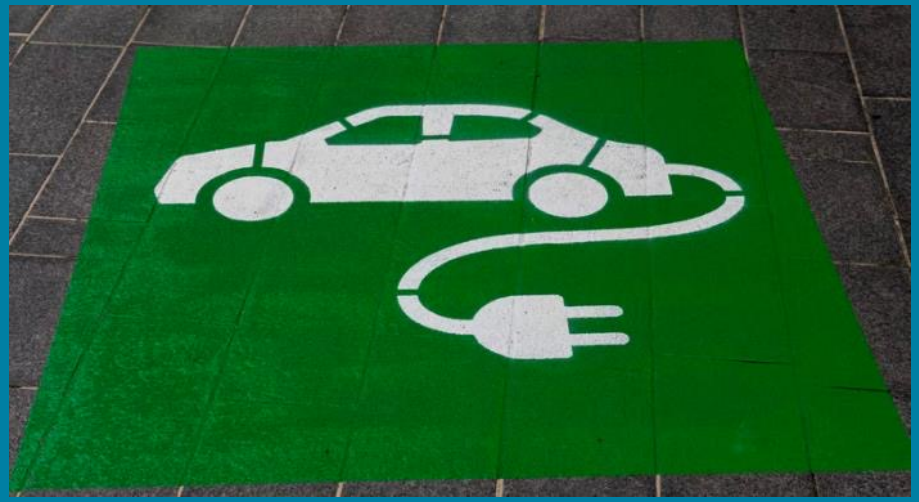
Opportunities for Centering Equity



Use Case:

- Homes
- Apartments
- Corridors
- Workplaces
- Taxi and Gig drivers
- Rural Areas

Home Charging

Historically underserved communities, especially renters as a subset of those communities, face many barriers to home charging.

Equitable approaches in the U.S. include:

- Focusing incentive programs on lower-income drivers
- Passing “right to charge” laws that include provisions allowing renters to install charging stations
- Applying EV-readiness requirements to all housing, including affordable units or public/social housing
- Public investments in DCFCs in public right of ways in dense neighborhoods
- Funding low-interest financing programs for low-income households

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Apartment Charging

Should be provided in a way that supports current residents, rather than providing an amenity that might drive up rents.

Equity-centering approaches:

- Build out EV car share programs around affordable housing
- Provide hands-on outreach and technical assistance to lower income apartment managers/residents
- Ensure affordable charging rates
- Facilitate payment in forms that do not depend on a bank account/smartphone
- Proactively fund the installation of charging at existing MUDs with lower rents
- Install subsidized or low-cost DCFCs in lower-income, high-density neighborhoods

Corridor Charging

Engage historically underserved community members throughout the location consideration process.

Corridor chargers should be placed where they will also easily and affordably serve local drivers most in need.

70% of vehicle trips take place in cities

- Dense urban areas should contain more charging infrastructure than rural corridors.

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Workplace Charging

Individuals with workplace charging are six times more likely to purchase an EV

The early adopters of workplace charging are high-income employees.

Workplace charging is needed for those without access to residential charging.

Many trade workers can have multiple job sites in a day. These workers will need public-access charging.

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Taxi and Gig Driver Charging

Commercial drivers use their vehicles much differently, and more heavily, than most.

Gig drivers tend to disproportionately be low-income people of color, who often lack access to home charging or affordable car loans.

Fast charger solutions targeting taxi/gig drivers can also serve apartment dwellers who lack charging access.

30% or more of activity at public chargers may be attributable to gig drivers

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Rural Area Charging

Prioritize the needs of the local residents over long distance travelers.

- Local users will provide more frequent use and a better business model for the charging provider.

Rather than locating fast charging at a highway rest area isolated from local communities, perhaps it can be placed slightly off a freeway exit.

Rather than prioritizing charging at a park trailhead, it may be preferable to put charging at nearby lodgings or services.

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Conclusion

Large public investments in charging infrastructure can disrupt the historic patterns of inequality

- If they are implemented with thoughtful intention.
- Otherwise, the electrification of transportation may cause further harm.

A targeted universalism approach will result in more equitable access to electric mobility, as well as faster and more efficient transportation electrification overall.

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