



Electric Mobility and Charging Programs that Center Equity

... and Actually Work Outside California

Jeff Allen
July 2023



Photo @Dylan VanWeelden

Agenda

Short Intro to Forth

Equity and Targeted Universalism Framework

Practical Strategies to Increase Access to Charging

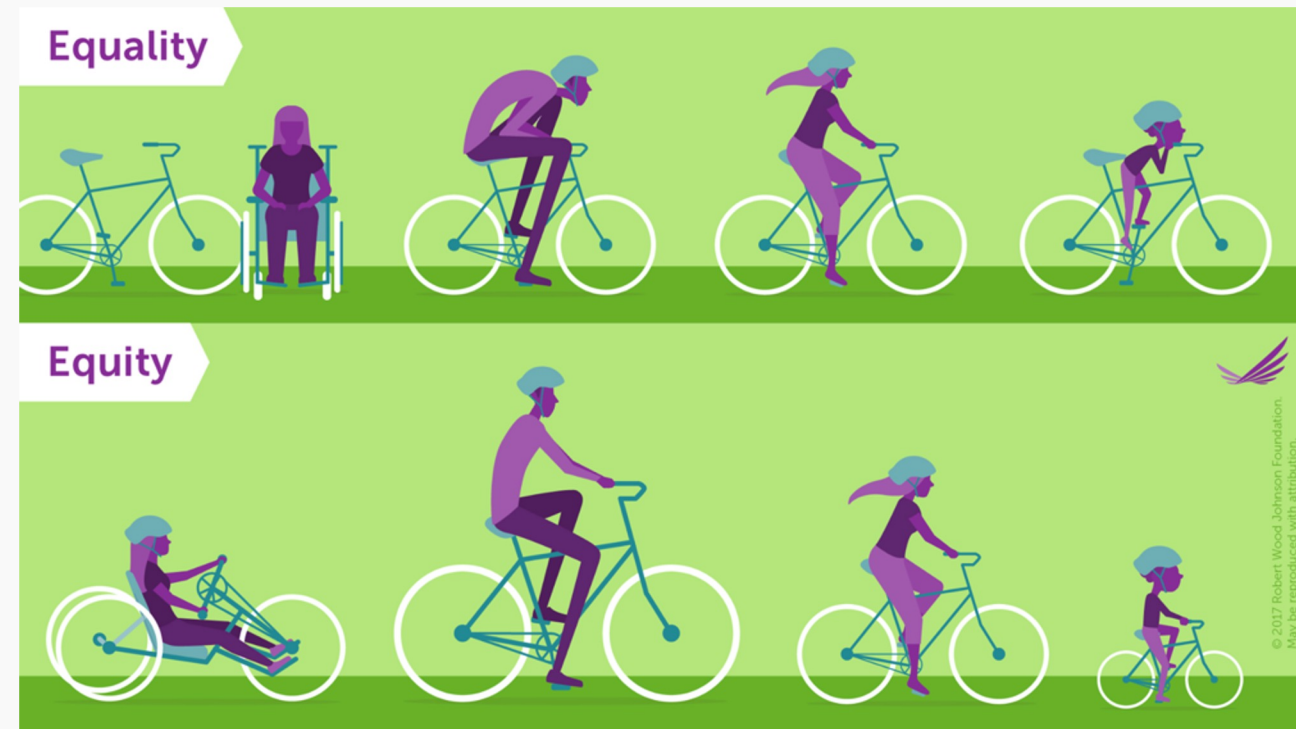
Background Slides re: Electric Cars and Emerging Modes

Our Mission

Forth's mission is to electrify transportation by bringing people together to create solutions that reduce pollution and barriers to access.

Equity: What and Why?

- Equity, equality, LMI, fairness
- Transportation is #2 household expense
- Commute time #1 predictor of escaping poverty
- Nearly 43,000 people – 118 per day – died in US traffic crashes in 2021 (NHTSA)
- Long history of inequality, largely race-based, from redlining, urban renewal, gentrification



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

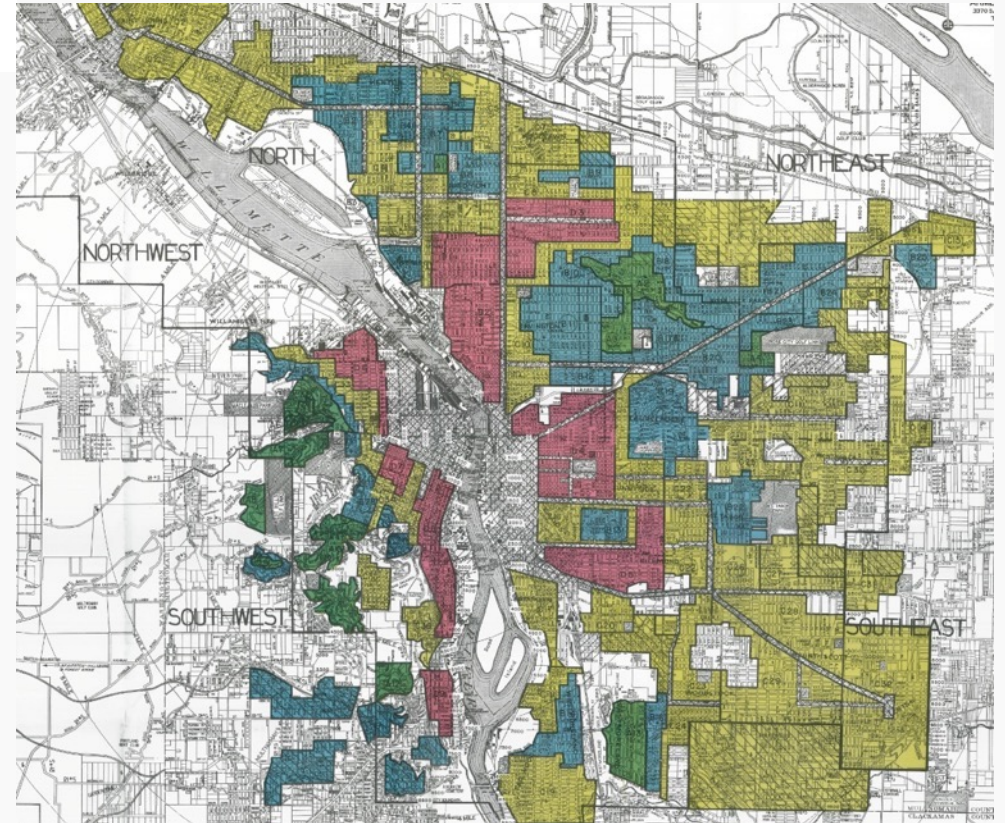
Targeted Universalism



We apply targeted universalism to our work.

(Source: Othering & Belonging Institute)

- Set universal goals – e.g. “everyone has access to clean electric cars.”
- Focus on those with greater barriers to access.
- Engage with historically underserved communities to develop solutions that meet their needs.
- Work to ensure the universal goal is met by all groups, including – but NOT ONLY - the largest and most dominant ones.
- Results in better outcomes for all and better payback on public investments.



OUR FOCUS AREAS

Access to Electric Cars

Forth builds programs for drivers who have traditionally faced the most barriers to electrification.

Access to Charging

Forth is working to make it as easy to charge a car as it is to park a car.

Emerging Modes

Forth is increasing access to micromobility, electrifying farm equipment, accelerating efforts to electrify school buses.



Policy

We build influence and knowledge at the national, state and local levels.

Events & Partnerships

Forth convenes diverse stakeholders to collaborate and advance equitable transportation systems.

Access to Charging

Forth is working to make it as easy to charge a car as it is to park a car. We build programs around drivers who have traditionally faced the most barriers to electrification.

- Investing Public Funds
- Workplace
- Multifamily Housing
- DC Fast Charging
- Rural Charging



Investing Public Funds

- Charging *enables* access to clean electric mobility options that provide community benefits
- Charging infrastructure alone provides few benefits, can spark concerns about gentrification and displacement
- Recommend community based needs assessments that engage and compensate community members: “nothing about us without us”
- Help communities access federal funds:
<https://forthmobility.org/Federal-Charging-Support>
- [Centering Equity in Charging Investments](#)



Workplace Charging

- People who can charge at work 6X more likely to buy an EV
- Funded by DOE, Forth is creating a nationwide platform that provides motivation, information, and support businesses of all kinds
- The platform features a self-certification program similar to a LEED certification.
- We are looking for utility partners to use, customize, and promote the platform
- [Best Practices for Workplace Programs](#)



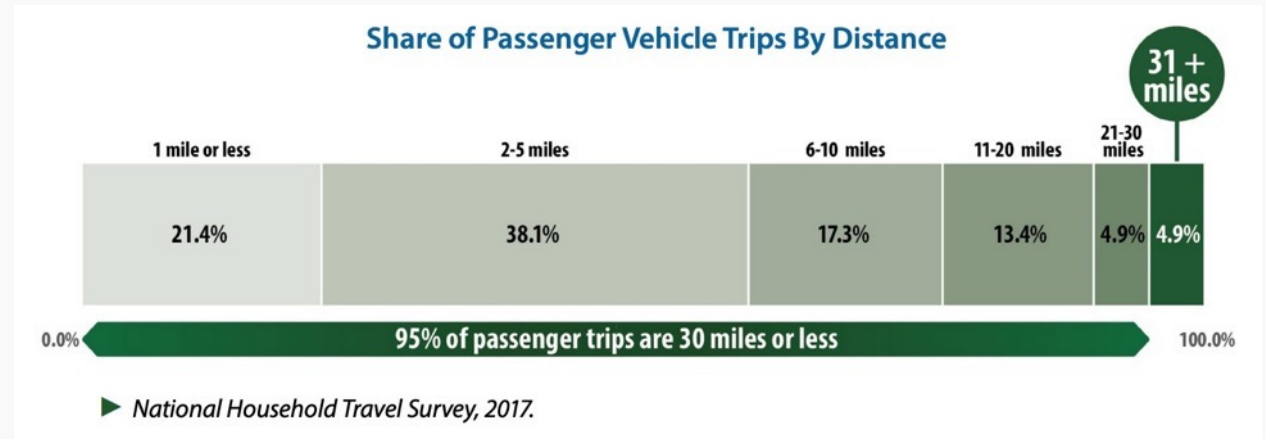
Charging For Multi Family Homes

- Support mobility for residents – not amenities that drive gentrification
- Focus on outreach to provide motivation, information, and support to make it easy
- Activate the charging: outreach, ride and drives, car sharing
- Forth and partners have developed an initial DOE-funded toolkit at <https://vci-mud.org/>
- With USDOE funding, we are now building a more robust national platform any utility or intermediary organization can access and use – reach out if interested
- [Best Practices for MFH Programs](#)

Barrier	Description
HOA Related	Decision-maker alignment and bylaw restrictions
Information and Education	Assumptions, misinformation, and lack of awareness limits interest in EV charger investment
Space Limitation	No excess parking spots and/or deeded spots
O&M Costs	Cellular networking, data subscription, and transaction fees
Installation Cost	Equipment acquisition, permits, engineering and planning, construction
Electrical Related	Adding electrical circuit and conduits, performing load studies, upgrading electrical panel or service, utility delays
Usage	Unsecured parking allows non-resident charger use No incentive to move after finished--no idle fees
Network Signal	Weak internet signal in garages

DC Fast Charging

- Most federal NEVI charging funds – but less than 5% of trips
- Ensure corridor charging benefits local residents
- 30% or more of activity at public DCFC may be attributable to gig drivers
- Urban DCFC should also be designed to support apartment dwellers
- Key recommendation: ensure affordable monthly subscription pricing



Rural Charging

- Prioritize the needs of local residents over long distance travelers.
 - Rather than locating fast charging at a highway interchange, move 1/2 mile to town.
 - Rather than charging at a park trailhead, put it at nearby lodgings or services
- Local users will provide more frequent use and a better business model for the charging provider.
- Forth recently secured USDA funding to develop a charging plan for rural Wasco County, OR



You Can Get Involved!

- Free email newsletter – hand me your card
- Free webinars – reached 3,000+ attendees from 30+ countries in 2021
- Follow us @ForthMobility
- All this and more: www.forthmobility.org
- Roadmap Conference September 24-26, 2023 in Detroit, MI: www.roadmapforth.com
- Let's talk! JeffA@forthmobility.org



DISCUSSION

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Access to Electric Cars

Forth builds programs for drivers who have traditionally faced the most barriers to electrification.

- Needs Assessments
- Outreach & Engagement
- Electric Carsharing
- Rideshare Drivers
- Financing Barriers



Outreach & Engagement

- 70-80% of Americans have never been in an EV
- Exposure is #1 predictor of purchase
- Forth's Mobile Showcase goes where the drivers are
- Towed by an F-150!



Electric Vehicle Mobile Showcase holds EV test-drive in Pendleton

By DAKOTA
CASTETS-DIDIER East Oregonian Oct 19, 2022 Updated Oct 19, 2022 0

Todo Lo Que Necesita Saber Acerca De Conducir Un Vehículo Eléctrico

¿QUÉ ES UN VEHÍCULO ELÉCTRICO?

Un vehículo eléctrico es un vehículo que utiliza energía eléctrica para moverse. A diferencia de los vehículos de gasolina, no emiten gases de efecto invernadero y no necesitan combustible líquido.

¿Qué tan diferente es al vehículo híbrido?

Los vehículos híbridos combinan un motor de gasolina con un motor eléctrico. Los vehículos eléctricos solo utilizan energía eléctrica para moverse.

¿Por qué debería cambiar a un automóvil eléctrico?

Los vehículos eléctricos son más silenciosos, más rápidos y más fáciles de conducir. También son más económicos de operar y no necesitan combustible líquido.

EV 101 NHỮNG ĐIỀU CẦN BIẾT VỀ XE ĐIỆN

XE ĐIỆN LÀ GÌ?

Xe điện là phương tiện di chuyển bằng điện. Không cần nhiên liệu hóa thạch và không thải ra khí thải độc hại.

Xe điện khác gì so với xe hybrid?

Phương tiện hybrid kết hợp động cơ xăng và động cơ điện. Xe điện chỉ sử dụng động cơ điện để di chuyển.

Tại sao tôi nên chọn chiếc xe điện?

Xe điện có chi phí vận hành thấp hơn, vận hành êm ái và không cần bảo trì thường xuyên. Ngoài ra, còn có các ưu đãi về thuế và phí đăng ký.

Electric CarShare

- Versions of this program across PNW and in St. Louis, MO
- Expanding to 40 locations nationwide
- Utility or community-based organization fleet vehicles – “anchor tenant”
- Free, no-contact, no-pressure, self-service EV test-drives utilities can promote
- Carsharing for underserved communities for errands, shopping or appointments.
- Can start with 1-2 vehicles wherever installing L2 charging esp. at apartments



Electrifying Rideshare

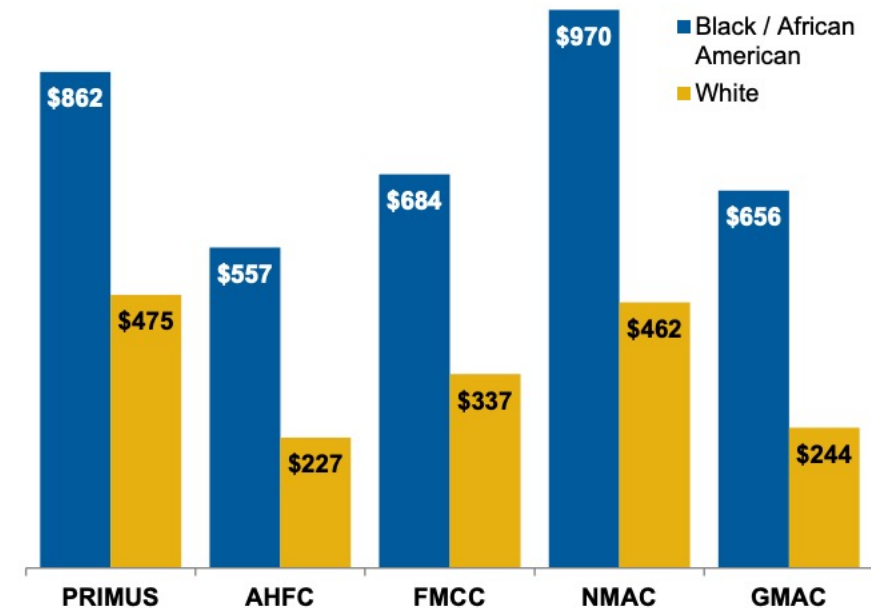
- Gig drivers are disproportionately people of color and lower income
- Drivers need information, access to affordable practical cars and DC Fast Charging
- Captive company car rental programs not an ideal long term solution
- Forth is surveying drivers in Portland, Las Vegas, Salt Lake City and Phoenix
- Forth provides education, marketing and training to increase adoption of electric vehicles within the ridesharing space.



Overcoming Finance Barriers

- Incentives and rebates on vehicles are important – several utilities offering e-bike and electric car rebates
- Drivers also need access to affordable car loans – low income people of color may face interest rates of 10-20% or more.
- Forth is collaborating with Metropolitan Family Service to provide budget and credit coaching and access to low-interest loans for the purchase of electric cars, electric motorcycles, and e-bikes.

Chart 1: Interest Rate Mark-ups Charged to African American vs. White Consumers at Five Captive Auto Creditors



Source: [Imperfect Competition in Auto Lending: Subjective Markup, Racial Disparity, and Class Action Litigation](#), Mark A. Cohen (Dec. 14, 2006). *Note:* Primus Automotive Financial Services is a wholly-owned subsidiary of Ford Motor Corporation and services many non-Ford brands such as Mazda, Volvo and Jaguar. Accordingly, Primus was considered a captive lender for purposes of Cohen's analysis. The full names of the other auto finance companies are: American Honda Finance Corporation, Ford Motor Credit Corporation, Nissan Motors Acceptance Corporation and General Motors Acceptance Corporation.

Access to Emerging Modes

Forth is at the forefront of clean, equitable transportation. We build programs to ensure that historically underserved communities will benefit from these new technologies.

- Electric Micromobility
- Tractors and farm equipment
- School buses



E-Micromobility

- Outreach, education, and safety training for e-bikes and scooters
- E-bike “lending libraries”
- Targeted incentives and financing programs
- Forth has incubated Cascadia Mobility, a nonprofit system operator



Electric School Buses

- Huge win for childrens' health and very popular with the public
- Large federal investments for buses and charging
- Districts urgently need help to compete for grants, plan transition, build out charging, and manage load
- Large opportunity for smart charging and “vehicle to grid”
- Long bus backlogs - consider “repowers”



Biden-Harris Administration Announces Nearly \$1 Billion from EPA's Clean School Bus Program for 389 School Districts

Historic investment from President Biden's Bipartisan Infrastructure Law headed to all 50 states in effort to transform America's school bus fleet

Electric Tractors and Farm Equipment

- Electric tractors, all terrain vehicles, and trucks available now – larger equipment coming
- Avoid high and volatile cost of diesel, which must be delivered
- Also safer due to quiet and reduced exhaust
- Forth owns several e-tractors and is loaning them for field testing
- Developing recommendations to scale

